

**LEGISLATIVE APPROACHES TO PROTECTING,
PRESERVING AND RESTORING GREAT WATER
BODIES**

JOINT HEARING
BEFORE THE
SUBCOMMITTEE ON WATER AND WILDLIFE
AND THE
COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE
ONE HUNDRED ELEVENTH CONGRESS
SECOND SESSION

FEBRUARY 24, 2010

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ONE HUNDRED ELEVENTH CONGRESS
SECOND SESSION

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LEGISLATIVE APPROACHES TO PROTECTING, PRESERVING AND RESTORING GREAT WATER BODIES

WEDNESDAY, FEBRUARY 24, 2010

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON WATER AND WILDLIFE,
Washington, DC.

The Committee and Subcommittee met, pursuant to notice, at 9:30 a.m. in room 406, Dirksen Senate Office Building, Hon. Benjamin L. Cardin (chairman of the Subcommittee) presiding.

Present: Senators Cardin, Boxer, Gillibrand, Klobuchar, and Merkley.

Also present: Senators Feinstein, Reid, Ensign, and Cantwell.

OPENING STATEMENT OF HON. BENJAMIN L. CARDIN, U.S. SENATOR FROM THE STATE OF MARYLAND

Senator CARDIN. The Committee will come to order.

This is a joint hearing of the Committee EPW, along with the Subcommittee on Water and Wildlife. I want to thank Chairman Boxer for arranging today's hearing. We have an excellent group of witnesses.

This hearing concerns the great water bodies of this Nation and deserves our attention. Marylanders know from our own experience that the Chesapeake Bay is critically important to our region's economy and to our way of life. And that has been passed from generation to generation, but it needs our attention.

And in fact, the National Academy of Public Administration has recommended making large scale ecosystems restoration a national priority. Large ecosystem programs from the Chesapeake Bay to Puget Sound are addressing some of the Nation's most complex water resource management challenges. For this reason, EPA's latest strategic plan does prioritize protecting these ecosystems as a complement to their core national water quality program.

The Water and Wildlife Subcommittee has devoted considerable time to the Chesapeake Bay, and more recently to the Gulf of Mexico. Today, we turn our attention to five more of our most valued waters. The hearing will focus on expert views on legislation to help restore Lake Tahoe, the Lake Tahoe Restoration Act, and to restore Puget Sound, the Puget Sound Recovery Act.

We will also look at legislative approaches Congress might take to facilitate restoration of three other treasured waters, the Long Island Sound, the Columbia River Basin, and the Great Lakes.

Each of these vast water bodies is special and iconic, yet each is threatened by degraded water quality. Some threats are shared, like nutrient and sediment pollution. Others are unique, like the danger of wildfire in the forests that surround Lake Tahoe. Efforts to restore these important resources have struggled to keep pace with growing threats.

It is for these reasons that so many of my colleagues and I are joined here today to meet these threats and restore America's waters. We have a great deal of interest among our colleagues on each of these bodies of water.

We will hear from two panels of witnesses that will share their thoughts on legislative efforts to strengthen interagency and Federal-State partnerships in each of these five regions. There is much in common in trying to preserve each of these great bodies of water, but each are unique. And we are looking for ways in which we can get best practices that we can share to make these programs as efficient as possible, as coordinated as possible, where we can learn from each of the different efforts that are being made in order to preserve these valuable resources for future generations.

And with that, let me turn to the Chairman of the Committee, Senator Boxer.

**OPENING STATEMENT OF HON. BARBARA BOXER,
U.S. SENATOR FROM THE STATE OF CALIFORNIA**

Senator BOXER. Thank you very much, Senator Cardin, for taking the lead on this hearing today. You are a great Subcommittee Chairman, and I say that really from my heart because you are moving so much good legislation through this Committee.

I am so happy that Senator Feinstein is here, great leader on so many of these issues and on the issue of Lake Tahoe in particular today.

I would ask unanimous consent that my statement be placed in the record.

Senator CARDIN. Without objection.

Senator BOXER. And I am going to summarize it. We believe Senator Reid is on his way over, and if other colleagues come, I will pause. And then I have asked Senator Cardin, who has the gavel here, to go right to our Senate colleagues as soon as I finish these remarks.

Many of our Nation's most iconic bodies of water need protection to ensure that they continue to provide ecological benefits, economic benefits, and recreational benefits for generations to come. That really is our responsibility.

We all remember the first time that we get to see Mother Nature. And for me, coming from a big city, the first time I saw Yosemite, I was absolutely speechless, and to this day when I see that valley, I am so grateful to those who came before us for preserving it.

The first time I saw Lake Tahoe was a very similar experience, the clarity, the color, the different colors when the sun shone in certain ways. And I thought, you know, how blessed we are in California, but we have work to do to save this system.

And so Senator Feinstein, Senator Reid, Senator Ensign and I are working to protect this natural jewel on the California-Nevada

line, Lake Tahoe. Of course, it is a major tourist attraction, and we want it to be, but we need to make sure that we protect it, and we need to make sure that it has these crystal clear waters for our children and grandchildren.

So our bipartisan bill, the Lake Tahoe Restoration Act of 2009, S. 2724, would authorize projects to address issues ranging from invasive species to wildfires, restore and maintain Lake Tahoe's water clarity, and protect threatened species in wildlands. It would continue and strengthen the efforts begun under the Lake Tahoe Restoration Act of 2000.

So in closing my comments, I would just say the natural beauty of our State is one of the defining characteristics of our State, and every history book that you read about California starts off with the natural beauty of the State. We simply can't lose these magnificent treasures.

So I look forward to working with my colleagues on both sides of the aisle to move this legislation. And I also pledge to work with my colleagues from Washington State and from New York and Maryland and all the other colleagues who are working, just as Senator Feinstein and I are working to protecting these magnificent waterways in their States.

So thank you again, Mr. Chairman, and I look forward to hearing from Senator Feinstein.

[The prepared statement of Senator Boxer was not received at time of print.]

Senator CARDIN. Well, thank you. I think we all thank you for your leadership on this Committee. You have focused it on the important priorities of our Nation, from the great waters to the great challenges that we have as a Nation in preserving our great environment. So thank you for your leadership.

Senator Feinstein, we would be glad to hear from you.

**OPENING STATEMENT OF HON. DIANNE FEINSTEIN,
U.S. SENATOR FROM THE STATE OF CALIFORNIA**

Senator FEINSTEIN. Thank you very much, Senator Cardin, and thank you very much, Madam Chairman.

And Madam Chairman, I particularly want to thank you for working with me on these bills. This is the second 10-year bill.

Senator Cardin, you might be interested to know that this all began when President Clinton was the guest and star at the Tahoe Summit almost 11 years ago. And this really called everyone's attention to the plight of what was a deteriorating situation in a lake that is only one of two clear cold water lakes in the world like this, and certainly the jewel in the crown of both Nevada and California. We share that lake.

Now, what happened was that a very unique private-public partnership was developed with the first bill, and that private-public partnership had about \$300 million from the private sector put in. Both Nevada and California contributed through both Senator Reid and Senator Ensign. Nevada land sales helped fund the bill, and of course, Federal money.

So this bill follows the Lake Tahoe Restoration Act of 2000, which set this partnership into motion. And about \$1.4 billion of the moneys I talked about have been invested, and that includes

\$424 million by the Federal Government. It financed more than 300 projects under the Environmental Improvement Program, leading to improvements across the board. Let me just tick off a few: improving erosion control measures on 429 miles of roadways. I am delighted to be joined by Senator Ensign, who has been very helpful, as I just said on the land moneys from Nevada with this. We appreciate it.

We have restored 739 acres of wetlands, treated 33,000 acres of hazardous fuels, restored 14,000 acres of wildlife habitat, including 800 acres of stream environment zones.

Much work has been done, but much work lies ahead. And every year there is a Tahoe Summit. And either Senator Reid, Senator Ensign or those of us on the California side sponsor that Summit, and people, all groups from the lake come together and we go through a day of what the needs are and what the advances have been made.

Now, what has changed? What has changed is that invasive species have now evolved into a real threat. University of California researchers have found up to 3,000 tiny sharp Asian clams per square meter at spots between Zephyr Point and Elk Point. So essentially, you have a 30-mile stretch which is dotted with these Asian clams, which are so sharp on the sand you can't walk on them. They create a rotting algae on the lake's beaches.

An aquatic weed called milfoil is spreading along the shoreline. It is a nuisance to motor craft and may pump phosphorus into the lake. It is located at South Lake Tahoe.

And finally, the quagga mussel could decimate the lake, much as it has Lake Mead. We found that just one quagga mussel attached to one boat could lay 1 million eggs. That is how prolific this thing is. And the cold water does not kill it. So the quagga is a big problem, and a program is being put in place to see that all boats that are brought in are checked before they are put into the lake because this infestation of quagga would clearly destroy Lake Tahoe.

Also, catastrophic wildfires. The Angora Fire of 2007 destroyed 242 homes on the west side of the lake. It scorched 3,000 acres, and it really was a wake-up call to all of us. Today, 25 percent of the Tahoe Basin's trees are dead or dying, and these are virtually all national forests. These fuels could become wildfires that could incinerate the basin.

Pollution and sedimentation threaten the lake's water clarity. In 1968, U.C. Davis scientists measured an average clarity depth of 102 feet. When I was a youngster and went to Tahoe, it was 150 feet. But in 1968, it was 102 feet. Clarity declined drastically over the next three decades, hitting a low of 64 feet in 1997. Now, we have seen improvements this decade. Last year, the average clarity was 69.6 feet, so that is a little bit better and scientists say that the rate of decline has slowed. We need to build on this, clearly.

And climate change is adding to all of these problems. It is found that the ambient water is now 4 degrees warmer, as is the air. The basin is hot. It is tinder dry in the summer. It is vulnerable to wildfires.

So this means the cyclical deepwater mixing of the lake's waters occur less frequently, and this could significantly disrupt the lake's ecosystem.

Now, what does this bill do? This bill authorizes \$415 million over 8 years to reduce the threat of catastrophic wildfire and restore the environment. And I have a commitment from Steve Teshara, who is the head of the North Lake Tahoe Chamber of Commerce, that the private contribution will be \$250 million, and that is good news.

This would authorize \$40 million for stormwater management and erosion control projects to prevent urban runoff. That is the greatest threat to water clarity. Authorizes \$32 million for restoration of watershed and streams to reduce the amount of sediment flowing in the lake. Ninety percent of the sediment comes from Upper Truckee River, Blackwood Creek and Ward Creek, and these are the top priority projects.

It would require prioritized ranking of environmental restoration projects and authorizes \$136 million to implement these projects; \$136 million also to reduce the threat of wildfires; \$20 million to protect Lake Tahoe from Asian clams, quagga mussels and invasive species; \$20 million to reintroduce the Lahontan cutthroat trout; and \$30 million for scientific research to produce information on long-term trends in the basin and inform the most cost-effective projects.

All projects funded by this legislation would be evaluated for cost effectiveness. There would be annual reports to Congress on the status of all projects, including expenditures and accomplishments. And scientific data would guide restoration programs to ensure that only top priorities are funded.

So it is with a sense of urgency that I join with the majority Leader, with Chairman Boxer, Senator Ensign in asking this Committee to pass out the second Lake Tahoe Restoration Act. I believe that with this legislation we can rise to the challenges presented by these threats and build upon the gains set in motion by our first bill.

I want to thank Senator Ensign for being here, for his support. Senator BOXER. And Senator Reid is here as well.

Senator FEINSTEIN. And I didn't see Senator Reid. Thank you very much for being here. It was a pleasure to work with you on this bill. And I just want you to know that your interest is really appreciated, and when the Lahontan trout come back, I hope you will cook us a good fish dinner.

[Laughter.]

Senator FEINSTEIN. Thank you very much, Madam Chairman.

Senator CARDIN. We are going to proceed in the following order, with Senator Reid, Senator Ensign, Senator Cantwell, Senator Gillibrand, Senator Merkley.

Let me just point out that Senator Reid is former leader of this Committee, very familiar with the work of Environment and Public Works Committee, and it is a pleasure to have you before our Committee.

Senator Reid.

**OPENING STATEMENT OF HON. HARRY REID,
U.S. SENATOR FROM THE STATE OF NEVADA**

Senator REID. I feel kind of awkward having come late and now being—

Senator CARDIN. Well, we want to take the Lake Tahoe, so we will go to Senator Reid then Senator Ensign so we can take——

Senator REID. Oh, I didn't want to be rude.

I also thank Senator Feinstein for her love of this beautiful body of water that we share with her State. She came there as a child. I have heard her talk many times about her wonderful trips to the lake.

Of course, Barbara Boxer, who is Chair of this most important Committee, also is a neighbor of ours, and we appreciate her interest in this.

Senator Ensign went to high school around the lake as a young man, so his interest in the lake goes back a long time.

I can remember the first time I saw the lake. I, of course, was a grown man at the time, and it was a marvel to me, having been raised in the southern part of the State where the water is very, very limited.

So I am happy to be able to testify today. Lake Tahoe is both a natural wonder and a critical part of the States of California and Nevada's economy. The report recently published shows that in 2008, more than 23,000 people living in Lake Tahoe region are employed by the tourism industry there. Those same people earn more than \$1.8 billion in income from tourism and tourism-supported jobs.

And that is why I say that you, Madam Chair, and the members of the Committee, how important the travel promotion bill is. Think of what this could bring to our country in the way of tourists. There is only one other lake like Lake Tahoe in the world. It is Lake Baikal, an alpine glacial lake that is in Russia. I have had the good fortune of seeing that beautiful body of water. And people travel to all over the world to see Lake Baikal.

We are going to spend some money now as a country advertising America, and this will be one of the featured spots of any advertisement. Lake Tahoe, as Mark Twain said, the fairest place in all the Earth.

Since 1997, when we held the first Lake Tahoe Summit, a lot of strides have been made in restoring the health of the Lake Tahoe Basin, and I am really happy with what we have been able to accomplish. Major forest restoration is underway. Chill breaks have been developed around many neighborhoods. Marshes and wetlands have been restored, and the mighty Lahontan cutthroat trout will soon return to the lake.

Over the past 13 years we have made Lake Tahoe a model for how to bring together local, State and Federal resources in the interest of protecting and restoring a great natural resource—in fact, a national treasure. Today, we ask for your partnership in continuing this work in and around Lake Tahoe.

When the first Lake Tahoe Restoration Act passed in 2000, we had two primary goals in mind. First, we wanted to put a stop to reverse the severe decline in the lake's water clarity. Now, see Dianne, you and I when we talk about the clarity of the lake, I would have said 70 foot. I would have rounded off the 69.6.

Senator FEINSTEIN. I will buy it.

[Laughter.]

Senator REID. So we have made some headway there.

Second, we wanted to get high priority hazardous fuels and watershed restoration efforts underway. One of the things we have done, because that place was logged to death during the Comstock and after, there were all kinds of roads for timber and those were terribly bad for erosion. That stuff all went right into the lake. And we have closed many of those. We have wiped those old roads out, and that has been a great step forward.

We have made progress in stopping the decline of the water's clarity and get high priority fuels and watershed restoration efforts underway. We, and this is good, the Lake Tahoe Restoration Act that has been introduced, and we are talking about today, makes sure that this critical work will continue.

First, this legislation does a lot more than any that we have done to carry existing programs forward. This legislation makes science a priority, calls for better management of public lands in the Lake Tahoe Basin, and takes aggressive action against threats that were simply unthinkable 10 years ago.

Most notably, quagga and zebra mussels pose a grave danger to Lake Tahoe's ecosystem. If these invasive critters make their way into Lake Tahoe's water network, much of the work that we have done and will do is for naught. As the residents of the Great Lakes Region know all too well, when these mussels invade, beaches get coated with a sharp crust of shells, native fish and plant populations get out-competed for basic nutrient, and almost anything that comes into contact with the water gets covered with these shells.

Let me give one just small anecdote with you that demonstrates the size of the threat to Lake Tahoe and the economies of Nevada and California. Quagga mussels were first discovered in Lake Mead in January 2007, 3 years ago. Now, 3 years later, scientists estimate that there are now 3 trillion—3 trillion quagga mussels in Lake Mead.

In order to keep Lake Tahoe from suffering a similar fate, this legislation includes \$20 million to support an unprecedented watercraft inspection program. The new inspection regime will take some getting used to, but it is absolutely essential if we want Lake Tahoe and Lake Tahoe's economy to remain vibrant and healthy.

I want to take a moment to applaud the Federal employees at the Lake Tahoe Planning Agency, the counties, the towns, the businesses, and the nonprofit organizations that have come together to project this majestic corner of the West. We have a partnership at Lake Tahoe that works. We have demonstrated over the past decade that we know how to pair Federal funding with State and private resources to achieve results. What we are asking now is for a renewed commitment to Lake Tahoe and for the resources to restore and protect this national treasure for decades to come.

Thank you very much.

Senator CARDIN. Thank you, Senator Reid, for your testimony. We appreciate it very much.

Senator Ensign.

**OPENING STATEMENT OF HON. JOHN ENSIGN,
U.S. SENATOR FROM THE STATE OF NEVADA**

Senator ENSIGN. Well, thank you, and thank you for holding this hearing this morning on the great lakes around our country. Lake Tahoe certainly is, those of us who visit regularly, is one of the most spectacular, if not the most spectacular place in the world. And that is why we put so much effort into not only preserving the lake, but actually trying to restore it to what it used to be.

If you go there and just look generally at the lake, it looks just as beautiful as it ever did. But it is when you get down and you start looking at some of the scientific evidence, you realize that there are some grave threats to the lake.

Madam Chairman, I would ask that my full statement be made part of the record, and since a lot of what was in my statement has already been covered, I will try to summarize and try to move this along as quickly as possible.

Senator CARDIN. Without objection all the statements will be included in the record.

Senator ENSIGN. First of all, I want to applaud Senator Feinstein for her leadership on the original Lake Tahoe Restoration Act, and also for leading the way on this one. It has been a pleasure to work with her and her staff, and also with Senator Reid and Senator Boxer on this most important legislation.

We have made a lot of progress, a lot of scientific progress on fuels reduction, on reversing some of the clarity, and a lot of the projects around the State. The original Act, which authorized \$300 million, unfortunately was not fully funded. So Senator Reid and I, when we were doing public lands bills for Nevada we took some of the proceeds, really the proceeds from Southern Nevada, because we know that people in Southern Nevada actually love Lake Tahoe as well, and some of those proceeds from the land sales in Southern Nevada were put toward funding this authorization bill that was passed back in the late 1990s, and we funded those projects up at Lake Tahoe.

Funding came from the State of California. It came from the State of Nevada. Some came from the Federal Government, but most of the money has now come from the Southern Nevada Public Lands Management Act and other lands bills that we have passed since that time.

One of the things that we insisted was that we didn't just fund projects that were people's wish lists. That is why we have had science back up everything that we have tried to do. And in this bill science is going to do the same thing. Basically, we try to get as much bang for the buck. We try to prove things are actually working, and if not, put the money into other things. Because you have very limited resources up there, and we have to go after the biggest problems that we can possibly go after.

Point at and reemphasize a couple of points that have been made. One is that catastrophic fire is still an incredible threat. We saw it with the Angora fire, some of the other fires that we have had up there. And you look at a lot of the Western forests. We love them so much that we quit putting out forest fires for the last 100 years.

Well, there are more trees in the Lake Tahoe Basin today than there were 200 years ago. The problem is that because it is a desert forest, the big trees used to be kind of spread out, so when the fires would come through naturally and clean out the underbrush, you wouldn't have as much fuel buildup. Because of putting fires out for so many years, we now have a huge build up of fuels.

And also because these are all second growth because of the logging that occurred around the Comstock era, we now have a lot of fir trees instead of the big Jeffrey pines and Ponderosa pines that we used to have. And these are smaller trees. They crowd out, and they get a lot of underbrush growing around them. And so when fires happen, the fuel is so intense the fires don't burn naturally. They burn much hotter, and they literally can sterilize the ground.

And they also spread much faster than they used to spread, so they are a lot more difficult to control. So there is a greater threat to buildings, to human lives, to businesses.

As far as other environmental threats to the lake, obviously erosion has been something we have been working on. We have made a lot of progress. Still have some work to do there. But it was mentioned, these invasive species, both plant and animal species, are a tremendous, tremendous threat.

One of the things that Senator Reid didn't mention about the quagga mussels in Lake Mead is that these quagga mussels, when they attach, for one thing, to a drinking, like to the water pipes that come to Las Vegas to bring our water in, they don't just attach to the outside. They literally burrow along miles around the pipe in. And so removing them is not an easy task.

And if people say, well, you know, this is California and Nevada's problems, we have to remember these are invasive species to all of these lakes. These things can spread all over the country and would be a grave threat to water bodies all over the country. So we need to make sure that this doesn't spread from lake to lake to lake around the West and then get into other parts of the country as well.

So Lake Tahoe, first of all, is a national treasure. It deserves national attention. And second is that if people are concerned about other parts of the country, this needs to be an absolute national priority.

So Senator Feinstein has laid out exactly what the bill is going to do. It is something I am completely supportive of. It is an absolute priority to get the authorization bill done, especially because without the authorization bill we don't have the mechanism set up, for instance, for the inspection stations that we need for the quagga mussels and to keep other invasive species from coming in.

So thank you very much for holding this hearing, and we hope that this legislation can be passed as quickly as possible, simply because if these invasive species get in, Senator Feinstein mentioned one of them gets in, then it can be literally disastrous and very difficult to control. And the Asian clam is a perfect example of once it gets in, it is very, very difficult to come up with a solution once they are in.

So thank you very much for holding this hearing.

[The prepared statement of Senator Ensign was not received at time of print.]

Senator CARDIN. Well, as a person who has enjoyed Lake Tahoe, let me thank all the Senators from the two States for their leadership on this. It is the right model, using good science and partnership to try to attack the problem.

So thank you very much for your testimony.

Senator Cantwell.

**OPENING STATEMENT OF HON. MARIA CANTWELL,
U.S. SENATOR FROM THE STATE OF WASHINGTON**

Senator CANTWELL. Thank you.

Thank you, Madam Chair, and thank you, Subcommittee Chairman Cardin, for holding this hearing. This is a very important hearing on the protecting and preserving and restoring great waters of body in the United States, so I appreciate it very much.

And thank you for inviting me to make some comments on my Puget Sound Restoration Act. I would also like to thank Congressman Dicks and Senator Patty Murray for working on this legislation with me. Today, you will also be hearing from Mr. David Dicks, the Executive Director of the Puget Sound Partnership, which is the State agency dedicated to Puget Sound restoration.

With 2,500 miles of shoreline and 2,800 square miles of inland marine waters, Puget Sound is the Nation's second largest estuary. The Sound is the cornerstone of the Pacific Northwest's identity and at the heart of the region's prosperity, promoting thriving marine and natural resource industries.

And it is truly one of America's most spectacular bodies of water, home to more than 200 species of fish, 25 kinds of marine mammals, 100 species of birds, as well as clams, oysters and shrimp.

But while above the water's surface we see its breathtaking natural beauty, the reality is that there are great parts of Puget Sound that are not so healthy. Scientists have detected low levels of oxygen and increasing concentration of toxic substance, which is inadequate for animals that live in the Sound, and some of its most iconic residents, species like the salmon and orcas, are on the brink of extinction.

Up to 70 percent of all of its original estuaries and wetlands have disappeared, and about 8,700 acres at the bottom of Puget Sound are dangerously contaminated. The declining health of Puget Sound threatens the economy and economic vitality of the Pacific Northwest. That is why Washington State's Governor Chris Gregoire, who has testified before this Committee several times, has taken steps at the State government level to combat this decline by setting up the Puget Sound Partnership.

But now it is time for the U.S. Government to help match these efforts with the Environmental Protection Agency taking a lead to create the Washington State Program, a comprehensive recovery effort for Puget Sound. Already we have launched a cooperative effort involving all of the local government entities, as well as State and Federal Governments to curtail any harmful substances from being introduced into the waters, change the unwise industrial and agriculture practices, and continue our aggressive research into the causes of pollution in the Sound.

The Puget Sound Recovery Act furthers these efforts by establishing the EPA Puget Sound Office in the State of Washington and

coordinating actions among many Federal agencies involved in the clean up, including the Fish and Wildlife Service, Park Service, Forest Service, Natural Resources Conservation Service, USGS, the Army Corps of Engineers, the Departments of Commerce, Defense, Homeland Security and Transportation.

In addition, the bill authorizes up to \$125 million in annual grants to address the causes of Puget Sound's decline and implementing projects to counter these threats.

Mr. Chairman, what we are trying to accomplish with Puget Sound Restoration Act is not a new concept. I know, as a resident of the Chesapeake Bay area, you understand in the Chesapeake watershed how important this EPA program is and how important a clear Federal-State partnership must be if we want to accomplish our goals.

The Chesapeake Bay was the Nation's first estuary targeted by Congress for restoration and protection. And since the formation of the Chesapeake Bay Program in the 1980s, it has served as a model for the effectiveness of cooperation in the approach to natural restoration efforts. The Bay Program's partnership model has been recognized and emulated, and the program has been a success.

Mr. Chairman, you know that more than 20 years of restoration on the Bay have resulted in generally decreasing trends in nitrogen and phosphorus pollution levels entering the bay, and so that is a very important accomplishment. So this is exactly what we are trying to accomplish with Puget Sound as well.

So I thank you, Mr. Chairman, for allowing this bill to be part of today's hearing, and I look forward to working with you and other members of the Committee on moving this legislation forward.

Thank you.

Senator CARDIN. Well, Senator Cantwell, thank you for your testimony. There are many similarities between Puget Sound and the Chesapeake. And I think having your own office and bringing together the stakeholders so that you have a comprehensive plan using the best science information that is available, you can make a huge difference.

The progress made on the Bay, but for the Chesapeake Bay Program, we would have seen a degrading of the Bay much worse than it ever could have been achieved in what we have been able to do. So it has been a great success, but we have a lot more to do on the Chesapeake Bay. And I think you are taking in your proposal the model that worked with the Bay, and we look forward to working with you on your proposal.

Senator CANTWELL. And I think that is why we want to get started because we know it takes a long time.

Senator CARDIN. It does. And you have to get the partnerships in confidence together.

Let me turn to Senator Boxer for an introduction, and thank you again, Senator Cantwell, for being here.

Senator CANTWELL. Thank you.

Senator BOXER. As you know, we have votes back and forth, so people are going to be coming and going, but don't be distracted. It is our world, and it is the way it is.

Could Patrick Wright raise his hand? Patrick, there you are. I just wanted to make sure that I gave you your due as far as an introduction.

Patrick Wright is the Executive Director of the California Tahoe Conservancy. I am just introducing you before you speak because I have to go vote and do something with the leadership conference on the jobs bill. So Patrick Wright is the Executive Director of the California Tahoe Conservancy. I can't imagine a better job, frankly, an independent State agency within the Resources Agency of the State. The California Tahoe Conservancy was established to improve water quality in Lake Tahoe, preserve the scenic beauty and recreational opportunities of the region, provide public access, preserve wildlife habitat areas, and manage and restore lands to protect the natural environment.

Prior to his appointment, Mr. Wright served as the first Director of the California Bay Delta Authority, where he was responsible for overseeing the implementation of the largest and most comprehensive water management and ecosystem restoration effort in the Nation.

And correct me if I am wrong on this one, but the Bay Delta serves about, what, 24 million people with water. Is that right? I even got an eyebrow look. It is hard for people to believe what the situation we have there with our water.

Wright has also served as Resources Agency Deputy Secretary, Assistant Secretary for Program Development, and Senior Adviser to the Regional Administrator of the Environmental Protection Agency, and to the Deputy Secretary of the Department of Interior.

I think it is such a wonderful resume. I want to have the chance in case I can't be back to welcome him and to say to him and all of you who are here because of your love of these amazing bodies of water, we are very, very, very serious about moving on these. And I said before about Senator Cardin, when he took this Subcommittee chairmanship, he really is someone who gets the job done. So I think you can feel good that we are going to move on a lot of these things.

So thank you very, very much.

Mr. Chairman, what is your situation? You are waiting to be relieved?

Senator CARDIN. Senator Merkley is going to be coming back momentarily. Senator Merkley wants to introduce the Columbia River Basin Initiative. I believe also Senator Gillibrand wants to talk about the Long Island Sound Great Waters.

What we are going to do, with everyone's permission, we are going to take a very short recess. I expect that Senator Merkley will be back momentarily, who will then reconvene the joint full Committee-Subcommittee for the purposes of introducing their recommendations for those bodies of water, and then we will go directly to the first panel.

Thank you. We will stand in recess.

[Recess.]

**OPENING STATEMENT OF HON. JEFF MERKLEY,
U.S. SENATOR FROM THE STATE OF OREGON**

Senator MERKLEY [presiding]. The Committee will come to order. We will reconvene the Subcommittee on Water and Wildlife and the full Senate Committee on Environment and Public Works.

Things are a little chaotic with votes. We are going to utilize the time that we have. I am going to give a presentation on the Columbia Water Basin. At that point, Senator Gillibrand may be back, and we will go to her testimony, and then hopefully the Committee members will be back, and we will turn to the panel.

So, good morning. I would like to thank the Chair, Senator Cardin, for convening this hearing, for including the important issue of the threats facing the Columbia River Basin. And I will be testifying in support of the Columbia River Restoration Act of 2010.

The Columbia River Basin is the great river system that defines the Pacific Northwest. It runs more than 1,200 miles from Columbia Lake in British Columbia at its mouth to Astoria, Oregon. And its basin drains more than 250,000 acres in seven States, including portions of the Yellowstone Plateau, the Rocky Mountains, the volcanic Snake River Plain, Hells Canyon, which is the deepest canyon in the United States, the salt plains and high desert of eastern Oregon and Washington, the majestic Columbia River Gorge, and the temperate rainforests and volcanic slopes of the Cascade Mountains.

Its tributaries are the major rivers of the Northwest. The Snake River, the longest tributary, runs more than 1,000 miles from near the continental divide in Yellowstone Park in Wyoming until it flows into the Columbia in eastern Washington. The Clarks Fork is Montana's largest river by volume, draining much of western Montana and turning into the Ponderay River in Idaho before it flows into the Columbia just across the border in Canada.

The Columbia is also the lifeblood of our Northwest economy. It has been the foundation of a trade-based economy stretching back thousands of years. Today, it is the cornerstone of the region's shipping network, with ports dotting the river as far upstream as Lewiston, Idaho, the furthest inland seaport in the West. The Columbia, once host to the world's largest wild salmon run, is still the foundation of much of our fishing industry.

The Columbia River Basin is the backbone of our energy system, with a network of dams that provide the majority of the region's electricity. When we talk about major generating capacity, we often talk about 100-megawatt or 200-megawatt capacity wind farms or 600-megawatt or 800-megawatt coal plants. The Grand Coulee Dam in central Washington on the Columbia, by itself, has a capacity of 6,800 megawatts. And it was the availability of low cost power that brought the industrial area to the Northwest and brought a host of benefits from rural electrification to irrigation.

And you all might recall that the Columbia River in many aspects was memorialized in the 1940s by songs by Woody Guthrie. I am told that he wrote 17 songs that touched on the Columbia, but the one that every Northwest school child learned was Roll On, Columbia. So it is deeply embedded in our culture as well as our economy. About 4 million acres of income producing farm and

ranch land across the Pacific Northwest are irrigated by the Columbia River, contributing \$10 billion to our economy every year.

Unfortunately, this great river basin faces serious challenges. Our rivers are severely polluted. EPA's Columbia River Basin Fish Contaminant Survey found 92 toxic pollutants in the tissue of fish in the basin. I am going to ask my team to put up the first chart. As this first chart shows, one of the toxic pollutants found in fish across the basin is mercury, and at serious levels. Each of the red and yellow dots represents samples that exceeded EPA's human health guideline.

A second chart shows widespread and even more serious contamination by DDT. Now, it is measured by DDE, which is a breakdown product of DDT. DDT was banned in the 1970s, but you can see that high levels of contamination still persist in many parts of the basin.

Indian tribes have made this basin their home for thousands of years, including the Warm Springs, the Nez Perce, the Umatilla, the Yakima. And they are among the most affected. A survey conducted by the Columbia River Intertribal Fish Commission found that tribal members consumed between 6 and 10 times as much fish as the national average, as this chart shows. High consumption rates existed among all tribal members consuming fish as well as among specific high risk groups including breastfeeding women. And of course the salmon and steelhead upon which the tribes and also the fishing communities of the Northwest have so long depended are in serious decline.

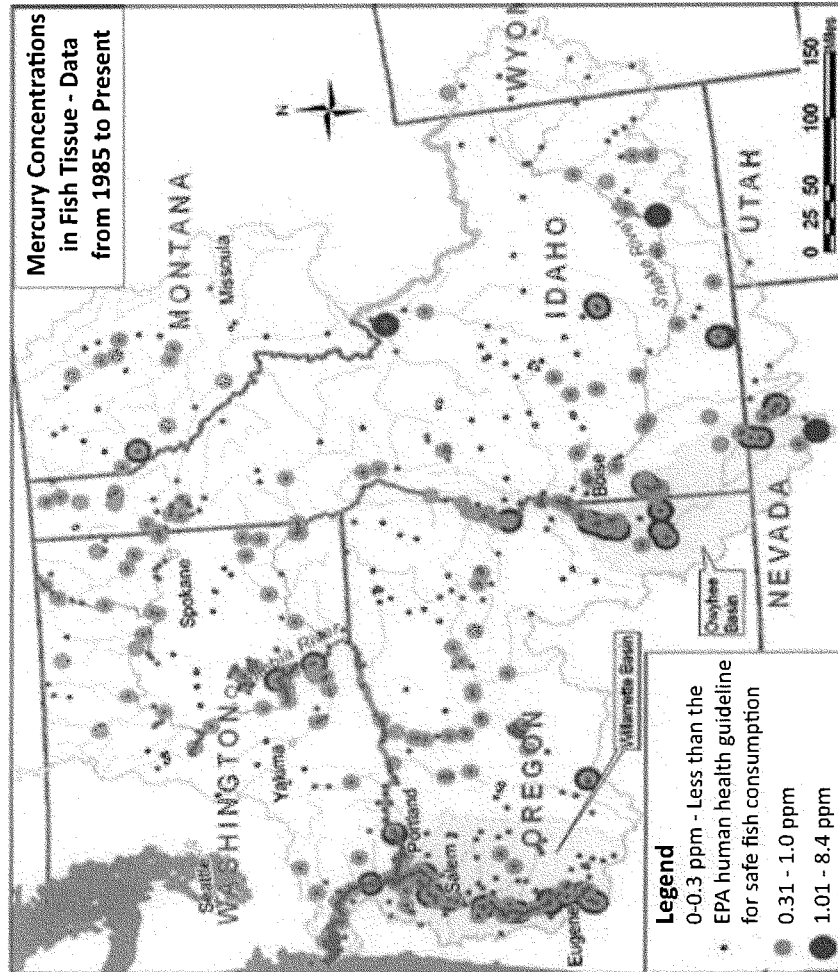
The good news is that stakeholders across the region are working to clean up and restore the river. Since being added to the National Estuary Program, a robust partnership involving 28 cities, nine counties, the States of Oregon and Washington, has come together to coordinate habitat restoration and toxic contamination reduction. The EPA has coordinated stakeholders throughout the basin, including the States of Idaho and Montana and tribal governments, working to improve toxic pollution monitoring and working to reduce and clean up contamination.

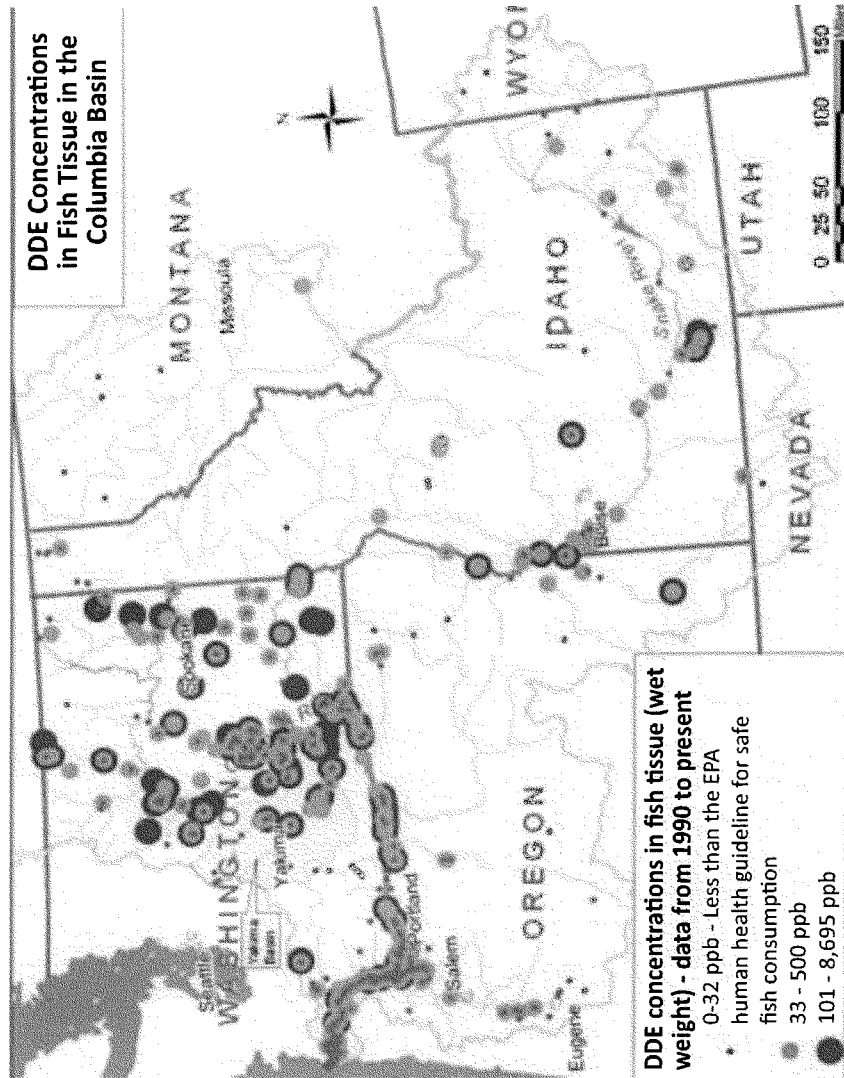
But more needs to be done. While EPA has designated the Columbia River Basin as one of the Nation's great water bodies, and has an active program in the basin, the Columbia River Basin is the only one of these great water bodies that doesn't receive designated appropriations to support restoration.

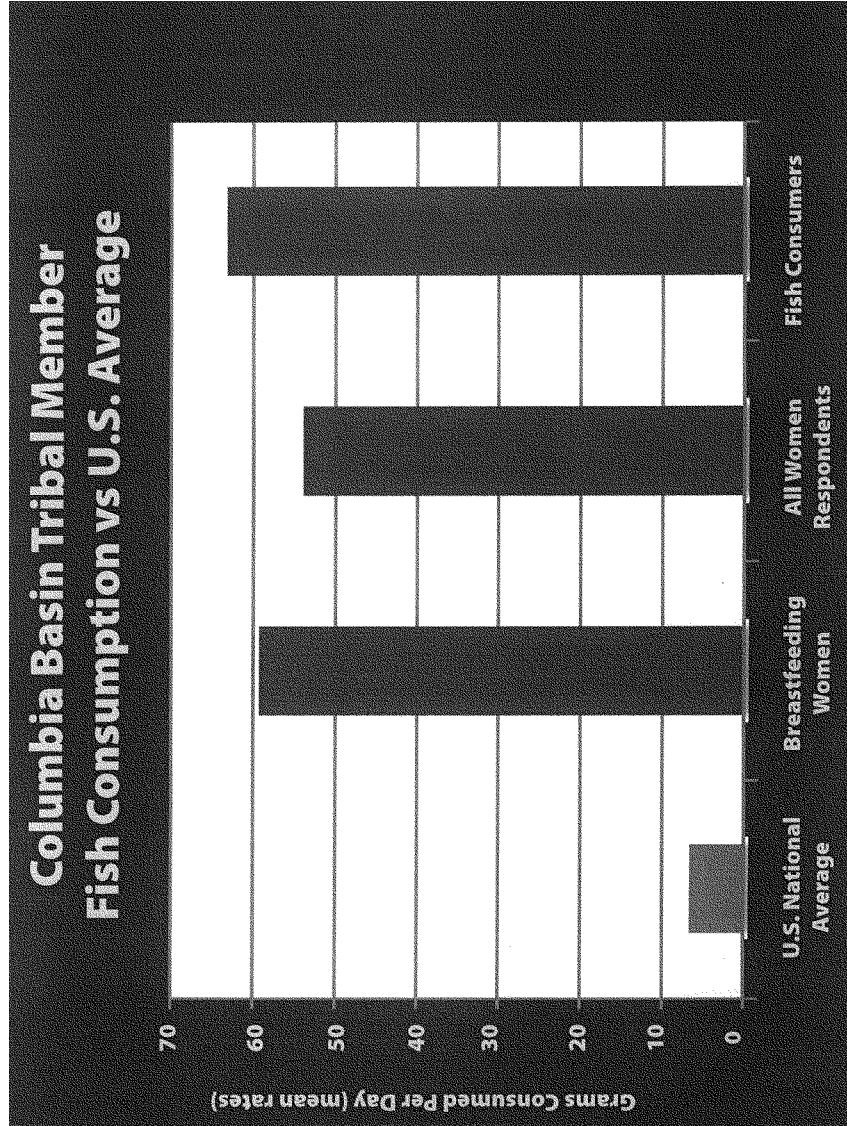
Unlike the Chesapeake Bay and the Great Lakes, where Congress has directed comprehensive restoration programs, the Columbia River Basin has no such program. It is in this context that I introduced yesterday, along with colleagues from the Northwest, the Columbia River Restoration Act of 2010. The bill directs EPA to coordinate restoration efforts consistent with restoration and toxics reduction actions plans and to coordinate and fund projects to implement those plans.

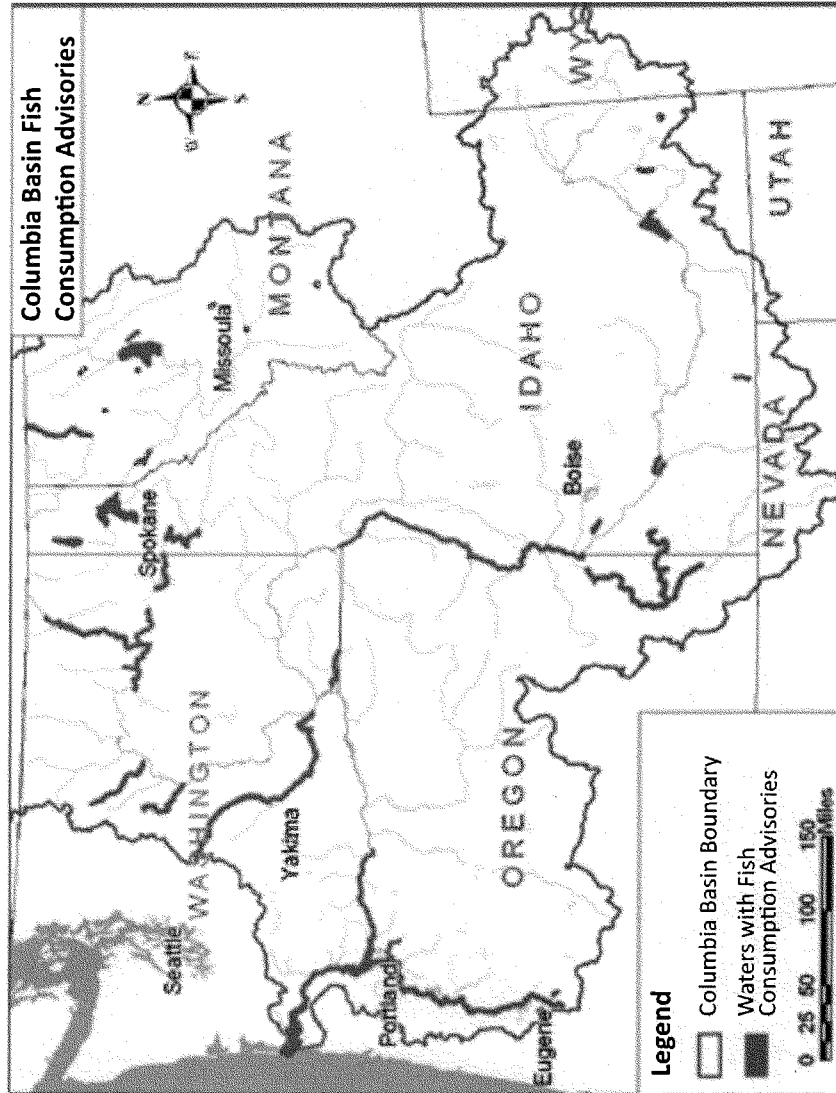
And I look forward to hearing today from the EPA and from a witness from the region on the challenges facing our river and its basin, and I look forward to working with them as well as with my colleagues on this Committee and throughout the region, to consider this bill.

[The referenced information follows:]









Senator MERKLEY. So we are going ahead and call up the first panel, Hon. Peter Silva, Assistant Administrator for Water, U.S. Environmental Protection Agency. And I would ask that he be joined by Hon. Harris D. Sherman, Under Secretary for Natural Resources and Environment, United States Department of Agriculture.

And while they are taking their seats, I will add a little bit more introduction. Mr. Silva has over 32 years of public sector experience in the water and wastewater fields, with extensive knowledge of U.S.-Mexico border issues. Prior to joining EPA, he was a Senior Policy Adviser on the Lower Colorado River issues for the Metropolitan Water District of Southern California. Before that, he served for 6 years as the Vice Chair of the California Water Resources Control Board, having been appointed by both Governors Davis and Governor Schwarzenegger.

The Honorable Harris D. Sherman, before joining USDA, from 2007 until he was confirmed by the U.S. Senate for this position, he served as the Executive Director of Colorado's Department of Natural Resources under Colorado Governor Bill Ritter. During that time, he also served as Director of Compact Negotiations for the Colorado Interbasin Commission, Chair of the Colorado Oil and Gas Commission, and Co-Chair of the Governor's Forest Health Advisory Council.

Previously, in an earlier point in his career, he also served as Director of Colorado's Department of Natural Resources under then-Colorado Governor Richard Lamm.

Welcome to both of you. We are looking forward to your testimony.

STATEMENT OF HON. PETER S. SILVA, ASSISTANT ADMINISTRATOR FOR WATER, U.S. ENVIRONMENTAL PROTECTION AGENCY

Mr. SILVA. Good morning, Mr. Chairman, members of the Committee, I am Peter Silva, Assistant Administrator for the Office of Water at EPA. Thank you for the opportunity to discuss EPA's programs addressing these large aquatic ecosystems.

We have known long that large aquatic ecosystems are among the most ecologically valuable and productive areas on Earth. These ecosystems foster a wonderful abundance and diversity of wildlife, like sea and shore birds, fish, marine mammals and shellfish. Our estuaries and rivers function as feeding, spawning and nursery grounds for many marine and terrestrial finfish, shellfish, birds and plants, supporting unique communities that are especially adapted for the life on the margin of the sea.

These areas are also dynamic economic engines for many industries vital to the Nation, including sport and commercial fisheries, agriculture, transportation, recreation and power generation.

However, many of these same activities have disrupted natural processes and impaired water quality, in some areas to the point where human health is at risk. And these ecosystems and the plants and animals that depend on them are threatened.

EPA has long recognized the importance of improved protection of the Nation's large aquatic ecosystems. We support the National

Academy of Public Administration recommendation of “making large scale ecosystem restoration a national priority.”

The EPA strategic plan of 2006 to 2011 provides for a significantly expanded effort to protect large aquatic ecosystems as a complement to the implementation of core national water quality programs. These large ecosystem programs are addressing some of the Nation’s most complex water resource management challenges such as nutrient loading, stormwater overflow, and toxic sediments.

The plan describes environmental goals for each large aquatic ecosystem and measures that EPA is using to monitor progress toward these goals. The EPA Office of Water recently established a National Council of Large Aquatic Ecosystems to work with EPA to better support and promote efforts to protect these large aquatic ecosystems.

Key goals of the council are to encourage exchange of best management practices, improve coordination among these large programs and core national programs, strengthen links between ecosystem programs and the EPA strategic plan and budget, and focus EPA research on the top priority needs of the ecosystems.

I will only focus very briefly on the ecosystems, as has already been mentioned, by and large. First, the Columbia River Basin, the goal of this basin program is to protect public health and the environment by reducing toxics in fish, water and sediment and implementing a collaborative monitoring and research strategy to understand toxic loads, emerging contaminants and overall ecosystem health.

For the Great Lakes, the Great Lakes have been degraded for many years due to toxics, wetlands degradation, land use changes, invasive species and pollution from antiquated sewer systems. EPA is coordinating the President’s Great Lake Restoration Initiative across Federal agencies to fund the highest priority activities under the Great Lakes Restoration Initiative action plan.

For Lake Tahoe, you have heard a lot of discussion about that. It is designated a national resource water under the Clean Water Act. Lake Tahoe Basin continues to be threatened, however, by impacts of land use and transportation patterns, invasive species and other factors. The EPA and its partners are working to implement measures to address these threats.

Long Island Sound is a cooperative effort to restore and protect the Sound, implementing specific amendments to improve water quality, protect habitat of living resources, educate and involve the public, improve the long-term understanding of how to manage the Sound, monitor progress and apply adaptive management.

For the Puget Sound, the Puget Sound-Georgia Basin, a large aquatic ecosystem in Washington State and British Columbia, is one of the most ecologically diverse ecosystems in North America. EPA is focusing on several interrelated efforts including participating in the Puget Sound Partnership with Washington State, interagency coordination at the Federal level, trans-boundary coordination with Canada, and implementing EPA’s relevant programmatic authorities.

Just last, I want to just cover our relationship with the National Estuary Program. This program was established by section 320 of the Clean Water Act Amendments of 1987, with a mission to pro-

tect and restore nationally significant estuaries. The NEP currently includes 28 programs. Two of the NEPs are co-located with LAEs I have discussed today, Lower Columbia River Estuary Partnership and Puget Sound Partnership.

I would urge that both the Columbia River Basin and the Puget Sound bills be carefully reviewed to assure they do not duplicate existing NEP efforts.

Just in conclusion, the programs we discuss in this testimony are critical parts of EPA's clean water strategy. They are effective, efficient and collaborative, and they have demonstrated the value of partnering to achieve environmental results. I look forward to working with you on maintaining and enhancing these important programs.

Thank you very much.

[The prepared statement of Mr. Silva follows:]

**Testimony of
Peter Silva, Assistant Administrator
Office of Water
U.S. Environmental Protection Agency
Before the
U.S. Senate Environment and Public Works Committee
and the Water and Wildlife Subcommittee**

February 24, 2010

1. Introduction

Good afternoon Madam Chairwoman and members of the Committee, I am Peter Silva, Assistant Administrator for the Office of Water at the United States Environmental Protection Agency (EPA). Thank you for the opportunity to discuss five regional aquatic ecosystems – the Columbia River Basin, Great Lakes, Lake Tahoe, Long Island Sound, and Puget Sound-Georgia Basin -- and the EPA programs that work to protect and restore them.

In today's testimony, I will describe the challenges facing these programs, such as habitat loss, hypoxia, and climate change, and the approach taken by these programs to address these challenges. I will also present how EPA measures the progress of these programs.

We've long known that large aquatic ecosystems are among the most ecologically valuable and productive habitats on earth. These ecosystems foster a wonderful abundance and diversity of wildlife like shore birds, fish, crabs and lobsters, marine mammals, shellfish, and sea birds. Our estuaries and rivers function as the feeding, spawning, and nursery grounds for many marine and

terrestrial finfish, shellfish, birds, and plants, supporting unique communities of plants and animals that are specially adapted for life at the margin of the sea.

These areas are also dynamic economic engines for many industries vital to the Nation, including sport and commercial fisheries, agriculture, transportation, recreation and with many hydropower dams, electrical power generation. However, many of these same activities have disrupted natural processes and impaired water quality in some areas to the point where human health is at risk and ecosystems and the plants and animals that depend on these important ecosystems are threatened. Recent studies and monitoring programs have found a number of troubling problems, including significant levels of toxic chemicals in fish and the waters they inhabit, including DDT, PCBs, mercury, and emerging contaminants, such as PBDEs and endocrine disrupting flame retardants, and nutrient over-enrichment that leads to hypoxic or low-oxygen conditions and subsequent loss of marine life.

EPA has established programs for four of these large aquatic ecosystems (LAEs) -- Columbia River Basin, Great Lakes, Long Island Sound, and Puget Sound. These LAE programs already play a substantial role in addressing ecosystem pressures and challenges. They help implement important CWA programs including NPDES/stormwater permitting, Total Maximum Daily Loads (TMDLs), section 319 nonpoint source control grants, water quality monitoring, and water quality standards. For example, the Long Island Sound LAE developed numeric water quality models to support a nitrogen TMDL and assessment of management alternatives. The Long Island Sound LAE also

promoted effluent trading to achieve wastewater treatment plant upgrades in a cost-effective manner. However, substantial environmental challenges remain.

II. Overview of EPA's Large Aquatic Ecosystem Program

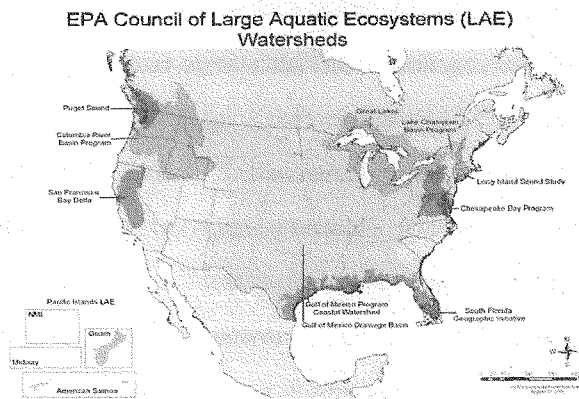
Improved protection of the Nation's large aquatic ecosystems has long been a theme of several major reports and studies. For example, the National Research Council recommended in 1992 that "a large-scale aquatic ecosystem restoration program...should be implemented to regain and protect the physical, chemical, and biological integrity of surface water." In 2007, the National Academy of Public Administration published a report recommending "making large scale ecosystem restoration a national priority."

EPA's *Strategic Plan: 2006 – 2011*, provides for a significantly expanded effort to protect large aquatic ecosystems as a complement to the implementation of core, national water quality programs. These large ecosystem programs are addressing some of the Nation's most complex water resource management challenges, such as nutrient overloading, stormwater flow, and toxic sediments. The *Plan* describes environmental goals for each large aquatic ecosystem and measures of progress that EPA is using to monitor progress toward the goals. The *Plan* also describes the specific program strategies EPA is implementing with its partners to achieve these goals in each ecosystem.¹

EPA's current set of large aquatic ecosystem programs includes the Chesapeake Bay Program Office, Great Lakes Program Office, Gulf of Mexico Program Office, Long Island Sound Program Office, South Florida Program

¹ For more information see http://www.epa.gov/octo/plan/2006/goal_4.pdf.

Office, Lake Champlain Program, Puget Sound – Georgia Basin Program, Columbia River Basin Program, San Francisco Bay Program, and the Pacific Islands Program. Other Federal and non-Federal partners collaborate with EPA LAE program management and staff to develop long-term plans and implement near-term activities based on those plans.



The EPA Office of Water recently established a national Council of Large Aquatic Ecosystems to work within EPA to better support and promote efforts to protect these large aquatic ecosystems. The Council includes the managers of the EPA large aquatic ecosystem programs as well as EPA national water program managers, representatives from the EPA Office of Research and Development, and EPA Regional offices. Key goals of the Council are to encourage the exchange of "best management practices," improve coordination among large aquatic ecosystem program and core national water programs, strengthen links between ecosystem programs and the EPA Strategic Plan and

budget, and focus EPA research on the top priority needs of the ecosystem programs.²

III. Overview of Columbia River Basin, Great Lakes, Lake Tahoe, Long Island Sound, and Puget Sound –Georgia Basin: Challenges, Priorities, Measures, and Proposed Legislation

Columbia River Basin LAE

The Columbia River Basin LAE program covers a major portion of North America including parts of seven U.S. States and British Columbia. The basin provides drainage through an area of more than 260,000 square miles into a river near 1,200 miles in length. The Columbia River Basin provides an important North American backdrop for urban settlement and development, agriculture, transportation, recreation, fisheries and hydropower. The Columbia River Basin's unique ecosystem is home to many important plants and animals. Columbia River salmon and steelhead runs were once the largest runs in the world and are now threatened and endangered in large part due to habitat and water issues including toxics. The tribal people of the Columbia River have depended on these salmon for thousands of years for human, spiritual, and cultural sustenance. Salmon restoration and toxics reduction in the Columbia River Basin is a key environmental justice issue for EPA.

² More information on the work of the Council is available at:
http://www.epa.gov/owow/oceans/partnerships/large_aquatic.html.

The goal of the Columbia River Basin program is to protect public health and the environment by reducing toxics in fish, water, and sediment of the Columbia River Basin, increasing the actions taken to reduce toxics, and implementing a collaborative monitoring and research strategy to understand toxic loads, emerging contaminants, and overall ecosystem health. This is being done by a collaborative effort of Oregon, Washington, Idaho, Montana, Columbia Basin tribal governments, the Lower Columbia River Estuary Partnership, local governments, citizen groups, industry, and other federal agencies in efforts to restore water quality, remove contaminated sediments, bring back native anadromous fish, and preserve, protect, and restore habitat.

To measure progress and ensure accountability, the EPA tracks three indicators for the Columbia River LAE: number of acres of wetland habitat and acres of upland habitat protected or restored in the Lower Columbia River watershed, acres of known contaminated sediments cleaned up, and reductions in mean concentrations of contaminants of concern found in water and fish tissue.

Congressman Blumenauer's bill to provide assistance for programs and activities to protect the water quality of the Columbia River, would require the Administrator to appoint a team leader in EPA's Region 10 who would support the development and implementation of projects to protect and restore the Columbia River Basin. The bill would authorize appropriations of \$40,000,000 for each of the fiscal years 2011 – 2015.

The Great Lakes

The Great Lakes hold 20 percent of the world's fresh surface water, have over 10,000 miles of coastline, and drain about 200,000 square miles of land. They are a source of drinking water for over 30 million people in the U.S. and Canada. Roughly 10 percent of the U.S. population and more than 30 percent of the Canadian population live in the Great Lakes basin, and its fishery is valued at more than \$5 billion, providing jobs and recreation opportunities to millions annually.

The Great Lakes are under unprecedented stresses. Years of degradation from the build-up of toxic sediments, mercury and other toxic pollutants, wetlands destruction, land-use changes, invasive species, and pollution from antiquated sewage systems have left the Great Lakes at a tipping point. The impacts from global warming threaten to hasten and exacerbate this situation. Fortunately, we know many of the solutions to these serious threats and we have a new program and plan that will help us achieve on the ground results to improve the health of the Great Lakes.

The President's Great Lakes Restoration Initiative builds upon 5 years of work of the Great Lakes Interagency Task Force and stakeholders, guided by the Great Lakes Regional Collaboration Strategy. This Initiative is a well-orchestrated effort that EPA is coordinating, with the Task Force's leadership, across federal agencies. The Initiative seeks to fund the highest priority activities in order to protect and restore the Great Lakes. The federal agencies are now working together to address those priorities under a common set of goals and

objectives, developed collaboratively and captured in The Great Lakes Restoration Initiative Action Plan. This Action Plan outlines the problems to be addressed, articulates the Initiative's goals and objectives, establishes measurable outcomes, and delineates principal actions that the federal agencies and its partners in the Great Lakes community will pursue to achieve Great Lakes restoration.

The Action Plan is now supported by \$475 million requested by the President and appropriated for FY2010. With this funding, the GLRI has begun activities to pursue its long term goals, which include being able to safely eat fish, to swim at our beaches, to have access to safe drinking water, and to sustain a healthy ecosystem for fish and wildlife. With EPA's coordination, federal agencies have been collaborating intensively to launch the GLRI and we are now entering an implementation mode. As a result of this effort, over 16 federal organizations have begun to undertake actions that address five principle focus areas defined in the Action Plan:

- Toxic Substances and Areas of Concern;
- Invasive Species;
- Nearshore Health and Nonpoint Source Pollution;
- Habitat and Wildlife Protection and Restoration; and
- Accountability, Monitoring, Evaluation, Communication, and Partnerships.

The Great Lakes Interagency Task Force and its Regional Working Group is actively working collaboratively with a variety of governmental and

nongovernmental partners and stakeholders to implement the Great Lakes Restoration Initiative Action Plan. Through implementation of principal actions described in the plan, EPA and its partners are on a path to accomplish the highest priority environmental outcomes of the Great Lakes community.

GLRI funds are being targeted and results will be tracked to maximize Great Lakes ecosystem protection and restoration, and to assure accountability. Toward this end, EPA is working with partners to develop a Great Lakes Accountability System (GLAS) modeled on the Chesapeake Bay's system that will help to measure success and be widely accessible to a multitude of partners.

Lake Tahoe

Lake Tahoe is one of the largest, deepest, and clearest lakes in the world; has a cobalt blue color, a biologically diverse alpine setting, and remarkable water clarity; and is recognized nationally and worldwide as a natural resource of special significance. In addition to being a scenic and ecological treasure, the Lake Tahoe Basin is a designated Outstanding National Resource Water under the Clean Water Act. As an outstanding recreational resource, it offers skiing, water sports, biking, camping, and hiking to millions of visitors each year; and contributes significantly to the economies of California, Nevada, and the United States. The economy in the Lake Tahoe Basin is dependent on the protection and restoration of the natural beauty and recreation opportunities in the area.

The Lake Tahoe Basin continues to be threatened, however, by the impacts of land use and transportation patterns, invasive species, and other factors that damage the fragile watershed of the Basin. The water clarity of Lake Tahoe declined from a visibility level of 105 feet in 1967 to only 70 feet in 2008 although the rate of decline in water clarity of Lake Tahoe has decreased in recent years. The average surface water temperature of Lake Tahoe has risen by more than 1.5 degrees Fahrenheit in the past 37 years. The destruction and alteration of wetlands and stream zone habitat have compromised the natural capacity of the watershed to filter sediment, nutrients, and pollutants before reaching Lake Tahoe.

The EPA and its partners are working to implement measures to address these threats, such as the sediments and nutrients that that continue to flow into the lake from stormwater runoff from developed areas, roads, turf, other disturbed land and streams, clouding Lake Tahoe and supporting the growth of algae and invasive plants.

The proposed Lake Tahoe Restoration Act of 2009 would authorize \$415 million over eight years for a range of activities to the Forest Service, the Fish and Wildlife Service, and EPA (along with the Army Department for Civil Works, DOI, and DOT) to improve water quality. Key provisions of the bill include measures to implement TMDLs, reduce the risk of catastrophic wildfire, address invasive species, fund scientific research, increasing accountability, and providing public outreach.

Long Island Sound

The Long Island Sound Study (LISS), authorized by Congress in 1985, is a collaborative effort to restore and protect the Sound. Sponsored by the EPA and the states of Connecticut and New York, partners include federal, state, interstate, and local government agencies, industries, universities, and community groups. LISS partners work together to implement a Comprehensive Conservation and Management Plan (CCMP) to maintain the health of the ecosystem, restore coastal habitats, and increase public awareness of the Sound. The environmental concerns affecting the Sound cross political boundaries, and by using a collaborative decision-making approach, LISS partners can share ideas, coordinate actions, and leverage scarce financial resources to protect an entire ecosystem. The LISS CCMP identifies specific commitments and recommendations to improve water quality, protect habitat and living resources, educate and involve the public, improve the long-term understanding of how to manage the Sound, monitor progress, and redirect management efforts. Using the plan as a blueprint, the Long Island Sound Study has continued to refine and add detail to commitments and priorities.

The CCMP identified seven priority problems affecting the health and restoration of the Sound and its ecosystem: hypoxia, or the lack of dissolved oxygen in the water; toxic substances pollution; pathogen contamination; floatable debris pollution; habitat and species loss and conservation; public information, education and participation; and land use impacts on habitats and ecosystems. The top priority of the Long Island Sound Program is reducing

nitrogen loads, which contribute to the low levels of oxygen affecting substantial areas of western Long Island Sound in late summer. To measure progress and ensure accountability, the EPA tracks four indicators for the Long Island Sound: reduced point source nitrogen discharges to Long Island Sound as measured by the Long Island Sound Nitrogen Total Maximum Daily Load (TMDL); reduced size of the hypoxic area in Long Island Sound (defined as the area in which the long-term average maximum July-September dissolved oxygen level is < 3mg/l) and reduced average duration of the maximum hypoxic event; number of acres of coastal habitat, including tidal wetlands, dunes, riparian buffers, and freshwater wetlands protected or restored; and number of miles of river and stream corridor re-opened to anadromous fish passage through removal of dams and barriers or installations of by-pass structures such as fishways. The CWA Section 119 established the EPA Long Island Sound Office to guide efforts and authorized a grant program to assist partners in implementation of the CCMP. The current authorization is through 2010 at \$40 million per year. The *Long Island Sound Stewardship Act of 2006* (P.L. 109-359) (LISSA) requires the Administrator to establish and administer a Long Island Sound Stewardship Initiative program, appoint an Advisory Committee, make reports to Congress, and take other actions. The Act authorizes the Administrator to make grants and use funds to administer and implement the Stewardship Initiative, a program to identify and protect (by both management and acquisition) critical coastal lands. The current authorization is through 2011 at \$25 million per year. The Stewardship Act was codified under CWA Section 119 as a footnote.

Puget Sound– Georgia Basin LAE

The Puget Sound – Georgia Basin LAE encompasses areas in Washington State and British Columbia, Canada, and is one of the most ecologically diverse ecosystems in North America. In addressing the issues threatening this valuable ecosystem, EPA Region 10 is focusing on several interrelated efforts including participating in the Puget Sound Partnership within Washington State, interagency coordination at the federal level, transboundary coordination with Canada, and implementing EPA's relevant programmatic authorities.

The Puget Sound – Georgia Basin, with a current population of over six million people projected to increase to between nine and 11 million by 2020, faces many ecosystem challenges including habitat alteration in marine waters and on the sea floor, along the shoreline, throughout river systems, and in the upland forests, meadows, prairies, and brush; land conversion that eliminates habitat and increases impervious surfaces in the watersheds; pollution from many sources including vehicles, medication and personal care products, on-site septic systems, fertilizer, animal waste, and airborne emissions; and changes to surface and groundwater supply and availability that affects water temperatures, marine water circulation, oxygen conditions in water bodies, and the productivity of salmon and other species.

To measure progress and ensure accountability, the EPA tracks indicators for Puget Sound LAE that measure improved water quality and the

lifting of harvest restrictions in acres of shellfish bed growing areas impacted by degraded or declining water quality, number of acres of prioritized contaminated sediments remediated, and number of acres of tidally-and seasonally-influenced estuarine wetlands restored.

Senator Cantwell's bill, the proposed Puget Sound Recovery Act of 2009, bill S 2739, would require the Administrator to establish and administer a federal Puget Sound Program Office, appoint a Director, create an Advisory Council to the Administrator, provide grants, and take other actions. The bill would authorize appropriations of \$125,000,000 for each of the fiscal years 2010-2015 with funds to remain available until expended.

IV. Relationship to EPA's National Estuary Program (NEP)

The National Estuary Program was established by section 320 of the Clean Water Act Amendments of 1987, with a mission to protect and restore nationally-significant estuaries. The NEP currently includes 28 programs, located along the Atlantic, Gulf of Mexico, and Pacific coasts. Two of the NEPs are co-located with LAEs I have discussed today: Lower Columbia River Estuary Partnership (with Columbia River Basin LAE) and Puget Sound Partnership (with Puget Sound - Georgia Basin LAE). Both the Columbia River Basin and Puget Sound-Georgia Basin bills should be carefully reviewed to ensure that they do not duplicate existing NEP efforts.

V. Recommendations

The success of these programs rests in part on the collaborative nature of the program and its emphasis on the watershed approach to protect and restore large aquatic ecosystems. We would be happy to provide you and your staff with technical assistance on any and all of these bills.

VI. Conclusion

The LAE programs discussed in this testimony are a critical part of EPA's Clean Water Act strategy. They are effective, efficient, and collaborative. And they have demonstrated the value of partnering to achieve environmental results. I look forward to working with you on maintaining and enhancing these important programs.

I would be happy to answer any questions you may have at this time.

**EPA Responses to Lake Tahoe S. 2724 Questions for the Record from the Hearing before
Senate Environment and Public Works Committee Held 02-24-10**

Senator Barbara Boxer

1. Mr. Silva, EPA is leading efforts to restore large aquatic ecosystems in watersheds across the country, ranging from the Chesapeake Bay to the Great Lakes to the Gulf of Mexico. EPA has also provided critical technical and scientific advice to numerous additional restoration efforts.

As we consider legislation to reauthorize the Lake Tahoe Restoration Act, which establishes a broader role for EPA in scientific and technical advice and coordination, what are the most important lessons we can learn from EPA's other large aquatic ecosystem restoration efforts? How can those lessons be applied to new or expanding efforts in other basins, including the Puget Sound, Columbia River, and Great Lakes?

Response: The EPA's large aquatic ecosystem (LAE) programs, as well as the National Estuary Program, have a wide range of environmental challenges and approaches to those challenges. However, several principles guide their efforts which could be useful for other LAE programs. First, their governance structures have effectively integrated diverse stakeholders across large regions. The LAE programs provide a forum for open discussion that allow and encourage new members to participate. Second, the LAE programs produce science-based work that builds their credibility and shows their commitment to the entire range of stakeholders. Third, the LAE programs work on a watershed scale. Because environmental problems do not conform to political jurisdictions, the LAE programs define their management areas and management committees according to watershed boundaries and the ecosystems within them. Fourth, the LAE programs both work to convene stakeholders (so that they work together to conserve environmental resources) and conduct direct projects so they stay visible to build support for environmental conservation and funding. Fifth, The LAE programs have clear and measurable goals along with mechanisms to ensure accountability. The principles and lessons learned are relevant not only to LAEs, but to other watershed organizations who are working to implement watershed protection who can learn from the LAEs about innovative approaches to integrating science and management, fostering collaborative decision-making, and involving the public. While the LAEs may be home to certain elements that are not found in other areas (e.g., size, complexity, or multiple jurisdictional authorities), the LAEs' approach does not require the presence of these elements to be successfully applied.

Senator Benjamin L. Cardin

1. Does the Administration support S. 2724, The Lake Tahoe Restoration Act; S. 2739, The Puget Sound Recovery Act of 2009; S. 3025, The Columbia River Restoration Act of 2010; and S. 3073, The Great Lakes Ecosystem Protection Act?

Response: EPA supports the goals of these bills and agrees with the sponsors of the legislation that protecting these important aquatic ecosystems is critical as is ensuring that restoration/recovery goals are met. While the Agency has not developed an official position on

each bill, we are happy to continue working with the Committee and are committed to providing on-going technical assistance as the Committee's efforts proceed. EPA has long supported restoration of Lake Tahoe, and has been pleased to be an active participant in the interagency efforts that have occurred to date. The Lake Tahoe Restoration Act provides USEPA a much expanded role compared to current law, including a more active role in funding decisions and overseeing a broad range of watershed management projects in the basin (See sections 6, 11, 13, and 15). In turn, this will provide an expanded opportunity to EPA to help improve the water quality and restore the environment of the Lake Tahoe Basin watershed. EPA has not yet reviewed the other introduced bills to the same extent, but intends to follow-up with additional input on each.

2. Does the Administration believe that each of the restoration initiatives addressed in these four bills has in place:

- **The right governance structure to maximize effectiveness and accountability? If not, does the proposed legislation include such a governance structure?**

Response: The Lake Tahoe Restoration Act (LTRA) directs EPA, in coordination with other federal agencies, states and the Tahoe Regional Planning Agency (TRPA), to establish a comprehensive program to evaluate and report to Congress on progress to restore Lake Tahoe and our implementation of the provisions of this legislation.

The 1997 Presidential Executive Order 13057 called for a federal partnership to coordinate actions to address economic and environmental concerns. The partnership includes USDA (Forest Service and the Natural Resources Conservation Service), US Army Corps of Engineers, Department of the Interior (Bureau of Reclamation, Fish & Wildlife Service, US Geological Survey), US Department of Transportation (US Federal Highways Administration, Federal Transportation Administration) and USEPA.

TRPA, the nation's first bi-state environmental planning agency, the Lahontan Regional Water Quality Control Board, Nevada Division of Environmental Protection, and the California Tahoe Conservancy, are key state agency partners unified to protect and restore Lake Tahoe using existing regulatory authorities and conservation planning.

The original LTRA (2000) was in large measure funded by the Southern Nevada Public Land Management Act (SNPLMA, 2003 amendment), under which an Implementation Agreement was developed that provides for extensive coordination among agencies and stakeholders in soliciting, evaluating, and selecting projects for Federal funding and management.

Multiple committees have been established to coordinate and cooperate on decision making, strategic planning, and other actions for Lake Tahoe. They include representatives from the local, state, and federal agencies as well as a broad spectrum of stakeholders. Examples include the Lake Tahoe Federal Advisory Committee, the Tahoe Science Consortium, the Lake Tahoe Basin Executives, and the Tahoe Working Group.

The LTRA reauthorization bill provides for the continuation of the SNPLMA process, and enhances accountability by including rigorous reporting requirements (Sec. 13) supported by an ambitious science program (Sec. 11).

- **Effective adaptive management principles and procedures incorporated into its management structure? If not, does the proposed legislation include adequate principles and procedures?**

Response: Sec. 8 provides for projects to be prioritized based on the best available science (among other criteria), and provides for revised prioritization if necessary. Sec. 11 requires the development and regular update of an integrated programmatic assessment and monitoring plan through a proposed science program, and Sec. 13 requires annual reporting of accomplishments in accordance with performance measures. Together, these provisions constitute an effective adaptive management structure. The EIP itself was updated in June, 2009 using a similar approach, in accordance with the process described above.

- **Clear, measureable environmental *and/or* health-based goals? Are they well defined? If not, does the proposed legislation include an adequate mechanism for establishing and updating these measures?**

Response: The best example of a clear and measureable environmental goal is the Total Maximum Daily Load (TMDL), which constitutes the water quality protection and restoration plan for Lake Tahoe. The Tahoe TMDL is a scientifically rigorous TMDL that addresses both significant water and air quality impacts on lake clarity. It will address impacts to water quality from such sources as stormwater runoff from roads, upland urbanized areas, commercial sites, and forest lands. Separate plans exist to address other resource areas, including fuels reduction in the vicinity of urban areas, and aquatic invasive species. Where current environmental goals are ill-defined or problematic, the bill provides for scientific support to evaluate and refine standards in Sec. 11(4).

Again, EPA has not yet reviewed the other introduced bills to the same extent, but intends to follow-up with additional input on each.

**EPA Responses to Questions for the Record (QFRs) From the Hearing Before
the Senate Committee on Environment and Public Works, Held on February
24, 2010, Entitled “Legislative Approaches to Protecting, Preserving and
Restoring Great Water Bodies.”**

[Note: This submission excludes answers to Lake Tahoe questions, which were previously submitted (per Senate EPW request) on March 24, 2010. Regarding the additional questions (second letter received March 17, 2010), those from Senator Cardin appear at the end of this submission, while those from Senator Gillibrand were identical to those in the first letter and, therefore, EPA’s responses appear once (below).]

Questions from Senator Barbara Boxer:

1. Mr. Silva, EPA is leading efforts to restore large aquatic ecosystems in watersheds across the country, ranging from the Chesapeake Bay to the Great Lakes to the Gulf of Mexico. EPA has also provided critical technical and scientific advice to numerous additional restoration efforts.

As we consider legislation to reauthorize the Lake Tahoe Restoration Act, which establishes a broader role for EPA in scientific and technical advice and coordination, what are the most important lessons we can learn from EPA's other large aquatic ecosystem restoration efforts? How can those lessons be applied to new or expanding efforts in other basins, including the Puget Sound, Columbia River, and Great Lakes?

Response: The EPA’s large aquatic ecosystem (LAE) programs, as well as the National Estuary Program, address a wide range of environmental challenges and utilize a range of approaches to those challenges. However, several principles guide their efforts which could be useful for other LAE programs. First, their governance structures have effectively integrated diverse stakeholders across large regions. The LAE programs provide a forum for open discussion that allows and encourages new members to participate. Second, the LAE programs produce science-based work that builds their credibility and shows their commitment to the entire range of stakeholders. Third, the LAE programs work on a watershed scale. Because environmental problems do not conform to political jurisdictions, the LAE programs define their management areas and management committees according to watershed boundaries and the ecosystems within them. Fourth, the LAE programs both work with stakeholders and among Federal partners to conduct direct projects and to build support for environmental conservation. Fifth, the LAE programs have clear and measurable goals along with mechanisms to ensure accountability. The principles and lessons learned are relevant not only to LAEs, but to other watershed-based organizations.

Questions from Senator Thomas R. Carper

1. What is EPA doing to address non-point source pollution to the Chesapeake Bay and other water bodies from sectors beyond agriculture? What tools is EPA utilizing to regulate non-point source pollution from non-agriculture sectors to the Chesapeake Bay and other water bodies? How are non-agriculture sources of pollution impacting EPA's assessment of and modeling of pollution to the Chesapeake Bay and other water bodies?

Regarding the first two questions, the Chesapeake Bay Total Maximum Daily Load (TMDL) will place a limit on loads from all sources of nitrogen, phosphorus, and sediment delivered to the Bay. The limits for point sources subject to National Pollutant Discharge Elimination System (NPDES) permits under the Clean Water Act will be established as wasteload allocations, and the limits for nonpoint sources not subject to NPDES permits will be established as load allocations.

EPA is providing estimates of current nutrient and sediment loads delivered to the Bay from point and nonpoint sources as well as nutrient and sediment target loads that would achieve water quality standards in the Chesapeake Bay and its tidal tributaries. EPA expects that States, in collaboration with local governments, conservation districts, utilities, industry groups, watershed organizations, and concerned citizens, will propose how to achieve these target loads by reducing point and nonpoint sources of nutrients and sediment. It is likely that all point and nonpoint source sectors will need to reduce nutrients and sediment, but EPA is asking the States and D.C. to identify in their Watershed Implementation Plans (WIPs) how much each segment should reduce loads in order to meet water quality standards. EPA also expects the Plans to include strategies and program-building activities that would result in the implementation of nutrient and sediment controls necessary to meet target loads. EPA hopes that jurisdictions and their partners will align these strategies and activities with local priorities. EPA will use this information to establish wasteload and load allocations.

EPA will assess progress toward implementing actions identified in the jurisdictions' WIPs over the course of two-year milestones and, as necessary, adopt Federal actions to ensure that restoration efforts occur on pace to have all practices in place by 2025 to meet water quality standards.

In 2010, EPA has provided almost \$12 million in technical assistance, contractor resources, and supplemental grant dollars to our partners to support the development of Watershed Implementation Plans that will support the Bay TMDL and provide a roadmap for future restoration activities.

EPA has also announced plans to initiate a national post-construction stormwater rulemaking that will consider more stringent elements applicable to the Chesapeake Bay watershed. As part of this rulemaking, EPA will consider additional Bay-specific requirements, including expanding MS4-regulated areas; setting post-construction standards for areas with smaller development footprints; and increased measures for retaining rainfall on development sites. The rulemaking is intended to improve performance standards for controlling pollutant runoff from urban and suburban lands.

Regarding the impact of non-agricultural non-point sources of pollution on the Chesapeake Bay, these are measured, in part, through a growing network of water quality monitoring stations throughout the six-state watershed, operated by the U.S. Geological Survey, the States, and the Potomac and Susquehanna River Basin Commissions. Given the diffuse nature of non-agricultural non-point sources of pollution, EPA and its Chesapeake Bay Program partners use the Chesapeake Bay watershed model, now in its fifth generation, to simulate the effects of these sources on local streams and assess loads to downstream tidal Bay waters. The watershed model assists State, Federal and local managers in understanding the most cost effective approaches to reducing non-agricultural non-point sources of pollution throughout the six-state watershed. In other parts of the country, EPA is using approaches and tools similar to those used in the Chesapeake Bay watershed to address non-agricultural nonpoint sources of pollution. EPA provides over \$200 million dollars in Section 319 nonpoint source grants to the States, which use those funds to address any non-regulated source of nonpoint source pollution. EPA, mostly through delegation, regulates urban and suburban sources of polluted runoff under EPA's stormwater permitting program. Recently, EPA issued Energy Independence and Security Act §438 Guidance for all Federal sources of stormwater for the first time ever. The Guidance incorporates pre-development hydrology requirements. The NPDES program also regulates municipal and industrial wastewater treatment plants. NPDES regulated sources in degraded waterbodies receive wasteload allocations under EPA's national TMDL program. Those wasteload allocations eventually become permit requirements. Those same TMDLs also address all sources of nonpoint source pollution in a degraded water body through load allocations.

2. Are tributaries required to partake in the Total Maximum Daily Load (TMDL) requirements for the Chesapeake Bay that were court-ordered in 2008? If not, why is EPA mandating that States include tributaries in the Chesapeake Bay TMDL? If so, how are tributaries being accounted for in the modeling of the Chesapeake Bay TMDL?

TMDLs are science-based documents that generally delineates an area designated for a TMDL. Tributaries hydrologically connected to impaired waterbodies may or may not be included in a TMDL. In the case of the Chesapeake Bay, the tributaries contribute very significant amounts of nitrogen, phosphorus, and sediment - pollutants that have been identified as the cause of non-attainment of water quality standards. Thus, tributaries are included in the TMDL to ensure the restoration of Bay water quality. Excluding tributaries (and their respective contributions of pollutants) from the TMDL would render the effort to restore water quality in the Bay ineffective.

The Chesapeake Bay TMDL will include wasteload and load allocations for all sources of nitrogen, phosphorus and sediment delivered to the Bay and its tidal tributaries. These allocations will identify the amount of nitrogen, phosphorus and sediment that the Bay and its tributaries can receive from major source categories including wastewater, urban storm water, agriculture, and air deposition, and still achieve water quality standards.

The source of pollutants reaching the free-flowing streams and rivers that eventually flow into the Chesapeake Bay and its tidal tributaries are accounted for through the Phase 5.3 Chesapeake Bay Watershed Model. This model, containing over 1,000 model segments across the six States,

simulates all of the land-based, air deposition-based, and end-of-pipe sources of pollution and routes these pollutants through the network of local streams and rivers to the Bay. The Chesapeake Bay Water Quality/Sediment Transport Model, in turn, receives these pollutant loads from Bay watershed and air shed models and simulates water quality conditions within the tidal tributaries and main stem Chesapeake Bay.

3. As you know, Mr. Silva, Delaware is an entirely coastal state. As such, steady increases in annual temperatures, such as those that have occurred on record over the past ten years and those that numerous experts predict will continue to occur for decades to come, are of grave concern in my home-state of Delaware. Experts working on water issues in Delaware are particularly concerned about the effects of climate change on our state's supply and quality of drinking water, our shellfish industry -of which the oyster industry alone provides over \$1.4 million annually to the local economy- and our state's coastal wetlands. Mr. Silva, how is EPA working to address the impact that climate change is having and will continue to have on our nation's great water bodies? Are climate change adaptation and mitigation strategies part of EPA's Great Water Bodies program and other program areas at EPA?

The EPA Office of Water published its *National Water Program Strategy: Response to Climate Change* in September 2008. The *Strategy* provides an overview of the impacts of a changing climate on water resources and water programs and describes overall goals for the National Water Program (NWP) response. Since then the NWP, including the Office of Water, the ten EPA Regional Water Divisions, and several of the Great Water Body programs have been engaged in actions to advance our understanding of how best to address climate change impacts. We have been working to build a foundation for taking action on both mitigation of greenhouse gases and on development and implementation of adaptation plans that would make communities more resilient to climate impacts.

The Office of Water is currently reviewing its climate change-related activities and updating its climate strategy to incorporate lessons learned, building on the momentum of the past few years. EPA's ten Regional Offices are working with their Federal, State, Tribal, local, and non-profit partners to foster appropriate strategies and activities that address climate change impacts. Taken as a whole, the Office of Water and the ten EPA Regions are working to gather information; build an array of tools, partnerships, and programs; and pilot efforts, all of which will enhance EPA's understanding of both the impacts of climate change on water resources and of what potential actions would enhance National Water Program responses to climate change.

EPA recognizes that climate change is of great concern to coastal States. EPA is undertaking a variety of activities to improve our understanding of climate change impacts and develop response actions. For example, in 2008 the Office of Water partnered with the Office of Air and Radiation and the Office of Research and Development to design and implement the *Climate Ready Estuaries* (CRE) program. To date, 11 National Estuary Programs (NEP) have been selected as CRE Partners to develop climate change adaptation plans and implement adaptation projects in their estuarine watersheds. Activities of these 11 CRE partnerships are beginning dialogues to define "climate ready" including considerations such as: assessing a watershed's

vulnerability to climate change; developing indicators and monitoring plans to enhance communities' understanding of changes in ecosystem condition due to climate change impacts; developing individual community adaptation plans; and educating community residents and public officials about climate change. EPA also maintains an online CRE Toolkit (www.epa.gov/cre/) which contains extensive information and resources to support NEP and other coastal communities' efforts to adapt to climate change.

The EPA Office of Research and Development (ORD) is also looking at the Chesapeake Bay in an effort to better understand climate change impacts on coastal areas. ORD is preparing a study with the goal to formalize an approach to effectively supporting adaptation to climate change. Using the Chesapeake Bay Program region as a pilot case study, the effort tests the effects of climate change information on the social, economic and environmental attributes of decision making. EPA expects the results of this study will be transferable to other regional organizations that are beginning to adapt to climate change.

The Large Aquatic Ecosystems programs are also incorporating climate change into their planning. For example, part of the work undertaken pursuant to the Chesapeake Bay Protection and Restoration Executive Order includes a concerted effort to coordinate climate change science and adaptation efforts throughout the watershed. The National Oceanic and Atmospheric Administration (NOAA), U.S. Geological Survey, and U.S. Fish and Wildlife Service are working with EPA and other Federal and State partners to coordinate existing climate programs to provide a comprehensive foundation for and assistance in adapting to potential impacts of climate change on the Bay and its watershed. The coordinated effort will allow for collaboration among all levels of government, universities, and nonprofit and private organizations. Each Federal agency with restoration and protection responsibilities in the Bay region will consider possible climate change impacts as they implement responsibilities to protect communities, critical habitats, and species.

4. How closely are EPA and USDA working together to make sure that the modeling used to determine pollution to the Chesapeake Bay and other water bodies accurately reflects agriculture?

EPA fully supports ensuring that all agricultural conservation actions are accounted for and that the resulting nutrient and sediment reductions are credited in the Chesapeake Bay Watershed Model as progress towards the Bay TMDL. EPA and USDA have been working closely on many activities to make sure Chesapeake Bay modeling accurately reflects agriculture.

EPA has worked closely with USDA at the national headquarters level and with the six Bay state offices of the Natural Resources Conservation Service (NRCS) to provide detailed and customized geo-referenced data layers on agriculturally managed lands with the highest potential nutrient and sediment contributions to the tidal waters of the Chesapeake Bay. USDA-NRCS has integrated this "priority watershed" information into the Chesapeake Bay Watershed Initiative (CBWI) program under the current Federal Farm Bill to target additional USDA and partner resources into priority areas with the greatest opportunity to improve water quality in the Bay. EPA and the U.S. Geological Survey (USGS) are also working to develop monitoring programs to document water-quality improvements in the selected priority agricultural watersheds so that

NRCS can evaluate and adjust actions to take in the future.

EPA, USDA, and USGS are developing a Cooperative Agreement between USGS and the USDA's Farm Services Agency (FSA) that will provide USGS direct access to landowner implementation data for agricultural conservation practices that could be shared with the EPA Chesapeake Bay Program Office and the Bay jurisdictions, in accordance with Federal disclosure requirements. A similar agreement will be developed with USDA-NRCS.

EPA and USDA also have jointly formed an agricultural workgroup with the Bay jurisdictions to investigate and implement new methods and tools to more accurately track, report and reflect the implementation of voluntary conservation practices in the Chesapeake Bay Program models. The "Conservation Partnership Database Group" is being led by USDA and has had several partnership meetings on opportunities to improve the exchange of implementation data between USDA and the state agencies, and on non-publicly funded practices being implemented by the agricultural community.

In addition to these activities, the Chesapeake Bay state agencies report agricultural conservation practice implementation to EPA Region 3's Chesapeake Bay Program Office annually for use in the Chesapeake Bay Watershed Model. We anticipate that the state agricultural agencies and USDA will continue to improve their tracking systems and will report all verified agricultural conservation practices in the watershed, including: practices funded by State cost share programs, practices funded through Farm Bill funding, and practices that farmers implement without State or Federal cost share (for example, practices funded through grant programs and practices fully funded by producers).

EPA is also working with USDA in other parts of the country. For example, in the Mississippi River Basin, EPA and USDA are working together to provide technical support, data, and information to groups of farmers and to individual farmers applying to the USDA-NRCS Mississippi River Basin Initiative's open Request For Proposals. Water quality data that EPA collects and stores also has been distributed to all NRCS local offices involved in signing Environmental Quality Incentives Program (EQIP) and Cooperative Conservation Partnership Initiative (CCPI) contracts with farmers. In addition, State Conservationists who identified priorities and established selection criteria for watershed participation in the 12-state USDA-NRCS Mississippi River Basin Initiative used modeling output from the EPA-funded SPARROW model to identify the top 41 nutrient loading watersheds in the Mississippi River and Gulf of Mexico (SPARROW is a surface water quality monitoring tool). And, the EPA and USDA-FSA (Farm Services Agency) are collaborating to identify parcels of land throughout the Mississippi River Basin on which to implement wetlands protection efforts under the 2008 Farm Bill Farmable Wetlands Program.

We applaud NRCS's leadership in working with the States and the agricultural community to improve conservation tracking, including those practices that farmers pay for by themselves without any Federal conservation program assistance. EPA will continue to work with Federal, State, and agricultural partners to ensure that these practices get credited in the model. EPA also will continue to provide funding to states for database management, fund development of the National Environmental Information Exchange Network in Chesapeake Bay states to transmit

data to the model, and develop protocols and standards for data to be accepted into the model.

Questions from Senator Benjamin L. Cardin:

1. Does the Administration support S. 2724, The Lake Tahoe Restoration Act; S. 2739, The Puget Sound Recovery Act of 2009; S. 3025, The Columbia River Restoration Act of 2010; and S. 3073, The Great Lakes Ecosystem Protection Act?¹

The goals set forth by these bills are consistent with EPA's mission to protect aquatic ecosystems by ensuring that restoration/ recovery goals are met. The key elements of each bill, however, are unique, so EPA has provided bill-specific answers below. We are happy to continue working with the Committee and are committed to providing on-going technical assistance as the Committee's efforts proceed. However, EPA would like to emphasize that the Administration has not taken a formal stance on any of these bills.

2. Does the Administration believe that each of the restoration initiatives addressed in these four bills have in place:

- **The right governance structure to maximize effectiveness and accountability? If not, does the proposed legislation include such a governance structure?**

Columbia River: EPA has in place a sound governance structure for the Columbia River program. The Columbia River Restoration Act builds on the existing Lower Columbia River Estuary Partnership (Estuary Partnership) that was nominated in 1995 by the Governors of Oregon and Washington for entry into the National Estuary Program (NEP). The Estuary Partnership has been largely successful as a leader in regional coordination of the lower river and includes in its management and governing structure all of the key regional stakeholders, including the United States Geological Survey (USGS), the National Oceanic and Atmospheric Administration (NOAA), the Army Corps of Engineers, the Forest Service, and Tribal, State, and local governments. The Estuary Partnership and its partners have gathered scientific information and compiled data, and have made significant gains in habitat protection and environmental protection. As part of the NEP, the Estuary Partnership has undergone triennial program evaluations led by an EPA team that evaluates the progress of implementation of the program's Comprehensive Conservation and Management Plan (CCMP). The Estuary Partnership also reports annually to EPA on the following performance measures: number of habitat acres protected and restored, number of CCMP actions initiated and completed, and amount of funds leveraged.

The bill establishes, through the EPA Administrator, a Columbia River Program Team to further enhance Columbia River Basin protection and restoration. The Program Team would manage the Middle and Upper River and support implementation of the Estuary Partnership's CCMP. Its main focus would be to extend watershed management to the upper watershed by convening stakeholders, especially Tribes, and promoting watershed protection and restoration activities in that part of the watershed. The newly established governance structure, which would include representatives from the larger watershed, would work in close collaboration with the Estuary Partnership, ensuring effective regional coordination for the Columbia River Basin. The bill requires that within one year

¹ As previously indicated, answers to The Lake Tahoe Restoration Act questions were submitted on March 24, 2010.

of enactment, the Columbia River Program Team must submit a report to Congress that would include a section on roles played by each Federal agency with jurisdiction in the Columbia River Basin. The report also must describe progress made toward meeting the governance entity's identified goals. Requiring the report helps ensure accountability on the part of agencies that have a role in governance. The Columbia River Large Aquatic Ecosystem (LAE) already reports annually to EPA Headquarters on progress toward measurable environmental goals such as number of wetland and upland habitat acres restored and protected, number of cleaned-up acres of known contaminated sediment, and reduction in mean concentration of contaminants found in fish tissue and water, further ensuring accountability.

Great Lakes: EPA has in place a sound governance structure for the Great Lakes program. The bill would establish a new Great Lakes governance structure that is complex and would be challenging to implement. The proposed structure would establish a two tiered advisory body on Great Lakes restoration initiative implementation, whereby a Great Lakes Leadership Forum would exist within the Great Lakes Leadership Council. EPA thinks it is more effective to have two separate entities, one that coordinates management and one that provides advice. EPA believes that creation of two separate organizations will streamline and improve overall program implementation and increase its effectiveness. The proposed governance arrangement also calls for the Administrator to have input on the advisory body's budget proposals, which could conflict with the Administrator's role as a member of the Executive Branch who annually submits an agency budget request to Congress as part of the President's Budget. The proposed structure could also make it more difficult to carry out agreed-upon U.S.-Canada joint protection and restoration efforts under the U.S.-Canada Great Lakes Water Quality Agreement.

Puget Sound: EPA has in place a sound governance structure for the Puget Sound program. Under the proposed Puget Sound Recovery Act, the Administrator, acting through an appointed Director would create an Advisory Council to provide input to the Administrator. EPA believes the functions of this Advisory Council could be effectively filled by the existing Puget Sound Partnership structure, which provides multiple opportunities for advisory councils to operate. If a Federal Advisory Council is created under the Act, its composition could be improved by specifying that representatives of each Federal agency involved in Puget Sound protection and restoration, and other Federal agencies that may affect or implement projects or programs identified in the PSP Comprehensive Conservation and Management Plan (CCMP), be included in such a Council.

- **Are effective adaptive management principles and procedures incorporated into its management structure? If not, does the proposed legislation include adequate principles and procedures?**

Columbia River: The Columbia River Restoration Act focuses its efforts on the Columbia River Basin Toxics Reduction Action Plan (2010) and the Lower Columbia River Estuary Comprehensive Conservation and Management Plan (1999). Both plans provide for updates and revisions as the plans are implemented. Both plans place a strong emphasis on science, including the need to monitor to determine environmental conditions and to assess the effectiveness of management approaches. Sec. 3 provides for the Administrator, through the Columbia River Program Team, to work with partners to update the plans as well as track

progress toward meeting goals and objectives. Bill provisions related to monitoring, evaluating, and updating plans reflect the application of adaptive management principles.

Great Lakes: The Great Lakes community and governmental partners have been using adaptive management principles for some time to manage the Great Lakes. The bills do not include adaptive management principles but they do include a requirement to engage in ongoing problem solving regarding Great Lakes management.

Puget Sound: The National Estuary Program (NEP) authorized by Clean Water Act §320 requires the Puget Sound Partnership (PSP) to track progress made towards meeting its Comprehensive Conservation and Management Plan (CCMP) goals and objectives and to coordinate, manage, and report Puget Sound environmental data. EPA provides funding for the NEP Management Conference to carry out these activities and plays an oversight role to ensure that PSP is making progress on CCMP implementation. However, EPA could also provide technical assistance to PSP to ensure that the NEP develops an environmental and program tracking system whose data are used as the basis for adaptive management decisions.

- **Clear, measurable environmental and/or health-based goals? Are they well defined? If not, does the proposed legislation include an adequate mechanism for establishing and updating these measures?**

Columbia River: The Columbia River Restoration Act focuses its efforts on the Columbia River Basin Toxics Reduction Action Plan and the Lower Columbia River Estuary Comprehensive Conservation and Management Plan (CCMP). Both documents include measurable environmental goals and a plan for reporting on progress towards those goals. As the lead implementer of the CCMP and as a member of EPA's National Estuary Program, the Lower Columbia River Estuary Partnership is reviewed on a triennial basis by EPA, which assesses the NEP's progress made toward achieving its environmental goals. Further, the Columbia River Large Aquatic Ecosystem in EPA's Region 10 reports annually to the Office of Water on progress made toward meeting quantitative environmental goals such as number of wetland and upland habitat acres restored and protected, number of clean-up acres of known contaminated sediment, and reduction in the mean concentration of contaminants found in fish tissue and water.

Great Lakes: Clear and measurable goals have already been established as part of the Great Lakes Initiative Restoration Plan, which spans the years 2010-2014. Therefore, it is unnecessary for the bill to include a mechanism to establish goals for this time period.

Puget Sound: The Puget Sound Partnership (PSP) reports to EPA annually on progress made toward long-term measurable environmental goals such as acres of coastal habitat restored. Currently, EPA conducts a formal program evaluation of the PSP every three years, evaluating the program's success in developing goals and reporting on progress made in meeting them.

3. In your testimony you noted that "[b]oth the Columbia River Basin and Puget Sound Georgia Basin bills should be carefully reviewed to ensure that they do not duplicate existing NEP efforts."

- **Could these bills be written to ensure they enhance NEP efforts? If so, how? S. 2739, The Puget Sound Recovery Act of 2009.**

Columbia River: Yes, the Columbia River Restoration Act could be written to ensure enhancement of NEP efforts and to avoid duplication of effort. The Lower Columbia River Estuary Partnership study area, or watershed, makes up only a very small portion of the geographic area of the Columbia River Basin under consideration in S. 3025. Action plans for different areas within the Basin would be developed and implemented, with the NEP continuing to lead work on the Lower Columbia River Estuary and the EPA-led Columbia River Toxics Reduction Working Group focusing its efforts on the Middle and Upper Columbia River. Actions implemented in areas upstream of the NEP would enhance efforts downstream in the Lower Columbia Estuary and there would be increased collaboration among upstream and downstream stakeholders and project partners, resulting in an overall improvement in management of the basin.

Puget Sound: The proposed Puget Sound Recovery Act would create an Advisory Council to provide input to the Administrator. As stated earlier, the function of this Advisory Council could be effectively filled by the existing Puget Sound Partnership Management Conference structure and processes, which provide multiple opportunities for formation of advisory councils. EPA believes that using the existing PSP Management Conference structure would avoid duplication of effort and redundancy.

If a Federal agency board is created under the Act, language regarding its composition could be improved by specifying that Federal agency representatives involved in Puget Sound protection and restoration and Federal agencies that may affect or implement projects or programs identified in the Comprehensive Conservation and Management Plan could serve as representatives on that board.

S. 2739, The Puget Sound Recovery Act of 2009

4. The Puget Sound is America's second-largest estuary, home to numerous endangered species, and forms the life-blood of western Washington's economy. Unfortunately, the Puget Sound's marine environment is deteriorating and its ecosystem is threatened. Please comment on the current health of Puget Sound and the need for environmental restoration of this national treasure.

The current health of the Puget Sound is a story of growing concern and some progress. In the past few years we have started to raise public awareness of the Sound's challenges and to organize Federal, State, local, and private entities to work with the Puget Sound Partnership (PSP) to assess the problems and coordinate their efforts through the PSP Action Agenda.

In 2009, the PSP Science Panel evaluated the Puget Sound along five dimensions: human health, human well-being, species and food webs, habitat, and water quality. The results indicate that the Puget Sound ecosystem continues to show signs of stress and degradation from human activity. Several species of salmon remain listed as threatened, and commercial shellfish beds remain closed due to pollution problems. As the Sound's population grows, the amount of impervious surface increases and additional shoreline is hardened.

The Orca whale, a cultural icon and indicator of ecosystem health, is in danger and continues to decline due to reduced prey abundance, disturbance, and contaminants. The Puget Sound Orca is considered one of the most “pollution-affected” mammals in the world due to the extremely high levels of bioaccumulative compounds such as PCBs and PBDEs in Orca tissue. Salmon, the Orcas’ main food source, are in historic decline throughout the region; a number of the Pacific salmon species historically found in Puget Sound are on the endangered species list and at risk of extinction. Habitat degradation, stormwater, and other impacts of human activity are taking their toll on the Orcas and on salmon.

Some performance measures indicate that water quality has improved in certain areas of Puget Sound. Since 2006, the State of Washington has been able to lift harvest restrictions on 1,730 acres of shellfish bed growing areas that had been impacted by degraded or declining water quality. Over 5,750 acres of estuarine wetlands were restored during the 2006-2009 period. These success stories are largely due to current restoration and pollution control programs. This is a good start toward Sound restoration, but is not enough. Overall, the Puget Sound's marine environment continues to deteriorate. With Federal, State, and Tribal efforts combined, our collective efforts have made a difference, but much more work is needed.

5. Washington State has taken an aggressive and proactive approach to restoring the Puget Sound, creating the Puget Sound Partnership and preparing a scientifically-based "Action Agenda" that has been approved by EPA as the Comprehensive Conservation and Management Plan. In your view, what are some of the most important steps the State of Washington and Puget Sound Partnership have taken to address environmental problems in the Puget Sound?

At the end of the 2009 State legislative year, the State of Washington reauthorized and amended two important pieces of State legislation--the Shoreline Management Act and the Growth Management Act--including an amendment that went into effect on March 18, 2010 establishing the test for habitat protection to “assure no net loss of shoreline ecological function.”

In recent years, State and Federal agencies and other partners, in coordination with the Puget Sound Partnership, identified and restored high priority habitat. At over 900 acres, one of the largest estuarine restoration projects in the nation was completed in 2009 in the Nisqually Delta, doubling the number of functioning wetlands in southern Puget Sound.

Also, since 2006, the Washington State Department of Health, local governments, and Tribes working with the NEP restored 1,730 acres of shellfish bed growing areas.

6. For the Puget Sound Partnership to be successful, wouldn't you say it is vital that relevant federal agencies (like EPA) be a part of the process and coordinate with Washington State in Puget Sound efforts? Please comment on the role you see EPA playing in these efforts.

EPA currently plays several important roles with respect to the PSP. EPA chairs the Puget Sound Federal Caucus, which coordinates Federal resources and land management agency activities supporting Puget Sound Partnership Action Agenda implementation. While the

Federal Caucus functions well, its overall effectiveness and continued involvement would be more certain if it were to be authorized by statute.

EPA oversees the PSP to ensure continued progress toward implementation of its Comprehensive Conservation and Management Plan. EPA plays a role in coordinating with other Federal entities and in implementing national environmental statutes affecting federal lands, which comprise 45 percent of the land base of the Puget Sound watershed. EPA and other Federal agencies have trust responsibilities with the 19 Federally-recognized Tribes in the Puget Sound region. These trust resources include 50 percent of the harvestable fish and shellfish in Puget Sound. Because Tribes are co-managers of these resources, they have a strong voice and role in Puget Sound restoration and protection. EPA, the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) work together to help support the internal technical capacity of Tribes so that they can more fully engage in local Puget Sound restoration efforts. EPA's fiscal oversight of PSP's Federal funds helps the PSP maintain a sound financial structure. To that end, EPA will continue to provide technical assistance and ongoing support for implementing the Puget Sound Partnership's accountability and performance management systems.

7. Senator Cantwell introduced the Puget Sound Recovery Act of 2009 (S.2739) to help ensure the EPA plays a productive role in the restoration of Puget Sound.

- **What benefits would this bill provide in giving the EPA the tools it needs to help protect, recover, and restore Puget Sound?**

The bill provides EPA with tools to help protect, recover, and restore Puget Sound. These include: providing EPA with clear authority to coordinate Federal support for implementing the PSP Action Agenda, building on EPA's and PSP's existing capacity to work with Canadian partners in the Puget Sound -Georgia Basin, and assuring that EPA continues to support Tribal engagement in the restoration of Puget Sound.

- **What is the value of establishing a formal U.S. EPA Puget Sound Program Office? What will this action accomplish?**

The creation of a Federal Puget Sound Program Office would provide EPA with certainty of ongoing program support and could enhance EPA's ability to effectively partner with the State of Washington, the Puget Sound Partnership (PSP), and other Federal agencies to ensure the preservation and restoration of the Puget Sound ecosystem. Similar to other large aquatic ecosystems with multiple jurisdictions and stakeholders, a dedicated EPA Puget Sound office within EPA Region 10 could provide the needed Federal presence for coordinating with other Federal agencies, state agencies, Tribes, and international entities on Puget Sound protection.

- **Are there any changes to the legislation that could make EPA's role even more productive?**

The bill would establish the new Office as a strong partner to the Puget Sound Partnership (PSP). The new Office could coordinate all facets of Federal actions affecting the health of the Puget

Sound by including Federal Agency and Cabinet-level departments. The Office could also provide essential strategic direction on Federal Puget Sound policies, priorities, and programs not currently provided by the EPA Regional Office. In establishing the new office as a strong partner to the PSP, it will be important to preserve EPA's role as an impartial grant-making authority.

S. 3025, The Columbia River Restoration Act of 2010

8. According to the Lower Columbia River Estuary Partnership, activities such as development, irrigation, power generation, forestry, mining, and transportation have affected the Columbia River Estuary. Habitat loss and alteration have resulted from a variety of causes.

- **What are EPA's main habitat restoration objectives for the Basin?**

EPA's primary habitat restoration objectives for the Columbia River Basin are to protect and restore the ecosystem from the many sources of point and non-point source impairment. Major sources of impairment include run-off from agriculture and stormwater; habitat modification, especially from hydroelectric dams; legacy contaminants; and emerging contaminants of concern such as flame retardants (including PBDEs), pharmaceuticals, and personal care products.

- **What indicators or measures are being used to monitor progress?**

The Columbia River Restoration Act focuses its efforts on the Columbia River Basin Toxics Reduction Action Plan and the Lower Columbia River Estuary Comprehensive Conservation Management Plan (CCMP). Both plans include measurable environmental goals and measures to evaluate progress towards those goals. As a member of EPA's National Estuary Program, the Lower Columbia River Estuary Partnership is triennially reviewed by EPA on progress towards environmental goals. The Estuary Partnership also reports to EPA annually on habitat acres protected and restored, CCMP actions completed, and funds leveraged. Further, the Columbia River LAE, through EPA Region 10, reports annually to EPA on progress toward measurable environmental goals such as wetland and upland habitat acres restored and protected, clean up acres of known contaminated sediment, and reduction in mean concentration of contaminants found in fish tissue and water.

- **What are some of the main challenges to progress?**

Activities that are vital to the Pacific Northwest, such as sport and commercial fisheries, agriculture, transportation, recreation and hydropower production, have disrupted natural processes and impaired water quality to the point where human health is at risk and historic salmon stocks are threatened or extinct. Recent studies and monitoring programs have found significant levels of toxic chemicals in fish and the waters they inhabit, including DDT, PCBs, mercury, and emerging contaminants of concern such as PBDEs and flame retardants. The challenges to progress on these environmental problems include, for example, the need to implement sediment and nutrient TMDLs and clean up legacy and banned toxics and pesticides.

- **Are there actions Congress could take through legislation that would help overcome these challenges? If so, are those actions reflected in S. 3025?**

The legislation proposes a structure and leadership that is consistent with EPA's commitment to restoration of the Columbia River Basin. The Lower Columbia River Estuary Partnership was designated a National Estuary Program by EPA in 1995, but its study area makes up less than five percent of the entire Columbia River Basin. This legislation builds on the Estuary Partnership's efforts--it relies on a collaborative watershed approach built on the success and partnerships of existing regional efforts to address restoration of the entire Columbia River Basin.

9. In your view, what are some of the most important steps the States in the Columbia River Basin and Lower Columbia River Estuary Partnership have taken to address environmental problems in the Puget Sound?

The Lower Columbia River Estuary Partnership and the states of Oregon, Washington, Idaho, Montana, and the Columbia Basin Tribal governments are all actively engaged in efforts to remove contaminated sediments; bring back native anadromous fish; restore water quality; and preserve, protect, and restore habitat.

In 1995, the Governors of Oregon and Washington nominated the Lower Columbia River Estuary Partnership for designation as an "estuary of national significance", i.e., as a National Estuary Program (NEP). The Estuary Partnership assumed responsibility for coordinating regional efforts that focused on the lower river, advancing science to understand the ecosystem, and delivering environmental results. The States of Washington and Oregon serve on the Estuary Partnership board and subcommittees and provide a portion of base funding to match EPA NEP funds. The Estuary Partnership developed a Comprehensive Conservation and Management Plan (CCMP) in 1999 that has served as a blueprint for estuary recovery efforts.

State and Tribal governments have collaborated on many occasions with EPA and other partners in efforts to address the environmental challenges facing the Columbia River Basin. Efforts have included:

- Events in Oregon, Washington, and Idaho that resulted in the collection of one million pounds of legacy contaminants, including DDT.
- Oregon's Pesticide Stewardship Partnership Program actions, which helped reduce the amounts of bioaccumulative organophosphate pesticides used.
- Washington Department of Ecology and Yakima Indian Nation's efforts to reduce soil erosion which were contributing to increased sediment loading to the Yakima River. The decrease in sediment loading led the Washington State Department of Health to lift the Yakima River DDT fish advisory.
- State bans on contaminants, including a Washington State 2007 PBDE ban and a 2009 Oregon State Deca-BDE ban.

10. Senator Merkley introduced S. 3025, The Columbia River Restoration Act of 2010, to help ensure the EPA plays a productive role in the restoration of the Columbia River Basin.

- **What benefits would this bill provide in giving the EPA the tools it needs to help protect, recover, and restore the Columbia River Basin?**

The bill builds on existing EPA leadership for restoration and protection of the Columbia River Basin. The bill provides a framework for a governance structure and the accountability that can measure results, track progress, and achieve environmental results.

- **What will the tools provided in this bill help EPA accomplish in pursuit of these goals?**

The bill provides a number of tools that will create a stronger management capability for Columbia River Basin protection and restoration efforts. The bill defines a clear partnership and connection between the Lower Columbia River Estuary and the rest of the Basin. The bill also provides a clear organizational framework for EPA to have a leadership role in collaborative efforts to restore the Basin.

- **What is the value of appointing a team leader in Region 10 to support the development and implementation of restoration projects? What will this action accomplish? Are there any changes to the legislation that could make EPA's role even more productive?**

The bill proposes a number of new responsibilities for EPA. The proposed appointment of a Team Leader is one way to enhance EPA's ability to productively carry out major new responsibilities, such as: setting priorities and making decisions about programs, projects, and scientific studies; tracking progress and measuring success; administering budgets and grants; and, managing the proposed governance structure.

S. 3073: The Great Lakes Ecosystem Protection Act

11. There has been considerable work done to document the restoration/protection needs of the Great Lakes, but now that the President is budgeting for the Great Lakes Restoration Initiative (Initiative), it's important that the funding is well spent. As part of the Initiative budget roll-out last year, the EPA promised accountability, and there is appropriations report language requiring accountability and measurability.

- **How will EPA measure progress for each of the five Initiative priority areas?**

The Great Lakes Restoration Initiative Action Plan identifies goals, objectives, measures, and targets for the five priority areas. Progress on key measures will be reported annually as called for by the Government Performance and Results Act. EPA is also designing an accountability system that will provide additional information on progress for each priority area.

- **How will the EPA define success?**

Success will be defined by whether we achieve the goals and objectives and meet the targets in

the Great Lakes Restoration Initiative Action Plan.

- **How does the Initiative currently ensure that different projects in the same watershed are integrated to maximize their effectiveness?**

Coordination and cooperation pursuant to the Lakewide Management Plans and Remedial Action Plans currently facilitates that integration. Work of the Interagency Task Force and its Regional Working Group pursuant to the Action Plan will drive further integration. For example, selection of projects under the EPA Request for Proposals will emphasize well-integrated watershed projects advancing the goals of the Initiative.

- **Is project bundling allowed? Should it be?**

EPA Request for Proposals could combine (bundle) similar activities into single projects with multiple elements. As long as reviewers can compare “apples to apples,” combining smaller activities or subprojects into one larger proposal can be a good thing. We expect additional project bundling in grant proposals that have been selected for funding. While bundling could result in some administrative streamlining, it would likely make accountability more complex.

- **Could S. 3073, The Great Lakes Ecosystem Protection Act, do more to help ensure restoration projects adapt to the information gathered?**

A science-based review of the Initiative, which is required by Appropriations language, will ensure that projects and expenditures are being directed toward the most pressing problems and toward areas where monitoring data show the need for additional investments.

- **Does the legislation do enough to ensure accountability and measurability to ensure that restoration funding is well spent?**

The legislation should track with the FY2010 appropriation, which provided EPA with new authorities and responsibilities regarding Great Lakes Restoration.

12. Over the past few years, there has been more and more attention on the Great Lakes. In 2004, there was an Executive Order establishing the Great Lakes Restoration Collaboration, and the Great Lakes National Program Office (GLNPO) was the lead. Funding for the Great Lakes Legacy Program (cleaning up contaminated sediment) has been steadily increasing since its creation in 2002, and GLNPO has the lead. The Great Lakes Water Quality Agreement needed to be reviewed and now renegotiated, and GLNPO has a lead role. Now GLNPO is primarily responsible for the Initiative.

- **With GLNPO's increased workload, has the EPA provided additional staffing resources?**

The FY2010 appropriation for EPA provided an additional 20 FTE to support the Great Lakes Restoration Initiative.

- **What level of funding is needed in order for GLNPO to implement all of these programs?**

The FY 2011 Budget requests \$300 million for GLRI. EPA is now in the first months of implementing the Initiative, and EPA will assess future year funding needs based on its early experience.

13. Current law provides GLNPO with coordination authority among the other Federal agencies conducting work in the Great Lakes, and the Interagency Task Force Executive Order reinforces that coordination role.

- **Would the codification of the Federal Interagency Task Force (IATF) in S. 3073 strengthen this role of coordinator?**

Yes, codification of the IATF would strengthen this role by providing a more formal basis for the coordinator's authority. EPA suggests that the bill include the mission of the IATF as described in the Executive Order and list the name of each agency that is a member of the IATF.

- **How does the IATF currently operate?**

The IATF currently operates in accordance with the Executive Order under which it was established. The work of the IATF is primarily carried out by the Regional Working Group, also established in that Executive Order. The Regional Working Group meets on a weekly basis to coordinate work and exchange information on Great Lakes program coordination and issues.

- **Could it be more effective?**

EPA believes the IATF is working effectively. The Initiative Action Plan will provide a blueprint for actions that the agencies and other Great Lakes partners will take. It will identify the goals and outcome-based measures that will serve as a means for tracking activities to ensure progress is being made.

- **Are there additional authorities or tools that EPA and the other agencies need going forward to make sure that coordination is effective in the future? Does S. 3073 address those needs?**

EPA will continue to assess the authorities and tools needed to ensure effective coordination. One important action for promoting coordination would be re-authorizing the administrative provision to transfer funds, enter into inter-agency agreements, and provide direct implementation grants. EPA suggests legislative governance structures and provisions should be consistent with the FY2010 Appropriations Act.

- **Under the Initiative currently, are the Federal agencies coordinating their work well?**

The Federal agencies are currently coordinating efforts quite well.

- **Does EPA's control of the funding make that coordination easier?**

Providing funding through EPA facilitates coordination and accountability for the resources.

14. The Great Lakes have multiple restoration plans. In 2000, the EPA and its U.S. Policy Committee released a plan for the Great Lakes. In 2005, the Great Lakes Regional Collaboration completed a Strategy Report outlining all of the restoration needs in the Great Lakes. While the EPA never officially endorsed this Strategy, the Collaboration partners agreed to use it as a "blueprint" for restoration decisions. The EPA coordinates Lakewide Management Plans for the individual lakes. Then there are Remedial Action Plans for the specific Areas of Concern. Now there is the Great Lakes Restoration Initiative Action Plan.

- **What is EPA's big picture goal for the lakes?**

EPA's big picture goals for the lakes are articulated in Initiative Action Plan focus areas:

- In the Toxic Substances and Areas of Concern focus area, efforts will target the remediation of contaminated sediments and addressing other major pollution sources in order to restore and de-list the most polluted sites in the Great Lakes Basin.
- In the Invasive Species focus area, efforts will target development of: 1) an early detection surveillance program that incorporates rapid screening, risk assessment efforts and modeling as a means of prevention, 2) the capacity to rapidly respond to threats from new invasive species such as Asian Carp, and 3) ballast water technology. These efforts would move the lakes toward the long-term goal of implementing a "zero tolerance policy" on new invasions.
- In the Nearshore Health and Nonpoint Source Pollution focus area, efforts will target geographic areas where environmental problems and their solutions have been clearly identified--watersheds of extreme ecological sensitivity like the Green Bay/Fox River, Genesee River, Maumee River, St. Louis River, and Saginaw River.
- Efforts will target implementation of lakewide biodiversity conservation blueprints and restoration of important species such as the Lake Sturgeon, Lake Trout and the Piping Plover.
- In the Accountability, Education, Monitoring, Evaluation, Communication and Partnerships focus area, efforts will include: implementation of Lakewide Management Plan priority projects for restoring the Lakes; establishment of quality goals, results-based accountability measures, and learning initiatives; outreach; and formation of strategic partnerships.
- **How are all of these plans utilized?**

These plans are integrated within a nested structure, with the Initiative Action Plan providing overall direction and coordination at a Great Lakes level, Lakewide Management Plans providing integration and coordination at a Lake level, and Remedial Action Plans providing integration and coordination at a local level. The plans provide forums for priority setting and are action-oriented.

- **Would planning for future needs be simplified under this bill?**

The bill appears to provide for establishment of a new committee structure, one that may provide more opportunities for greater public involvement, partnership, and collaboration. Despite these benefits, it is not clear that they would translate into a simplified process for conducting the broad, comprehensive planning that will be necessary to address Great Lakes needs and priorities.

- **Could the EPA use Congressional direction to better integrate these efforts and to direct future planning? If so, does S. 3073 provide that direction?**

The governance structure proposed in S. 3073 may be difficult to implement. EPA suggests that the bill language be aligned with FY2010 Appropriation Conference Report language.

Council of Large Aquatic Ecosystems

15. About one year ago, EPA established the Council of Large Aquatic Ecosystems. The Council was established to strengthen place-based programs through information sharing among and coordination between place-based programs, EPA's regional offices, and EPA's national programs.

- **Please describe the Council's work and what it has achieved to date.**

The LAE Council (Council) was created by EPA in 2008. The Council is composed of ten geographically based, large aquatic ecosystem programs across the U.S: The Chesapeake Bay Program; The Great Lakes; The Gulf of Mexico Program; The Long Island Sound Study; The South Florida Geographic Initiative; The Lake Champlain Basin Program; The Puget Sound - Georgia Basin; The Columbia River Basin; The San Francisco Bay Delta Estuary; and The Pacific Islands Program Office. The 10 geographically-placed program members focus on protecting and restoring the health of critical aquatic ecosystems. The LAE Council seeks to integrate geographically-based efforts with national water programs to advance the health of the Nation's large aquatic ecosystems and strengthen national water programs.

The Council established four workgroups to address the top four priorities of the Council: toxics, stormwater, nutrients, and management tracking/accountability. Substantive progress has been made on several fronts. For example, the management tracking/accountability tools workgroup has identified ways to improve transparency, accountability, and decision making within LAE programs. The workgroup is using open source code from the Chesapeake Bay Program tracking system to build individualized tracking systems for other LAE programs like the Great Lakes and Long Island Sound. The Council's toxics reduction workgroup has compiled information to help

prioritize projects, drafted a white paper on priority projects, and held an interactive web workshop that identified research gaps. The workgroup prioritized the areas needing additional research and will integrate these priorities into EPA research plans.

- **Have the program directors and senior EPA program managers participated consistently in Council meetings?**

The Council members have generally participated in Council meetings. Lack of travel funds and competing work commitments have constrained some members from attending.

- **The Council now serves to facilitate information sharing, but has no policy-making ability. Is that correct?**

Yes, that is correct.

- **Is this facilitative role sufficient to achieve the integrative goals EPA has set for the Council?**

Given that the Council has been in existence less than two years, it is premature to conclude whether its facilitative role is sufficient to achieve the integrative goals EPA has set for it. However, as stated in the response above, the Council is beginning to make substantive progress on several fronts, including program development, testing and implementation.

- **What benefits might come from a Council that was able to set policy?**

EPA has in place an effective policy-making structure for the national water program, including LAE programs. We are happy to continue providing on-going technical assistance as the Committee's efforts proceed.

- **Would EPA need additional legislative authority for the Council to take on a policy-setting role?**

While such authority is not needed, it could be helpful to solidify this new role.

- **Are current staffing levels sufficient to support a Council with a policymaking role?**

The Council will continue to use their existing available resources to strengthen aquatic ecosystem and core water program implementation. EPA is confident that the Council members will work together to identify efficiencies and help facilitate strategies that will meet the implementation goals of their plans.

Questions from Senator Kirsten Gillibrand:

1. I am leading an effort with my fellow Long Island Sound Senators to reauthorize the Long Island Sound Restoration and Stewardship Acts. Since monies appropriated for

these programs typically fall under a single appropriation, do you believe that a single authorization for the companion programs would improve the program?

The Long Island Sound Restoration Act and Stewardship Act are both implemented through the EPA Long Island Sound Office. Since monies appropriated for these programs have fallen under a single appropriation and are administered by a single program, a single authorization should have no negative consequences.

2. Many Long Island Sound Stakeholders have expressed desire to remove the Federal Advisory Committee Act requirements from the Long Island Sound Stewardship program. They argue that the members of the advisory committee; representing all levels of government, non-governmental organization, local community organization, conservation groups, land owners, business leaders, and fishermen, work in a cooperative and efficient manner, and that removing these requirements would enable the program to be more effective and efficient without undermining oversight and accountability measures, which are already required under the act. Do you have any comments on that issue as it pertains to the Long Island Sound programs?

Removing the Federal Advisory Committee Act requirements would streamline administration of the Stewardship Act and eliminate confusion and overlap between the existing Long Island Sound Study Management Conference and a Stewardship Act FACA. Removing the FACA requirement would not be likely to jeopardize the involvement of stakeholders in the Stewardship program. As stated, the LISS Management Conference already includes a structure that involves a wide range of governmental and non-governmental stakeholders as authorized and structured under §320 of the Clean Water Act. However, the Administration has not taken an official position on this proposed provision.

Questions from Senator James M. Inhofe:

1. A major theme in many of the bills on these water bodies is the mandate for a direct line item in the budget. How can EPA do a better job of showing their States and local partners where the funding is coming from and where it is being invested if these bills do not get passed?

EPA's Congressional Justification includes tables that provide resource levels for the various "Program Projects" that reflect EPA's activities. Among these Program Projects are existing line items for many of the geographic areas addressed by the proposed legislation, including Puget Sound, Long Island Sound, San Francisco Bay, Gulf of Mexico, and Great Lakes.

In addition, EPA's Council of Large Aquatic Ecosystems is helping the LAE programs develop web-based tools to help show their State and local partners where funding is coming from and where it is being invested. We are coordinating among the Great Lakes National Program Office, Long Island Sound Study, and the Lake Champlain Program to facilitate their adoption of the Chesapeake Bay tracking tool, which could be used to identify sources and investments of funds.

2. In the Great Lakes and Long Island Sound, there are currently several different Federal Programs, either authorized by Congress or through Executive Order, that have the shared goal of cleaning up the water body.

a. How is EPA managing the many different programs?

Great Lakes: There are a variety of Federal agencies that have authorities and mandates to carry out Great Lakes restoration and protection. EPA has been authorized to lead the Great Lakes Interagency Task Force, which coordinates Federal programs on the Great Lakes to ensure they are complementary and are directed towards shared goals for the Great Lakes. In addition, the Great Lakes budget crosscut identifies these programs from a budget standpoint. Under its Action Plan, the Great Lakes Restoration Initiative brings together agencies and their partners to focus on a set of discrete, measurable goals intended to ensure that Great Lakes protection and restoration is carried out and that funding is directed to the highest priorities.

Long Island: As stated in the response to Senator Gillebrand's question No. 1, the Long Island Sound Restoration Act and Stewardship Act are both implemented by the EPA Long Island Sound Office through its administration and coordination of the Long Island Sound Study Management Conference. This management arrangement ensures integration of efforts authorized by both Acts.

b. Is there a way to streamline or better coordinate some of these efforts?

Great Lakes: The Agencies are working together to streamline and coordinate programs and actions for the Great Lakes as part of the GLRI Action Plan.

Long Island: As stated, in the response to Senator Gillebrand's question No. 2, removing any Federal Advisory Committee Act requirements under the Stewardship Act would streamline implementation and avoid confusion and overlap between the existing Long Island Sound Study Management Conference and a Stewardship Act FACA while still maintaining existing accountability and oversight provisions. As stated, the LISS Management Conference already includes a wide range of governmental and non-governmental stakeholders as authorized and structured under §320 of the Clean Water Act.

3. Do investments in water treatment facilities and other clean water infrastructure help with the cleanup of these great water bodies?

Yes. Water quality problems associated with aging facilities is a priority in many of these waterbodies, and investments in infrastructure are a primary way of addressing these issues. For example, EPA's Long Island Sound Program effectively coordinated the investment of hundreds of millions of dollars through Federal, State, and local sources to reduce nitrogen discharges into the Long Island Sound. Since 1990, about 25 percent of the 105 treatment plants that discharge into the Sound and its tributaries in New York and Connecticut have completed full upgrades, known as biological nutrient removal. As a result of upgrades, Long Island Sound-wide discharges from treatment plants have been reduced by 25 percent since the early 1990s or by more than 50,000 pounds per day compared to 1994 levels. That said, population growth and

development continue to increase the volume of pollutants entering our waterbodies and thus investment in clean water infrastructure that is sustainable over the long-term can help protect and restore aquatic ecosystems.

4. Will EPA provide the committee with technical assistance to ensure that bills considered before this committee do not duplicate current efforts?

Yes, EPA is committed to providing on-going technical assistance as the Committee's efforts proceed.

Supplemental Questions from Senator Benjamin L. Cardin:

1. Does the Administration support S. 3119, the Long Island Sound Restoration and Stewardship Act?

S. 3119 reauthorizes two existing Acts. The funding authorization is maintained at current levels contained in the two bills. The goals set forth by these bills are consistent with EPA's mission to protect aquatic ecosystems by ensuring that restoration/ recovery goals are met. EPA believes that the existing Acts have been successfully administered through the Agency's Long Island Sound Office and have helped address important issues related to the health of Long Island Sound.

2. Does the Administration believe that the Long Island Sound restoration initiative addressed in this bill has in place:

- **The right governance structure to maximize effectiveness and accountability? If not, should the proposed legislation include such a governance structure?**

The Long Island Sound restoration initiative addressed in this bill is implemented through the EPA Long Island Sound Office's administration and coordination of the Long Island Sound Study Management Conference. As authorized and structured under Section 320 of the Clean Water Act, the LISS Management Conference includes a wide range of governmental and non-governmental stakeholders. Accountability is enhanced through incorporation of official LISS performance targets into EPA's Strategic Plan and through Agency-led triennial formal program evaluations that assess progress made implementing the LISS Comprehensive Conservation and Management Plan.

As stated, the LISS Management Conference already involves a wide range of governmental and non-governmental stakeholders as authorized and structured under Section 320 of the Clean Water Act.

- **Are effective adaptive management principles and procedures incorporated into its management structure? If not, should the proposed legislation include adequate principles and procedures?**

S. 3119 maintains the extensive adaptive management principles and procedures that are contained in the existing Stewardship Act. These existing principles and procedures are

adequate to ensure that the implementation of the Act is adaptive and effective.

- **Clear, measurable environmental and/or health-based goals? Are they well defined? If not, should the proposed legislation include an adequate mechanism for establishing and updating these measures?**

The development of clear, measurable environmental and/or health-based goals is a key objective of EPA's effort that supports all Large Aquatic Ecosystem programs. The Long Island Sound program already has a comprehensive reporting structure in place, and its goals must be science-based and subject to public input. Currently, EPA formally reviews the Long Island Sound Program every three years to evaluate the success of the Program in developing goals and reporting on progress made in meeting them. The Long Island Sound program also reports to EPA annually on progress made toward long-term measurable environmental goals such as tons of nitrogen entering the Sound from point source discharges, area and duration of hypoxia, acres of coastal habitat restored, and miles of river and stream passages reopened for fish.

3. Does the Administration have any other concerns about or suggestions for S. 3119, the Long Island Sound Restoration and Stewardship Act?

One suggested technical fix, as submitted in written testimony to the House Transportation and Infrastructure Committee, is to amend the Long Island Sound Restoration Act by adding the word "cooperate" to Section 119(c)(2)(4). This addition would allow EPA to "cooperate and coordinate activities and implementation responsibilities with other federal agencies...", thus giving specific legislative cooperative authority for federal interagency agreements under Section 119. This would improve the ability to work cooperatively with other federal agencies to use resources in the most efficient and effective manner.

Senator MERKLEY. Thank you. We greatly appreciate your testimony. And rather than break for questions at this point, we will proceed to the testimony of Mr. Sherman.

Welcome.

STATEMENT OF HON. HARRIS D. SHERMAN, UNDER SECRETARY FOR NATURAL RESOURCES AND ENVIRONMENT, U.S. DEPARTMENT OF AGRICULTURE

Mr. SHERMAN. Thank you, Senator Merkley.

I am Harris Sherman, the Under Secretary for Natural Resources and the Environment at USDA. Senator, I appreciate the opportunity to be here and to testify on S. 2724.

I don't want to repeat what the other witnesses have said, but I do want to reiterate the just extraordinary nature of Lake Tahoe and the surrounding national forest. They are truly national treasures, and they deserve our protection.

This area has been subject to impacts from land disturbances both on public and private lands from changes in transportation patterns and from changing climatic conditions. The Administration supports 2724, a bill, in our view, that carefully aligns with what Secretary Vilsack has expressed in his national vision for America's forests. The Secretary's vision acknowledges the need for a complete commitment to forest restoration through an all lands approach. And the Secretary has also frequently spoken and recognized the importance of healthy forests to protect clean water.

So this all out approach to successfully managing these lands adjacent to and surrounding Lake Tahoe we believe has been successful over the past 10 years, and we need to continue moving forward with this effort.

So this bill does continue funding, planning and implementation of significant environmental restoration and forest management activities. The bill specifically provides for a \$415 million Federal share over an 8-year period which will go to improving water clarity and quality, reducing the threat of catastrophic wildfires, improving the environment and combating invasive species.

Some of the highlights—at least from the perspective of the Forest Service—are the following. First, the bill would authorize \$136 million for fire risk reduction and reforestation. Of that amount, at least \$80 million will be made available to the Forest Service to treat hazardous fuels, and a portion of the \$136 million may also be used for the Angora fire restoration projects.

I brought with me a few examples, before and after examples of the types of projects which can occur under this bill. First, there is an example of a fuels reduction project that would be funded under section 6 or section 8 of the bill. As the before and after nature of these photographs indicate, these projects can be very, very helpful, particularly in the wildland-urban interface areas. What you are seeing here is consistent with the Lake Tahoe multi-jurisdictional fuel reduction and wildfire prevention strategy.

The bill would also authorize \$136 million for a wide variety of environmental restoration projects such as watershed and habitat enhancement. In the next before and after photos, you will see the Big Meadow Creek-Cookhouse Meadow restoration project. This deals with erosion control and shows how we, by engaging in these

activities, can partially address the Lake Tahoe total maximum daily load allocations adopted under the Federal Water Pollution Control Act.

The third set of before and after photos shows the Blackwood Creek Bridge replacement project. This shows that you can allow water from a creek to flow more freely underneath these structures, and it results in a reduction of fine sediment and nutrients, which would eventually flow into Lake Tahoe.

And under the 2000 Act, we have been administering a variety of local erosion control grant programs. We offer to continue that administrative role for erosion control under S. 2724.

The last set of photos here show before and after displays at the Apalachee erosion control project, which is one of some 120 such grants that we have been part of over the past 9 years. This project reduces the amount of erosion spreads, water flows and checks stormwaters by constructing a pipe outflow with a flared end section.

As a result of these types of projects and other priority work conducted in the Lake Tahoe Basin, the rate of decline in water clarity of the lake is decreasing. Thousands of acres of forest land have been enhanced. Roads and highways across the basin have been improved to limit runoff, and the natural function of many miles of stream zones and riparian areas has been restored.

We appreciate and embrace the roles assigned to Secretary Vilsack as we continue to complete ongoing and new restoration activities as well as strategically addressing new environmental challenges such as aquatic invasive species that threaten Lake Tahoe and surrounding waters.

In conclusion, this bill would build upon the success of the past 10 years. The Administration remains committed to restoring the health and resiliency of the Lake Tahoe Basin. We will continue to implement a program that serves the community, economy and the environment.

Thank you very much.

[The prepared statement of Mr. Sherman follows:]

**STATEMENT OF
HARRIS SHERMAN
UNDERSECRETARY, NATURAL RESOURCES AND
ENVIRONMENT
UNITED STATES DEPARTMENT OF AGRICULTURE**

Concerning

S. 2724

Before the
**Committee on Environment and Public Works
United States Senate**

February 24, 2010

Chairwoman Boxer and members of the committee, thank you for the opportunity to be here today to present the Administration's views on S. 2724, legislation that would amend the Lake Tahoe Restoration Act, enacted in 2000, to continue environmental restoration activities in the Lake Tahoe Basin. Lake Tahoe and the surrounding national forests are national and international treasures. The lake is one of the largest, deepest, and clearest in the world. However, the lake is threatened by land disturbance on public and private land, transportation patterns, and climate change. I want to thank the bill's sponsors for their continued focus and support of the restoration activities in the Lake Tahoe Basin as one of their top priorities.

The Administration supports the goals of S. 2724, a bill that aligns with Secretary Vilsack's national vision for America's forests. We note that the bill addresses activities that can be addressed by existing authorities but underscores the unique status of Lake Tahoe. Secretary Vilsack's vision acknowledges the need for a complete commitment to forest restoration through an all-lands approach. This all-lands approach has been successfully implemented over the past 10 years in the Lake Tahoe Basin through a shared restoration vision by Federal, State, tribal, regional, local, and private entities operating under the 2000 Act. S. 2724 is also consistent with one of the four strategic priorities reflected in the President's FY 2011 budget request for USDA to ensure that National Forest System lands, which comprise 75% of the Lake Tahoe Basin, along with State and private lands are conserved, restored, and made more resilient to changing climate conditions, while working to restore and protect the waters of Lake Tahoe.

The bill would authorize \$415 million over 8 years to combat invasive species and restoring habitat for threatened species, such as the Lahontan cutthroat trout, improve water clarity, reduce the threat of catastrophic wildfire, and restore the environment. The bill would

continue the funding, planning, and implementing of significant environmental restoration and forest management activities that are consistent with the Lake Tahoe Basin Management Unit's land and resource management plan, such as: prescribed burning for ecosystem health, treating hazardous fuels to reduce the chance of catastrophic wildfires, restoring stream environment zones, enhancing watersheds and wildlife habitats.

Under the 2000 Act, the Lake Tahoe Basin Management Unit has developed staff capability and capacity to coordinate and support to administer the federal share of the local erosion control grant program. We offer to continue that administrative role for the projects listed under Section 6(c)(1) of the bill involving local erosion control projects and we are willing to perform the same administrative role for State projects under Section 6(c)(1)(2), as well as for the environmental restoration priority projects under Section 8 of the bill. We would like to work with the Committee to clarify our role in administering grants.

Section 6(c)(3)(iv) of the bill would make funds available for restoration work triggered by the Angora fire. The bill emphasizes the national forest transit program and coordination with State and local public transit systems. The bill would direct the Secretary to submit a report to Congress regarding the management of land in the Lake Tahoe Basin Management Unit Urban Lots Program to identify any obstacles to desired conveyances or interchanges. The bill also provides for continued federal agency coordination recognizing that we accomplish more by integrating our agency missions and resources to address needed restoration, appropriate science, and public outreach and education. Under Section 6(c)(3)(A)(ii), the bill would authorize the Secretary to award competitive grants to communities for fuels work.

The Forest Service has had a critical role in coordinating and leading the Federal Partnership established under Executive Order 13057 to implement meaningful actions at Lake Tahoe to improve water quality, transportation, forest management, recreation and tourism, and to protect Lake Tahoe's environment. The agency is willing to continue that role.

Some examples of the types of projects carried out under the 2000 Act include:

Vegetation and Fuels Management projects. From 2006 to 2008 the Forest Service spent \$16.7 million of Southern Nevada Public Land Management Act funds and \$1.68 million of appropriated funds on vegetation and fuels management activities in the highest priority area of the Basin - the Wildland Urban Interface zone. The Forest Service Stewardship Fireshed Assessment and the Lake Tahoe Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy, completed in December 2007, helped improve coordination among 16 partner agencies doing fuels reduction work throughout the Basin. The Forest Service provided more than \$2.63 million in funding to California and Nevada between 2006 and 2008 to assist completion of fuel reduction treatments identified in the Strategy.

Erosion Control projects. The Forest Service has awarded funds to local governments for urban storm water treatment and erosion control projects on the Environmental Improvement Program list for FY06, FY07, and FY08. The funding amount for administration and grant awards

was \$10 million for each fiscal year and grantees included Placer, El Dorado, Washoe, and Douglas Counties, City of South Lake Tahoe, South Tahoe Public Utility District and Nevada Tahoe Conservation District. The Forest Service grants funded portions or phases of 34 different projects designed to reduce pollutants from urban storm water runoff. These projects include both planning and implementation for storm water capture and treatment improvements, slope stabilization and revegetation, and stream and floodplain restoration.

Habitat Restoration. In FY 2009, a \$250,000 Lahontan Cutthroat Trout Restoration/Recovery project included ongoing stocking, monitoring, and research, conducted in partnership with the community of Fallen Leaf Lake, the Forest Service, and the California Department of Fish and Game. These efforts were a key factor in substantially increasing overall reintroduction success in the Lake Tahoe Basin.

As a result of these types of projects, and other priority work conducted in the Lake Tahoe Basin, the rate of decline in water clarity of the lake has decreased, thousands of acres of forest lands have been restored, roads and highways across the basin have been improved to limit runoff, and the natural function of many miles of stream zones and riparian areas has been restored.

We appreciate and embrace the roles assigned to Secretary Vilsack as we continue to complete ongoing and new restoration activities and strategically address new environmental challenges, such as dealing with aquatic invasive species that threaten Lake Tahoe and its surrounding waters.

In conclusion, this bill would build upon the success of the past 10 years. It would focus the next 8 years on environmental restoration activities that align with the Secretary's vision for America's forests. The Administration remains committed to restoring the health and resiliency of the Lake Tahoe Basin. We will continue to seek joint solutions that serve the community, economy, and the environment.

I would be happy to answer any questions that you may have at this time.

S.2724 Lake Tahoe Restoration Act 2009
 USDA FS Lake Tahoe Basin Management Unit
 Roundhill Fuel Reduction in the Wildland Urban Interface
Fuels Reduction Section 6(c)(3)(A) or Section 8 project



Fuel loading approximately 13 tons per acre



Fuel loading estimated < 6 tons per acre

S.2724 Lake Tahoe Restoration Act 2009

USDA FS Lake Tahoe Basin Management Unit – Big Meadow Creek/Cookhouse Meadow Restoration
Stream Environment & Watershed Restoration – Section 6(c)(2) / Section 4(d)(2)(III) + (IV)



Before – 1981



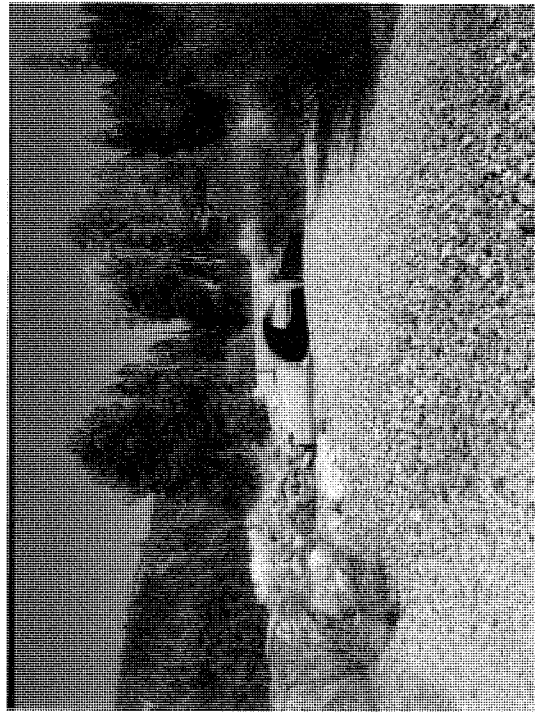
Before – 2000

Old Channel at 45 CFS (2000)



Date Completed 2006
 One year post-construction
 New channel (2007) at 20 CFS

S.2724 Lake Tahoe Restoration Act 2009
 USDA FS Lake Tahoe Basin Management Unit – Blackwood Creek Phase II - Bridge Replacement
Stream Environment & Watershed Restoration – Section 6(c)(2) / Section 4(d)(2)(III)+(IV)

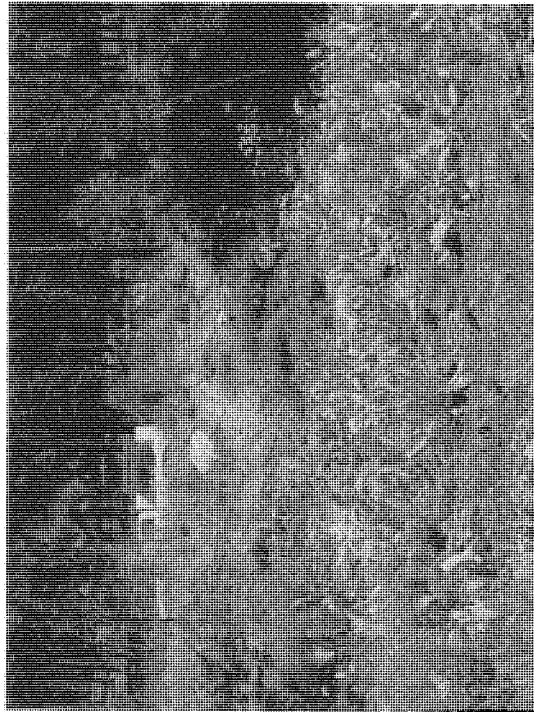


Before – October 2005

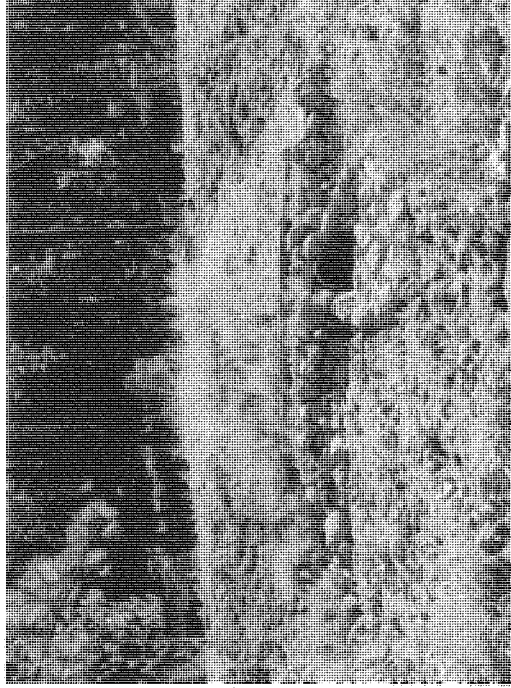


After – November 2006

S.2724 Lake Tahoe Restoration Act 2009
USDA FS Lake Tahoe Basin Management Unit – Apalachee Phase 2A Erosion Control Project
Local Government Erosion Control Project – Section 6(c)(1)



Before – July 2006



After – October 2007

**Environment and Public Works Committee Hearing
February 24, 2010
Follow-Up Questions for Written Submission**

Questions for Under Secretary Sherman:

Senator Barbara Boxer

1. Mr. Sherman, Federal efforts to restore Lake Tahoe began in a coordinated manner in 1997 following President Clinton's executive order establishing the Lake Tahoe Federal Interagency Partnership. Legislation, including the Lake Tahoe Restoration Act and the Southern Nevada Public Lands Management Act, provided additional support for federal restoration efforts. What are the key successes of this federal partnership over the past twelve or more years? And how does the Lake Tahoe Restoration Act build on these successes to ensure the federal program meets the future restoration needs of the Lake Tahoe basin?

Key Successes: A stakeholder structure has been operating in the Lake Tahoe Basin for the past twelve years. This structure includes the Lake Tahoe Federal Interagency Partnership, and the Lake Tahoe Federal Advisory Committee (chaired by the Secretary of Agriculture) that includes 20 members representing key Federal, State, and local agencies, the Washoe Tribe of Nevada and California and private constituencies. There are numerous Memoranda of Understanding and agreements in place under which the parties cooperate. Lake Tahoe Basin stakeholders, including the Lake Tahoe Federal Interagency Partnership, have identified over 700 projects to be accomplished under the Environmental Improvement Program (EIP). Science and research are integrated into the EIP. This component engages scientists, researchers, and managers to review and monitor EIP projects resulting in adapting future similar projects and programs. It also identifies management issues and concerns that researchers can address and present back to managers. The EIP project list was updated in 2009 into program areas that emphasize resource needs in an all lands approach to achieve EIP objectives over the next 10 years.

Within USDA, the Forest Service has played a critical role over the past several years as manager of 75 percent of the land in the Basin. The Natural Resource Conservation Service (NRCS) also plays a critical role in providing technical assistance related to best management practices for water quality improvement to the local and private sectors.

From FY 1997 through FY 2008, the Lake Tahoe Federal Interagency Partnership has spent over \$393,674,055 on projects designed to meet the objectives associated with 39 actions or "Presidential Deliverables" in accordance with the Executive Order 13057 (see attached). To implement the EIP, the Forest Service has invested \$232,409,650, which includes grant funding for erosion control, and NRCS has invested \$8,086,250. This funding is from appropriated earmarks and funding through the Southern Nevada Public Land Management Act, as amended. In addition, from FY 1997 through FY 2008, the Forest Service also invested \$204,163,915 in other appropriations for work that resulted in environmental improvement.

Since FY 2005, the Forest Service has completed over 67 projects for: fuels removal (fire risk reduction); stream channel restoration (erosion and sediment control, and restoration of streams in floodplains and stream environment zones); wildlife habitat improvement; aspen enhancement; public transit operations (to promote public transportation to Forest Service recreation sites); sensitive land acquisitions; invasive weed removal (noxious weeds); restoration and recovery for wildlife and plant species (Lahontan cutthroat trout, Sierra mountain yellow-legged frog, and the Tahoe yellow cress plant); and implementation of water quality best management practices on public and administrative facilities to improve water quality and clarity of Lake Tahoe.

The NRCS continues to deliver the Backyard Conservation Program to thousands of private landowners in the Lake Tahoe Basin. This program provides technical assistance for Best Management Practice Retrofit and other conservation issues vital to Lake Tahoe's future, recognizing that 70 percent of the fine sediment entering Lake Tahoe is coming from the urban uplands (developed areas). Between FY 2006 and 2008, Backyard Conservation Program assisted nearly 8,500 property owners, which will result in an estimated reduction of 9,400 tons of sediment from soil erosion.

For hazardous fuels reduction, the Lake Tahoe Basin has completed and integrated an all-lands approach to prioritizing fuels treatments needs over the next 8 years. The "Lake Tahoe Basin Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy" outlines the treatment areas and describes how these treatments will be conducted and coordinated over multiple land ownerships to reduce the risk of wildfire. This strategy is in the third year of implementation.

Enclosed is a more detailed progress report on Federal actions at Lake Tahoe from FY 2006-2008.

How does LTRA build on those successes? As indicated in our February 24, 2010 testimony, we note that S. 2724 addresses activities that can be addressed by existing authorities but underscores the unique status of Lake Tahoe. The bill provides for continued federal agency coordination recognizing that we accomplish more by integrating our agency missions and resources to address needed restoration, appropriate science, and public outreach and education. The bill continues to require utilization of the Lake Tahoe Federal Advisory Committee, which includes private and public representation in addition to Tribe, federal and state representatives. The bill would continue the funding, planning, and implementing of significant environmental restoration and forest management activities that are consistent with the Lake Tahoe Basin Management Unit's land and resource management plan, such as: prescribed burning for ecosystem health, treating hazardous fuels to reduce the chance of catastrophic wildfires, restoring stream environment zones, enhancing watersheds and wildlife habitats.

Senator James M. Inhofe

1. You note that many of the activities addressed by S. 2724 can be addressed by existing authorities. If the bill is not passed and no funding is authorized, will the Forest Service be able to accomplish the goals set forth by the bill?

In part, yes, but the bill aids in leveraging Federal appropriations with State, local and private appropriations/matches. To meet the EIP and resource thresholds in the 2000 Act and in S. 2724, all sectors have to complete their share of work on all land ownerships. The bill provides a critical focal point for other agencies and partners to rally around and target their resources.

2. Will USDA provide the committee with technical assistance to ensure that bills considered before this committee do not duplicate current efforts?

USDA would be willing to assist the committee and will work on amendments that avoid duplication of efforts.

Senator Thomas R. Carper

1. We understand that there is a vacancy at USDA for the Chesapeake Bay Coordinator position. Is this vacancy still open? How will USDA's Chesapeake Bay Coordinator work with EPA to make sure that the local agriculture needs of Delaware are met in the cleanup of the Chesapeake Bay?

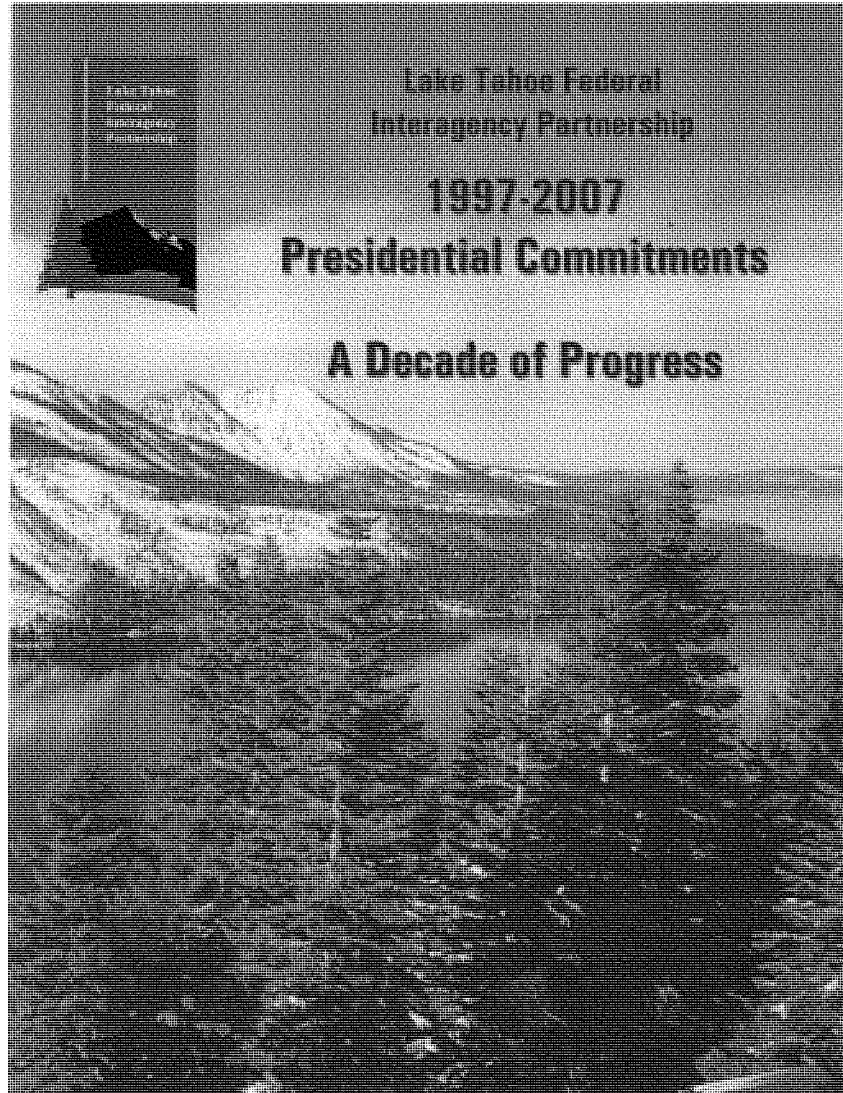
USDA's Natural Resources Conservation Service recently underwent a realignment of its National Headquarters structure. At that time, the Chief's Senior Adviser on the Chesapeake Bay was reassigned to become the Agency's Director of Conservation Planning and Technical Assistance, a critical job at National Headquarters. We currently have an experienced team working on Chesapeake Bay issues for USDA, led by Deputy Under Secretary Ann Mills. The entire team is working very closely with EPA and other Bay Program partners to meet the needs of agriculture and restore the Chesapeake Bay. Through the realignment, we have placed additional emphasis on engagement by our State-level leaders in Chesapeake Bay activities. This is intended to increase the involvement of State partnerships in designing and delivering conservation solutions to farmers in the Bay watershed. In May 2010, the Administration will roll out its final Chesapeake Bay restoration strategy, as required by an Executive Order signed in May 2009. This strategy will describe USDA's enhanced efforts to address agricultural pollution in the Bay watershed.

2. How closely are EPA and USDA working together to make sure that the modeling used to determine pollution to the Chesapeake Bay and other water bodies accurately reflects agriculture?

Ensuring that models used to estimate pollution loads in the Chesapeake Bay watershed accurately reflect the conservation efforts of the agricultural community is a top priority for USDA. We have been working on this effort for many months. Here is an update on key actions:

a) We are close to finalizing agreements between the Farm Service Agency and NRCS with the United States Geological Survey. Under these agreements, the USDA agencies will transfer conservation practice data from their program databases to USGS. USGS will then modify and aggregate the data to ensure that it is both usable by the Bay watershed model and that the data does not run afoul of USDA privacy rules.

b) We are working directly with EPA to examine the underlying assumptions and calculations that undergird the Bay watershed model. At least two USDA employees familiar with watershed models are involved in this effort.



**Lake Tahoe
Federal Interagency Partnership**

**1997-2007
Presidential Commitments**

A Decade Of Progress

August 2007

A Decade Of Progress

On July 26, 1997, Executive Order 13057 (*Federal Actions in the Lake Tahoe Region*) was signed directing federal departments and agencies having principal management or jurisdictional authorities in the Lake Tahoe Region to establish a Federal Interagency Partnership (Partnership). By establishing this partnership, federal agencies committed to work collaboratively together. They also committed to work with state, local, and tribal partners to implement meaningful actions at Lake Tahoe to improve water quality, transportation, forest management, recreation and tourism, and to protect Lake Tahoe's environment.

To accomplish the objectives of the Executive Order, 39 actions were developed known as Presidential Deliverables or Presidential Commitments (Commitments). While most of these Commitments were to be completed within the first five years, some were designed to conclude on the tenth anniversary of the 1997 Executive Order.

Most of the actions identified as Commitments have been completed and many have gone beyond the original vision and are continuing today. New actions not envisioned at the time of the

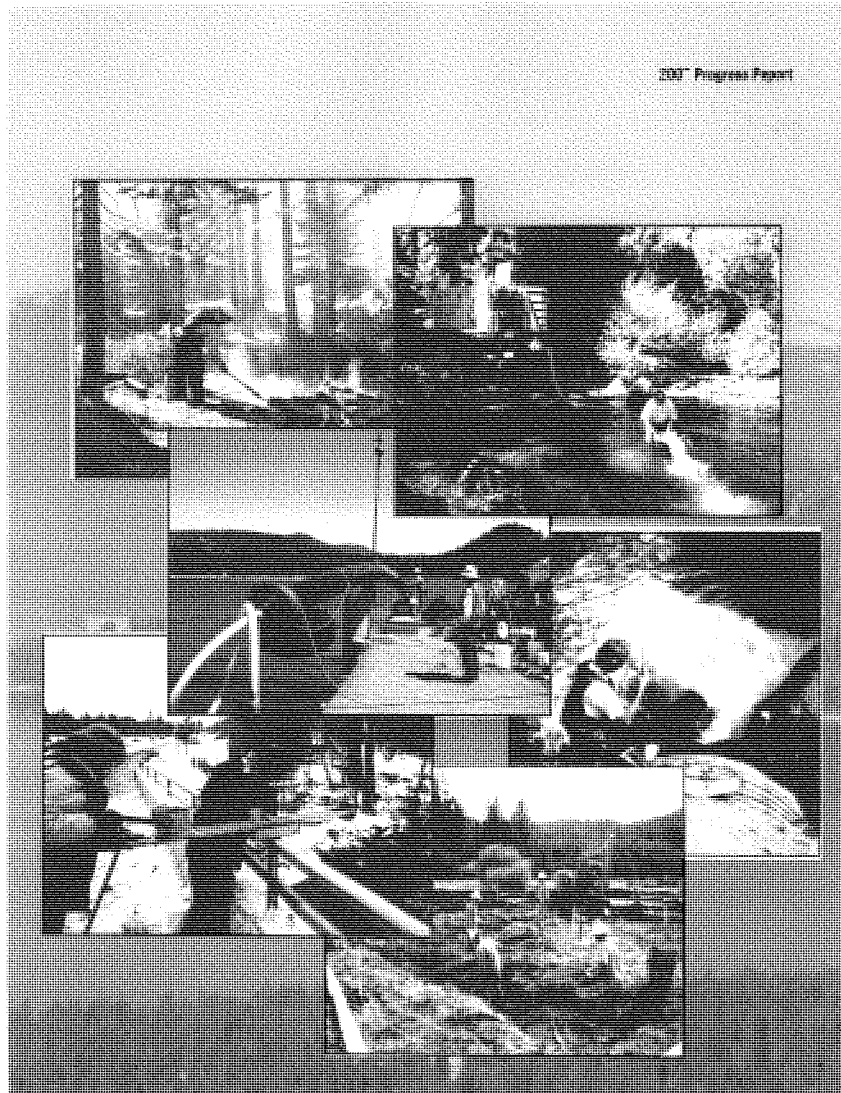
The Federal Interagency Partnership

| |
|--|
| U. S. Department of Agriculture |
| U. S. Forest Service |
| Natural Resources Conservation Service |
| U. S. Department of Defense |
| Army Corps of Engineers |
| U. S. Department of the Interior |
| Bureau of Reclamation |
| Bureau of Land Management |
| U. S. Fish and Wildlife Service |
| U. S. Geological Survey |
| U. S. Department of Transportation |
| Federal Highway Administration |
| Federal Transit Administration |
| U. S. Environmental Protection Agency |

Executive Order have been undertaken as more federal agencies have joined the Partnership. While these new actions have contributed greatly to the environmental progress made at Lake Tahoe over the past decade, this report will only focus on the original Commitments to implement the Executive Order.

This report summarizes the progress made over the past decade bringing the Commitments to conclusion. These Commitments and the Partnership's accomplishments in implementing them are summarized on the following pages.

The Partnership remains committed to working collaboratively together and will continue working with state, local, and tribal partners. The Partnership will move forward into the next decade implementing environmental actions to protect and improve Lake Tahoe's environment.



Lake Tahoe Federal Interagency Partnership

**Federal Interagency Partnership Presidential Commitments
1997-2007 Summary — A Decade Of Progress**

| Number | Agency | Presidential Commitment | Status |
|--------|---------------|--|------------------------|
| 1 | USEPA | Lake Tahoe Pipeline—\$1,150,000 | Complete |
| 2 | USEPA | Lake Water Quality, Forecasting Model—\$880,000 | Complete Continuing |
| 3 | USEPA | Peak Time Threshold Monitoring Program—\$200,000 | Complete |
| 4 | USEPA | Multi-Agency Lake Water Quality Research Team | Complete Continuing |
| 5 | USEPA | Lake Tahoe Lake Biological Partnership—\$50,000 | Complete |
| 6 | USEPA | Environmental Hotline—\$15,000 | Complete Continuing |
| 7 | USGS | Analysis of LTHIP Monitoring—\$160,000 | Complete |
| 8 | USGS | Digital Mapping of the Lake Basin—\$150,000 | Complete |
| 9 | USGS | Source of Gasoline Pollution—\$40,000 | Complete |
| 10 | USGS USFWS | Restoration of Lahontan Cutthroat Trout (LCT)—\$25,000 | Complete Continuing |
| 11 | USDOT | Road Erosion Control : Stormwater Management Master Plan—\$300,000 | Complete |
| 12 | USEPA | Stormwater Settling Basin—\$50,000 | Complete |
| 13 | USDOT | Road Weather Information System (RWIS)—\$5,000 | Complete |
| 14 | USFS | Forest Road Decommissioning and Improvement—\$13,000,000 | Complete |
| 15 | USFS | Watershed Restoration on National Forest Lands—\$4,625,000 | Complete Continuing |
| 16 | USEPA | Wetlands Restoration—\$150,000 | Complete |
| 17 | COPPS | Trout Creel—\$700,000 | Complete |
| 18 | USFS | Wild and Scenic Rivers Act—\$125,000 | Complete Continuing |
| | | Wild River Study—\$250,000 | Complete |
| 19 | USEPA | Source Water Protection Program—\$50,000 | Complete Continuing |
| 20 | USFS | Watershed Assessment—\$2,600,000 | Complete |

Federal Interagency Partnership Presidential Commitments 1997-2007 Summary — A Decade Of Progress

| Number | Agency | Presidential Commitment | Status |
|--------|------------------------|---|---|
| 21 | USFS | Fire History—\$125,000 | Complete |
| 22 | USFS | Urban Lots—\$2,000,000 | Complete <i>Continuing</i> |
| 23 | USFS | Prescribed Burning—\$2,500,000 | Complete <i>Continuing</i> |
| 24 | USFS | Mechanical Treatment—\$7,483,200 | Complete <i>Continuing</i> |
| 25 | USFS | Land Acquisition—\$2,550,000 | Complete <i>Continuing</i> |
| 26 | USFS | Forest Health Consensus Group—\$150,000 | Complete |
| 27 | USDOT USFS USEPA | Coordinated Transit System—\$1,250,000 Coordinated Transit System—60 Acres Coordinated Transit System—\$1,250,000 | Complete Complete Complete |
| 28 | USDOT | East Shore Beach Shuttle—\$20,000 | |
| 29 | USDOT | Transit Center—\$1,000,000 | Complete |
| 30 | USDOT | Pono Tahoe Airport—\$6,000,000 | Complete |
| 31 | USPS | Mail Delivery Upgrade—\$250,000 | Complete |
| 32 | USFS USFS | GIS Inventory List of Database—\$475,000 GIS Inventory List of Database—\$475,000 | Complete Complete <i>Continuing</i> |
| 33 | USEPA | Technical Staff Support—\$75,000 | Complete <i>Continuing</i> |
| 34 | USFS | Lashoe Tribe Memorandum of Agreement | Complete |
| 35 | USFS | Cable Pool Environmental Analysis—\$120,000 | Complete |
| 36 | USFS | Steelhead Special Use Permit—\$27,000 | Complete |
| 37 | USFS | Taylor Creek Lashoe Cultural Center—\$150,000 | Complete |
| 38 | COPPS | Watershed Restoration Partnership—\$1,100,000 | Complete <i>Continuing</i> |
| 39 | USEPA | Water Quality Partnership Agreement—\$60,000 | Complete <i>Continuing</i> |

Lake Tahoe Federal Interagency Partnership

Federal Interagency Partnership Presidential Commitments

Department of Agriculture

| Number | Agency | Commitment | Accomplishment | Status |
|--------|--------|---|---|---|
| 18 | NPCS | Backyard Conservation Initiative—\$150,000 Technical assistance to individual homeowners on nutrient and water management and deliver a "Backyard Conservation" initiative to 1,000 homeowners each year targeting erosion and sediment control. Soil Survey, Update—\$450,000 Update soil survey information for the Lake Tahoe Basin and provide information in electronic format for use in GIS analysis. | -The <i>Backyard Conservation Program</i> at Lake Tahoe has exceeded the original target of reaching 1,000 homeowners per year. -Annually, an estimated 12,000 landowners are contacted about B.I.P. Retrofit requirements. -About 30 public soil shops are held each year and numerous other presentations are made for homeowners, contractors, realtors, community groups, and schools. -NIPCS produced the 2006 Soil Survey for the Tahoe Basin -area, California and Nevada. The soil survey has been released in digital format. | Complete \$3,705,250 <i>Continuing</i> Complete \$945,000 |
| 14 | USFS | Forest Road Decommissioning and Improvement—\$13,000,000 Improve 168 miles of roads, close 116 miles of roads, convert 1.3 of closed roads to trails over 10 years (29 miles per year 1998-1999; 41 miles per year 2000-2008) | 1997-2004 108 miles decommissioned 13 miles converted to trails, 170 miles improved/reconstructed roads. | Complete \$14,255,000 |
| 15 | USFS | Lake Watershed Restoration on National Forest Lands—\$4,625,000 Complete 1 mile of channel restoration 1998-1999, and 2 miles per year from 2000-2002; 25 acres riparian restoration in 1998, 125 acres in 1999 and 200 acres per year 2000-2002; and 100 acres cooperative projects in 1998, 150 acres in 1999, and 200 acres per year 2000-2002 | 1997-2006 390 acres of riparian habitat improved and 40 miles of stream improved. (Targets shifted to miles of stream improved) | Complete \$7,600,000 <i>Continuing</i> |
| 20 | USFS | Lake Watershed Assessment—\$2,600,000 Comprehensive Lake Tahoe Basin Watershed assessment | Comprehensive Lake Tahoe Basin Watershed assessment completed in 2000. | Complete \$1,570,000 |
| 21 | USFS | Fire History—\$125,000 Establish baseline information on natural fire history, and vegetation conditions in the Lake Tahoe Basin. | Established baseline information on natural fire history, and vegetation conditions in the Lake Tahoe Basin. This product continues to be used today. | Complete \$155,000 |
| 22 | USFS | Urban Lots—\$2,000,000 Clear brush and wood from over 3,500 federally owned lots (5 years) | 1997-2006 1,462 acres completed. | Complete \$35,318,000 <i>Continuing</i> |
| 23 | USFS | Prescribed Burning—\$2,500,000 Reduce fuels on 1,000 acres per year for 5 years by prescribed burning | 1997-2006 7,647 acres completed. | (Combined integrated fuels |
| 24 | USFS | Mechanical Treatment—\$7,483,200 Mechanical treatment to reduce fuels on 2,000 acres per year for 5 years | 1997-2006 10,410 acres completed | mechanical treatment program) |

Federal Interagency Partnership Presidential Commitments

Department of Agriculture

| Number | Agency | Commitment | Accomplishment | Status |
|--------|--------|--|---|--|
| 25 | USFS | Land Acquisition—\$2,550,000 Acquisition of 90 environmental, sensitive parcels (315 acres) | 1997-2006 2,979 acres acquired. | Complete \$54,871,000 Continuing |
| 26 | USFS | Forest Health Consensus Group— \$150,000 Support the group's efforts to shape, monitor and update a comprehensive forest management plan (\$50,000 per year) | Forest Service participated in this group which was later replaced by Tahoe PeGreen. This effort promoted interagency collaboration which is still on-going under the Pathways 2007 planning process. | Complete |
| 29 | USFS | Coordinated Transit System—60 Acres Forest Service to provide up to 60 acres of land for a transit center at 64 acres in Tahoe City. | acreage was provided for this project and the EIS EIP was completed in 2000. | Complete |
| 32 | USFS | GIS-Internet Linked Database—\$525,000 Bring IBEL, PC II/FD, PC, GIS (GIS) full, online and participate with USGS, TPP, and others in developing a database within the Executive Order. USFS hire and maintain a GIS staff. | GIS staff is in place. Software has been installed and is used on a daily basis. Data sharing is continuing. TII/IS contribution to TPP—\$140,000. | Complete \$240,000 Continuing |
| 34 | USFS | Lashoe Tribe Memorandum of Understanding Government to Government agreement with the Lashoe tribe and USFS. | Agreement signed Jul, 25, 1997. | Complete |
| 35 | USFS | Cape Pool Environmental Analysis— \$120,000 Analysis of management and assistance to TPP and the Lashoe Tribe for long range planning. | Environmental Impact Statement Record of Decision signed August 5, 2003. | Complete |
| 36 | USFS | Chief's Meadow Special Use Permit— \$27,000 30 year Special Use Permit with the Lashoe Tribe | Permit issued to the Lashoe Tribe October 1997 and a Memorandum of Understanding issued Jul, 1998. | Complete |
| 37 | USFS | Taylor Creek Lashoe Cultural Center— \$150,000 USFS and the Lashoe Tribe to enter into a 30 year special use permit for the establishment of a Lashoe Cultural Center | Environmental Assessment was completed in 1998, however the Lashoe Tribe has not executed the permit. | Complete |

Lake Tahoe Federal Interagency Partnership

Federal Interagency Partnership Presidential Commitments

Department of Defense

| Number | Agency | Commitment | Accomplishment | Status |
|--------|--------|--|---|---------------------------------------|
| 1 | DDPS | Trout Creek—\$700,000 Study to investigate incremental restoration opportunities in the Trout Creek Watershed and lead construction of restoration project if justified | Corps—This study was completed in 1999. While the study did not result in a project in the predicted watershed, it did open other projects (see USEPA). | Complete \$700,000 |
| 16 | DDPS | Interagency Preservation Partnership \$1,400,000 Partnership with TPP is entering a new phase (Upper Trout Creek and Trout Creek Watershed Feasibility Report, and use of Corps authority for additional opportunities of incremental restoration—See the NPS Study for Upper Trout Creek and Trout Creek) | The Corps, TPP, and others have entered an interagency partnership leading to various projects including completion of UTRC Study, Phase III restoration, reconstruction of critical incremental infrastructure, establishment of a comprehensive watershed infrastructure program, establishment of regional design and design design criteria, review of plans and design, and design, construction of incremental infrastructure, and implementation of the Lake Tahoe Partnership | Complete \$1,400,000 Continuing |

U. S. Postal Service

| Number | Agency | Commitment | Accomplishment | Status |
|--------|--------|--|----------------|----------|
| 31 | USPS | Mail Delivery Upgrade—\$250,000 Extend home and clustered mail box service to communities on the East shore of Lake Tahoe | | Complete |

U. S. Environmental Protection Agency

| Number | Agency | Commitment | Accomplishment | Status |
|--------|--------|--|--|---------------------------------------|
| 1 | USEPA | Lake Tahoe Pipeline—\$1,150,000 Provide grant to STPUD for replacement of 2-mile Lake Tahoe effluent pipeline | Grant to STPUD; 2-mile effluent export pipeline replaced. | Complete \$1,150,000 |
| 2 | USEPA | Lake Tahoe Quality Forecasting Model—\$880,000 Lake Tahoe quality modeling grant | Predictive, process-based model developed applied to TLDL development; continuing being improved | Complete \$1,080,000 Continuing |
| 3 | USEPA | Real-Time Threshold Monitoring Program—\$200,000 Funding to TPP to develop real-time monitoring for Lake Tahoe and air quality. | Produced threshold data collection, evaluation, modeling, analysis and reporting system, public access to information via THITS. | Complete \$235,000 |

Federal Interagency Partnership Presidential Commitments

Environmental Protection Agency

| Number | Agency | Commitment | Accomplishment | Status |
|--------|--------|--|--|---------------------------------------|
| 4 | USEPA | Multi-Agency Research Team—\$0 | Culminated in creation of Tahoe Science Consortium. | Complete Continuing |
| 5 | USEPA | Lake Tahoe Lake Bailai Partnership—\$50,000 Provide funding to Tahoe Bailai Institute to conduct scientific research and education programs at Lake Tahoe and Lake Bailai | 1998—U.S. and Russian policymakers traveled to Lake Tahoe and Lake Bailai resulting in increased understanding of political, legal, and technical aspects of protecting these lake environments. | Complete \$50,000 |
| 6 | USEPA | Environmental Hotline—\$15,000 Implement National hotline demonstration | 1-800-CLEANUP and A.A.A. 1800cleanup.org provides zip code specific environmental and recycling information. | Complete \$10,000 Continuing |
| 12 | USEPA | Stormwater Settling Basin—\$50,000 Fund project at Sierra Blvd. in Incline Village | Settling basin built in 1999 projected to capture 115 tons of sediment per year. | Complete \$50,000 |
| 16 | USEPA | Wetlands Restoration—\$150,000 Provide funding to C- and I- for wetlands restoration projects to filter out contaminants and improve water quality, and habitat for wildlife | 104 Wetlands Planning Grants: 1998—\$150,000 1999—\$96,000 2000—\$150,000 | Complete \$296,000 |
| 19 | USEPA | Source Water Protection Program—\$50,000 Provide funding to TPP- for a Source Water Protection Program under the Safe Drinking Water Act to ensure protection of public health | Following source water assessments, EPA-funded efforts to identify source water protection measures and coordinate implementation among jurisdictions and with the EIP. | Complete \$280,000 Continuing |
| 27 | USEPA | Coordinated Transit System—\$1,250,000 In conjunction with USDOT award funds to coordinate and combine operation of mass transit vehicles operated by various public and private entities | Funding allocated. | Complete \$1,250,000 |
| 33 | USEPA | Technical Staff Support—\$75,000 EPA will increase staffing in the Basin to provide technical assistance and participate in multi-agency teams | EPA staffing (Lake Tahoe Basin Coordinator) has been provided since 1998. | Complete \$1,000,000 Continuing |
| 39 | USEPA | Water Quality Partnership Agreement—\$60,000 Agreement to ensure EPA, C- and I- coordinate research and implementation of water quality, restoration | EPA has been working with C- and I- and has provided \$1,700,000 to C- and \$1,300,000 to I- since 1997 through the C.A- program. | Complete \$3,000,000 Continuing |

Lake Tahoe Federal Interagency Partnership

Federal Interagency Partnership Presidential Commitments

Department of Transportation

| Number | Agency | Commitment | Accomplishment | Status |
|--------|--------|---|--|--|
| 11 | USDOT | Coast Erosion Control & Stormwater Management Master Plan—\$300,000 Provide technical support for a master plan to upgrade paved roads and to improve erosion control and stormwater management | Master plan completed by the State Department of Transportation. Funding for US 50 and SP 28 authorized. | Complete \$10,250,000 |
| 13 | USDOT | Coast Weather Information System (CWIS)—\$5,000 Fund new joint CCH plan to utilize an advanced weather information system to reduce intermittent application of sand, salt, and de-icing chemicals | CWIS operation in both states. | Complete \$5,000 |
| 27 | USDOT | Coordinated Transit System—\$1,250,000 In conjunction with USEPA award funds to coordinate and combine operation of mass transit vehicles owned by various public and private entities | Funding obligated and in the design phase. | Complete \$1,800,000 |
| 28 | USDOT | East Shore Beach Shuttle—\$20,000 Fund a study to evaluate a new east shore beach shuttle service for Lake Tahoe beachgoers to address erosion, congestion, and safety hazards along State Route 28 | Evaluation report completed, shuttle has ceased operations. | Complete \$20,000 |
| 29 | USDOT | Transit Center—\$1,000,000 USDOT will provide up to \$1,000,000 for a transit center at 64 Acres in Tahoe City. | Transit Center is operational. | Complete \$1,473,446 |
| 30 | USDOT | Peno Tahoe Airport—\$6,000,000 Fund work at Peno Tahoe International Airport to repair the crosswind runway damage during recent winter floods | Airport funded in 1998. | \$6,000,000 |

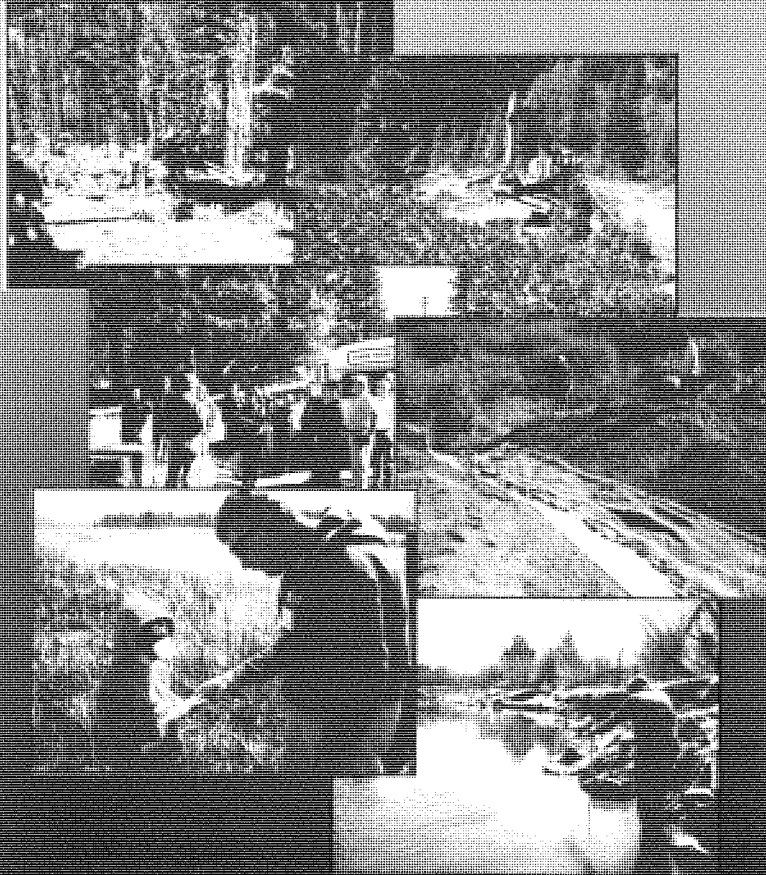
Federal Interagency Partnership Presidential Commitments

Department of Interior

| Number | | Commitment | Accomplishment | Status |
|--------|-----------------|---|--|--|
| 18 | USBP | Baek,ard Conser,ation Initiati,e-- \$150,000 Technical assistance to indi,idual homeo,ainers on nutrient and ,ater management and deli,er a "Baek,ard Conser,ation" initiati,e to 1,000 homeo,ainers each ,ear targeting erosion and sediment control. | Peclamation granted \$428,437 to Pesource Conser,ation Districts on the California and Ilie ,ada sides of the Lake Tahoe Basin to facilitate implementation of Best ,lanagement Practices through the Baek,ard Conser,ation Program | Complete \$428,400 |
| 17 | USBP | Trout Creel --\$700,000 Stud, to in,estigate en,ironmental restoration opportunities in the Trout Creel ,atershed and lead construction of restoration project if justified | USBP--pro,ided \$1,319,000 to the Cit, of South Lake Tahoe for channel reconfiguration and bioengineering methods. | Complete \$1,319,000 |
| 7 | USGS | Anal,ysis of LTIH,IP ,lonitoring--\$160,000 Anal,ze and e,aluate data generated b, Lake Tahoe Interagenc, ,lonitoring Program (LTIH,IP o,er the past 15 ,ears | USGS Fact Sheet FS-138-00 and ,ater Pesources Report ,PI-02-4030 ha,e published. USGS- \$256,000, UCD- \$120,000, Lahontan P, ,QCB \$120,000 and TPP-- \$16,000 | Complete \$1512,000 |
| 8 | USGS | Digital ,lapping of the Lake Basin-- \$150,000 Use next, technology, to produce a precise 3- dimensional digital map of the bottom surface of Lake Tahoe | USGS Open-File Report OFP-98-508, ,lap Reports ,PI-99-4031 and ,PI-99-4043 ha,e been published. COPPS completed LID-,P mapping of shallow shore margins. | Complete \$150,000 |
| 9 | USGS | Source of Gasoline Pollution--\$740,000 Conduct an in-depth sur,e, of organic contaminants in Lake Tahoe and tributary, streams and ground,ater | USGS Fact Sheet FS-055-98 and Report ,PI- 99-4218 ha,e been published. USGS- \$401,000, TPP-- \$401,000 | Complete \$802,000 -Continuing- |
| 10 | USGS USF, ,S | Restoration of Lahontan Cutthroat Trout (LCT)--\$275,000 In,estigate the factors allo,wing LCT to succeedfull, sur,ive in Independence Lake and assess the feasibilit, of re-establishment of LCT in Lake Tahoe | USGS stud, and summar, report are complete for Independence Lake-- \$280,000. USF, ,S completed three ,ears of research and contracted ,ith Tahoe Pesearch Group on a stud, that emphasized the abundance, population structure, and forage base of Lake Trout and the food ,eb of Fallen Leaf Lake. A next, population of Lahontan cutthroat trout has been introduced and is being maintained at Fallen Leaf Lake--\$829,300. | Complete \$1,109,300 -Continuing- |
| 32 | USGS | GIS-Internet Link ed Database--\$525,000 Lead a multi-agenc, team to re,ie, and adopt, standards and protocols for spatial data and other data used in GIS that support impro,ement of the Basin's health. | Stud, is done ,ith the set-up and design of TH, ,S. TH, ,S is ongoing. Lake Tahoe integrated into the USGS ,lational ,lap Program. | Complete \$591,000 |

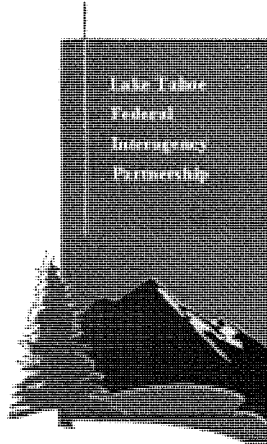
Lul a Tahoe Federal Interagency Partnership

A Decade Of Progress



U. S. Department of Agriculture
 U. S. Forest Service
 Natural Resources Conservation Service
U. S. Department of Defense
 Army, Corps of Engineers
U. S. Department on Interior
 Bureau of Reclamation
 Bureau of Land Management
 U. S. Fish and Wildlife Service
 U. S. Geological Survey
U. S. Department of Transportation
 Federal Highway Administration
 Federal Transit Administration
U. S. Environmental Protection Agency





Progress Report

Federal Actions At Lake Tahoe

FY 2006-2008



US Army Corps
of Engineers



PROGRESS REPORT

Federal Actions at Lake Tahoe through Fiscal Year 2008

Prepared August 2009

This report summarizes the activities (from FY2006 through the end of FY2008) of the Lake Tahoe Federal Interagency Partnership (Partnership). The Partnership was formed in 1997 to coordinate actions to address economic and environmental concerns at Lake Tahoe. The Partnership includes:



U.S. Department of Agriculture

- Forest Service (USFS)
- Natural Resources Conservation Service (NRCS)



U.S. Department of Defense

- Army Corps of Engineers (USACE)



U.S. Department of the Interior

- Bureau of Reclamation (USBR)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Geological Survey (USGS)



U.S. Department of Transportation

- Federal Highway Administration (USFHA)
- Federal Transit Administration (USFTA)



U.S. Environmental Protection Agency (EPA)

The Partnership has produced a number of progress reports since 1997 to document actions taken to improve Lake Tahoe's clarity and address other key issues such as forest health, air quality and transportation. In addition to these progress reports, the Partnership has produced a report on Presidential Commitments summarizing a decade of progress from 1997 to 2007. The Partnership also co-authored with the Tahoe Regional Planning Authority (TRPA), "A Federal Vision for the Environmental Improvement Program at Lake Tahoe".

Background

President Clinton and Vice President Gore came to Lake Tahoe in July 1997 to recognize the significance of the lake and its surroundings as a national environmental resource, and commend local stakeholders for the innovative partnerships of government, business, and environmental interests working to protect the Lake Tahoe Basin. During the Presidential Forum, the President announced 39 specific actions to address declining lake clarity and improve transportation, air quality, and forest health. The President issued Executive Order #13057 on July 26, 1997, directing the federal agencies with responsibilities at Lake Tahoe to form a partnership to achieve the environmental and economic goals identified during the Forum. The Lake Tahoe Federal Interagency Partnership brings together all the federal agencies working in the Lake Tahoe Basin, who then coordinate with the Washoe Tribe, state and local governments, and the Tahoe Regional Planning Agency (TRPA) to achieve greater environmental results.

The Environmental Improvement Program

The Environmental Improvement Program was developed by the Tahoe Regional Planning Agency (TRPA) in conjunction with the 1997 Lake Tahoe Presidential Forum and was adopted by the TRPA the following year.

The EIP defines restoration needs for attaining nine environmental threshold carrying capacities/standards necessary to maintain the significant recreational, educational, scientific, natural, and public health values in the Lake Tahoe Basin (as established by TRPA in 1982). Those threshold categories are:

| | | |
|------------------|-------------------|-------------|
| Water Quality | Soil Conservation | Air Quality |
| Vegetation | Fisheries | Wildlife |
| Scenic Resources | Recreation | Noise |

The 2001 EIP identifies actions necessary to achieve the threshold indicators and lists over 700 projects to be implemented over a twenty-year timeframe. One third of the total funding is to come from the federal government (the states of California and Nevada, local government and private sector provide the remainder).

The EIP includes restoration projects, scientific research and monitoring, and governmental and community programs. TRPA updated the EIP in 2001 and will update it again in the late summer of 2009. The Partnership has been working collaboratively with TRPA to improve program and project descriptions.

Federal Programs and Funding Mechanisms

All of the Partnership agencies have expended appropriated funds to complete their annual programs of work within the Lake Tahoe Basin to further efforts of the EIP. However, several laws have increased the funding available to implement restoration programs.

- *The Lake Tahoe Restoration Act (LTRA)*, passed and signed into law November 13, 2000 (P.L. 106-506), authorized up to \$300 million in federal funds in support of the federal share of the EIP. This includes \$10 million a year that is equally matched by state and local governments through an Erosion Control Grants Program. FY2001

was the first year that funds authorized by LTRA were distributed to the Forest Service.

- *The Southern Nevada Public Land Management Act (SNPLMA)* became law in October 1998. It allowed the Department of Interior's Bureau of Land Management to sell surplus federal public lands around Las Vegas, Nevada. Proceeds were then made available for environmental restoration and capital improvement projects (primarily in Clark County, Nevada) and acquisition of environmentally sensitive lands in Nevada.
- In November 2003, SNPLMA was amended (P.L. 108-108) to direct \$300 million of land sale proceeds over eight years to fund the federal share of the LTRA, becoming the primary federal funding mechanism for the EIP.
- In 2006, SNPLMA was amended to require the development of a multi-jurisdictional, 10 year hazardous fuels reduction strategy. Those that completed the strategy became eligible for additional hazardous fuels funding under the White Pine Amendment.

Opportunities for Coordination

Federal collaboration was one of the major commitments of the 1997 Forum, and the Partnership has made great strides in enhancing federal coordination with its partners in the Lake Tahoe Basin. The federal agencies are now routinely consulting with and coordinating plans and actions with the many stakeholders in the Basin. The Partnership agencies are participating in numerous planning processes and work groups linked to implementation of the EIP.

In addition, the Lake Tahoe Basin Federal Advisory Committee (LTFAC) provides recommendations to the Partnership on integration and coordination of federal programs to help achieve the goals of the EIP. LTFAC was initially chartered by the U.S. Department of Agriculture in 1998. At least four LTFAC meetings are held annually to serve as public forums for consultation on ideas and programs undertaken by the Partnership, and provide recommendations to the federal partnership on implementation of the EIP.

The 20 LTFAC representatives serve two-year terms and are selected from the following sectors:

| | |
|------------------------------------|------------------------------------|
| Washoe Tribe | State of Nevada |
| State of California | Nevada Local Government |
| California Local Government | North Shore Economics & Recreation |
| Tahoe Regional Planning Agency | Education |
| South Shore Economics & Recreation | National Environmental |
| Local Environmental | Labor |
| Gaming | Ski Resorts |
| Property Rights Advocates | Science and Research |
| Resort Associations | Two Members-at-Large |
| Transportation | |

Requests for SNPLMA-funded capital and science projects are annually coordinated by the Partnership through the Lake Tahoe Basin Executive Committee (LTBEC) and the Project Coordination Team (which includes LTBEC and the TRPA) in collaboration with the Tahoe Working Group (TWG) and the Tahoe Science Consortium (TSC). SNPLMA project lists are reviewed by LTFAC, forwarded to the Tahoe Regional Executives (TREX), and a final recommendation submitted each year by SNPLMA Executives to the Secretary of Interior for approval.

Summary

Since 1997, the Partnership has invested approximately \$394 million in Presidential Commitments and EIP efforts and an additional \$204 million in appropriated funds in actions to restore and preserve the Lake Tahoe environment while avoiding adverse impacts to the local economy. Federal agencies have many funded roles and responsibilities and a commitment to achieving the restoration of the Lake Tahoe Basin through the following stewardship, service, and science goals:

- 1) ***Stewardship* – taking actions to protect, conserve and improve the natural resources of the Lake Tahoe Region**
- 2) ***Service* – assisting Tribal, state, regional, local and private stakeholders in the implementation of the EIP**
- 3) ***Science* – promoting and utilizing the best available science in implementation of the EIP**

The Partnership looks forward to continuing to support the EIP goals and activities through implementation of the Lake Tahoe Restoration Act and other federal programs. Other key areas of focus include coordinating scientific research and tools to support management efforts, and integrating projects between agencies by building and fostering partnerships. The following project highlights are examples of the Partnership's ongoing commitment to addressing the three most pressing issues in the Basin: water clarity, forest health, and air quality, as well as supporting other environmental threshold goals.

Partnership Investments

The table in Appendix 1 summarizes the investments by the Partnership since fiscal year 1997 (FY97). This summary shows federal agency funding for:

- Presidential Commitments and EIP projects from FY97 through FY08
- Other activities between FY97 through FY08 implemented by federal agencies to meet their respective missions and goals, which may result in environmental improvements

FY 2006-2008 Partner Agency Accomplishments



USDA Forest Service Lake Tahoe Basin Management Unit (LTBMU)

Established in 1973, the Lake Tahoe Basin Management Unit (LTBMU) manages and administers more than 153,000 acres or 75% of the land in the Lake Tahoe Basin watershed, and is thus responsible for many priority projects. Within a unique regulatory environment, the LTBMU fulfills many traditional National Forest roles, as well as many that are more specific to the Basin.

Vegetation and Fuels Management

The LTBMU continues work to reduce hazardous forest fuels and overly dense forest stands, to reduce wildfire risks to communities, watersheds, water quality, wildlife habitats and other resources.

Fuels reduction work is often a necessary first step in returning forest stands to healthier and more diverse conditions. In order to reduce the threat of catastrophic wildfire, fuels reduction work will continue to comprise a large portion of the annual LTBMU program of work.

From 2006 to 2008 the Forest Service spent \$16.7 million in SNPLMA funds and \$1.68 million in appropriated funds on vegetation and fuels management activities in the highest priority area of the Basin - the Wildland Urban Interface zone. The completion of the Forest Service Stewardship Fireshed Assessment and the Lake Tahoe Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy in December 2007 improved coordination among 16 partner agencies in planning and implementation of fuels reduction work throughout the Basin. The Forest Service passed through more than \$2.63 million in funding to the states of California and Nevada over this timeframe to assist in completing fuel reduction treatments identified in the Strategy.

National Environmental Policy Act (NEPA) planning on the LTBMU resulted in the following three decisions with a fourth decision pending for hazardous fuels reduction and thinning, all of which include treatments within Stream Environment Zones (SEZs):

- Round Hill Project analyzed 3,800 acres and identified 956 acres for treatment
- Lake Tahoe Basin Ecosystem Underburn Project conducted a NEPA analysis for the use of prescribed underburning in areas throughout the Basin where forest thinning has been conducted or is planned
- Heavenly SEZ Demo Project analyzed 53 acres and identified 23 acres to be treated
- South Shore Project (NEPA currently in progress and document being prepared jointly with Lahontan Regional Water Quality Control Board) analyzed 87,000 acres and identified approximately 10,000 acres to be treated

The Forest Service conducted a total of 7,304 acres of initial vegetation and fuel reduction treatment, of which 880 acres were on urban lots. Additionally, 2,721 acres were treated throughout the Basin using prescribed fire, primarily pile burning. The projects included the Ward, Quail, Slaughterhouse Canyon, Kingsbury, and Round Hill forest health and hazardous fuels reduction projects. Although not required by contract, each of the contractors that removed thinned or surface fuel material from these projects delivered biomass to local and regional facilities.



Heavenly SEZ Before Treatment



Heavenly SEZ After Treatment

Other significant projects included the Heavenly SEZ Demonstration Project, which used mechanical equipment to remove high amounts of surface fuels and thin white fir and lodgepole pine in order to reduce fuels, improve forest health, and enhance riparian habitat. Results of the project were favorable, and successful techniques used in the project will be applied to SEZs in the South Shore Fuels Reduction and Healthy Forest Restoration Project.

Recreation, Lands and Conservation Education

Annually, between three and four million recreation visits take place on LTBMU lands, and the Basin is known world-wide as a year-round recreation destination. Numerous resorts and developed recreation facilities operate under special use permits with the Forest Service, contributing significantly to the local economy.

The LTBMU has the highest per-acre visitor use in the National Forest System. Recreation uses and pressures are both diverse and dynamic. Management challenges include intensive wilderness use, high urban density, complex community interfaces with access corridors into forest lands, and competition among uses and user groups.

In providing the public with quality recreation experiences, the LTBMU provides infrastructure, information, and access to recreation opportunities. The following program highlights during FY 2006-2008 illustrate the ongoing commitment of the LTBMU in managing recreation areas.

Recreation Facilities

LTBMU recreation facilities at Lake Tahoe are in high demand, and maintaining and upgrading these facilities is important in addressing increasing and changing demands of the public.

Summer recreation facilities available to the public within LTBMU include four lakeside resorts, eight campgrounds, 11 developed beaches and picnic areas, and six trailheads serving Desolation Wilderness. The resorts, campgrounds and picnic areas are operated primarily by concessionaires under special use permit. Winter recreation opportunities on LTBMU lands include downhill skiing and snowboarding at the Heavenly, Alpine Meadows, and Diamond Peak ski resorts. Cross country skiing, sledding, tubing and snowmobiling opportunities are also provided by concessionaires through special use permit.

The Pope Beach Parking Area Site BMP Rehabilitation Project reconfigured the eastern portion of the parking area of this popular day use facility. The project involved paving the parking area and installing a storm water conveyance valley gutter, oil-water separating catch basins, and concrete curbs to delineate landscape planting areas within the parking lot. Additionally, approximately 300 linear feet of road and the existing vehicle turn-around loop were removed from Pope Marsh and a new vehicle turn-around was constructed, removing 0.6 acres of coverage from the marsh. The project also constructed pedestrian access paths to the area's public restrooms, and installed vehicle control bollards and boulder barriers.



Storm water management BMPs at Pope Beach

Meeks Bay Highway Corridor BMP Upgrade leveraged SNPLMA funds, Granger-Thye permit fee offset funds, and USFS Capital Improvement Project funds to reconfigure the resort campground and bring it into compliance with water quality protection BMP standards and universal accessibility objectives. Unimproved campsite parking spurs were paved to control surface storm water run off and prevent soil erosion and sediment production. Substandard utility services were brought to compliance with national and local regulations. Campsites were relocated out of sensitive stream environment zones and these areas were decompacted and seeded with native seed mixes.

Camp Richardson Resort Vision Plan was prepared by the LTBMU in collaboration with the resort permittee and provides a framework that outlines the general intent and direction for resort improvements. The Plan identifies the environmental and facility issues currently facing the resort including a lack of water quality protection BMPs, facilities that lack universal accessibility amenities and have a substantial deferred maintenance backlog, traffic congestion during peak use seasons, and historic resources that contribute to the resort's eligibility status for listing on the National Register of Historic Properties. The Plan identifies strategies for addressing these issues into the future. The "vision" for the resort is that it actively manages and conserves its historical and environmental setting to provide an economically successful family-oriented destination resort and recreation opportunities that can evolve and adapt to future needs.

Logan Shoals Overlook, north of Cave Rock, was retrofitted to reduce soil compaction and erosion, and to provide universally accessible opportunities to all visitors. The site was re-graded and paved to meet accessibility standards and control surface storm water run off. Existing areas of soil compaction were reduced, decompacted, and seeded with native seed mix. Barriers were placed to help define the intended use area and discourage user-created trails leading to the lake.

Zephyr Cove Corral Initial Hydrologic Assessment was completed in 2008 to determine whether and how the existing Zephyr Cove Corral facility and trails could be upgraded to bring the facility into water quality compliance consistent with the Lake Tahoe Basin Management Unit, Nevada Department of Environmental Protection and Tahoe Regional Planning Agency Basin plans. An environmental analysis will be initiated and completed in 2010 to determine how use should be managed to provide an appropriate level of recreation opportunity, while protecting other ecological resources.

Land Acquisitions

Land acquisition continues to be important in increasing access to recreation opportunities, as well as reducing the potential development of areas in protecting natural resources in the Basin.

During FY 2006-2008 the LTBMU has acquired 56.23 acres of environmentally sensitive lands within the Lake Tahoe Basin using funds from the Santini-Burton Program. The LTBMU also acquired the 754-acre Incline Lake Parcel, using SNPLMA funds.

Conservation Education

The LTBMU conservation education program is focused on increasing youth and adult environmental literacy about forests and natural resources in the Basin in support of the Forest Service mission. The LTBMU has worked with partners and volunteers to deliver programs in two focus areas:

- Support and enhance public awareness of the EIP and SNPLMA project accomplishments through a thematic educational approach that serves schools and the local community
- Address key Forest Service messages and staff initiatives such as Kids in the Woods, Climate Change, Water, etc.

Transportation and Trails

The environmental impacts of transportation are a major concern in the Lake Tahoe Basin. Vehicle emissions and road dust are major factors in air and water pollution. Transportation facilities and users have impacts on other resource areas as well, including wildlife, vegetation, recreation, and noise. Another high priority for the LTBMU is creating trails systems that meet user needs while reducing water quality impacts.

During FY06 through FY08, the LTBMU made considerable advancements in mitigating transportation and developing outdoor recreation uses, including:

- Continued to sponsor the Emerald Bay Trolley to reduce the use of individual passenger vehicles to access Forest Service facilities on the West Shore
- Decommissioned 18 miles of trails to improve watershed conditions and water quality

- Constructed 12 miles of trails to improve the basin-wide trail system through consolidation of trails use, redesign of existing trails, and rerouting from sensitive areas
- Reconstructed 25 miles of existing trail to improve and enhance the regional day use, and implement best management practices (BMPs) to improve watershed conditions

The following selection of project summaries and photographs are presented to represent transportation and trails accomplishments during FY06 through FY08:

West Shore Transit provides transit to Forest Service developed recreation sites on the South and West Shores of Lake Tahoe. Sites along this route are Pope Beach, Camp Richardson Resort, Tallac Historic Site, Taylor Creek Visitor Center, Baldwin Beach, Inspiration Point, Eagle Falls Trailhead, Meeks Bay Campground, Meeks Bay Resort, Meeks Bay Trailhead, Kaspian Picnic Area, Kaspian Campground, William Kent Beach, William Kent Campground and 64 Acres Recreation Area. Funding is used for a grant to TRPA to contract with local transportation districts to provide bus and trolley services.

Ridership on the Emerald Bay Trolley between South Shore and Emerald Bay increased from 21,634 passengers in 2005 to 42,003 passengers in 2007. Ridership decreased in 2008 to 31,927, most likely due to an overall decrease in visitation to the Lake. Ridership on the Emerald Bay Shuttle between Tahoe City and Emerald Bay grew from 4,011 passengers in 2006 to 9,273 in 2008.

Hawley Grade Slide Repair reconstructed a section of the Hawley Grade National Recreation Trail damaged by a landslide in 1997 after a torrential rain on snow event. The area would have been prone to slide again so a geotechnical engineer was consulted and designs developed to stabilize the slope and reconstruct the trail.



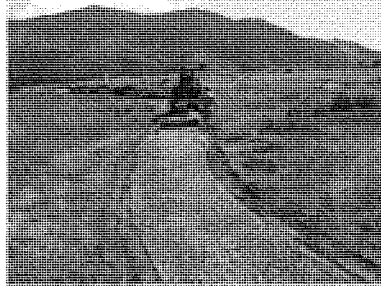
Hawley Grade slide



Hawley Grade repaired trail

The North Shore Trail ATM project upgraded the existing trail system to protect water quality and resources, by designing a sustainable trail system that accommodates current and future use. The LTBMU conducted resource surveys and watershed modeling to develop ideal design criteria specific to the conditions at Lake Tahoe. In addition, the project analysis took into account types and patterns of use to develop a trail system that would meet user needs and reduce the occurrence of user created trails.

Lam Watah Trail Reconstruction upgraded this heavily used interpretive urban trail, originally constructed in the 1970s. A bridge crossing of a shallow creek had become ineffective due to changes in the stream dynamics to multiple braided channels through a meadow. The project replaced the bridge with a 165 foot boardwalk spanning the meadow and floodplain. Additionally, trailhead parking was paved and BMPs were installed to improve water quality.

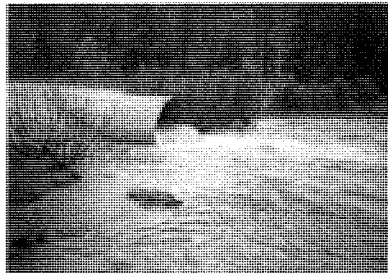


Lam Watah trail reconstruction

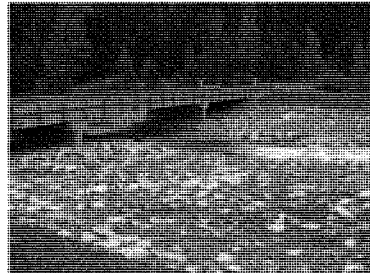


Lam Watah boardwalk repairs

The Blackwood Canyon Bridge Project included the decommissioning of a failing culvert and road crossing of Blackwood Creek. The culvert was a fish passage barrier and inhibited the natural transport of coarse sediment along Blackwood Creek, resulting in the degradation of channel conditions downstream. The new bridge was designed to pass the 100-year flood, remove the fish passage barrier at the road crossing, and restore the natural function of Blackwood Creek downstream of the road crossing.



Pre project Blackwood Creek culvert



Post project Blackwood Creek bridge

The Freel & Meiss Trail BMP projects were intended to upgrade these existing trail systems to protect water quality and resources, by establishing a sustainable trail system that meets current and future use needs. The LTBMU partnered with the Great Basin Institute/Nevada Conservation Corps. In addition, the Tahoe Rim Trail Association contributed significant volunteer workforces and as a result actual accomplishments were greater than planned.

Ecosystem Restoration and Conservation

A principle reason for the establishment of the LTBMU was for the restoration and protection of the sensitive watershed system within the Basin. The program of work during

FY 2006-2008 includes numerous projects and activities to restore, conserve and monitor progress in watershed, habitat, fisheries, and stream system restoration and conservation efforts. These activities have direct benefit to water quality, lake clarity and ecosystem integrity.

Erosion Control

The Forest Service has awarded funds to local governments for urban stormwater treatment and erosion control projects on the EIP list for FY06, FY07, and FY08. The funding amount for administration and grant awards was \$10 million for each fiscal year and grantees included Placer, El Dorado, Washoe, and Douglas Counties, City of South Lake Tahoe, South Tahoe Public Utility District, and Nevada Tahoe Conservation District. The Forest Service grants funded portions or phases of 34 different projects designed to reduce pollutants from urban stormwater runoff. These projects include both planning and implementation for stormwater capture and treatment improvements, slope stabilization and revegetation, and stream and floodplain restoration.

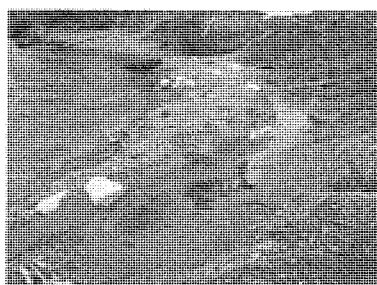
Stream, Meadow, and Aspen Restoration

In 2008, the Forest Service completed the planning and design process for the Blackwood Creek Phase IIIA and IIIB stream channel restoration projects, which will restore 1.5 miles of stream channel and 75 acres of floodplain. The purpose of these projects is to reconstruct channel reaches that have become incised and disconnected from their adjacent floodplains as a result of past land use (grazing, logging, and gravel mining). Reconstructing these stream channels is expected reduce channel erosion, increase floodplain deposition of fine sediments and nutrients, and improve aquatic and riparian habitat. The Blackwood watershed is currently considered to be the single highest producer of sediment to Lake Tahoe per watershed acre.

In September of 2008, the Forest Service constructed 30 percent of the restoration prescriptions planned for the Blackwood Creek Phase IIIB stream channel and floodplain restoration project. Completion of the Phase IIIB project is scheduled for 2009, and the Phase IIIA Project in 2010.



Rock-log flow deflection structure #2, and in-channel fish habitat structures in Blackwood Creek (looking downstream)



Deposition of fine sediment after 2009 spring flood events within inset floodplain of rock-log flow deflection structure#2 in Blackwood Creek (looking upstream).

Preliminary planning and design was also initiated on two other large scale stream channel/floodplain restoration projects, Cold Creek in High Meadows and the Upper Truckee River Sunset Reach. In addition, substantial planning and design was accomplished for a variety of meadow and aspen restoration projects throughout the Lake Tahoe Basin, including the Big Meadow and Meeks Meadow restoration projects. These projects will rely on a combination of hand thinning and prescribed burning, to improve the health of these unique ecosystems. Aspen restoration was implemented in the Blackwood watershed in 2008.

Plant and Animal Species Conservation

Tahoe yellow cress (TYC) is a plant that is found only on the shores of Lake Tahoe and is identified as a candidate species for listing under the Endangered Species Act (ESA) of 1973. A *Tahoe Yellow Cress Conservation Strategy* was created in partnership with the U.S. Fish and Wildlife Service, the Tahoe Regional Planning Agency and state agencies to enhance and stabilize the existing occurrences of this species through habitat protection and adaptive management. This vital conservation strategy also includes partnerships with lakeshore homeowners associations.

Lahontan cutthroat trout (LCT) is the only native salmonid species in the Lake Tahoe Basin and is a threatened species under the ESA. LCT was re-introduced to the Upper Truckee River headwaters (Meiss Meadow) in the late 1980s and early 1990s. This effort is critical to preservation and potential expansion of the species.



Crews electrofishing non-native fish in efforts to restore LCT populations

In 2006, 2007 and 2008, non-native brook trout were removed from a total of six miles of stream in the Upper Truckee River headwaters. Young-of-the-year LCT individuals were discovered in each year. In 2007, a total of four miles of stream were treated in the Upper Truckee River headwaters (Meiss Meadow). In 2008 fish removal efforts in the Upper Truckee River LCT expansion area was initiated. Fish removal efforts are led by the Forest Service and California Department of Fish and Game (CDFG) and supported by volunteer organizations during implementation.

Sierra Nevada (Mountain) yellow-legged frog (SNYLF) project was initiated in 2008 to restore the range of SNYLF in the Desolation Wilderness by reclaiming 12 acres of lake and 0.75 miles of stream habitat. During FY08, NEPA was completed on fish removal in seven Desolation Wilderness lakes (69 total acres) adjacent to a SNYLF source population on the Eldorado National Forest. To date, the LTBMU has conducted manual removal of introduced, non-native fish using monofilament gill nets in Tamarack, Ralston and Cagwin lakes.



Non-native trout removal implementation as part of SNYLF restoration

Terrestrial and Aquatic Invasive Species & Noxious Weeds

Noxious Weeds have been addressed through a comprehensive invasive plant program over the last seven years. The primary invasive plant species on the LTBMU are: Cheatgrass, Tall whitetop, Oxeye daisy, Dalmation toadflax, Musk thistle, Canada thistle and Bull thistle. All of these weeds with the exception of Cheatgrass are treated by hand pulling, with a target of 75 acres treated each year. A rapid response program monitors existing sites and identifies new infestations.

Aquatic Invasive Species (AIS) are a top priority in the Lake Tahoe watershed. The Lake Tahoe Aquatic Invasive Species Working Group (LTAISWG) is a diverse group of agencies (federal, state, county), community members and scientists dedicated to early detection and rapid response, prevention and control of AIS. The LTBMU plays a key part of the LTAISWG by initiating prevention measures at Forest Service recreation facilities and leading the Tahoe Keys Warm Water Species Eradication and Control subcommittee. The objective of the LTBMU AIS program is to prevent the unwanted introduction of quagga mussel, zebra mussel, New Zealand mudsnail, Eurasian milfoil, curlyleaf pondweed and warm water fishes (i.e. largemouth bass) into Lake Tahoe Basin waterbodies.

The first phase of the 2008 LTBMU AIS rapid response was to heighten public awareness about the consequences of AIS and prevention measures for both trailered boats and small watercraft such as kayaks. The second phase was to install a portable boat wash station at Meeks Bay Campground and Marina. The third phase was to develop a modified boat inspection form for small watercraft, gauging the risk each small watercraft had of introducing AIS.

The effort put into AIS prevention by the LTAISWG resulted in over 17,000 boat inspections. On August 22, 2008, a boat carrying a high density of attached quagga mussels from Lake Mead was detected prior to launching by boat inspectors at Tahoe Keys Marina. LTBMU concessionaires engaged an estimated 60,000 people about AIS.

Resource Inventories & Scientific Studies

The LTBMU partners with federal, state, and local agencies, as well as universities and research institutes to conduct resource inventories and scientific studies. These efforts result in a diverse range of data products that feed multiple scales of reporting (i.e. national, regional, range-wide, basin-wide, forest-wide, and local needs). The following are examples of accomplishments between FY06 and FY08:

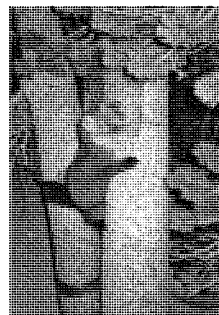
Biological Resources

- Completion of a northern goshawk nesting territory habitat assessment that will help guide late seral forest habitat restoration
- Identification of occupied bat roosts in abandoned mines
- Population and habitat inventories for sensitive species (e.g. Willow flycatcher, Osprey, Bald Eagle, Northern goshawk, California spotted owl, Mountain Beaver, Townsend's Big-eared Bat, Tahoe Yellow Cress, Sierra Nevada (mountain) yellow-legged frog, Peregrine Falcon, Lahontan cutthroat trout, sensitive & rare plants, fens and rare communities/habitats)

- Development and implementation of a 10-year plan to address listed species occurrence and long-term trends at the Forest level
- Re-delineation of California spotted owl and northern goshawk Protected Activity Centers and Home Range Core Areas
- Angora Burn Area – post-wildfire resource monitoring

Soil and Water Resources

- Stream channel restoration effectiveness monitoring
- BMP implementation and effectiveness monitoring of forest management activities
- Soil Quality Monitoring for Fuels Management Activities and Wildfire
- Air Quality Monitoring



Baited camera station detects an American marten

The LTBMU has produced a number of reports documenting the efforts and results of the Forest inventory and monitoring program. A total of 20 FY06 – FY08 reports are posted on the LTBMU website and available at <http://www.fs.fed.us/r5/lbmu/publications/>. The LTBMU also funded the research study, Evaluation of Wildfire and Prescribed Fire Effects on Water Quality, Final Project Report - UNR, 2008 (PDF 726 KB), evaluating the effects of fire on water quality.

Adaptive Management Framework

Phase III of the Adaptive Management Framework (AMF) development was completed in FY06 and Phase IV, the final component, was launched in FY07. The purpose of the AMF program is to design and implement a multi-agency operated system for monitoring the progress toward achieving the goals and standards defined in the LTBMU Forest Plan, TRPA Regional Plan, and the Lahontan Regional Water Quality Board and Nevada Department of Environmental Protection Basin plans. TRPA has been the lead agency in this effort, funded by a Forest Service SNPLMA grant.

This Adaptive Management Plan identifies key issue areas and monitoring needs related to lake clarity, aquatic, meadow, and riparian ecosystems, general and old forest ecosystems, fire and fuels, noxious weeds, and human resources. It also identifies current data gaps and management questions that need to be addressed by special studies and research.

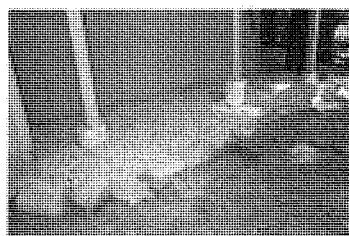


Natural Resources Conservation Service

The USDA Natural Resources Conservation Service's (NRCS) natural resources conservation programs help people reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters. The NRCS continues to assist in the implementation of Environmental Improvement Program through a number of its program areas.

Best Management Practices

The NRCS works in partnership with the Tahoe Resource Conservation District and the Nevada Tahoe Conservation District to deliver the Backyard Conservation Program to thousands of private landowners in the Lake Tahoe Basin each year. This program provides technical assistance for BMP Retrofit and other conservation issues vital to Lake Tahoe's future.

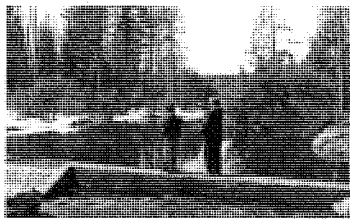


Gravel armor protecting the soil under the drip line of a roof

The EIP Best Management Practices Retrofit Project focuses on residential properties. This project reduces urban storm water runoff from developed private homesites, a significant contributor of fine sediments and nutrients to Lake Tahoe. Science is now showing that fine sediment is the cause for approximately two thirds of lake clarity loss and current models are estimating close to 70% of the fine sediment is coming from the urban uplands. For these reasons, residential BMPs continue to be a crucial element in preserving lake clarity.

Between FY06 and FY08, Backyard Conservation partnership assisted nearly 8,500 property owners, which will result in an estimated reduction of 9,400 tons of sediment from soil erosion.

Burton-Polaris Creek Watershed Assessment



Natural Resource Manager Steve Hill discusses the Burton Creek Watershed with Arturo Cerezo as they stand atop the dam at Antone Meadows

The NRCS, in cooperation with the Friends of Burton Creek, the California Department of Parks and Recreation, the U.S. Forest Service Lake Tahoe Basin Management Unit, and the California Tahoe Conservancy, is conducting a comprehensive ecosystem assessment on the Burton and Polaris Creek watersheds. This assessment will investigate all aspects of ecosystem function within the watersheds. The assessment will help partner agencies develop restoration plans for their lands that restore ecosystem function in a collaborative and integrated fashion.

Tahoe Yellow Cress

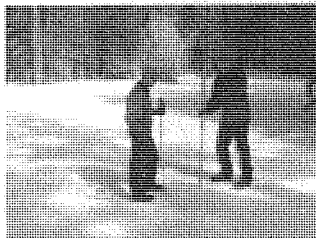
Creating voluntary opportunities for private lakefront property owners to maintain or improve Tahoe Yellow Cress populations is the primary goal of this program. NRCS works with landowners to develop stewardship plans, describing how the landowner may safeguard Tahoe Yellow Cress populations or habitat that exists on their property.

Soil Survey Update of the Tahoe Basin

The update of the 1974 Soil Survey of the Tahoe Basin, California and Nevada was published in 2007. The update process resulted in the identification of close to forty new soil types in the Tahoe Basin, and the soil maps show about twice the amount of detail. Furthermore, the update process included the correlation of ecological sites with soil types, thus providing vegetation information on a basin wide scale. The soil survey is integral for various science and research models, EIP, and planning efforts including BMPs. The survey is available on the internet at the following address: [http://soildatamart.nrcs.usda.gov/Manuscripts/CA69 3/0/Tahoe_CA.pdf](http://soildatamart.nrcs.usda.gov/Manuscripts/CA69%203/0/Tahoe_CA.pdf).

Snow Survey Program

Annually, NRCS maintains and monitors 16 data collection sites in the Lake Tahoe Basin to capture real-time data on snow accumulation and water supply, to better forecast and manage seasonal fluctuations. Eight sites report hourly data available on the internet. Researchers, program managers, and the public have access to the historical and real time data on the internet. The address is at <http://www.nv.nrcs.usda.gov/snow>.



*District
Conservationist
Wendy Loftis
and Engineer
Chuck Taylor
measure the
snow pack at
Fossil Bench*

Technical Assistance to Private Landowners

The South Lake Tahoe NCRS Field Office offers technical assistance to residents wishing to participate in national Farm Bill Programs, such as the Environmental Quality Improvement Program (EQIP) and the Wildlife Habitat Improvement Program (WHIP), which support conservation and restoration projects on private lands.

NRCS also provides engineering assistance to technical advisory committees for Nevada Tahoe Bond Act funded EIP projects for local erosion control and stream restoration.



U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (Corps) Civil Works environmental program has two major focus areas: protection and restoration, and stewardship. Efforts in both areas are guided by the Corps environmental operating principles, which help us balance economic and environmental concerns. Since the last FIP progress report, the Corps has concentrated on partnering with non-federal agencies in stream environment zone (SEZ) restoration and providing technical assistance on work which other partners have insufficient authority or resources to accomplish. These technical products influence urban storm water practices, wastewater treatment and export practices, and build collaborative capacity for decision making. These products are coordinated with stakeholders to insure the work compliments overall restoration efforts.

Restoration Projects

Restoration projects implemented by the Corps in FY06, FY07, and FY08 are highlighted below.

Angora Fire Restoration

In partnership with State of California, the Corps is providing \$1.5 million in assistance for the restoration of public non-federal lands devastated by the Angora Fire.

Incline and Third Creek

In a collaborative effort with State of Nevada and Incline Village General Improvement District, 3500 linear feet of the Third Creek and Incline Creek were restored, including fish habitat and passage improvements.

Upper Truckee River Airport Reach and Sunset Reach

In partnership with the State of California, the Corps conducted major reconstruction and restoration of 4000 linear feet of the Upper Truckee River at the Airport Reach and 4900 linear feet of the Upper Truckee River at the Sunset Reach.

Lake Forest Meadow Restoration

In partnership with the State of California, major reconstruction and restoration of 44 acres of wet meadow in Placer County was accomplished.

North Canyon Creek Restoration

Analysis and design for restoration of portion of North Canyon Creek in Spooner Lake State Park was conducted in partnership with the State of Nevada.

Mill Creek

A high water diversion structure was constructed to allow return to natural water flow conditions and passive restoration to 3500 linear feet of SEZ in partnership with the State of Nevada and Incline Village General Improvement District.

Lower Blackwood Creek Restoration

The Corps worked collaboratively with the State of California to restore 4600 linear feet of the lower Blackwood Creek just above Highway 89.

Aquatic Invasive Species (AIS)

In partnership with other federal agencies, the states of California and Nevada, TRPA, local agencies, and academic institutions, the Corps implemented a broad range of AIS actions, including a comprehensive AIS Management Plan, boat inspections, boat decontamination stations, baseline surveys, economic studies, bench scale laboratory testing, sampling, and outreach and education.

Urban Storm Water Technical Assistance

Working in partnership with other federal agencies, the states of Nevada and California, TRPA, local agencies, and private entities, provide technical assistance that informs and facilitates the planning, design, and operations and maintenance of urban stormwater projects. This work includes fundamental components of the Total Maximum Daily Load program (TMDL). Specific project success includes development of the Pollutant Load Reduction Model (PLRM), the Load Reduction Planning Tool (LRPT), TMDL Tracking and Accounting System, stormwater project operation & maintenance Rapid Assessment Methodology (BMP RAM), load reduction master planning for the Placer County urban core, update of the best management practices handbook, development of improved hydrologic design criteria, and examination of the feasibility of advanced treatment technology in the treatment of stormwater waste streams.

Collaborative Capacity

The Corps works primarily “behind the scenes” in a continuing effort to increase the collaborative decision making capacity in the Lake Tahoe Basin. Efforts have included the development of community sustainability standards, Pathway Regional Master Planning, initialization of the Tahoe Science Agency Coordination Committee (TSACC), Storm Water Quality Improvement Committee (SWQIC), and urban lot scale defensible space scoring system.

Wastewater Infrastructure Partnership

The Corps has been working with the eight wastewater infrastructure districts to establish a formal partnership to better integrate infrastructure capital replacement and rehabilitation into the EIP. This work continues into 2009 with unified project identification, project prioritization, and common technical standards, and a GIS system for asset location and to speed repair and lessen the probability of overflows.

Regulatory Function

The Corps executes Section 10 and Section 404 permitting actions in the Lake Tahoe Basin using a General Permit that recognizes TRPA regulatory review and approval for common projects. The General Permits allows for a streamlined regulatory approach without lessening protection of the environment or safety.



Bureau of Reclamation

The U.S. Bureau of Reclamation (Reclamation) operates the Lake Tahoe Dam and controls the top six feet of the lake. The Reclamation mission is to assist in meeting the increasing water demands of the West while protecting the environment and the public's investment in these structures. Since 1997, the agency has been actively involved in restoration activities that enhance the environment, improve water quality, and protect the beneficial uses of Lake Tahoe Basin water.

Upper Truckee River

Reclamation has continued to work with state and local agencies to restore portions of the Upper Truckee River, which is one of the highest total contributing tributary of sediment and nutrients to the Lake. Reclamation funding has also contributed to remote sensing and modeling, assessment, design, and environmental documentation of river restoration projects.

Reaches 3 and 4 (Airport Reach)

In cooperation with the California Tahoe Conservancy and the City of South Lake Tahoe, Reclamation is funding planning and construction of a river restoration project adjacent to the South Lake Tahoe airport which restores sinuosity and decreases channel capacity on over 4,500 linear feet of river channel, allowing the river to spread out onto its floodplain more frequently, thereby dissipating erosive energy and depositing sediment.



Bank of the Upper Truckee River continues to erode in Lake Valley

Lake Valley Reach

Reclamation continues to fund planning, environmental documentation and design of a restoration project along a reach of the river which flows through California Department of Parks and Recreation land near the community of Meyers. This area is currently developed as a golf course and the course turf extends to edge of the river. This results in increased bank erosion and a lack of riparian vegetation as indicated in the photo above. An EIS is being prepared to disclose the effects of a range of alternative actions and determine a course of action.

Upper Truckee River Marsh

In cooperation with the California Tahoe Conservancy, Reclamation has funded preparation of an EIS to develop and analyze a range of alternatives to restore the meadow and marsh areas at the mouths of the Upper Truckee River and Trout Creek. This project takes into consideration both restoration and recreation opportunities.

Aquatic Invasive Species

Reclamation has provided funds to the local Resource Conservation Districts to conduct aquatic invasive species control efforts and prevent introduction of new invasive species such as the quagga and zebra mussels. Reclamation has also funded research into the invasion of Lake Tahoe by Asian clams, their subsequent population expansion and methods of effective removal and control.

Rosewood Creek

In partnership with the Nevada Tahoe Conservation District, Reclamation has funded planning, design and construction of a restoration project on Area F of the middle reach of Rosewood Creek in Incline Village, NV. In addition, planning and design was initiated on Area A, just above Highway 28 in Incline Village. This reach of Rosewood Creek is severely eroded and is continuing to erode.

Other Restoration Projects and Assistance

Reclamation has also provided funding for:

- Other stream environment zone restoration projects throughout the Basin
- Fire risk assessment and planning to lessen the risk of catastrophic wildfire and its impacts on water quality
- Water quality improvement projects including stormwater treatment and sediment source control
- Localized watershed assessments
- Fish passage improvements and other fisheries enhancement projects
- Restoration of Tahoe yellow cress populations
- Coordination of stakeholder input in drafting of the next phase of the EIP



U.S. Fish & Wildlife Service

The U. S. Fish and Wildlife Service (USFWS) is the principal federal agency responsible for conserving, protecting and enhancing fish, wildlife, and plants, as well as their habitats for the continuing benefit of the American people. In the Lake Tahoe Basin, the USFWS continues to work with federal, state, local entities, and private landowners to implement conservation projects.

Aquatic Invasive Species

The 2007 discovery of quagga mussels in Lake Havasu, Lake Mead, and the Colorado River Basin prompted rapid cooperation and action by regional, bi-state, and federal agencies and non-governmental organizations in the Lake Tahoe Region. These new threats, coupled with recent studies showing high incidence of boat traffic to Lake Tahoe from these areas, have prompted a tremendous ramping up of education and outreach campaigns, new local regulations to prevent accidental introduction, and increased control efforts and research on the biology and distribution of existing AIS populations.

In 2008, the USFWS established a full time AIS Coordinator position at Lake Tahoe. With the leadership of the Coordinator, the USFWS has been actively engaged with a wide-ranging, collaborative group to prevent, control and eradicate AIS in Lake Tahoe. Examples of accomplishments include:

- Formation of the Lake Tahoe AIS Coordination Committee and the Lake Tahoe AIS Working Group
- Organization of yearly workshops to prioritize AIS prevention, monitoring, control, education, and research efforts
- Development and implementation of a Vessel Inspection Program at Lake Tahoe
- Deployment of portable boat washing stations
- Control of invasive aquatic plants by use of diver-operated suction and benthic barriers
- Measurement of warm water fish behavior and diets in and around the Tahoe Keys
- AIS education and outreach activities
- Study of quagga mussel survivability
- Development of the Lake Tahoe Region AIS Management Plan

Lahontan cutthroat trout

The USFWS is working with the U.S. Forest Service, the Washoe Tribe, the Tahoe Regional Planning Agency and the states of California and Nevada to implement conservation and restoration measures to further recovery of the threatened Lahontan cutthroat trout and develop a sustainable native trout recreational fishery in Fallen Leaf Lake and Lake Tahoe. A Recovery Implementation Plan is near completion and will be used to guide future conservation actions in the two lake systems in coordination and collaboration with the basin community.

A population of Lahontan cutthroat trout native to the Tahoe Basin has been reintroduced into Fallen Leaf Lake. Lahontan National Fish Hatchery Complex houses a captive broodstock of this native strain. Propagation of this strain and reintroduction of the various life stages, from fertilized egg, fry, fingerlings to catchables, have been used for recovery actions, research, and recreational fishing in Fallen Leaf Lake. The comprehensive monitoring and research programs have focused on native and non-native species habitat utilization, overlap with the native trout, predation on the Lahontan cutthroat trout, identification of measures to suppress non-native trout negative impacts on the reintroduction effort, development of streamside incubation techniques to establish a naturally reproducing population in Glen Alpine Creek, and assessment of recreational fishing conditions. The recent research has been submitted and accepted for publication in the American Fishery Society North American Journal of Fishery Management.



Lahontan cutthroat trout eggs are being hatched in streamside incubators within Glen Alpine Creek with the hope that adults will imprint on the stream and return there to spawn when they mature.

Tahoe yellow cress

The USFWS continues to work with federal, state, local entities, and private landowners to implement a conservation strategy for the Tahoe yellow cress, a federal candidate plant endemic to the shoreline of Lake Tahoe. The goal is to reduce the threats to the species to the point that future listing will not be necessary.



U.S. Geological Survey

USGS provides scientific technical assistance, expertise, service and support to many agencies and groups in the Lake Tahoe Basin through the following committees: Tahoe Science Consortium (TSC), Lake Tahoe Interagency Monitoring Program (LTIMP), Upper Truckee Watershed Advisory Group, South Lake Tahoe Monitoring Project, Tahoe Integrated Information Management System (TIIMS) Oversight Committee, and the 2008 Lake Tahoe Science Symposium Planning Committee and other various outreach activities.

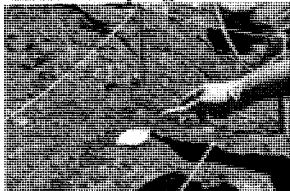
Scientific Studies and Research Projects

USGS Water (with both the Nevada and California Water Science Centers) and Geographic Disciplines are currently responding to environmental concerns within the Lake Tahoe Basin with several interdisciplinary scientific projects. Current and recent USGS studies in the Lake Tahoe Basin are summarized in a USGS Activities in the Lake Tahoe Basin Fact Sheet (<http://pubs.usgs.gov/fs/2005/3047/>).



USGS Water Discipline is involved with many projects, including stream, ground-water and lake monitoring. Nutrient, suspended-sediment, water-quality field parameters, and continuous and real-time stream flow data are collected currently at 19 sites. Historically a total of 32 stream monitoring sites were sampled. The stream monitoring is in cooperation with TRPA, University of California, Davis (UCD), and the LTBMU. This effort is an integral, consistent and reliable component of the LTIMP. These data are used to provide a consistent, long-term database and to identify loads and trends throughout the Basin. Data are stored, maintained and are readily available in the National Water Information System (NWIS) (<http://waterdata.usgs.gov/nv/nwis>) and are compiled annually in Water Resources Data reports <http://nevada.usgs.gov/ADR/index.htm>.

Runoff Sampling



Runoff from the 2002 Gondola Fire area and 2007 Angora Fire in the South Lake Tahoe area are being monitored under LTIMP. A new gauge and sampling site were established in late 2007 near the mouth of Angora Creek in cooperation with the USFS. This was in collaboration with UCD and DRI and other monitoring sites upstream. Ash and soil samples were also collected at 20 sites soon after the Angora

Fire and results were published in *Leachate Geochemical Results for Ash Samples from the June 2007 Angora Wildfire Near Lake Tahoe in Northern California*, available at <http://pubs.usgs.gov/of/2008/1170/>.

Groundwater Monitoring Study

A Groundwater Monitoring Study of the shallow groundwater in the South Lake Tahoe area was recently concluded to determine potential transport of contaminants. Results were published in a report, *Hydrologic and Water-Quality Responses in Shallow Ground Water Receiving Stormwater Runoff and Potential Transport of Contaminants to Lake Tahoe, California and Nevada, 2005-07* and is available at <http://pubs.usgs.gov/sir/2008/5162/>. A Groundwater inventory was also concluded in the Basin in cooperation with U.S. Forest Service. Results were published in *Hydrogeology of the Lake Tahoe Basin, California and Nevada*, available at <http://pubs.usgs.gov/sim/3063>.

The presence of manmade organic compounds was sampled at 10-20 Lake Tahoe monitoring sites in cooperation with TRPA in 2006 and 2007 and is planned again for 2009.

Published Reports

USGS Geography recently published two new reports from work in the Lake Tahoe Basin. The 2008 report is *Historical Orthoimagery of the Lake Tahoe Basin*, available at <http://pubs.usgs.gov/ds/376/>. The 2007 report is *Land-Cover Change in the Southern Lake Tahoe Basin, California and Nevada, 1940-2002*, available at <http://pubs.usgs.gov/sim/2007/2962/>. Further work on the Tahoe Decision Support System (TDSS) tool is near completion. This will further assist the TRPA with estimating the effects of policy decisions on local economic and environmental health.

The Lake Tahoe Data Clearinghouse (<http://tahoe.usgs.gov>) provides quick and easy access to Basin geospatial data and information and other Basin information.



Federal Highway Administration Federal Transit Administration

The U.S. Department of Transportation serves the United States by ensuring a fast, safe, efficient, accessible and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) work with State Departments of Transportation, Metropolitan Planning Organizations, other state and local government agencies, tribal governments, and the public to address surface transportation issues and help fund locally selected projects. The FHWA also works directly with other federal agencies through the Federal Lands Highway Program (FLHP). As part of the FLHP, the Lake Tahoe Basin Management Unit has created a transportation engineering position to work on the implementation of transportation improvements on U.S. Forest Service lands.

In 1999, the Tahoe Regional Planning Agency (TRPA) was designated as the Tahoe Metropolitan Planning Organization (TMPO) to address transportation and transit issues within the Lake Tahoe Region. An updated regional transportation plan, *Mobility 2030* (<http://www.tahoempower.org/rtp.aspx>), was approved in September 2008. Projects from the transportation program generally include roadway water quality improvements, safety work, transit vehicle and operations upgrades, and bicycle/pedestrian projects. TRPA/TMPO is also responsible for developing and maintaining the *Federal Transportation Improvement Program (FTIP)* (<http://www.tahoempower.org/ftip.aspx>), which includes a priority listing of funded projects within the four-year planning horizon. The FTIP assigns funding to locally selected projects and is coordinated with the Environmental Improvement Program (EIP) to maximize environmental benefit when implementing the goals of the regional transportation plan.

Transportation Projects

Several highway projects are included in the *Mobility 2030* regional transportation plan and FTIP to improve mobility and balance transportation needs with other community goals such as economic vitality and environmental preservation. Each of the projects listed below includes a combination of roadway improvements, bicycle and pedestrian friendly facilities, landscaping enhancements, and water quality improvements for both conveyance and treatment of roadway runoff prior to discharging into Lake Tahoe.



- U.S. Highway 50 Pedestrian & Bicycle Improvements
- U.S. Highway 50 Stateline Corridor Project
- Fanny Bridge / SR 89 Realignment Road Improvement Project
- State Route 28 / Kings Beach Commercial Core Improvements

Two key transit projects planned in the Tahoe Region include the Tahoe City Transit Center and Lake Tahoe Waterborne Transit. The Tahoe City Transit Center will provide a safe and convenient transit passenger boarding and transfer location to help reduce dependency on automobiles and decrease traffic congestion along the highway corridors in Tahoe. The Lake Tahoe Waterborne Transit project would connect the communities and shores of Lake Tahoe with reliable, safe and fully accessible passenger ferry service.

In addition to the projects listed above, both the California and Nevada Departments of Transportation have programs to implement water quality improvement measures along the state highway systems in the Lake Tahoe Basin to comply with National Pollutant Discharge Elimination System permit requirements and to achieve objectives for water quality identified in the EIP.



U.S. Environmental Protection Agency

The Environmental Protection Agency (EPA) leads the nation's environmental science, research, education and assessment efforts. The mission of the EPA is to protect human health and the environment, and they have played an important role in the Lake Tahoe Basin in contributing to EIP goals.

EPA continues to staff a person in the TRPA offices to help coordinate EPA's activities with the EIP, and to promote the integration of science into the EIP capital program.

Technical Assistance

The EPA provided Clean Water Act Section 319 funding in 2006-2008 through the states of California and Nevada for local erosion control projects and innovative stormwater treatment technology demonstration studies. Additionally, EPA used these funds in coordination with the TRPA and Nevada Tahoe Conservation District, to provide technical assistance to residential and commercial property owners in implementing BMPs.

Scientific Studies & Research

EPA provided technical assistance and funding to the Tahoe Science Consortium (TSC) to implement a science program for the Lake Tahoe Basin. The TSC has developed a long-term research plan (currently in publication), which will guide research and monitoring activities in the basin for the next ten years. EPA also provided assistance for the development and operation of the Tahoe Integrated Information Management System (TIIMS), to support EIP science and capital program data management and communications.

EPA also worked with the states of Nevada and California from 2002-2006 developing the Lake Tahoe TMDL to restore the lake's famed clarity. The TMDL (currently undergoing scientific peer review) has determined how much of the fine sediment and nutrients entering the lake will have to be reduced to achieve clarity standards, and a viable strategy for implementing these reductions. The TMDL will be used by the TRPA in setting water quality thresholds. EPA also funded numerous studies and projects to inform TMDL development and implementation.

Partnership oversight is provided by the **Tahoe Regional Executives (TREX)**, which consists of the regional administrators of the nine federal agencies. Day-to-day coordination and program-level implementation rests with the **Lake Tahoe Basin Executive Committee (LTBEC)**, which consists of the most senior local official for each agency.

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List of Acronyms

| AIS | Aquatic Invasive Species | SEZ | Stream Environment Zone |
|------------|--|--------|--|
| AMF | Adaptive Management Framework | SNPLMA | Southern Nevada Public Land Management Act |
| BMPs | Best Management Practices | SNYLF | Sierra Nevada (Mountain) Yellow-Legged Frog |
| CDFG | California Department of Fish And Game | SWQIC | Storm Water Quality Improvement Committee |
| EIP | Environmental Improvement Program | TDSS | Tahoe Decision Support System |
| EPA | U.S. Environmental Protection Agency | TIIMS | Tahoe Integrated Information Management System |
| EQIP | Environmental Quality Improvement Program | TMDL | Total Maximum Daily Load Program |
| ESA | Endangered Species Act | TMPO | Tahoe Metropolitan Planning Organization |
| FTIP | Federal Transportation Improvement Program | TREX | Tahoe Regional Executives |
| LCT | Lahontan Cutthroat Trout | TRPA | Tahoe Regional Planning Agency |
| LRPT | Load Reduction Planning Tool | TSAC | Tahoe Science Agency Coordination Committee |
| LRWQCB | Lahontan Regional Water Quality Control Board | TSC | Tahoe Science Consortium |
| LTAISWG | Lake Tahoe Aquatic Invasive Species Working Group | TWG | Tahoe Working Group |
| LTBEC | Lake Tahoe Basin Executive Committee | TYC | Tahoe Yellow Cress |
| LTBMU | Lake Tahoe Basin Management Unit | UCD | University of California Davis |
| LTFAC | Lake Tahoe Basin Federal Advisory Committee | USACE | U.S. Army Corps Of Engineers |
| LTIMP | Lake Tahoe Interagency Monitoring Program | USBR | U.S. Bureau of Reclamation |
| LTRA | Lake Tahoe Restoration Act | USDOT | U.S. Department of Transportation |
| NDEP | Nevada Division of Environmental Protection | USFHA | U.S. Federal Highway Administration |
| NEPA | National Environmental Policy Act | USFS | U.S. Forest Service |
| NRCS | Natural Resources Conservation Service | USFTA | U.S. Federal Transit Administration |
| NWIS | National Water Information System | USFWS | U.S. Fish And Wildlife Service |
| PLRM | Pollutant Load Reduction Model | USGS | U.S. Geological Survey |
| RMP | Rapid Assessment Methodology | WHIP | Wildlife Habitat Improvement Program |
| SAFETEA-LU | Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users | | |

SUMMARY OF INVESTMENTS OF THE LAKE TAHOE FEDERAL PARTNERSHIP FISCAL YEARS 1997-2008

[illegible]

Senator CARDIN [presiding]. Let me thank both of you for your testimony. And again, we apologize for the fact that as this hearing is going forward there are votes that are taking place on the Senate floor, and that is the reason why you see the Members coming in and out. So we appreciate your understanding and your patience as we move forward on this very important hearing. We do have a lot of witnesses, and we want to make sure that the record is complete.

Mr. Silva, I want to ask you first, just if we could, does the Administration support the S. 2724, the Lake Tahoe Restoration Act, and S. 2739, the Puget Sound Recovery Act of 2009? We have specific bills that have been filed, so we are interested in whether the Administration supports these bills, feel that they can be improved or modified or want to express concerns.

Mr. SILVA. Yes, Mr. Chairman, thank you very much.

We have looked at the bills that have come out. We understand they are still in process. We see some good things that we like. I mean, obviously, Lake Tahoe, I can tell you, I am from California. I have been there many times, and I agree with the Senator, it is a treasure there in California.

And we do support, especially in Lake Tahoe, the items that have been discussed already at length. One component I think that we are very pleased about is that our understanding of the bill is it would incorporate TMDLs into the region as a tool to drive some of these needed improvements in the area, so we very much like that component of the bill. And I will just leave it at that.

With respect to, I believe, the Puget Sound, we also—if I could, we also just have a draft right now at this point, and there are a couple of things that we like. I can tell you that we want to continue to working on the bill. There are some things that we see just in terms of working with the local governance and how EPA would work with the existing governance on the ground.

But again, with respect to funding, we feel that that is obviously very necessary in the Puget Sound area. But again, we just want to continue working with you more on the governance part of the bill.

Senator CARDIN. Let me follow up just on that. You mention Puget Sound. First of all, if there are specific suggestions you have, we just urge you to work with the Senators who are sponsoring these bills. The schedule here is unclear as to when we are likely to take up legislation, but we want to make sure that the Administration's views are well known prior to our acting on these bills. So if you could work with the Senators involved so that we at least don't have a slowdown because of drafting issues.

Mr. SILVA. No, no at all. We would be very happy to continue working with you on that, on those issues.

Senator CARDIN. Thank you.

In regards to the Great Lakes Interagency Task Force, do you see a benefit in the authorization of that initiative?

Mr. SILVA. Mr. Chairman, if I could, I have Cam Davis here with me today. He's a Senior Advisor to the Administrator for Great Lakes, and he could answer that question much better than I could, if he could, Mr. Chairman.

Senator CARDIN. Certainly.

Mr. SILVA. Thank you.

Mr. DAVIS. Thank you, Chairman Cardin. My name is Cameron Davis, Senior Adviser to EPA Administrator Lisa Jackson on Great Lakes issues.

The Interagency Task Force was created by Executive Order several years ago and has been very good. It has been very functional. I think we would like to see the functionality of it preserved for purposes of Great Lakes decisionmaking.

Senator CARDIN. Thank you.

I want to go back to Puget Sound for one moment because I am concerned about the appropriated funds under S. 2739. Fifty percent go directly to the Puget Sound Partnership. Is there a concern as to whether there is sufficient accountability in how those Federal funds would be used? There is no specific oversight spelled out in the statute. If you are not prepared to answer that now, that is fine, but I would like you to be able to come back to this Committee in regards to whether there is adequate accountability in the appropriation of funds.

Mr. SILVA. Yes, Mr. Chairman. Overall as we look at all these great water bodies, as we see increased funding, that is something we are looking at in terms of having better coordination of these efforts and how the money is spent and tracking the funding. So we would be happy to do that.

Senator CARDIN. I appreciate that.

Mr. Sherman, the Federal efforts to restore Lake Tahoe began in a coordinated manner in 1997 following President Clinton's Executive Order establishing the Lake Tahoe Federal Interagency Partnership legislation, including the Lake Tahoe Restoration Act and the Southern Nevada Public Lands Management Act provided additional support for Federal restoration efforts.

What have been the key successes of that effort over the past 12 years? And can we build on those successes as we look to reauthorize the Lake Tahoe Restoration Act?

Mr. SHERMAN. Senator, as I think a number of the earlier testimonies indicated, there has been significant progress made in terms of improving the clarity of the lake, the water quality of the lake, dealing with erosion control projects which cut down on sediments that were going into the lake. And we have done an enormous amount of work on the surrounding forest to try to reduce fuel buildup there, to increase the diversity and the health of the forest, all of which translates to helping water quality.

But I think the important thing is we need to keep this effort going. This needs to be a long-term sustained effort. And I am hopeful that through this bill there will be adequate flexibility to address emerging or growing challenges as we go forward.

But I think the structure of the bill and I think the past efforts that we had should serve this region well. The key problem we always have is having adequate resources to deal with this. And hopefully through these authorizations and subsequent appropriations the resources will be there to address these challenges.

Senator CARDIN. There is no question that resources are a key issue. I can speak first-hand in regards to the Chesapeake Bay Program. I am wondering whether—the effort being made here on each on these great water bodies is critically important. Each one

is important to its region and has national significance. I certainly applaud the efforts being made to in some cases codify the Federal partnership, in other cases reauthorize and expand.

Do we have any common themes that we should be looking to as we advance authorization for Federal partnerships with these programs? Some are requesting specific offices. Others are suggesting funding levels with more flexibility. Some have stronger expectation for enforcement than others, with giving tools for enforcement. Some just really want Federal money, I guess the image of having Federal legislation to protect the body of water.

Are there some common elements that we should be working toward and establishing how the Federal Government participates in a significant body of water?

Mr. SHERMAN. I can give you a couple of thoughts off the top of my head and follow it up with some written comments. I mean, one of the things that strikes me we need to really push with is collaboration. We have got to have collaboration with local stakeholders because with collaboration you can get the work done. You can avoid litigation and things like that. So I think collaboration is just essential.

I think that coordination between the different levels of government is critical here. Lake Tahoe is a great example of how the Federal Government has worked with the States of Nevada and California and worked with local and regional entities to collectively make these things happen.

So coordination and collaboration are important. Secretary Vilsack, as I mentioned in my testimony, has also talked about this all lands approach, at least from the Federal perspective. We can't just focus on Federal land. We have to focus on the relationship of Federal land to private lands and to State lands. So the all lands approach is important.

And I think, then, these issues protecting water bodies, at least from my perspective, often the link between forest health and protection of water quality has not always been there. I mean, but that is a critical link. If we have healthy forests, that goes a long way to protecting the water resources that we will need in this country.

There are approximately 100 million people in the United States who get their water from the national forests. And if we have catastrophic fires on our national forest, or we have forests that are not productive, we will have severe water quality problems.

So we have got to work very hard to protect the health of our forests, and that in turn obviously protects the clarity and the clean water nature that we are striving for.

Senator CARDIN. Mr. Silva, do you want to add anything to that?

Mr. SILVA. Yes. I just want to say in terms of these programs that we see—you see, most of them started at the National Estuary Program, you know, very, very localized. A lot of them, as you know, have multi-State jurisdictional issues. So a lot of them started really at the State level as local programs.

I think as they developed and the Federal Government came in to support those efforts, and so certainly when the Federal Government comes in, we have to be cognizant of the fact that they have been there for a while. These programs have existed in many cases

for a number of years. And so when we come in—I mean, I think the Federal part of it is the coordination at the Federal level. Federal agencies are involved. With that hopefully comes funding that can be used at the ground level.

I think once you get the funding, though, I think it is very important to establish good science and track the progress of those efforts; perhaps make adjustments as you are moving forward.

As you know, on the Chesapeake Bay, one of the key things is regulation. I mean at some point, you have to say OK, we have got funding. We know what we have to do. Let's go forward and do it. And sometimes it is not easy because you don't have the right regulatory tools in place.

But as I see it, I mean, all of these efforts, as I see it, have that in common. They start locally, the Federal Government comes in, provides assistance with funding. But again, once you get that funding, I think it is critical again to track the progress and really see how the funding is spent. And then if you are making progress, hopefully you can transfer it to other efforts in other parts of the country.

Senator CARDIN. Well, one of the things I am going to ask that we work collectively on, and that is between our Committee and the Agency, to have expectations of what we expect in these programs starting at the first levels for Federal participation.

I think, Mr. Sherman, when you say collaboration and coordination, I couldn't agree with you more. I think back about the Chesapeake Bay and that its signature was that we had all levels of government. We had the private sector. We had all the stakeholders that were involved in the process. So there was a buy-in, basically, and an open process.

I think all lands are important. I interpret that to mean that if you don't have all of the watershed jurisdictions included in the program, then you really don't have a comprehensive plan, and then I am not sure you are eligible for elevation for Federal partnership. So I think it needs to include all of the geographical areas that impact the watershed.

I appreciate what you said about the forest lands. That is absolutely true in the Chesapeake Bay watershed. The loss of the forest lands has been a huge problem, and the relationship between a healthy forest. I thought Senator Ensign's point about Lake Tahoe was a very telling point as the forestry has changed. It has gotten thicker. Well, thicker didn't necessarily mean better. So I think that is an important point.

And then, Mr. Silva, I couldn't agree with you more that you need to have accountability here somewhere. I mean, we are struggling with that in the Chesapeake Bay Program, as you know. And we appreciate the fact that the TMDL tool is being requested in Lake Tahoe.

Mr. SILVA. Lake Tahoe.

Senator CARDIN. That gives us at least a tool to be able to measure accountability and where we are heading. And of course in the Chesapeake Bay Program, we had that by court order, but we also had that as an effort in the restoration bill that has been filed by Senator Carper and myself and Senator Mikulski.

So I think we need to start looking at different levels and where, when you request Federal participation, whether it is the concentration of a Federal agency that will be responsible for that body of water, or whether it is Federal funding; there is an expectation that certain standards need to be met. And I think that might be helpful. Rather than having four or five different models out there, I think we can learn from what has been done in the past.

So I would just urge us to try to put that together as we move forward with the different legislative approaches on either reauthorizing or establishing a Federal partnership with water bodies in this country, significant water bodies in this country.

With that, thank you all very much. I appreciate your testimony.

We are now going to go to our second panel, where we have many of the expertise in regards to the specific bodies of water that have been the subject of this hearing: Patrick Wright, who has already been introduced, the Executive Director of the California Tahoe Conservancy; David Dicks, who is the Executive Director of the Puget Sound Partnership; Alexander "Pete" Grannis, Commissioner, New York State Department of Environmental Conservation; Debrah Marriott, the Executive Director of the Lower Columbia River Estuary Partnership; David Naftzger, Executive Director, Council of Great Lakes Governors; John Tauzel, Senior Associate Director of Public Policy, the New York Farm Bureau; and David Ullrich, Executive Director, Great Lakes and St. Lawrence Cities Initiative.

I think we are at the maximum size of a panel since the table would not hold more people. So we welcome you all here. Obviously, this is a very important hearing for the Committee, and we value your testimony, and we thank you very much for your patience in waiting for the panel to be called.

I am going to ask that you speak in the order in which I introduced you. Your entire statements will be made part of the record. You may proceed as you wish, starting with Mr. Wright.

**STATEMENT OF PATRICK WRIGHT, EXECUTIVE DIRECTOR,
CALIFORNIA TAHOE CONSERVANCY**

Mr. WRIGHT. Thank you, Senator Cardin, for inviting me here today to speak on behalf of the Lake Tahoe community. And in particular I want to thank Senators Boxer, Reid, Feinstein and Ensign for their strong bipartisan support in moving the Tahoe bill forward.

Clearly, like many of the other water bodies you are hearing from today, Lake Tahoe needs no introduction. It is truly one of the great water bodies of both the Nation and the world. But as you have heard repeatedly this morning, it has had its fair share of challenges, from runoff that clouds its fabled lake clarity to overstocked forests that threaten local communities.

And now we are faced with a brand new set of challenges in the basin, including the potentially devastating impact of aquatic invasive species and the already well documented impacts of climate change in the basin.

Fortunately, however, we are beginning to build a very strong track record in the basin in addressing these issues, and the Lake

Tahoe Restoration Act is the key to building upon that success. As my written testimony describes in more detail, we have come a long way in the 10 years since the first Lake Tahoe Restoration Act was authorized in 2000.

First, we have built a very strong bipartisan coalition at the local, State and Federal levels in support of our restoration plan. Second, we have managed to secure significant levels of non-Federal money. Together, State, local and even private investments have totaled over \$1 billion to match Federal levels of spending over the last decade.

And third, we have developed a detailed, comprehensive restoration plan backed by very highly advanced scientific tools, driven by the EPA's TMDL process, to pinpoint the key causes that affect lake clarity in the basin and the highest priority projects that will help turn the corner.

And finally and most important, we are getting projects done on the ground, and in doing so have managed to stabilize lake clarity in recent years after decades of fairly steep declines.

The Lake Tahoe Restoration Act we hope will provide the Federal leadership and funding to maintain the strong partnership and the bipartisan support behind it. It authorizes \$415 million for our highest priority projects.

Three Federal agencies are specifically singled out in the bill. The Forest Service, as the owner of over 75 percent of the land in the basin, has a special role in maintaining the health of its forests.

U.S. EPA has a key role, first in overseeing the basin's water quality plan, one of the most ambitious and successful in the Nation. And the U.S. Fish and Wildlife Service for its oversight of the Tahoe Regional Planning Agency's highly, highly important and aggressive effort to protect the basin against the spread of aquatic invasive species.

So in summary, the Tahoe Basin has all of those key elements that you mentioned that make these large scale restoration projects a success. We have a collaborative effort. We have good coordination among all the State, Federal and local agencies. We have a world class science program. We have a planning and tracking system that provides the accountability that all of our funders are looking for. And we have broad based public support in the basin.

And finally, I want to point out that the Lake Tahoe Restoration Act is not just an environmental bill. It is a jobs bill. It is an opportunity to not only protect an irreplaceable national asset, but to launch a new generation of projects that will be a model for sustainable development in an area that has been hit very hard by the recession. This bill is essential, therefore, to maintain the health of both the environment and the economy of the Lake Tahoe Basin.

And finally, I want to add, in response to Senator Boxer's very gracious comments and introduction, that like many of my colleagues here, I do have a great job, and I have a great job because of the incredible partnership that we have built in the Tahoe Basin to move this program forward. I am joined here today, for example, by Joanne Marchetta, the Executive Director of the Tahoe Regional Planning Agency, which was the Nation's first bi-State planning agency. In fact, it was founded on the very concept of bringing to-

gether a broad array of Federal agencies, two States, five counties, dozens of local jurisdictions who normally don't see eye to eye on anything, to come together in support of a comprehensive plan to protect this national treasure.

So I am delighted to be here on behalf of the whole Tahoe community to express our very strong support and appreciate your leadership in moving the bill forward.

[The prepared statement of Mr. Wright follows:]

Testimony of Patrick Wright
Executive Director
California Tahoe Conservancy

Senate Environment and Public Works Committee
February 24, 2010

Thank you for inviting me to testify in support of the reauthorization of the Lake Tahoe Restoration Act. I am testifying today on behalf of a broad coalition of state and local agencies and stakeholders in the Tahoe basin, who all strongly support this important legislation. We applaud the leadership of Senators Feinstein, Reid, Boxer, and Ensign in moving the bill forward.

Current and Future Threats to the Tahoe Basin

Lake Tahoe's spectacular clarity and alpine setting are recognized throughout the world. It is one of the largest, deepest, and clearest lakes on the planet, and its scenic vistas and recreational opportunities have made it a top national and international tourist destination for decades.

But like many national and international treasures, Lake Tahoe has suffered from the impacts of drought, poorly-planned developments, and other threats over the last generation. **Urban runoff** has decreased the lake's famed lake clarity, **overstocked forests** have dramatically increased the risk of catastrophic wildfire, and **limited public facilities and transit systems** are often unable to handle visitor needs and traffic in peak travel seasons.

While these challenges continue to be addressed, a new set of risks have also emerged to the environmental and economic health of the basin. The recent appearance of several **aquatic invasive species**, including the asian clam and several invasive weeds, threatens the ecological health of the lake, the quality of its beaches, and the drinking water supplies of local communities. An invasion of quagga mussels could further wreak havoc with the lake's ecosystem.

The growing impacts of **climate change** also pose a major threat to the environment and economy of the basin. Lake and basin air temperatures have risen significantly in recent years, and more precipitation is falling as rain rather than snow. If these trends continue, sediment-laden runoff will increase, and the basin's forests will become more susceptible to catastrophic wildfire, disease, and pests. These changes could also devastate the basin's tourist-dependent economy.

A Shared Responsibility

The federal government has a long history in responding to these and other threats to the environment and economy of the Lake Tahoe basin. Congress ratified the bi-state compact creating the Tahoe Regional Planning Agency (TRPA), the nation's first bi-state environmental planning agency, consolidated three national forests into the Lake Tahoe Basin Management Unit of the U.S. Forest Service, and passed numerous funding bills.

In 1997, President Clinton, in partnership with the two states and the local Tahoe community, launched a comprehensive restoration plan known as the Environmental Improvement Plan (EIP). The EIP is collaborative effort funded by federal, state, local, and private sources.

Federal funding: The federal share of the EIP has been provided primarily through the passage of the Lake Tahoe Restoration Act in 2000 and the Southern Nevada Public Lands Management Act in 2003. These and other sources have provided over \$40 million annually in federal funds to the basin during the last decade.

State funding: The states of California and Nevada have both been strong funding partners with the federal government in the Tahoe basin. The two states have invested over \$800 million in the basin during the last decade through the passage of various voter-approved bonds, and have worked closely with the federal agencies in developing a world-class science program to ensure that the funds are invested in top priority, cost-effective projects.

Local and private funding: Local and private contributions have also been one of the hallmarks of the EIP. Through investments in infrastructure to control polluted runoff from homes, businesses, and public facilities, local and private sources have contributed over \$300 million to the restoration plan in the last decade.

A Decade of Accomplishments

In total, the federal, state, local, and private partners have invested more than \$1.5 billion in EIP projects and programs since 1997. More than 270 large-scale public projects have been built, hundreds more are in the planning stages, and thousands of homeowners are doing their part through defensible space and runoff collection facilities on their properties.

The latest water quality data suggest that these investments are making a difference - a big difference. After decades of losing roughly a foot of visibility every year, the lake's clarity has stabilized in recent years. The basin's watersheds are being restored, its forests are beginning to recover, and its sediment-laden runoff is being captured from thousands of individual sources. Our key EIP accomplishments include:

- Completing stormwater projects that now treat runoff from 323 miles of city and county roads, 80 miles of USFS roads, and 26 miles of state highways;
- Restoring more than 14,000 acres of watersheds and wildlife habitat;
- Acquiring and conserving more than 3,000 acres of environmentally sensitive land;
- Treating or restoring more than 33,000 acres of forest lands; and
- Constructing or improving more than 20 transit facilities and 82 public recreational facilities.

Building upon more than \$50 million of investments in the basin's science program, we also have a new generation of scientific findings and analytic tools to guide our restoration efforts. The Tahoe Science Consortium, a partnership of the lead state and federal agencies and scientists from UC Davis, the

University of Nevada at Reno, and the Desert Research Institute, is developing some of the nation's most advanced models and other tools to prioritize and measure the effectiveness of our projects.

Looking Ahead - A Renewed Commitment

These accomplishments and scientific findings have set the stage for an updated plan and renewed commitments from each of our funding partners. In 2009, the Tahoe basin community of agencies, scientists, and stakeholders developed a comprehensive, \$2.5 billion update to the EIP, which calls for significant new investments in watershed restoration, forest health, aquatic invasive species management, and other high priority projects.

We have also worked hard to secure new funding commitments from our non-federal partners:

- Last year, **Nevada** enacted a \$100 million bond measure to provide its share of funding for the next decade;
- **California** voters will be asked to support a comprehensive water bond on the November 2010 ballot, which would provide over \$100 million to the California Tahoe Conservancy and significant levels of funding from other state agencies;
- **Local agencies** are sustaining their commitments to providing operations and maintenance of hundreds of local projects, even in the face of severe budget deficits; and
- The **private sector** in the basin has pledged to provide an additional \$250 million to implement their share of the EIP.

The Lake Tahoe Restoration Act of 2009

The Lake Tahoe Restoration Act of 2009 will provide the federal leadership and funding necessary to maintain this strong partnership. It would authorize \$415 million for the basin's highest priority projects and programs, including:

- **Stormwater management:** \$40 million for projects that capture and treat sediment from the basin's urbanized areas, the largest source of runoff that impacts lake clarity;
- **Watershed restoration:** \$32 million to restore the basin's watersheds and wildlife;
- **Fire risk reduction and forest management:** \$136 million for projects improve forest health and reduce the risk of catastrophic wildfire;
- **Invasive species management:** \$20 million for the basin's inspection, treatment, and prevention programs;
- **Lahontan Cutthroat Trout and other special status species:** \$20 million to restore the basin's keystone native species;
- **High priority projects:** \$136 million for the highest priority projects identified annually by the agencies, scientists, and stakeholders in the basin; and
- **Science:** \$30 million to support the basin's science program.

Federal Agency Roles in the LTRA

The bill continues to recognize the importance of continued funding for the **Forest Service**, the basin's largest landowner, which owns more than 75% of the land in the basin. Forest Service funding is essential to protect the health of the basin's forests and watersheds, and to reduce the risk of catastrophic wildfire. Consistent with the national vision recently announced by Agricultural Secretary Tom Vilsack, Tahoe's forests must also be managed to be more resilient to climate change and to open up nontraditional markets for climate storage and biomass energy.

But the bill also recognizes that the Forest Service alone cannot shoulder the federal responsibility for protecting and restoring the basin. Its federal partners at the **Environmental Protection Agency, the Fish and Wildlife Service, the Army Corps of Engineers, the Bureau of Reclamation, the Federal Highway Administration, and the Natural Resources Conservation Service** all have made significant investments in the basin, and all have important mandates to fulfill in the next decade. Accordingly, the bill calls for the President to annually develop a cross-cut budget to ensure that we have a coordinated federal funding strategy.

In particular, the bill provides a strong mandate for the **Environmental Protection Agency** to significantly increase its level of involvement and funding in the basin. Lake Tahoe has been designated as an Outstanding National Resource Water (ONRW), which is afforded the highest level of protection under the Clean Water Act, and the basin's water quality projects and programs are largely being guided by the development of a Clean Water Act and EPA-mandated water quality plan, known as a Total Maximum Daily Load (TMDL). The Tahoe TMDL is the largest, most expensive, and most scientifically rigorous TMDL in the western United States. It addresses both the significant water and air quality impacts on lake clarity and the ecological health of the Lake Tahoe basin.

The bill would authorize EPA to play a more active role in funding and overseeing a broad range of watershed management projects in the basin. But equally important, it directs EPA, in coordination with the other federal agencies, the states, and TRPA, to establish a comprehensive program to evaluate and report annually to Congress on our progress in restoring the health of the lake and the basin, and in implementing the provisions of this legislation. Building upon the success of the Tahoe Science Consortium, the bill requires EPA to oversee an interagency monitoring and evaluation plan, a comprehensive set of performance measures, independent scientific review processes, further development of scientific and data management tools, annual summaries of priorities and accomplishments, and a public education and outreach program – all to ensure that the highest priority and most cost-effective projects are being implemented.

Drawing from its extensive involvement in other large-scale collaborative watershed restoration efforts, including the Everglades, Chesapeake Bay, Great Lakes, EPA is well positioned to assume this leadership role in the Tahoe basin. As one of the great water bodies of the nation and world, Lake Tahoe is no less deserving of EPA funding, leadership, and support.

The bill also directs the **Fish and Wildlife Service** to lead one of the nation's most aggressive aquatic invasive species programs. The bill authorizes funding for a comprehensive inspection, treatment and

prevention program, and prohibits watercraft that have had contact with quagga or zebra mussel-infested waters from entering Lake Tahoe. These programs and investments are essential to avoid potentially catastrophic impacts on the lake and its economy.

Economic Benefits/Stimulus Funding

We also wish to emphasize that this is not just an environmental bill – it's a jobs bill. Public investments in the health of the basin are also investments in the health of its economy. Like many other areas of the country, the Tahoe basin is reeling from the impacts of the economic downturn, and is seeking funds for projects that would create green jobs and boost the local economy.

The bill authorizes many projects that are eligible for but have received little or no federal stimulus funding. The California Tahoe Conservancy, for example, has recently developed a **2010 Lake Tahoe Sustainability and Economic Stimulus Package**, which includes over \$45 million in water quality and watershed restoration, forest fuels management, recreation, and other projects that could break ground this summer with adequate funding. This green economic stimulus package would create hundreds of jobs and accelerate the basin's transformation into a low-carbon, ecotourism-based economy.

Broad-based Support

Finally, it should be noted that the bill enjoys strong support from all sectors of the Tahoe community. The bill has been endorsed by a broad spectrum of agencies and stakeholders, including:

- The States of California and Nevada;
- The Tahoe Regional Planning Agency;
- The Lake Tahoe Transportation and Water Quality Coalition;
- The League to Save Lake Tahoe;
- The Tahoe Area Sierra Club;
- The North Lake Tahoe Chamber of Commerce;
- The South Lake Tahoe Chamber of Commerce;
- The California Ski Industry Association;
- Trout Unlimited;
- The Trust for Public Land;
- The Tahoe area fire chiefs; and
- many others.

Again, on behalf of these agencies, stakeholders, and others, I appreciate having the opportunity to testify in support of the bill, and appreciate your leadership in moving it forward.

Questions for Wright

Questions from:

Senator Barbara Boxer

1. Mr. Wright, as we look to build on the Lake Tahoe restoration efforts and move forward with legislation to reauthorize the federal restoration program, can you describe the components of the Lake Tahoe Restoration Act that are most critical to ensure the success of restoration efforts? Also, what improvements to the federal restoration program do you feel are most needed?

The LTRA includes several elements are essential to the success of Tahoe's restoration efforts. The most important components:

- Authorize \$248 million over eight years for the highest priority restoration projects;
- Authorize \$136 million to reduce the threat of catastrophic wildfire and improve the health of the basin's forests;
- To reduce the threat posed by quagga and zebra mussels, prohibit watercraft that have had contact with quagga or zebra mussel infested waters; and
- Establish a science and reporting program to provide accountability and oversight.

As to the federal restoration effort, the most important improvement needed is to expand the level of responsibility and funding in the Tahoe basin beyond the US Forest Service to the US Environmental Protection Agency and the US Fish and Wildlife Service.

In particular, as noted in my prepared testimony, the bill provides a strong mandate for the Environmental Protection Agency to significantly increase its level of involvement and funding in the basin. Lake Tahoe has been designated as an Outstanding National Resource Water (ONRW), which is afforded the highest level of protection under the Clean Water Act, and the basin's water quality projects and programs are largely being guided by the development of a Clean Water Act and EPA-mandated water quality plan, known as a Total Maximum Daily Load (TMDL). The Tahoe TMDL is the largest, most expensive, and most scientifically rigorous TMDL in the western United States.

The bill would authorize EPA to play a more active role in funding and overseeing a broad range of watershed management projects in the basin. But equally important, it directs EPA, in coordination with the other federal agencies, the states, and TRPA, to establish a comprehensive program to evaluate and report annually to Congress on our progress in restoring the health of the lake and the basin, and in implementing the provisions of this legislation.

Senator James M. Inhofe

1. I first want to commend the work you have been doing on behalf of Lake Tahoe and the significant accomplishments that you have made using primarily state, local and private funding. How are you working to ensure these robust investments from state and local governments remain available to you?

The two states, local governments, and private interests are all firmly committed to providing their share of funding. In 2009, the State of Nevada enacted a bond act providing \$100 million for Tahoe restoration efforts, and the California legislature has placed an \$11 billion water bond on the ballot in November 2010 that will provide \$100 million to the California Tahoe Conservancy and other sources of funding to provide California's share. Local governments have made commitments to continue to provide funds for operations and maintenance of projects in the basin, and the private sector has pledged an additional \$250 million.

2. I appreciate the targeted way that you have approached clean ups around Lake Tahoe. Can you please describe how you are making decisions about the best places to invest money?

The Tahoe basin has established an interagency collaborative process to set priorities, coordinate efforts, and report on results. For each area of focus (watersheds, forest fuels, stormwater, etc), an interagency technical team ranks the highest priority projects with input from the Tahoe Science Consortium. These projects are then presented to the Lake Tahoe Federal Advisory Committee (LTFAC) for public and stakeholder comment and review. The LTFAC then recommends the highest priority projects for funding by the federal, state, and local agencies.

3. I have been very impressed with all the witnesses for their initiative, expertise and passion in taking care of America's great water bodies. I continue to believe that the best decisions about water use and protection are made by the people who are closest to the waters. How can we ensure that we continue to balance the needs for water use with water protection and ensure that those who know a water body best are those who are ultimately making the decisions about protecting it?

As described above, the priorities for funding in the Lake Tahoe basin are set by local interests and local representatives of federal and state agencies. As a result, the federal agencies do not allocate funds for projects that do not have strong local support.

4. I understand the tight financial situations that states and local governments are currently experiencing. Having less money often means that we are unable to do things we would like to do for many of these environmental projects. However, even with the increased authorization levels given in many of the bills you are advocating, more federal dollars may not come your way. Without increased funding from Washington, DC, how will you continue to keep these programs going?

As noted under question #1, the states of California and Nevada, local governments, and private interests are all committed to providing significant amounts of funding regardless of

the specific level of federal funds that become available. However, because over 80 percent of the land in the Tahoe basin is owned by the Forest Service, the federal government has a special responsibility to ensure that it provides its share of funding as well.

Senator CARDIN. Well, we thank you very much for your testimony. And without objection, we are going to enter into the record letters and statements of support from the Tahoe Regional Planning Agency, Tahoe Fire Chiefs, the League to Save Lake Tahoe, Governor Schwarzenegger, and Senator John J. Lee, Nevada Senate.

[The referenced information was not received at time of print.]

Senator CARDIN. With that, we will go to Mr. Dicks.

**STATEMENT OF DAVID DICKS, EXECUTIVE DIRECTOR,
PUGET SOUND PARTNERSHIP**

Mr. DICKS. Thank you, Mr. Chairman. Nice to see you.

My name is David Dicks. I am the Executive Director of the Puget Sound Partnership, a State agency formed in 2007 explicitly to try to restore and protect Puget Sound and get it back in good shape by 2020.

Senator Cantwell I want to thank especially, and I just want to point out that I think she has covered most of the beauty of Puget Sound, obviously, one of the great water bodies. I hope we are not starting a competition here between all these great places.

Senator CARDIN. Competition is good.

[Laughter.]

Mr. DICKS. My in-laws have a cabin in Truckee near Lake Tahoe, so they are all important, and I hope we, as you were alluding to, Senator, that we focus on the commonalities in some cases and allow for the varying ability in the various places as we go forward with all of these proposals.

As you know, the Puget Sound Recovery Act is before this Committee, and I want to quickly kind of run through why I think this is important for Puget Sound and what we are hoping to achieve with it.

Importantly for us, we have done a lot of work that is similar to the great work you have done in the Chesapeake Bay in the last few years. Governor Gregoire, who is my boss, when she first came into office in 2005 looked around and basically realized that the Puget Sound effort was not going well. We had listed species of salmon, orca whales, now rockfish and other important species being listed, and there was a huge amount of concern that we simply weren't going to get to the finish line with Puget Sound. There was a real risk that we could lose it.

She appointed a blue ribbon panel which as chaired by Bill Ruckelshaus, who basically came to two fundamental conclusions. The first was that the Sound was in significant decline. And the second was that we were not operating at the right scale to deal with it. That has now essentially been remedied with the creation of the Puget Sound Partnership.

In 2 and a half years, we have done a couple of things that I think are important to point out. The first one is we have developed a single, unified, comprehensive plan that has priorities, that has very significant science underpinning. And it tries to do essentially four things.

The first is to restore places where we can truly recreate ecosystem function. That is kind of a wonky way of saying bigger places or linked projects where we can really make a difference. We

need to get away from random acts of restoration and instead focus on very concrete things that we know scientifically will make a big difference. A lot of that is going on. The Recovery Act has done a ton on that; \$160 million into Puget Sound, for example, through the stimulus package, which has been incredible.

The second major strategy is to protect the best remaining places that are left in Puget Sound. Puget Sound has a lot of variability. It is not monolithic. Some places are extremely healthy. Other places are extremely unhealthy. To make sure that we don't lose any more ground we have to protect the best remaining places.

The third big strategy in the action agenda is to stop as much additional contamination from getting into the water in the first place. We have done a lot with clean ups through the CERCLA and our State Superfund law, but we really need to get upstream and start dealing with stormwater and other runoff in a very meaningful way. That is crucial.

And the fourth piece of the puzzle is to what we loosely call fix the system. In other words, try to align all the governmental actors—in our case, that involves about 2,500 jurisdictions—around the plan. We think that the concept of getting coordinated in a generic sense is not workable. We hope that with the plan being in existence, ranked prioritized lists of specific projects and policies, we can get the individual agencies to come, take their piece of the puzzle, and go off in an autonomous way, but all linked to one unified plan. That is I think the trick of the action agenda.

The last piece here, two quick other points. The other factor which you mentioned vis-à-vis the accountability piece. We are in the process of building. We learned a lot from your guys at Lake Tahoe, by the way. What we are hoping is to be the best in class accountability and performance management system. That has two components to it.

The first is we need to be able to account for the money that is being spent, to make sure that the people signing up to do a project actually do it. That is part one. And more importantly in some ways are the projects themselves making a difference to improve the quality of the Sound. That latter piece involves monitoring and adaptive management. That is a crucial factor and what we are trying to really push forward with the Puget Sound Partnership.

The final piece, and I think Administrator Jackson was out in the region a couple weeks ago and made this point I think quite strongly. We have got to refigure out a way to engage the public in a meaningful way. We have done a lot on this. One of the important things about the action agenda is that the entire region bought off on it on the specific ranked list of priorities, which is pretty remarkable because in some cases people said, you know what? That other project in your area is more important than my project. That is the kind of dynamic that we have been able to create, and we hope to continue by getting the public even more engaged in their daily lives to protect Puget Sound.

So with that, I would be glad to take any questions, and I thank you for holding this hearing and look forward to working with you on our bill and all the other important bills around the country.

[The prepared statement of Mr. Dicks follows:]



STATE OF WASHINGTON

Written Testimony of David D Dicks
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Senate Committee on Environment and Public Works
Subcommittee on Water and Wildlife
Wednesday, February 24, 2010

Chairmen Boxer and Cardin, Ranking Member Crapo, and members of the committee, I thank you for the opportunity to discuss with you legislative approaches to protecting, preserving, and restoring our great water bodies in the United States, including Puget Sound.

I am the Executive Director of the Puget Sound Partnership (Partnership) a cabinet agency of the State of Washington created in 2007 to lead the overall effort to restore and protect Puget Sound by 2020. The Partnership is also a broader coalition of citizens, governments, tribes, scientists and businesses working together to restore and protect Puget Sound.

Puget Sound

Puget Sound is a national treasure, boasting 2,500 miles of shoreline, 14 major rivers, and thousands of streams. Literally hundreds of species of wildlife and marine life call it home. The region is also home to over 100 cities, twelve counties, and 19 Native American Tribal Nations. In all, over 4 million people consider Puget Sound home and we are expecting to welcome an estimated 1.5 million more people by 2025. Our population growth rate is nearly twice the national average.

The growth of our population and infrastructure has put immense pressure on the Sound. Salmon runs have dwindled – scientists believe we have lost 15 runs of salmon, with total population levels at 10% of their historic level. The iconic killer whale is one of the most contaminated mammal species on earth and (along with salmon) is listed under that Endangered Species Act. In urban areas such as Seattle and Tacoma, the loss of salt marsh habitats is close to 100 percent.

Without a concerted effort to protect the remaining pristine habitats, clean up pollution, and restore vital ecosystems, we cannot hope to maintain or improve the health of the our region. Our vibrant resource economy, clean water, recreational opportunities, everyday quality of life, and our children's legacy are all threatened. The stakes are high and failure is not an option.

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The Puget Sound Partnership

Governor Gregoire recognized early in her administration that the ecological health of Puget Sound is at a touch point: we either enact a visionary solution to our current problems or we risk losing the crown jewel of the region forever. In 2005, the governor launched a new, reinvigorated effort to save the Sound. The effort focused on action and implementation, with the goal of restoring Puget Sound to health by the year 2020. In 2007, the governor and state legislature created a new state agency, the Puget Sound Partnership, to work with federal, tribal, local and non-governmental partners to achieve this goal.

We have made substantial progress. In just two years we have created the Action Agenda – a single, unified, scientifically based, and prioritized plan that the entire region has bought into and is implementing. The Action Agenda represents a new way of approaching the management of Puget Sound. It takes an ecosystem approach from the crest of the Cascade and Olympic Mountains to the waters of the Strait of Juan de Fuca and Hood Canal. The Action Agenda integrates scientific assessment with community priorities. It establishes a unified set of actions that are needed to protect and restore Puget Sound. It serves as a statement of common purpose across the Sound, forming the basis for cooperation and collaboration among implementing partners.

We are also building a “best of class” accountability and performance management system. It will enable us to prove to the public that their money is being spent wisely and that the Action Agenda is working. We have studied and learned from the recommendations of the Government Accountability Office in their audits of other ecosystem recovery efforts. This system will enable us to demonstrate that we are doing the things we committed to, and that we are doing the right things to bring back the health of the region. It will also allow us to get started on urgent projects, while refining our strategies and actions as we gather new information.

Building citizen support for our efforts will also be crucial. To this end, the Partnership has teamed up with over 300 local governments to launch a coordinated public awareness campaign called “Puget Sound Starts Here.” This effort brought the previously fragmented efforts for pollution prevention education into a coordinated effort to engage the public. This campaign takes a targeted approach, focusing on the lifestyle changes identified as having the largest impact on water quality and which research has shown individuals are likely to make.

In short we have a plan, we have an accountability system, and we are relying on the input of those most directly affected in local communities to guide our effort.

Political Will

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We also have something less tangible but perhaps more important: political will. To accomplish something as monumental as restoring the health of a place like Puget Sound, the planets need to align. An opportunity like this happens only rarely, and that opportunity is upon us. Our governor, legislature and congressional delegation have made Puget Sound a top priority. Senator Cantwell's presence here today is evidence of this. Administrator Jackson noted this unusual level of political buy-in during a recent visit to Seattle, when she noted during a radio interview, "I sat yesterday with the Puget Sound Partnership and I was really taken with the high level of involvement of elected officials." We have a shot in Puget Sound to do what no one has yet accomplished: to restore to health a major ecosystem. But we need your help.

Enhancing the Federal Role

Puget Sound is a long way from Washington, DC and it may not be obvious from here why the federal government should do more for our estuary by creating a Puget Sound program office in EPA. Why is this a priority for national attention? Puget Sound needs and merits additional national focus and involvement for at least four reasons:

1. The Puget Sound is Part of an International Marine Ecosystem

Working in from the Pacific Ocean, the international border runs right down the middle of the Strait of Juan de Fuca, threads through the San Juan and Gulf Islands, and hits the mainland just south of the Fraser River, by far the largest river flowing into the international Sound and Straits area. Neither the water nor the wildlife pays any attention to this boundary. Untreated sewage from Victoria, British Columbia spews out into the Strait of Juan de Fuca. "Our" orca whales cross the border multiple times almost every day during most of the year, eating salmon of both nationalities. Oil spills hit both sides, regardless of where they start. EPA has played an important role in maintaining open lines of communication across the border, where Canadian federal agencies are key players. Over time, it is going to become increasingly important for the US and Canada to address Puget Sound issues together. We in Washington work well with our Canadian counterparts but clearly there is a need for a Federal presence to truly engage with Canada at the highest levels.

2. The federal government is a major landowner in Puget Sound

Through its military installations, National Parks and Wildlife Refuges, and National Forests *federal agencies manage over 40% of the land in the Puget Sound basin*. Given that our effort stretches from the snowcaps of the Olympic and Cascade Mountains to the whitecaps of the Sound we simply can not succeed without the full cooperation and participation of the federal government. It goes without saying that federal agencies' policies and programs are crucial to the Sound, from the Corps of Engineers' permitting responsibility to the US Geological Survey's scientific studies. But the

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extraordinary amount of direct ownership and activity makes it essential for EPA's Puget Sound role to be sustained at a high level.

3. Federal Species and Resources

Puget Sound's federally-listed endangered species are at the heart of the matter. Southern Resident orca whales, Puget Sound chinook salmon, Puget Sound steelhead, bull trout, and Hood Canal chum salmon are all federally-listed species. Their fate is the fate of Puget Sound itself. In listing these species, the federal government (through NOAA and USFWS) has taken on a special responsibility for their recovery. I might add that there are many other species in severely depleted condition in the Sound. Heightening the federal role in saving the Sound could prevent these species from being listed in the future, resulting in significant savings. We will only recover these species if recover the Puget Sound ecosystem that they rely on.

4. Durability

As our board chairman Bill Ruckelshaus has often stated we must stay everlastingly diligent in our efforts to protect Puget Sound. This legislation will ensure that the Federal Government will stay involved and focused on Puget Sound. It took us decades to realize the current degradation of the Sound, and it will take an equally long time to bring it back. Putting the institutions in place to accomplish this at the federal, state and local level, and giving them the tools and resources to accomplish the task, is essential to our success.

The Puget Sound Recovery Act of 2010

This committee has before it S.2739, a bill that will position and empower the Federal Government to join and augment the monumental collaborative efforts underway in the region by creating a Puget Sound program office within EPA. There are a number of regional estuary initiatives for which the Congress has provided additional authority for Federal engagement, including the Great Lakes, Long Island Sound and Lake Champlain. The Chesapeake has legacy authority that is comparable to the others.

The program office envisioned in this legislation needs to work somewhat differently than in most of the other situations. There are two reasons for this: 1) other water bodies commonly border more than one state, suggesting the need for a major federal role to convene the stakeholders; and 2) they also began at a time when the stakeholders had not yet assessed the problems and developed the plans for clean up.

In contrast, Puget Sound exists in just one State and that State already has taken the lead through the Puget Sound Partnership in preparing a detailed assessment of the Sound's condition and a plan for

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its recovery. S. 2739, therefore, takes a new approach that would provide the national attention and strong federal involvement that is needed while supporting the state's leadership and existing stakeholder effort. The governance of the Partnership itself meets the requirements in the NEP for a diverse, broadly representative "management conference" and the Action Agenda has been formally approved by EPA as the "comprehensive conservation and management plan" under the NEP. Federal support will be tethered to the Agenda's priorities and therefore result in greater coordination and leverage for both State and Federal efforts.

The bill preserves an appropriate independent role for the EPA Administrator, including: approval of the adequacy of the Agenda as currently drafted and subsequently amended; participating in the work of the Partnership along with other stakeholders; retaining a requirement for non Federal funding to match Federal support; and creating a formal mechanism to coordinate the engagement of the relevant federal agencies with the Partnership. The Administrator and the Executive Director of the Puget Sound Partnership, acting jointly, would submit to Congress a report that summarizes the progress made in implementing the comprehensive plan and progress towards achieving the identified goals and objectives described in the Action Agenda. We believe that S. 2739 achieves the sweet spot of augmenting the federal role and presence while supporting the good work and leadership role of the Puget Sound Partnership.

Conclusion

We in Washington State greatly appreciate the efforts of this committee to fashion legislation that will put the federal government on a course to play a major supportive role in the restoration of Puget Sound. It is critical to our success.

Thank you again for holding this hearing and for your attention to restoring the great water bodies of the nation. I would be glad to answer any questions or assist your efforts in any way possible.

PugetSoundPartnership

our sound, our community, our chance

STATE OF WASHINGTON

March 23, 2010

The Honorable Barbara Boxer
United States Senate, Chairman
Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510

The Honorable James Inhofe
United States Senate, Ranking Member
Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510

RE: RESPONSE TO QUESTIONS REGARDING THE PUGET SOUND RECOVERY ACT OF 2010

Dear Senator Boxer and Senator Inhofe:

Thank you for your letter of March 10, 2010 regarding my testimony to the Senate Committee on Environment and Public Works regarding the Puget Sound Recovery Act of 2009 on February 24, 2010. I am please to provide the following answers to your questions:

Senator Inhofe:

Question 1: I want to congratulate you on having such a successful local partnership and detailed plan to clean up the Puget Sound. Are you concerned that stronger federal involvement (EPA) may slow the substantial progress already made by creating more bureaucratic requirements?

Response 1: We believe that the bill harmonizes state and federal recovery efforts, which should enhance collaboration and overall effectiveness in the region. We have been able to make substantial progress in the formation of the Partnership and with implementation of recovery efforts due in part to the active involvement of the many federal agencies operating in the region. The Puget Sound Recovery Act has been crafted to result in increased cooperation between federal agencies and between federal and state agencies. It was also written so that systems established through a broad multi-stakeholder process are not duplicated by a new federal office but rather are adopted as an official part of the federal system.

Question 2: You state that "it took us decades to degrade the Sound, and it will take an equally long time to bring it back."

a. Is there any timeline for recovery?

b. Should the federal government be prepared to allocate funds for decades?

Response 2a: Yes. Governor Gregoire and the Washington State legislature have requested us to meet our recovery goals by 2020. Even when we have achieved our 2020 goals, we do not anticipate that all problems will be resolved and we can walk away from the effort. Substantial investments in recovery now will help build protection of our natural capital into our way of doing business in future years. If we are successful in making significant improvements in ecosystem health over the next decade we should be able to transition to maintenance levels of federal funding in subsequent years. In order to realize this success, we will need

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substantial and well-orchestrated federal investments now.

Response 2b: The federal government has always been an important partner in building healthy and sustainable communities in Puget Sound and in other ecosystems around the country. We expect that “partnership” to continue in perpetuity as we strive to build and maintain prosperous and healthy communities in our region. Hopefully, the substantial federal investments required to undo the damages of misguided and harmful abuses of our natural capital should only be required until we meet our recovery goals.

Question 3: You mentioned the importance of targeting dollars to where they are going to do the most good.

- a. How does Washington make decisions about where best to spend the money and have the greatest environmental impact?
- b. Are there lessons we can learn from your state to apply to other water bodies?

Response 3a: The Partnership uses a number of factors to guide decisions regarding allocation of funding for recovery efforts. Decision-making is based on ecological principles and economic good sense. The Action Agenda is organized around four strategic priorities: 1) Protect the remaining healthy components of the ecosystem, 2) Restore important functions that have been lost where we have a reasonable chance of success in recreating a self-sustaining system, 3) Prevent pollution from entering aquatic systems, and 4) work more effectively and efficiently together as a region. We also seek to allocate limited resources to activities that will result in the greatest environmental outcomes. We apply a this guidance to our decision making through a broad-based collaborative process that involves people who live and work on the water; scientists; experts in natural resource policy, planning and management; and leaders from all levels of government including tribes. Our leadership council makes final decisions regarding the allocation of resources.

Response 3b: The Partnership actively seeks to learn and share lessons about ecosystem restoration projects with partners around the country. We do this through the EPA National Estuary Program Process and through other non-governmental organizations such as Restore America’s Estuaries. Ecosystem restoration is not an exact science. However, we believe that we have an innovative model to achieve success and overcome many of the problems that have plagued similar efforts around the country over the past decades. In fact, when designing the Partnership and our methods, we consulted with the GAO to understand the problems that other nationally-significant efforts had encountered and tried to design our model to avoid similar problems and to achieve success. We are at the forefront of ecosystem-based management in the country and I believe that we have a lot to share now and will have more lessons to share in future years.

Question 4: I have been very impressed with all the witnesses for their initiative, expertise and passion in taking care of America’s great water bodies. I continue to believe that the best decisions about water use and protection are made by the people who are closest to the waters. How can we ensure that we continue to

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balance the needs for water use with water protection and ensure that those who know a water body best are those who are ultimately making the decisions about protecting it?

Response 4: Both our planning and implementation decision-making is heavily dependent on local involvement. The state statute that created the Partnership recognized that a lot of good collaborative planning had already been done by local people passionate about their home waters and that our Action Agenda should incorporate those efforts to the greatest extent possible. We did that. In fact, we consider implementation of the work programs developed and adopted by local salmon recovery groups to be one of the top priorities in the Action Agenda. We are also committed to providing Tribes and local implementation groups with the capacity that they need to continue participating in updates to the Action Agenda in implementation of recovery efforts.

Question 5: I understand the tight financial situations that states and local governments are currently experiencing. Having less money often means that we are unable to do things we would like to do for many of these environmental projects. However, even with the increased authorization levels given in many of the bills you are advocating, more federal dollars may not come your way. Without increased funding from Washington, DC, how will you continue to keep these programs going?

Response 5: In these difficult economic times, it is more important than ever to get the most value from every dollar spent on ecosystem recovery. The Puget Sound Recovery Act would result in better coordination between numerous federal agencies working on Puget Sound recovery efforts. It would also give the state and citizens who live closest to the resource a voice in decisions regarding how limited federal dollars are spent. This will result in greater efficiencies in the use of every dollar allocated to Puget Sound recovery.

Thank you again for your interest in the Puget Sound Recovery Act of 2010. Please call me at 360-725-5454 if you have further questions.

Sincerely,



David D. Dicks
Executive Director

Senator CARDIN. Well, we thank you for your testimony.
Without objection, Senator Gillibrand's opening statement will be included in the record.

[The prepared statement of Senator Gillibrand follows:]

STATEMENT OF HON. KIRSTEN GILLIBRAND,
U.S. SENATOR FROM THE STATE OF NEW YORK

Thank you, Chairman Cardin, for holding this very important hearing and for the opportunity to speak on these issues that are so important to my home State.

I am also very thankful to have New York so well represented on today's witness list.

First I want to recognize the Commissioner of New York State's Department of Environmental Conservation—Alexander Grannis. I also want to welcome another New Yorker, John Tauzel, Senior Associate Director of Public Policy for the New York Farm Bureau.

I want to thank both of you—and all of our witnesses—for being here today to share your expert testimony on these critical issues.

Mr. Chairman, today's hearing is but a snapshot of some of America's greatest natural resources. As Senator from the State of New York, I am proud to represent some of the Nation's premier water bodies—areas not just known for their natural beauty, but for their critical economic importance to our regions and the country.

With Lake Erie and Lake Ontario on our western border, the St. Lawrence River to the north, Lake Champlain, the Hudson River, the Finger Lakes, the Susquehanna and Delaware River Basins, Long Island Sound and the Atlantic Ocean along our South Shore—New York's water resources have been critical for over four centuries, when Henry Hudson first sailed north on the waterway that now bears his name.

Today I would like to highlight one of these many important water bodies—the Long Island Sound. The Long Island Sound is home to more than 8 million coastal residents, and more than 20 million live within 50 miles. The Sound contributes more than \$5.5 billion to the region's economy from boating, sport and commercial fishing, to recreation and tourism.

From Great Neck to Greenport, the communities along the Long Island Sound have for centuries relied on its waters as a major source of economic opportunity—with rich stocks of fish like flounder and striped bass, as well as scallops, lobster and of course oysters—spurring growth across Long Island.

Development in the region removed much of the natural barriers, and pollution and untreated wastewater further debilitated the Sound—causing enormous environmental and economic effects on the Sound and coastal communities.

Recognizing the need to act to restore the Sound, New York and Connecticut, in coordination with the Environmental Protection Agency, have been working for years on efforts to reduce the nutrient load into the Sound and remediate some of the legacy pollutants that have made their way into its sediments.

In addition, legislation advanced by this body has provided critical resources for economically distressed communities along the Sound to remediate shorelines and repair sewage treatment plants.

The Long Island Sound Restoration Act, which is up for reauthorization this year, has been a vital tool in reducing nitrogen loads in the Sound.

A companion program authorized under the Long Island Sound Stewardship Act provides local stakeholders resources to restore the Sound while enhancing public access, using targeted efforts to revitalize shoreline habitats.

This program truly demonstrates the teamwork needed to advance restoration of the Sound with partnerships at every level of government as well as local community organizations, colleges and universities, conservation groups, fishermen, the business community and landowners.

Working with my fellow Long Island Sound Senators I am advancing legislation that would reauthorize these two important programs an additional 5 years at their current authorization levels.

The Long Island Sound Restoration and Stewardship Act would simply take these two companion programs—each with their own specific mission, but shared goals—and synthesize their efforts into a single authorization.

This non-controversial measure will build on the work over the last two decades to restore Long Island Sound for the benefit of millions of Americans and revitalize the environment and economy of this region.

Mr. Chairman, I thank you for this opportunity to discuss my proposed legislation and the importance of restoring Long Island Sound.

Thank you.

Senator CARDIN. And to Mr. Grannis, you noticed Senator Gillibrand was here earlier. She had a conflict at this particular moment but wanted very much to extend her greetings to you. She is, of course, our leader on the Long Island Sound issues. We are glad to hear from you.

STATEMENT OF ALEXANDER B. "PETE" GRANNIS, COMMISSIONER, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Mr. GRANNIS. Thank you very much, Senator.

Well, from the West to the East, on behalf of Governor Paterson, I am very pleased to be here today. I could be talking about our two Great Lakes or the headwaters of the Susquehanna River, the Delaware River. I know you are well aware of that, our great Hudson River or Lake Champlain, which is one of the larger inland waters in the country. But I am here today to talk about Long Island Sound, and I know that Senator Gillibrand was talking about—and that is what her legislation would address.

So I want to just very quickly note the interactions and the actions between New York and our partner States—Connecticut most particularly—and the EPA and working on Long Island Sound. The achievements we have made to date have occurred under the auspices of the Long Island Sound Study, which is a 24-year cooperative project that is part of the National Estuary Program.

The study culminated with approval of the Comprehensive Conservation and Management Plan for Long Island Sound, which is a very important blueprint to improve the health of this very vital estuary. The plan identified seven priority areas for implementation in the Sound: low-dissolved oxygen, toxic contamination, pathogens, floatable debris, health and living resources and their habitats, land use, and public outreach and involvement.

As one of the key actions of the plan, municipalities bordering the Sound must upgrade their wastewater treatment facilities to eliminate the nitrogen discharges which cause hypoxia and impair the feeding, reproduction and growth of aquatic life in the Sound. Contaminated sediments both impair resources and make it more difficult to dispose of dredged material from the Sound. The Long Island Sound beaches are periodically closed. They make the news all the time, along with a great number of shellfish beds which also must be closed when pathogen levels exceed healthy levels.

New York State and county and local governments anticipate spending an estimated \$1.5 billion on wastewater treatment upgrades by 2017 in addition to the millions already spent. State and local funds are being used to restore aquatic habitats, control non-point sources of pollution, acquire valuable open spaces, and provide public access and undertake many other essential projects.

But we can't do this alone, Senator. We appreciate our partnerships with the U.S. EPA, other Federal agencies, our counterparts in Connecticut, local governments, not for profit organizations, and as you can well imagine, a very committed citizenry.

In 2000 Congress approved the Long Island Sound Restoration Act—these are all acronyms, LISRA—so that the Federal Government could share in New York's and Connecticut's commitment

that the Sound Restoration Act funds be used for a wide variety of projects, including habitat protection and restoration, sewage treatment plant upgrades, program management and monitoring, education, research and special projects.

We obviously greatly appreciate the commitment Congress has demonstrated to the Sound and particularly the advocacy of Congressmembers Israel, Bishop and Lowey, and our two great Senators, Senator Schumer and Senator Gillibrand. But without continued congressional advocacy for this important estuary, we feel that the efforts to restore the Sound will continue to limp along.

The interests I have raised, while important, are subsumed by the critical issue of sea level rise, as has been discussed earlier, and its potential impacts on Long Island Sound's natural resources, water supplies and communities. In addition to working to reduce the level of greenhouse gases that are driving climate change, actions are needed to address the likely impacts of sea level rise on sensitive communities, particularly those in the Sound's watershed communities. Obviously, there are major consequences for people living in the watersheds and on the borders of Long Island Sound because of the impacts of sea level rise in the long run.

We need Federal support for wastewater treatment upgrades to reduce discharges to the Sound. It is also critically important to address stormwater discharges that have resulted in the closures of shellfish beds and beaches, encourages the spread of invasive species, and increases suspended solids in the water.

We also need Federal help to restore habitats in this biologically important region, including tidal and freshwater wetlands, shellfish spawner sanctuaries, and to mitigate barriers to fish passage. And also we have the same problems, I think there is a lot of common interest here in invasives, which are running rampant across our State, as they are in every other jurisdiction that is represented here.

Finally, I just want to mention the Restoration Act's sister statute, which is the Long Island Sound Stewardship Act. While the Restoration Act was enacted to identify, protect and enhance special places around Long Island Sound, the Stewardship Act acknowledges the necessity of a Federal role in protecting habitats through the Sound. And so to ensure public access to the Sound, both these Acts are important because they compete for Federal funding.

And so we suggest that a single, comprehensive funding source for all Long Island Sound-related projects would be an ideal solution. So New York strongly supports the legislation authored by Senator Gillibrand to fold the Stewardship Act into the Restoration Act.

Due to the fiscal constraints facing New York, and I imagine every other jurisdiction represented today and across the country, I strongly urge the Senate to consider increasing the current Federal 50-50 match for Long Island Sound projects to a 75-25 match, or to be very bold, to remove the match requirement entirely for a short period of time. We are strapped as every other State is, and the inability to muster the match requirements limits our ability to move forward with Federal projects. And so relief of some type,

in the short term at least, would be very beneficial for our ongoing efforts.

We are at a crossroads with the Sound. Obviously, we have a chance to move forward. We have some very difficult issues, and we are looking forward to a strong partnership not only with you, Senator and the Members of Congress, but our partners at EPA and in Connecticut, and we thank you for this opportunity to testify today.

[The prepared statement of Mr. Grannis follows:]

**Testimony of Alexander B. "Pete" Grannis
Commissioner
New York State Department of Environmental Conservation
Before the
United States Senate
Subcommittee on Water and Wildlife
Committee on Environment and Public Works**

February 24, 2010

Protecting and Restoring America's Great Waters: Long Island Sound

Chairman Cardin, Ranking Member Crapo and distinguished members of the Subcommittee on Water and Wildlife, on behalf of New York Governor David A. Paterson I want to thank you for the opportunity to testify before you today on New York State's efforts to protect and restore Long Island Sound. My testimony today will address the actions which New York State has taken to date, in concert with our counterparts in Connecticut and the United States Environmental Protection Agency (USEPA), to restore Long Island Sound. I will also address the state's recommendations regarding legislation to reauthorize the important federal laws which oversee our restoration and stewardship of Long Island Sound. I encourage the Subcommittee to consider legislation that will enhance our jointly-made efforts to restore the Sound's water quality and bountiful natural resources.

The Importance of Long Island Sound to New York State

Long Island Sound is one of our Nation's greatest treasures, and its restoration is a priority for Governor Paterson. More than 120 species of finfish are found in its waters. Over 20 million people live within 50 miles of the Sound, and millions use the Sound for boating, commercial and sport fishing, swimming and beach going. About \$8.5 billion is generated annually for the regional economy from these uses.

The ability of the Sound to support activities such as these is dependent on the quality of its waters, living resources and their habitats. The current value and quality of the Sound are partly the result of investments in water pollution control, habitat protection and fishery management programs made over the past two decades.

The achievements that we have made to date have occurred under the auspices of the Long Island Sound Study (LISS), which was created jointly by USEPA, the states of New York and Connecticut and other concerned parties. This 25-year cooperative project involving federal, state, interstate, and local entities, universities, environmental groups, industry and the general public is part of the National Estuary Program, administered by USEPA, and is designed to address major environmental problems in estuaries of national significance. The study culminated with the approval of the Comprehensive Conservation and Management Plan (CCMP) for Long Island Sound in September of 1994, as reaffirmed in 1996 and 2003. The plan is being implemented as a blueprint to improve the health of the estuary while ensuring compatible human uses within the Sound ecosystem.

The CCMP has identified seven priority areas for implementation in the Sound: low dissolved oxygen (hypoxia, the top priority); toxic contamination; pathogen contamination (closure of shellfish beds and bathing beaches); floatable debris; health of the living resources and their habitats; land use; and public outreach and involvement. It also laid out 232 specific actions to protect and improve the health of the Sound while ensuring compatible human uses within the ecosystem.

During the summertime, over one-half of the Sound's bottom waters experience dissolved oxygen below the state standard of 4.8 mg/L, greatly stressing marine organisms in a phenomenon known as "hypoxia." Hypoxia, one of the most significant problems facing New York's coastal waters, has been found to impair the feeding, reproduction and growth of aquatic life. Through research and monitoring/modeling, excessive nitrogen was determined to be the cause of the summertime hypoxia.

Nearly 20 years ago, New York and Connecticut agreed to the first steps in controlling nitrogen loads to Long Island Sound. The LISS adopted a phased approach that froze wastewater treatment plant discharges of nitrogen (Phase I), then committed to reduce these discharges (Phase II) using low-cost upgrades and process modifications. By 1997, a reduction of 3,300 tons of nitrogen per year had been reached. In 1998, agreement was reached on Phase III, including a commitment to reduce nitrogen from New York and Connecticut by 58.5% from 1994 baseline levels by 2014 through a Total Maximum Daily Load (TMDL). This TMDL was approved in 2001.

The phased nitrogen goals included a Phase IV to review out-of-state air and watershed sources of nitrogen and management actions coordinated by USEPA. In combination with these phases, Phase V actions consider several non-treatment technologies, such as aeration and tide gates on the East River.

In addition to the issue of hypoxia, some fish and wildlife are contaminated with polychlorinated biphenyls (PCBs) and consumption advisories are in place to protect public health. Advisories exist for the consumption of striped bass, American eel, and bluefish and the tomalley (i.e., the liver, which is considered a delicacy) of lobsters. The New York State Department of Environmental Conservation (DEC) worked with the Connecticut Department of Environmental Protection (CTDEP) to update our knowledge of chemical residues in important fisheries, and in fisheries with existing health advisories or having a significant potential for health advisories. Striped bass, bluefish, weakfish, American eels and American lobster (hepatopancreas only) were collected and analyzed for PCBs (as Aroclors) and mercury. In addition, lobster (hepatopancreas) were analyzed for cadmium and chlorinated dioxins and furans. A report of the bistate effort, supported by USEPA, was just released and fish consumption advisories were updated in June 2009 to reflect the new knowledge (e.g., PCBs have declined while mercury levels have increased in fish tissue). Studies such as these are important, because elevated levels of contaminants in sediment cause impairments to resources and make it more difficult to dispose of dredged material.

Pathogens are another major issue for LIS resources. Long Island Sound beaches are periodically closed, along with 73% of New York's productive shellfish beds because of high

levels of pathogens. Pathogens are potentially disease-causing organisms that are a public health concern when a certain concentration is reached. A majority of these pathogens reach the Sound through stormwater. As it travels across the ground, stormwater picks up multiple pollutants, include pathogens, and carries them to local waterbodies.

Given the magnitude of these challenges, New York cannot succeed in restoring Long Island Sound alone. We appreciate our partnership with USEPA, other federal agencies, our counterparts in Connecticut, local governments, not-for-profit organizations, and a very committed citizenry. Through our joint efforts, much already has been accomplished. New York's concern is that, without a much higher level of commitment from the federal government, we will not be able to sustain the improvements that we've made in the Sound's water quality and habitats. With continued federal fiscal support we will be able to sustain and continue to build upon the improvements that we've made in the Sound's water quality and habitats.

The Need for Federal Involvement in Long Island Sound's Restoration

To combat these serious problems, New York State, county and local governments anticipate spending an estimated \$1.1 billion, in addition to the millions already spent on wastewater treatment upgrades. These funds will reduce nitrogen discharges to the Sound which cause hypoxia. State and local funds also are being used to restore aquatic habitats, control nonpoint sources of pollution, acquire valuable open space, provide public access opportunities, and to undertake many other essential projects for the residents of New York who live and work along the Sound.

In 2000 – more than 10 years after New York and Connecticut began to restore the Sound – Congress approved the Long Island Sound Restoration Act (P.L. 106-457, Title IV, as reauthorized by P.L. 109-137), in recognition that New York and Connecticut should not be expected to upgrade sewage treatment plants along the Sound, an Estuary of National Importance, or implement the priority actions of the CCMP, without federal assistance. LISRA, as the Act is called, authorizes federal appropriations up to \$200 million to assist in the Sound's restoration – matching the funds which New York already has provided for Long Island Sound improvements through the Clean Water/Clean Air Bond Act of 1996 and other sources. LISRA funds can be used for a wide variety of projects, including habitat protection and restoration, sewage treatment plant upgrades, program management, monitoring, education, research and special projects. The LISS Management Committee determines the uses of the LISRA appropriations to best meet the needs of the Sound.

To date, the two states have had only limited success in securing the federal appropriations which could be of significant benefit in funding the sewage treatment plant upgrades needed to protect Long Island Sound's water quality and natural resources. Since Federal Fiscal Year 2001, the first year for which funds could be appropriated pursuant to LISRA, less than \$50 million has been appropriated by Congress, although the \$7.8 million appropriated in FY 2010 encouraged New Yorkers to believe that Congress is recognizing, as we do, the great importance of the Sound economically and environmentally. To date USEPA has only included modest amounts in its budget request, which, in our view, do not reflect the intent of Congress in enacting LISRA, even though the funding necessary for nitrogen removal is projected to be in

excess of \$1 billion in New York state alone. New York hopes that future appropriations will be more robust, in keeping with the substantial sums that Congress has approved for estuaries in other parts of the country.

New York appreciates the commitment Congress has demonstrated to Long Island Sound through the enactment and reauthorization of LISRA, as well as the sustained support for the appropriations which have been secured. In particular, we appreciate the hallmark efforts of New York's Congressional Delegation, particularly the advocacy of Congressmembers Israel, Bishop and Lowey, Senator Schumer and Senator Gillibrand for the State's Long Island Sound needs. We also are grateful for our partnership with USEPA, and their consistent efforts to provide funding for LIS projects. Without the continued advocacy of Congress for this important estuary, however, we fear that the state's efforts alone to restore Long Island Sound will not achieve restoration goals. For this reason, your interest today in reauthorizing LISRA is greatly appreciated by the state of New York and its citizens.

The Impacts of Sea Level Rise on Wastewater Treatment

Each of the issues I have raised, while important in its own right, is subsumed by the critical issue of sea level rise and its potential impacts on Long Island's natural resources, water supplies and communities. DEC's natural resources staff has already begun to observe detrimental impacts of sea level rise on ecosystems in southeastern New York. Sea level rise is changing wetland delineations, which had never before been envisioned. In addition to working to reduce the level of greenhouse gases that result in climate change, actions are needed to address the likely impacts of sea level rise on sensitive communities – particularly those in the Long Island Sound watershed. According to the Intergovernmental Panel on Climate Change, sea level rise is likely to result in more intense hurricanes and temperature increases in the Atlantic Ocean, both of which will have unanticipated consequences for the people who live and work in the Long Island Sound area, along with the natural resources which are so abundant in this region.

Sea level rise may, in part, determine future wastewater treatment needs. New York City is evaluating the issue of how to protect its infrastructure and water quality from rising sea level, and other Long Island Sound communities need to do so as well. The New York State Sea Level Rise Task Force is developing guidance to municipalities to protect infrastructure and natural resources. The Long Island Sound Study, with significant input from New York State, is working on a monitoring plan to quantify the environmental changes brought about by climate change and use that information to make management decisions.

American Recovery and Reinvestment Act Funded Projects

Several projects in the Long Island Sound watershed have received federal stimulus fund, including the two wastewater treatment upgrades described below. Stimulus funds were awarded to "shovel-ready" projects that are now stimulating the local economy while improving the Sound's water quality.

For example, the Village of Greenport in Suffolk County received ARRA and other short-term financing for the costs associated with planning, design, and construction for improvements to its

wastewater treatment plant (WWTP). These include full-scale biological nitrogen removal, ultraviolet light disinfection upgrade, and other improvements to the facility. This \$4 million project will ensure the Village's compliance with the CCMP.

ARRA funds are also being used for the design and construction of biological nutrient removal and other upgrades at the Mamaroneck Wastewater Treatment Plant in Westchester County. ARRA funding of \$55 million, necessary to ensure that this facility meets goals set in the CCMP, demonstrates the necessity of significant state, federal and local financial commitments to meet the goals set by LISRA and the CCMP.

Actions to Improve upon LISRA

As I have already mentioned, the need for continued Congressional involvement in this biologically important and heavily populated region remains important. At the same time, we believe that it's time to change direction somewhat, so that the actions we take in the future can be even more effective.

While the need for federal support continues for wastewater treatment upgrades so that serious pollutants such as nitrogen discharges to the Sound are significantly reduced, we believe that it is also critically important that efforts be made now to address stormwater discharges to the Sound. Closures of shellfish beds for harvest are clearly linked to stormwater discharges. Through targeted stormwater control efforts, New York is in the final steps of re-opening the outer portion of Hempstead Harbor for shellfishing after it had been closed for more than 50 years. With sufficient resources to improve stormwater infrastructure, we should be able to open other areas for commercial and recreational harvest to support both commercial and recreational fishermen.

In order to reduce pollutant loading from stormwater discharges to Long Island Sound, a wide range of sources, from urban areas to landscaped green space, must be addressed. Effectively controlling urban runoff involves a comprehensive inventory of the contributing impervious areas, the installation of stormwater management practices, and the improvement of existing stormwater controls. Implementation of a retrofit program to improve existing stormwater infrastructure with enhanced treatment systems, an accelerated maintenance program, reduced fertilizer applications and an effective public education program, are other important goals and should be incorporated into sub-watershed plans to ensure cost-effective solutions. Creative actions, not envisioned when LISRA was first enacted, such as the encouragement of green infrastructure, must now be incorporated into the CCMP's plans and goals.

While water quality improvements are integral to restoring the health of Long Island Sound, so are actions to restore habitats of this biologically productive region. Along with New York State and local governments, federal assistance is needed to restore eelgrass and tidal and freshwater wetlands, shellfish spawner sanctuaries, and to mitigate barriers to fish passage. New York established a Seagrass Task Force which in 2009 completed a management strategy for marine district seagrass, including the Long Island Sound area.

Invasive species – a pervasive problem across the Long Island Sound watershed – also must be a targeted component of efforts to restore the Sound. As an action which goes hand-in-hand with

restoring habitats, the establishment of no discharge zones for marine vessels – and inexpensive but important means of protecting water quality and habitats and controlling invasives – also must be considered in LISRA reauthorization efforts to complement the activities already underway in New York and Connecticut. Most recently, Hempstead Harbor and the Oyster Bay/Cold Spring Harbor complex were both designated as no discharge zones and DEC is working on achieving such designation for all of Long Island Sound.

Finally, I want to briefly mention LISRA's sister statute, the Long Island Sound Stewardship Act (LISSA). LISSA was enacted in 2006 to identify, protect and enhance special places around Long Island Sound. LISSA acknowledges the necessity of the federal role in protecting habitats along the Sound, in both New York and Connecticut, not only to preserve the environmental quality of the Sound, but to ensure public access to it. By authorizing appropriations of \$25 million annually for this purpose, for Fiscal Years 2007 through 2011, the Act recognizes the importance of federal financial contributions to these stewardship projects.

LISSA is being to show results, and this Spring we expect to complete an important acquisition through this program. New York believes that amendments could be made to streamline this law, and possibly fold it into LISRA. As things currently stand, LISRA and LISSA compete against one another for funds; a single, comprehensive funding source for all Long Island Sound-related projects would be an ideal solution. And, given the serious fiscal constraints which New York, like other states, now faces, New York strongly urges the Senate to consider decreasing the current 50-50 match for Long Island Sound projects to a 75% federal – 25% non-federal match. The state would be willing to revisit this issue in the future, once the state has regained sound financial footing.

Summary

In summary, Long Island Sound has been one of the most beautiful and ecologically productive regions of the country, meriting the strong support of Congress and the federal government in efforts to improve its water quality and ecosystems. While many actions to improve the Sound have been made by New York, Connecticut and our federal, local and other partners over more than two decades, much more needs to be done. For Long Island Sound, we are at a crossroads – the success of our past endeavors shows that actions can be taken to reduce hypoxia and restore healthful water quality. In order for our past efforts to be successful, however, it's time for the states and local governments to redirect their efforts toward new – and in some cases very costly – efforts to reduce pollutant loads to the Sound. For this goal to be met, the federal government must enhance its commitment to this Estuary of National Significance. New York is confident that, with the support of Congress, we can achieve the long-hoped for goals for the Sound.

On behalf of Governor Paterson, I thank you again for holding today's hearing and for your interest in New York's views on Long Island Sound restoration. I am happy to answer any questions that you might have.



DAVID A. PATERSON
GOVERNOR

ALEXANDER B. GRANNIS
COMMISSIONER

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK 12233-1010

MAR 25 2010

Honorable Barbara Boxer
Chairman
United States Senate
Committee on Environment and
Public Works
410 Dirksen Senate Office Building
Washington, DC 20510-6175

Honorable James M. Inhofe
Ranking Member
United States Senate
Committee on Environment and
Public Works
410 Dirksen Senate Office Building
Washington, DC 20510-6175

Dear Chairman Boxer and Ranking Member Inhofe:

Thank you for the opportunity to testify at the Senate Environment and Public Works Committee February 24, 2010 hearing on Great Waters, and for the insightful follow up questions. I welcome the opportunity for New York to be engaged in the Senate's deliberation on these issues.

My responses to Senator Inhofe's questions are below:

Question #1: Recent findings have shown numerous errors in the most recent IPCC report and you refer to the IPCC in regards to sea level rise and other environmental issues affecting the Sound.

- a. Are you getting any other scientific data from the IPCC?
- b. In light of the many errors in the most recent IPCC report, do you think it would make sense to reassess some of your data before moving forward?
- c. How is New York helping to prepare watersheds and districts for the unpredictable?

The State of New York regards the findings of the Intergovernmental Panel on Climate Change (IPCC) as representative of the majority of global scientific opinion on the causes and impacts of climate change. None of the issues raised to date regarding the work of the IPCC undermine the overall conclusions of the organization's reports that the earth's average temperature is warming and changing regional climates, that human activity is the most likely cause, and that nations and states will have to adapt. In fact, the scientific confidence in these findings only continues to increase.

Observations in New York are generally consistent with the findings of the IPCC. For example, tide gages operated by the National Oceanic and Atmospheric Administration in and around New York Harbor indicates regional sea level is rising by more than 2 mm/yr. Rainfall events have also become significantly more intense in the Northeast and New York over the past 30 years. This is consistent with the finding of the 2009 U.S. Global Change Research Program's *Global Change Impacts in the United States* that, between 1958 and 2007, New England saw a 67 percent increase in heavy precipitation events and the Midwest experienced a 31 percent increase. The report documented a 20 percent average increase for the entire country.

New York made a commitment on August 9, 2009 to reduce its greenhouse gas emissions by 80% of their 1990 levels by 2050 and to develop a statewide climate action plan that includes strategies to both achieve this emissions reduction goal and adapt to unavoidable climate change. The state has undertaken a statewide climate change impacts assessment, conducted jointly by Cornell University, Columbia University and Hunter College. The assessment is designed to highlight the key vulnerabilities from current and projected climate change in the state and to suggest strategies to adapt. This body of work, as well as the reports of the New York State Sea Level Rise Task Force, and New York City's Panel on Climate Change and Climate Change Adaptation Task Force will serve as the foundation for the understanding of climate change causes and impacts and will be the basis for the development of strategies to reduce greenhouse gas emissions and adapt to climate change in New York.

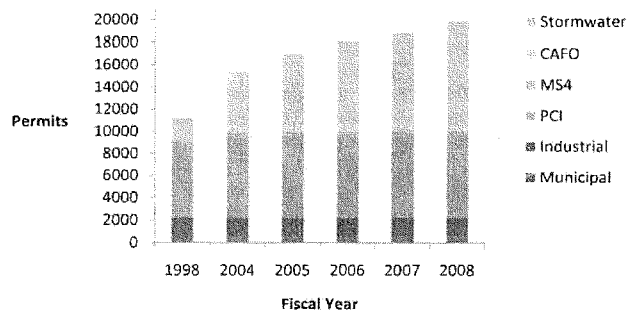
Questions #2: Are you concerned that a switch from the current 50-50 match for projects to a 75% federal – 25% non-federal match will hinder the locally-driven successes and make the road to recovery more dependent on federal involvement?

No. Since 2006, the Long Island Sound Study has leveraged more than \$1 billion from state and local match above the required 50:50 match. This is unprecedented in the National Estuary Program, and demonstrates the true spirit of the implementation of the Study's Comprehensive Conservation and Management Plan. Federal involvement has been the seed money to implement an accepted watershed plan. The proposed 75% federal – 25% non-federal match will not hinder local successes but will dramatically help to ensure that they continue during this period of recession and downsizing. The proposed match ratio is also used in NOAA's grants.

Question #3: Please describe some of the things New York has done to encourage pollution load reductions without increased enforcement penalties. How are you rewarding good environmental actors?

From the inception of the Clean Water Act (CWA) in 1972 until the mid-1990s, DEC efforts focused on controlling point sources of pollution from municipal and industrial wastewater treatment plants. Since the late 1990s, DEC has issued new general permits for activities such as stormwater runoff from construction, industrial, and municipal areas, and Concentrated Animal Feeding Operations (CAFOs). The number of permitted facilities has nearly doubled since 1998 as shown in the chart below:

SPDES Permits



The number of permits has risen nearly 100% over the past 10 years and this translates directly to pollutant load reductions. Every permit restricts the pollutant load a permittee discharges into our waters by limiting the discharged load and/or by requiring the permittee to follow Best Management Practices to promote effective waste water treatment.

In addition, the DEC is able to provide financial assistance, through Water Quality Improvement Project (WQIP) funding, to those applicants that are taking the initiative to undertake projects with a direct environmental benefit. DEC is also partnering with New York's Environmental Facilities Corporation (EFC) to revise the Clean Water State Revolving Fund scoring system to better recognize the efforts of good actors by seeking to make more grant and loan funds available to municipalities with preventative maintenance programs and good compliance histories with respect to wastewater treatment.

Although the number of permits has risen significantly in recent years, staff overseeing the activities of these permittees has been nearly constant. DEC has had to make significant changes to meet the compliance assurance challenges presented by the growth and diversity of permitted facilities. Prior to this growth, DEC staff was focused on evaluating compliance and performance at wastewater treatment plants. Staff were trained and experienced in treatment plant design and operations and DEC maintained a robust program to train and assist treatment plant operators. DEC has broadened staff training and expertise and diverted resources into areas such as nutrient management for CAFOs and erosion and sediment control for run-off at construction sites.

Question #4: I have been very impressed with all the witnesses for their initiative, expertise and passion in taking care of America's great water bodies. I continue to believe that the best decisions about water use and protection are made by the people who are closest to the waters. How can we ensure that we continue to balance the needs for water use with water protection and ensure that those who know a water body best are those who are ultimately making the decisions about protecting it?

DEC is committed to involvement of local interests in setting designated uses, focusing monitoring and assessment efforts, identifying water quality problems [development of Clean Water Act Section 303 (b) and 303 (d) waterbody lists], workplanning tied to local needs and considering inputs on implementation of ecosystem based management.

The experience of DEC is that the most effective water pollution control programs result from involvement of diverse interests including local, state, and federal government, the regulated community and non-government organizations. That involvement is most productive when programs are well funded, easy to understand and are based on input from people closest to the waters. Other keys to success include a state or federal watershed coordinator, objective requirements, consistent and businesslike compliance oversight, and good science/academic partners to assess the quality and quantity of waters. Federal support to build the foundation for these cross-cutting public activities would go a long way to ensuring the needs for water use and water protection are balanced and effective at appropriate geographic scales.

Four areas are recommended for improvement or continuing activities:

1. Support locally-led conservation by funding municipal, academic and local groups to ensure that those with vested interest and control over local land use decisions, who may know a water body best and are the implementers of many management and control measures are able to participate in the decision making process.
2. Funding coordinated support services, such as guidance development, geographic information systems, water quality models and ambient monitoring so that decisions are based on good data and science.
3. Incorporate watershed implementation plans, developed considering inputs from local watershed groups, into legal requirements such as Total Maximum Daily Loads.
4. Rebuild funding for eroded base permit and compliance programs to ensure objective, enforceable permit conditions and effective compliance activities.

Question #5: I understand the tight financial situations that states and local governments are currently experiencing. Having less money often means that we are unable to do things we would like to do for many of these environmental projects. However, even with the increased authorization levels given in many of the bills you are advocating, more federal dollars may not come your way. Without increased funding from Washington, DC, how will you continue to keep these programs going?

The federal government is responsible for setting the water quality goals and standards that we endeavor to meet, and therefore bears responsibility to implement those goals along with the states and local partners. Waterbodies like Long Island Sound and the Great Lakes cross state borders, making their restoration mandatory for both the federal government and the states. The reality is that, without adequate federal funds, we may need to postpone or end some initiatives.

5.

Already in New York, our investment in restoring Long Island Sound far exceeds the federal funds which we have received. Those funds have been well spent on projects which have improved the Sound's water quality, restored vital natural habitats, and created jobs for New Yorkers. Despite the lack of federal financial support EPA has been our partner consistently, and we welcome their advice and support. Instead of suggesting that additional federal funds may not be forthcoming, I hope that you can embrace New York's vision that a restored ecosystem can provide economic and environmental benefits that will far outweigh the costs.

Thank you for giving me the opportunity to respond to these questions.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Alexander B. Grannis', with a stylized, flowing script.

Alexander B. Grannis

Senator CARDIN. Well, thank you very much for your testimony. I will turn to Senator Merkley to introduce our next witness.

Senator MERKLEY. Thank you very much, Mr. Chair.

It is my pleasure to introduce Debrah Marriott to the Committee today. Ms. Marriott is the Executive Director of the Lower Columbia River Estuary Partnership, an organization that is pursuing a fully collaborative and voluntary approach to restoring one of our country's great watersheds. The Partnership includes 28 cities, nine counties in the States of Oregon and Washington, as well as other private and public stakeholders ranging from ports to the pulp and paper industry, to farmers and other landowners.

They developed a comprehensive plan for restoring habitat and reducing toxic pollution that includes activities ranging from improved monitoring to public education to working with farmers to help safely dispose of pesticides they don't need.

While their work has focused on the Lower Columbia, Ms. Marriott has expertise on the entire basin, and her collaborative approach serves as a model not just for the restoration of the Columbia Basin, but I think for watersheds across the Nation.

It is great to have you here.

Ms. MARRIOTT. Thank you.

**STATEMENT OF DEBRAH MARRIOTT, EXECUTIVE DIRECTOR,
LOWER COLUMBIA RIVER ESTUARY PARTNERSHIP**

Ms. MARRIOTT. Thank you, Mr. Chairman.

Thank you, Senator Merkley.

My name is Debrah Marriott. I am here today representing the Columbia Basin, and I thank you very much for this opportunity.

This bill does recognize the Columbia Basin as one of the Nation's great water bodies. It opens the path finally to reduced toxic contamination, improved ecosystem conditions, provide significant jobs, and begin long-term improvements to public health and economic stability.

As you have heard, the Columbia is a significant water body to the Nation. Eight million people live here. Over 2,000 species make their home there. It provides power to over 75 percent of the Northwest. Its farm and ranch land provide sales exceeding \$10 billion, and it carries cargo worth \$13 billion annually. Native American tribes have gained their sustenance by it for over 10,000 years.

The Columbia is degraded from the Canadian border to the Pacific Ocean. One hundred percent of the main stem Columbia has been listed as impaired. Temperature and dissolved gas exceed safe levels for species. More than half of the wetlands in the lower river have been lost. More than 20 species of salmon are listed as threatened or endangered. And toxics banned in the 1970s, as you heard, are still present in fish tissue, water and sediment.

Contaminants and flame retardants in pharmaceuticals are causing male fish to morph to females within their life cycle. Contaminants have impaired the reproductive organs of male river otters, and we have the largest clean up in the world at Hanford.

Contaminants that start up in the basin are deposited in the lower river, putting ports at risk. The loss of fish has decimated our commercial fishing industry, dropping from \$41 million in per-

sonal income in 1980 to less than \$4 million by 1998. And as you heard, Columbia River tribal people eat 10 times more fish than other populations.

We have conducted many one-time studies. We know the problems. We have significant snapshots in time. The planning has been done. Our management plan, the EPA toxics reduction plan, USGS work, the biological opinion, and the recovery modules and plans all indicate that restoring habitat and reducing toxics are paramount.

We have made progress. In the lower river we have restored almost 16,000 acres of habitat, nearly half of what we lost. We have developed extensive reporting systems and accountability systems to EPA as the National Estuary Program, with reports annually on our environmental progress and our fiscal accountabilities.

The problems are big. They are the results of hundreds of different sources and hundreds of different activities over a very long time, and they move through the entire system. They can't be corrected in a 1- or 2-year cycle. The States have done exceptional work within their States and on our tributaries, but the main stem investment is woefully short given the magnitude of the problems.

Despite all this, there is no sustained monitoring on the main stem and no concerted toxic reduction efforts. In fact, in the past 15 years as we have learned more about the extent of the problem, we have actually invested less, and now only one site on the main stem is monitored continually.

With this bill and subsequent appropriations we would collect and analyze data for a full suite of contaminants at the same locations at regular intervals over time. We would expand agricultural toxic reduction work with farmers, pesticide takeback programs, and mercury collection events, especially on tribal lands.

We would collect unused pharmaceuticals to keep them out of the water and out of the hands of teens. We would develop consumer education, especially for at-risk populations. And we would expand the scientific base upon which we prioritize habitat restoration.

This work secures our region. It keeps the ports operational. For every \$2.5 million in restoration, we create 55 jobs from construction workers for culvert replacement to foresters. It aids farmers, and it opens markets for local supplies and services, and we are ready to go.

The Columbia is a national priority. The lower river is an estuary of national significance and the entire basin is now a great water body. And as the Senator said, we are the only great water body to receive no appropriations pursuant to this designation.

This authorization meets five Federal priorities, tribal needs and State goals. We have extended the National Estuary Program approach of gathering diverse interests, using science, and defining actions to all the geographies in the basin and to hundreds of stakeholders because our system, like all systems, does not end at a dam.

Whether we intended to or not, we created this, the good, the bad and the really bad. And the good news in that is we can reverse those trends.

I thank you very much for the opportunity to speak here today, and again I thank Senator Merkley for his leadership in this. And I would be happy to answer your questions.

[The prepared statement of Ms. Marriott follows:]

TESTIMONY
Presented Before the
 Committee on Environment and Public Works
 United States Senate

Submitted by
 Debrah Marriott
 Executive Director
 Lower Columbia River Estuary Partnership
 States of Oregon and Washington

February 24, 2010

Good morning Madame Chairman and members of the Committee.

My name is Debrah Marriott, and I am the Executive Director of the Lower Columbia River Estuary Partnership. I am here today representing the Columbia Basin which includes the study area of the Estuary Partnership.

Thank you for your invitation to appear before you today to speak in support of the Columbia River Restoration Act. This bill recognizes the Columbia Basin as one of the nation's great water bodies. It opens the path to reduce toxic contaminants, improve ecosystems in the Columbia Basin, add significant jobs and begin long term improvements to public health and our economic stability.

The river needs investment. The significance of the Columbia River for many of us began in 1803 with President Jefferson's Lewis and Clark Expedition. To many others, the Columbia has been home for over ten thousand years. From its early days with humans, the Columbia has provided unprecedented fish and sustenance, then trade, and today it continues as the economic, environmental, cultural and historic lifeline of the region and nation. The Columbia is big – the fourth largest river in North America and drains 258,000 square miles.

Over 8,000,000 people live in the Columbia Basin and all depend on it to different degrees for their livelihood and overall quality of life. The Columbia flows through the largest urban area of Oregon and the second largest in Washington. Over 2,000 species of wildlife live in it during some part of their life. The 14 hydropower dams on the mainstem Columbia provide over 75% of the power for the Northwest, more than any other river in North America. Half of the 7.3 million acres of income producing farm and ranch land in Idaho, Oregon, and Washington are irrigated with the Columbia River: sales from these exceed \$10 billion annually. The river's five deep water ports are the nation's primary terminals for several importers of manufactured goods and the major depot for the export of the nation's grain: it carries 39% of all the wheat in the US and the Port of Portland is the largest importer of Toyotas in North America. The river carried cargo worth \$13 billion in 2005; barge shippers saved over \$38 million over what the same shipments would have cost by rail. Shipping is more fuel efficient and is less polluting: a ton of commodity can be moved 514

miles by ship compared to 202 miles by train or 59 miles by truck. (Port of Lewiston, Idaho) The Columbia Gorge is the wind surfing capital of the world and is a National Scenic Area. Hundreds of thousands of residents and visitors hike, fish, bike, and boat on its waters and along its shores all year long.

The Health of the Columbia

The Columbia River is impaired from the Canadian border to the Pacific Ocean.

- Fish tissue and sediment contain PBDEs, PCBs, DDT and mercury.
 - EPA identified 92 priority pollutants in Columbia Basin waters.
 - 100% of the Columbia mainstem (including reservoirs) is impaired.
 - 135 water segments on the Columbia have been identified by the state of Washington as impaired.
 - In Oregon's portion of the Basin, 81% of assessed streams and lakes are impaired.
 - 61% of Idaho's assessed waters are impaired and 99% of assessed lakes are impaired including reservoirs on the Snake River.
 - Contaminants include a range including Mercury, Ammonia, Bacteria, DDE, DDT, Dioxin, PCBs and Arsenic.
 - Temperature and dissolved gas level exceed levels safe for species survival.
- (Source: EPA)
- More than twenty species of salmon or steelhead in the Basin have been listed under the Endangered Species Act (ESA) as threatened or endangered.

In the lower river.....

- More than half of the lower Columbia River's estuarine wetlands have been lost since the late 1880s, for certain types more than 75 percent.
- Thirteen species of salmonids in the lower river have been listed under the ESA as threatened or endangered.
- Toxics, many banned in the 1970s, are still present in water, sediment and fish today. DDE, DDT, PCBs in salmon tissue and sediment and PAHs present in salmon prey exceed thresholds for delayed mortality, increased disease susceptibility, and reduced growth.
- Contaminants in flame retardants, pharmaceuticals and ingredients in personal care products are present that cause male fish to essentially morph to female within their life cycles. The toxins affect their ability to reproduce, avoid predators, and resist disease, all of which inhibit recovery of the ESA-listed species.
- Legacy contaminants have impaired the reproductive organs of male river otters and thinned eggshells of osprey and bald eagles.

(Source: Estuary Partnership, 2007)

All the problems of the basin drain into the lower river and estuary. Contaminants that originate far up in the upper basin are deposited at lower river sites.

The threatened and endangered species use the lower river twice during their life cycle; first as juveniles traveling to the ocean and next as adults returning to spawn.

The economic viability of ports and the maintenance of navigation channels are at risk because of limitations to safe disposal of millions of cubic yards of contaminated dredged materials.

Loss of fish has decimated our commercial fishing industry. Oregon State University reports that in 1976-1980 the commercial salmon fishing industry provided \$41 million in personal income dropping to a low of just \$4 million by 1998.

Columbia River tribal people eat 9 -12 times more fish than others, posing a significant environmental justice issue. (Source: EPA- CRITFC, 1994)

The NOAA Columbia River Estuary Recovery Module for Salmon and Steelhead alone calls for over \$500,000,000 to recover threatened and endangered species.

The Progress

While partners in the lower 146 miles have restored nearly 16,000 acres of habitat since 1999, this is only about half what has been lost since 1880. The number does not calculate what we are losing while we are restoring. To recover threatened and endangered species, habitat restoration will now need to be more complex and include toxic contaminant assessment and removal. One tributary in the Northwest invested millions of dollars in habitat restoration and no fish returned. It was then tested and showed extensive contamination in fish tissue, sediment and water. This resulted in a huge mis-investment of resources.

We have conducted many one time studies at varying locations in the Columbia Basin; they give only a snapshot about the contaminants at that moment in time. Scientists and community leaders have knit those studies together to identify the next steps for the Columbia Basin.

We have advanced knowledge about the river. We have learned how threatened and endangered species use the estuary. We have surveyed the entire 630 miles of shoreline of the lower river and classified landscapes and functions to more strategically restore critical habitat. We have completed an assessment of dredge material disposal needs for twelve lower river ports.

The planning has been done. Several regional plans have been completed, unified and updated.

- Lower Columbia River Estuary Partnership Comprehensive Conservation and Management Plan (1999, updated 2001 and 2009)
- Columbia River Basin Toxics Reduction Action Plan (EPA 2009)
- Water Quality in the Willamette Basin, Oregon, 1991-95 (USGS 1998)
- Water Quality in the Yakima River Basin Washington, 1999-2000 (USGS 2000)
- Water Quality in the Upper Snake River Basin Idaho and Wyoming, 1992-95 (USGS, 1998)
- Federal Columbia River Power System Biological Opinions. (NOAA 2000, 2004, 2008)
- Northwest Power and Conservation Council Fish and Wildlife Lower Columbia Province Plan (2004, 2008)
- NOAA Recovery Plans: Columbia River Estuary Recovery Plan Module for Salmon and Steelhead (2010), Middle Columbia River Steelhead Recovery Domain, Upper Columbia Recovery Domain, Snake River Domain, White Salmon Domain
- Oregon, Washington and Idaho State Recovery Plans

All the actions identified in each planning process, even with all emerging science, call for reducing hydrosystem effects, restoring habitat, addressing toxic contaminants, slowing the introduction of non-native species, reducing predation, and managing uncertainty.

We have the regional collaboration and a fifteen year track record of working together across political boundaries with federal, tribal, state, local, industry, agriculture, fishing and recreation using ecosystem performance based management to assess how we are doing. EPA has brought together hundreds of stakeholders in the middle and upper basin to define an action plan. The planning and the research is done. With EPA as the lead partner, the Estuary Partnership gives EPA the organizational structure and capacity to complete the work in the lower river and link this work with EPA's efforts in the middle and upper basin.

There has been investment to restore habitat and reduce toxics in the Columbia Basin, but it is less than a few million dollars a year and focused on habitat restoration or one time isolated studies. The magnitude of the problems exceeds what this level of investment can accomplish. Oregon and Washington invest heavily in the Willamette River Basin and Puget Sound. The Columbia does not share that level of financial support.

The problems are big, they have taken decades to reach this point; they come from not one individual action, not one industry, not one community, not even one state. The problems are the results of hundreds of different sources and hundreds of different activities that have occurred over a very long time that move over time. They cannot be corrected in one or two years with short term, small monies, section by section.

Despite knowing the extent of the problems, **there is no sustained monitoring on the mainstem Columbia and no concentrated toxic reduction efforts.** In fact in the past fifteen years, as we learned more about the extent and levels of contaminants throughout the Basin, we invested less and less and measured fewer and fewer sites. There is now just one site on the lower river that is monitoring consistently. Scientists and community leaders determined that a minimum of 29 sites is needed to give an accurate assessment.

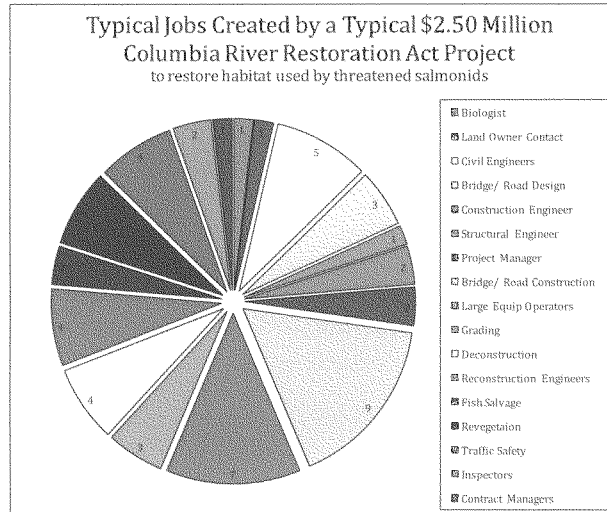
We cannot target reduction activities without monitoring contaminants. We are unable to assess the impact of contaminants on fish and habitat used by fish or to evaluate effectiveness of habitat restoration projects. There are no resources to remove contaminants, measure changes over time or assess how they move in the system. We do not know their full impact on human health or the survival of threatened and endangered fish.

We Know What We Need to Do:

- **Collect and analyze samples from water, sediment, salmon, river mammals, and birds at the same locations at regular intervals** over time to get a comprehensive picture of contaminant sources and patterns. This includes measuring over 130 emerging contaminants (such as estrogen compounds and personal care products); approximately 50 commonly used insecticides, herbicides and fungicides; banned agricultural chemicals; over 130 moderately used pesticides; nearly 20 trace elements (including mercury and lead); and PCBs, PAHs, and flame retardants.
- **Expand agricultural toxics reduction activities.** Provide financial assistance and technical support to farmers, ranchers, soil conservation districts, and watershed councils to install best management practices to reduce soil erosion and toxics into the Columbia River.
- **Expand pesticide stewardship take back programs.** Collect pesticides and other waste to ensure proper disposal of pesticides, solvents, batteries, electronics, PBDE-containing materials to licensed hazardous waste facilities. Previous programs in Oregon, Washington and Idaho have recovered toxic chemicals, including thousands of pounds of DDT, banned in the 1970's.
- **Expand mercury collection events.** Provide the public with safe disposal options for excess mercury and mercury containing products. There is a special need for these work efforts on tribal lands. Each year, the emergency response unit in EPA responds to one or more elemental mercury releases, often in schools or households.
- **Conduct pharmaceutical collection events.** Collect unused pharmaceuticals to keep from entering water bodies. Pharmaceutical collection also helps prevent accidental poisonings and teen access to these drugs.
- **Develop consumer education and information.** Certain ingredients in personal care products cause hormone disruption in fish. Providing consumers, especially high risk populations, with information can help keep some of these contaminants out of the system.

- **Evaluate the habitat restoration projects to ensure fish are using habitat.**
- **Create a dredge material disposal and sediment plan.** Dredging is needed to allow ports to maintain activities that directly impact local economy.
- **Implement habitat restoration projects.** Increase the number and quality of restoration projects for recovery of threatened and endangered species.
- **Hire technical experts for local watershed councils and local governments.** Provide technical assistance to local entities and habitat restoration partners who are unable to afford it. (Engineering, geotechnical, soils, hydrology, and other technical skills required to scope, design, and build large, complex restoration projects.)

Investing Federal Tax Dollars. The Columbia River is a federal navigable waterway and a shared resource. It is a multi-state, international shipping channel. Twenty-four treaty tribes have rights to the Columbia River. Addressing habitat loss and toxic contamination bolster the local economy by immediately keeping all ports operational, supporting jobs for technicians, fishers, boat crew, maintenance specialists, law enforcement officers, construction engineers, construction laborers, large equipment operators, contractors for bridge and culvert replacement, watershed ecosystem experts, fisheries biologists and foresters. It gives financial assistance and technical support to farmers, ranchers, soil conservation districts, and local watershed councils to install best management practices, reduce soil erosion and toxics. These projects open a market for local supplies and services for equipment, plant stock from local nurseries, lumber, soil, rock, road building materials. The multiplier effect of all these jobs on our economy is vital. They are citizens paying taxes, buying groceries, paying mortgages.



Future economic benefit is achieved by protecting navigational jetties, fishery habitats and beaches from ongoing erosion. Keeping contaminants out of the system is more economical than clean up.

Twice the US EPA has acknowledged that addressing ecosystem degradation in the Columbia River is a national priority. First by designating the lower Columbia River and estuary an estuary of national significance in the National Estuary Program in 1995 and in 2006 by elevating the entire Columbia River Basin to the status of a Great Water Body (now called Large Aquatic Ecosystem). The Columbia River Basin joined the Great Lakes, Lake Champlain, Long Island Sound, Chesapeake Bay, Gulf of Mexico, South Florida Ecosystem, San Francisco, Pacific Islands and Puget Sound.

The Columbia Basin is the only Large Aquatic Ecosystem to receive no appropriations pursuant to this designation. We have worked for many years to raise the understanding about the Columbia beyond the basin. The need could not be clearer.

This authorization meets five federal priorities: EPA's targets for toxics reduction and habitat restoration; USGS National Water-Quality Assessment Program; the West Coast Governors' Oceans Agreement; the Federal Columbia River Power System Biological Opinion; and NOAA Recovery Plans. It also implements key actions in Salmon Recovery plans in Idaho, Washington and Oregon.

In 1987, Congress took the bold step of creating the NEP to support the protection and restoration of estuaries around the nation that are important for their economic, environmental and cultural significance. Even bolder was how you shaped the National Estuary Program. You called for it to be locally driven, to cross established political boundaries, to convene diverse interests, to use science and to get actions on the ground that would improve this ring of estuaries. You acknowledged local thinking--empowering citizens to engage, take responsibility and be accountable to you and to future generations. And you got results. In the Columbia Basin, we have extended this approach to all the geographies of the Basin because the river system does not stop at a dam.

We can solve the Columbia River problems. Whether we intended to or not, we put these contaminants in the river. We have the plans, the science, the collaboration and the track record now to remove them. This authorization holds us accountable and gives us the opportunity to leave a legacy to the seventh generation of our children's children of which we can be most proud.

Thank you for the opportunity to speak in support of the Columbia River Restoration Act.
I would be glad to answer any questions you may have.



March 17, 2010

The Honorable Barbara Boxer, Chairman
 The Honorable James M. Inhofe, Ranking Member
 United States Senate
 Committee on Environment and Public Works
 410 Dirksen Senate Office Building
 Washington, D.C. 20510

Dear Senator Boxer and Senator Inhofe:

Thank you for the opportunity to provide responses to your questions of my testimony to the Committee on February 24, 2010 in support of the Columbia River Restoration Act of 2010.

Questions from: Senator James M. Inhofe

1. You mentioned that "partners in the lower 146 miles have restored nearly 16,000 acres of habitat since 1999 ... about half what has been lost since 1880." This seems like we are moving in the right direction.

a. What additional investments have been made by local governments?

The Lower River and estuary were designated an estuary of national significance by EPA in 1995 and the Oregon and Washington created the Lower Columbia River Estuary Partnership (Estuary Partnership) to serve as the local National Estuary Program (NEP). The NEP is authorized in Section 320 of the Clean Water Act through Amendments in 1987. (Clean Water Act of 2000 (P.L. 106-457, Title III). One of the charges of the NEP is to leverage financial support from a variety of sources. Since 1999, when we began implementing our Comprehensive Conservation and Management Plan for the lower river, the Estuary Partnership has brought \$27,000,000 to the region that otherwise likely would not have come. Those funds include significant funding from Bonneville Power Administration through its Fish and Wildlife mitigation program for habitat restoration and NOAA Fisheries Community based Restoration Program (both focused on habitat to recover ESA listed threatened and endangered species), and smaller funding awards for targeted education programs, volunteer activities and technical research and analysis. The States of Oregon and Washington have supported and funded the Estuary Partnership since 1995 -- every year -- despite the significant downturn in state economies. One role of the Estuary Partnership is to secure funds for local governments, watershed councils and conservation organizations to augment what they can access individually and to coordinate efforts so we are all spending habitat restoration dollars effectively and efficiently. Over 78% of the funds we raise goes to local entities for restoration; 13% goes to environmental education programs for teachers; less than 9% stays at the Estuary Partnership for other project implementation.

In addition, some of our larger municipalities are investing millions annually on a variety of actions, ranging from control of combined sewer overflows to development that limits runoff to habitat restoration to toxics monitoring and reduction. Local watershed councils, over a dozen in our study area, also invest annually in related projects. States are investing millions annually in actions to recover ESA listed threatened and endangered species as well as monitoring and toxic reduction work within state boundaries. Several large land conservancies and other local non-governmental organizations also contribute regularly to habitat restoration projects.

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The next level of habitat restoration will be more challenging; we have completed the ready to go projects. Projects now are more complex, will require more extensive monitoring and assessment and cost significantly more per acre. The draft NOAA Columbia River Estuary Recovery Module for Salmon and Steelhead (2010) alone calls for an additional \$500,000,000 to recover listed salmonids.

The investment by local governments, watershed councils and land conservancies in habitat restoration is strong and will continue. Unlike habitat restoration which can be done on a local basis, toxic contaminants and reduction often is not the result of municipal actions, but the result of the transport of toxics from throughout the river and cumulation of toxics and activities over a long time. The magnitude of the problem exceeds the capacity of communities, it is not the result one community's actions.

b. What steps is the Columbia River Basin program taking to ensure that there is local level participation and buy-in to the monitoring and restoration efforts?

The Estuary Partnership is required as an NEP to be governed by a 'stakeholder' group comprised of but not limited to local, state, tribal and federal government agencies, private sector interests, academic interests, users of the water body and the general public. Our Board of Directors represents these interests as do all our working subcommittees. The Lower Columbia River Estuary Partnership Science Work Group is comprised of over 40 area technical experts from the private, public and academic sectors who guide Estuary Partnership technical programs. We host regular "Science to Policy" forums to bring technical experts together with community leaders to address emerging problems, define solutions and set a course for the Estuary Partnership activities to augment other efforts. Since 1999, we have hosted over 14 workshops and conferences with a variety of constituents and technical experts to help guide our actions.

The efforts in the Columbia are well coordinated and very collaborative. The Estuary Partnership developed a regional monitoring strategy with partners in 1999. Partners included USGS, NOAA, EPA, Tribal governments, the States and many local jurisdictions and non-government organizations. This strategy assessed needs, reviewed what other jurisdictions and entities were doing and filled the gaps. It is a regional strategy embraced by all partners and continues to guide efforts. The Estuary Partnership Science Work Group updates it periodically as needed. EPA is using this as the base line for its work to develop a Toxics Reduction Plan for the entire basin. The Estuary Partnership similarly has worked with a range of partners to develop a regional restoration classification prioritization that helps all parties target restoration activities and avoid duplicated work. Similarly, we gather partners together to identify research or data gaps, such as missing land cover data, in the region and fill those gaps.

2. You also mention with regards to a tributary in the Northwest that there was "a huge mis-investment of resources." What steps will be taken to avoid a mis-investment of federal funds?

At Longfellow Creek in the Puget Sound watershed millions of dollars were invested in habitat restoration. Once completed, returning Coho salmon were not spawning and died at a rate of 88%

within hours of entering the stream. There was no assessment of toxics before or during restoration; they did not know the level or types of contamination in the sediment or water column.

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Their assessment now is showing a variety of contaminants, including stormwater run off with pesticides, polycyclic aromatic hydrocarbons (PAHs) and other contaminants as well as legacy pollutants that are at high enough levels to cause the die off.

This substantiates the need for the Columbia River Restoration Act of 2010 which would provide authorization for Congress to help us invest in toxics monitoring and assessment so contaminants, their movement in the system and changes over time are identified so that as we restore habitat we are also cleaning up the sediment and water column. It would allow us to do the very thing that was not done in Longfellow Creek. While we know we have contamination, no entity is currently engaged or funded adequately to give us the sustained data over time.

3. I have been very impressed with all the witnesses for their initiative, expertise and passion in taking care of America's great water bodies. I continue to believe that the best decisions about water use and protection are made by the people who are closest to the waters. How can we ensure that we continue to balance the needs for water use with water protection and ensure that those who know a water body best are those who are ultimately making the decisions about protecting it?

As noted, the NEP requires that diverse and varied interests participate in the ecosystem programs and activities. While it has oversight to and is accountable to EPA, the States and Congress, each NEP is a locally driven collaborative program.

The Columbia River Restoration Act of 2010 requires the Estuary Partnership to continue this inclusive decision making process. Proposed amendment language has been submitted by the Estuary Partnership to Senator Merkley's office to codify this same inclusive approach in the middle and upper basin. EPA staff in the region support this amendment. Shipping, farming, forestry, fishing and recreational uses that depend on the Columbia River sustain our economic vitality and overall quality of life in the northwest and must be included in the discussion and decisions.

4. I understand the tight financial situations that states and local governments are currently experiencing. Having less money often means that we are unable to do things we would like to do for many of these environmental projects. However, even with the increased authorization levels given in many of the bills you are advocating, more federal dollars may not come your way. Without increased funding from Washington, DC, how will you continue to keep these programs going?

We fully recognize the complexity of the economic situation facing the nation today and appreciate the decisions before Congress. We do believe that the Columbia River Basin has lagged behind other Great Water Bodies and is in need of funds at some level to expand the work, ensure adequate toxic reduction efforts are implemented to keep the Columbia Basin industries thriving, improve public health and recover fish. The level of contamination, the complexity of source identification and the movement of contaminants in the system makes toxics reduction expensive. It exceeds what competitive, one time foundations and corporations funds can sustain. Because the Columbia is a shared water body, with seven states and two nations, it exceeds the jurisdiction and funding capacity of any individual state.

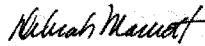
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US Senate Committee on Environment and Public Works

Regardless of the ability of Congress or the states to support in whole this request financially, the Estuary Partnership will continue to coordinate efforts, seek additional sources of funds, leverage that funding and get as much done on the ground as the funding allows. As noted, we have leveraged significant dollars for habitat restoration as well as our environmental education programs and some technical research and analysis. The NEP demonstrates the strength of and need for public and private collaborations to tackle our natural resources issues. The Estuary Partnership receives funds from over 30 sources, large and small, and we will continue to seek fund from those sources and others. We have grown from a budget of less than a \$1,000,000 a year to over \$4,000,000 a year. While all these funds are restricted to specific uses and cannot be used for toxic monitoring and reduction, they keep our activities in some areas moving forward.

I very much appreciate the opportunity to respond to your questions and would be happy to provide any additional information you may find helpful.

Thank you for your consideration of the Columbia River Restoration Act of 2010.

Sincerely yours,



Debrah Marriott
Executive Director

C: The Honorable Jeff Merkley, United States Senate
The Honorable Earl Blumenauer, United States House of Representatives

Senator CARDIN. Well, thank you very much for your testimony. We will now turn to Mr. Naftzger.

**STATEMENT OF DAVID NAFTZGER, EXECUTIVE DIRECTOR,
COUNCIL OF GREAT LAKES GOVERNORS**

Mr. NAFTZGER. Thank you, Chairman Cardin and members of the Committee. I am David Naftzger, Executive Director of the Council of Great Lakes Governors, which is a partnership of the Governors from each of the Great Lakes States: Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin. The council is led by our two co-chairs, Wisconsin Governor Jim Doyle and Ohio Governor Ted Strickland.

Through the council, the Governors and the Premiers from Ontario and Quebec work together to promote our economy and advance our region's economic health. I appreciate the opportunity to submit the testimony today.

The Great Lakes are a unique treasure of international significance. They contain approximately 20 percent of the world's surface fresh water and 95 percent of North America's. More than 35 million Americans rely on the waters of the Great Lakes Basin.

Our region's economy and indeed our nations depend on the Great Lakes. Overall, the region generates nearly 30 percent of our Nation's gross domestic product and about 60 percent of all U.S. manufacturing. The Great Lakes are shared by two nations, eight States and two Provinces, thousands of municipal governments, as well as tribes and First Nations.

The Great Lakes States have a longstanding and sustained commitment to protecting and restoring our Great Lakes. The States continue to invest heavily and manage many different programs toward this objective. Of course, other governments and partners are working similarly.

Unfortunately, our success is incomplete, and our waters remain vulnerable. It is clear that yesterday's tools are not well suited to tackle today's challenges. And even when we have the right tools, too frequently we lack the resources to use them effectively. As a result, our environment suffers, our economy suffers, and we suffer.

However, recent work has created an opportunity to accelerate our efforts. The Governors successfully developed the Great Lakes Compact and now serve on its council. Congressional support is recognized and appreciated.

Separately, at the request of Congress, the Governors developed priorities to broadly protect and restore the Great Lakes. Following that, the President issued an Executive Order which began an historic effort to develop a comprehensive restoration strategy.

More than 1,500 representatives of governments, stakeholder groups and citizens participated in this effort. And most recently, we have accelerated our work with the support of President Obama's Great Lakes Restoration Initiative. This program has delivered unprecedented funding in addition to national programs like the Clean Water Act State Revolving Fund.

In sum, our region has protection and restoration priorities that we all agree on, a consensus strategy, and significant and recent progress to build on. But if we are able to achieve our goals, we have to redouble our efforts broadly and across many programs. A

large and sustained Federal investment in the Great Lakes is needed, and we must coordinate our work more effectively.

Clearly, the Great Lakes are unique and require distinct management structures. To be most successful, any future Great Lakes restoration program must encompass several overarching principles. First, ensure that all funded activities help implement the region's restoration strategy. Second, coordinate the efforts of the many government and non-governmental entities and recognize the leadership role of the Governors in defining State and regional priorities.

Next, minimize bureaucracy and allow efforts to be directed toward protection and restoration rather than process and paperwork. And to the greatest extent possible, funding should be distributed via block grants or otherwise coordinated in large grants to improve efficiency.

And last, adopt alternatives to non-Federal match requirements with the flexibility to recognize the ongoing and significant investments by States, other governments, and stakeholders.

Over the past several months, we have worked collaboratively with representatives from Congress, local and tribal governments, and non-governmental organizations to develop a framework embodying these principles. In particular, we appreciate the leadership of Senator Levin and Senator Voinovich, and my colleague, David Ullrich, will be describing the framework in more detail.

In coming months, we look forward to working with you toward our shared goals: a revitalized natural environment and reinvigorated economic assets that can power us into the future, just as they powered our past.

Again, thank you for the opportunity to submit the testimony. I look forward to continuing to work together.

[The prepared statement of Mr. Naftzger follows:]



Testimony to the United States Senate Committee on Environment and Public Works
and
Subcommittee on Water and Wildlife
“Legislative Approaches to Protecting, Preserving and Restoring Great Water Bodies”
February 24, 2010

David Naftzger
Executive Director, Council of Great Lakes Governors

Good morning, Chairman Boxer and Ranking Member Inhofe, Chairman Cardin, Ranking Member Crapo, Committee and Subcommittee members. I am David Naftzger, Executive Director of the Council of Great Lakes Governors. The Council of Great Lakes Governors is a non-partisan partnership of Governors from each of the eight Great Lakes States--Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin. Through the Council, the Governors and the Premiers from Ontario and Québec work together to promote our economy and advance our region's environmental health.

I would like to particularly recognize Senator Levin and Senator Voinovich, Senate Co-Chairs of the Congressional Great Lakes Task Force, for their leadership in protecting and restoring our Great Lakes. In addition to Senator Voinovich, I would also like to recognize the other Great Lakes delegation members on the Committee--Senators Klobuchar, Gillibrand and Specter. We appreciate our continued partnership with Congress and thank you for the opportunity to submit this testimony.

Our Shared Challenge

Since adoption of the federal Clean Water Act in 1972, our nation has made tremendous progress in cleaning up our waters and protecting the fish and wildlife that depend on them. National programs have provided a framework for ecosystem protection and critical funding. State, municipal and Tribal efforts have similarly been instrumental in addressing regional or more local issues.

We have experienced a good deal of success. We have solved some of our worst pollution problems. We have brought species like the bald eagle back from the brink. We have protected vast swathes of land and put them into permanent public ownership. And, we have again made our waters attractive resources that can support healthy environments and power our economies.

Unfortunately, our success is incomplete and our waters remain vulnerable. Algal blooms have increased in intensity over the last several years. New problems have emerged like the introduction of destructive invasive species such as the Asian Carp, the Zebra Mussel and Viral Hemorrhagic Septicemia (VHS). Problems we thought that we had solved, like the oxygen-free

“deadzones” in Lake Erie, have reappeared. And, we struggle to deal with issues like climate change—not knowing exactly what it may mean for our aquatic ecosystems. Some in the scientific community have even described the Great Lakes as nearing an ecological tipping point beyond which damage may be irreversible.

It is clear that yesterday’s tools are not well suited to tackle today’s challenges. And, even when we have the right tools, too frequently we lack the resources to use them effectively. As a result, our environment suffers, our economy suffers and we suffer.

The Great Lakes in Perspective

The Great Lakes are a unique treasure of international significance. They contain approximately 20% of the world’s surface freshwater, and 95% of North America’s. One in three Canadians and one in 10 U.S. residents depend on the Great Lakes for their water. More than 35 million U.S. residents and 8 million Canadians live, work, and recreate in, on or by the waters of the Great Lakes Basin.

The Great Lakes regional economy and, indeed, our nation’s depend on the Great Lakes. For example, the Great Lakes provide water for 70 percent of U.S. steel production. The lakes provide transport for almost 200 million tons of international and interlake cargo. Water is also used for hydro-power on both sides of the border. Overall, the region generates nearly 30% of our nation’s gross domestic product and about 60% of all U.S. manufacturing.

The Great Lakes are shared by two nations—the United States and Canada; eight States—Illinois, Indiana, Michigan, New York, Minnesota, Ohio, Pennsylvania and Wisconsin; the Canadian Provinces of Ontario and Québec; thousands of municipal governments; and, a large number of Tribes and First Nations. Of course, each government has its own jurisdiction, strengths and weaknesses in dealing with issues related to the Great Lakes. This has its benefits but clearly presents challenges in terms of coordination.

Protecting and Restoring Our Great Lakes

The Great Lakes States have a long-standing and sustained commitment to protecting and restoring our Great Lakes. The States continue to invest heavily and manage many different programs toward this objective. In recent years, the Governors successfully developed the Great Lakes—St. Lawrence River Basin Water Resources Compact and now serve on its Council. Congressional support for this effort is recognized and appreciated. Separately, several of the States have developed protection and restoration plans and they continue to work with one another, and with other governments, toward shared goals.

Our region boasts a number of organizations to help coordinate our efforts. In addition to the Council of Great Lakes Governors who I represent, the Great Lakes Commission is an advisory commission that works on behalf of the States on various issues. The International Joint Commission, an independent U.S.-Canadian organization created by the federal governments helps prevent and resolve disputes relating to the use and quality of boundary waters. The Great Lakes Fishery Commission coordinates fisheries research, controls the invasive sea lamprey and facilitates cooperative fishery management among various management agencies. Of course, each of the federal agencies such as NOAA, USGS, the Army Corps of Engineers and USDA also have programs that in one way or another address Great Lakes restoration and protection.

Because of this complexity, many different structures have been created to try to improve how we coordinate our efforts across different levels of government. For example, the Binational Executive Committee coordinates U.S.-Canadian cooperation related to the Great Lakes Water Quality Agreement and involves the States, local governments and other partners. More recently, the Great Lakes Regional Collaboration and its Executive Committee were created.

Despite these efforts, the job of protecting and restoring the Great Lakes remains incomplete. We, like all of you, demand better. Fortunately, recent work has created an historic opportunity.

Accelerating Our Progress

In 2003, at the request of Congress, the Great Lakes Governors developed nine priorities to protect and restore the Great Lakes:

- using water resources sustainably;
- protecting human health;
- controlling pollution from diffuse sources;
- reducing persistent bio-accumulative toxics;
- stopping the introduction and spread of non-native aquatic invasive species;
- protecting coastal wetland and wildlife habitats;
- restoring the most contaminated toxic hot spots;
- improving information collection and dissemination;
- and adopting practices that protect the environment along with the recreational and commercial value of the Great Lakes.

In 2004, the President issued an executive order recognizing the Great Lakes as a “national treasure,” creating a federal Great Lakes Interagency Task Force that was supposed to “Work to coordinate government action associated with the Great Lakes system”; and, called for a regional collaboration of national significance on behalf of the Great Lakes. This began an unprecedented effort to develop a comprehensive restoration strategy—the Great Lakes Regional Collaboration (GLRC).

Over the course of about a year, more than 1,500 representatives of government, stakeholder groups and citizens joined together to create a comprehensive restoration strategy that was released in 2005. We celebrated the promise of this consensus strategy and began working toward securing the nearly \$20 billion in funding that would be needed to fulfill this promise.

During the past several years, we have made progress toward our shared vision. The States continue their significant investments as do other partners. Most recently, we have accelerated our work with the support of President Obama’s Great Lakes Restoration Initiative. Through this unprecedented program, \$475 million was provided in FY2010 for Great Lakes restoration and protection, and the President has requested \$300 million for FY2011. Beyond this funding, we appreciate greater federal support that has been provided in recent years for national programs like the Clean Water Act State Revolving Fund. We look forward to continuing to work with Congress to deliver this critical funding, and to sustain it for the future.

In sum, our region has protection and restoration priorities that we all agree on; a consensus strategy; and significant and recent progress to build on. But, if we are to achieve our goals, we must redouble our efforts. Broadly, and across many programs, a large and sustained federal investment in the Great Lakes is needed. And, we must coordinate our work more effectively.

A Brighter Future

Clearly, the Great Lakes are unique and require distinct management structures. To be most successful, any future Great Lakes restoration program must encompass several overarching principles:

- Ensure that all funded activities help implement the GLRC restoration and protection strategy.
- Coordinate the efforts of the many government and non-governmental entities involved in protection and restoration activities. Recognize the leadership role of the Great Lakes Governors in defining State and regional priorities.
- Minimize bureaucracy and allow efforts to be directed toward protection and restoration rather than toward process and paperwork. To the greatest extent possible, funding should be distributed via block grants or otherwise coordinated into large grants to States so that monies can be centrally managed and directed to the various agencies and entities receiving funding within the State.
- Adopt alternatives to non-federal match requirements, with the flexibility to recognize ongoing and significant investments by States, other governments and stakeholders in Great Lakes protection and restoration.

Over the past several months, we have worked collaboratively with representatives from Congress, local and Tribal governments, and non-governmental organizations to develop a framework embodying these principles. In particular, we appreciate the leadership of Senator Levin and Senator Voinovich in these discussions. The Great Lakes Governors are eager to continue to work in partnership to develop joint proposals in order to maximize outcomes on the ground and in the water.

Conclusion

In coming months, we look forward to working with you toward our shared goals--a revitalized natural environment and reinvigorated economic assets that can power us into the future just as they powered our past. A more sustainable and brighter future awaits us.

Thank you for the opportunity to submit this testimony. Should there be questions, I would be happy to try to answer them now, or please do not hesitate to contact me, David Naftzger, Executive Director of the Council of Great Lakes Governors at 35 E. Wacker Drive, Suite 1850, Chicago, Illinois, 60601; Phone (312) 407-0177; E-mail dnaftzger@cglg.org.

**Environment and Public Works Committee Hearing
February 24, 2010
Follow-up Questions for Written Submission
David Naftzger, Executive Director, Council of Great Lakes Governors**

Questions from Senator James M. Inhofe

1. Have there been any studies to determine how much of the algal blooms and "dead zones" within the Great Lakes are naturally occurring?

The algal blooms and "dead zones" represent a rapidly changing situation and there is considerable research underway to isolate the causes and develop management options. The following summarizes information provided by Ed Hammett, Executive Director of the Ohio Lake Erie Commission.

There is nothing "naturally occurring" about the harmful algae blooms. While algae are a part of the normal biological community of the lakes, a bloom is indicative of eutrophic or overly nutrient rich conditions. In Lake Erie, these eutrophic conditions were the norm in the 1960s and 1970s. They abated due to major reductions in phosphorus input originating during the 1980s.

However, blooms began to appear again after 1995. These blooms were primarily *Microcystis*, a blue-green algae capable of producing toxins that can affect humans. The blooms were sporadic until 2003 when an intensive bloom occurred in the western basin. Subsequent blooms have become increasingly larger in recent years and the 2009 bloom extended into the central basin.

Dr. Tom Bridgeman of the University of Toledo has been tracking these blooms since 2002. He reports that the last "healthy" year looks like 2002--a very dry summer. The annual *Microcystis* "crop" was more related to the wet vs. dry summers from 2002-2007. However, the 2008 and 2009 blooms were off the chart so something in addition to precipitation has likely changed in the last couple of years.

The increase in algae corresponds to an increase in the concentration of dissolved phosphorus which is readily available for uptake by algae. This increase appears to be primarily related to agricultural runoff.

The "dead zone," the area that experiences little or no dissolved oxygen (anoxia), has typically been in the central basin of Lake Erie. The central basin thermally stratifies every year. Some degree of anoxia is natural here due to the shallowness of the basin. However, the expanse and timing of the anoxia are influenced by algal blooms and thus the amount of nutrient loads. As conditions have changed in Lake Erie, the models that once accurately predicted conditions are no longer accurate. There is considerable research underway to develop new models.

Instances of anoxia have been recorded in the western basin of Lake Erie for short periods during calm hot weather events but these have been rare. The most infamous was in the early 1950s when it was observed by researchers studying mayflies. They happened to be sampling during this event and witnessed a complete die off of the mayfly nymph population that turned out to be the end of the mayflies until they returned in the 1990s as a result of improved Lake Erie conditions. This is one of the reasons they are used as an indicator organism since they live on the bottom and experience the oxygen conditions that occur there. However, these are rare events as the western basin is not deep enough to stratify for the season.

In short, the "dead zone" in the central basin of Lake Erie is likely a natural phenomenon but it has been increasing again in the past 10 years and we are trying to establish an accurate model that conforms to and predicts these changes. The inputs that result in the decreased oxygen levels and hence the increase in the size and area of the "dead zone" are the direct result of human activities. This is not an idle concern as the seiche effect (or sloshing) of the central basin has brought the oxygen depleted water close to shore resulting in fish kills, and taste and odor problems of water supplies.

2. The Great Lakes seem to have multiple programs that are all trying to reach the same goal of cleaning up the water.

- a. How are these being managed?

Of course, multiple programs are needed given the different orders of government, funding mechanisms and program goals as well as the fact that some are regulatory while others are non-regulatory in nature. Each program has its own statutory authority and management structure. Nevertheless, the Great Lakes Governors have had a longstanding concern regarding inefficient coordination. Accordingly, when the Great Lakes Regional Collaboration was launched in 2004 (see below), it was noted that we "...have experienced individual opportunities for successes during the last 30 years, (but) there is no overarching strategy to deliver coordinated restoration and protection efforts in the future."

Therefore, in recent years we have worked hard to improve coordination and focus more clearly on shared goals. For example, as a result of a 2004 Presidential Executive Order, federal, State, local and Tribal governments coordinate with one another through the Great Lakes Regional Collaboration. Through this Collaboration, our region developed a consensus strategy to protect and restore the Great Lakes. Since this time, governments and non-governmental partners have taken significant steps toward implementation.

Separately, each order of government also relies on its own coordinating mechanism(s). For example, and pursuant to that Executive Order, the federal agencies work with one another through an Interagency Task Force led by the U.S. Environmental Protection Agency. The Governors work through the Council of Great Lakes Governors, and other levels of government work together in corresponding manners. And, a number of other structures exist to address specific issues such as the commitments under the Great Lakes Water Quality Agreement.

- b. Is there a better way to organize the clean up so we aren't duplicating our efforts?

The preferred approach of the Council of Great Lakes Governors remains the authorization of a long-term block grant program, and the appropriation of necessary funds, to fully implement the region's consensus strategy. Under this approach, bureaucracy would be minimized to allow efforts to be directed toward local protection and restoration rather than toward federal process and paperwork. Our long-term goal is to secure needed funding and policy reforms. Resources must be efficiently used to address our highest-priority needs, empower stakeholder actions and adaptive management.

- 3. You mentioned recent federal efforts, specifically the Great Lakes Interagency Task Force and yearly funding, to clean up the Great Lakes. It seems too early to determine the benefits and full impact of these efforts. Should we allocate more federal funds before we know how these recent efforts compare to past efforts and successes?

Failure to act now or deferring restoration and protection investments will result in greater costs in the future. As illustrated by the Great Lakes Regional Collaboration strategy, large-scale, long-term funding is needed to protect and restore the Great Lakes. Investments will necessarily take some time before we are able to measure and quantify specific ecosystem improvements so we must not delay or suspend funding prematurely in a way that could negate or retard progress. At the same time, we must move forward in a transparent way that produces results.

A reasonable approach would seem to be to commit to a clearly-defined set of actions, continually track follow-through and progress, and monitor to see if expected outcomes result in the ecosystem improvements. If results meet or exceed expectations, we should continue or perhaps in some instances increase certain funding. Conversely, if results fall short, and as I indicated during my appearance before the Committee, we should be courageous in quickly changing course to make our programs effective.

4. You spoke about adaptive management and how that is working in the Great Lakes. Please share with the committee how decisions are made to shift money away from programs that aren't working to programs that are.

As you know, decisions regarding federal funding are made annually by Congress. Most recently, with the Administration's Great Lakes Restoration Initiative, an unprecedented funding model has been initiated whereby Initiative funding is directed to the U.S. Environmental Protection Agency who in turn will direct monies to other federal agencies, States, local governments, Tribes and non-governmental entities. We continue to encourage greater opportunities for the Governors to help inform these federal funding decisions so that money can be shifted away from programs that aren't working to programs that are, and so that federal funding can be more effectively integrated with State and other funding.

Over the past several months, we have worked collaboratively with representatives from Congress, local and Tribal governments, and non-governmental organizations to develop a framework embodying these principles. In particular, we appreciate the leadership of Senator Levin and Senator Voinovich in developing this framework and including it in their recently introduced Great Lakes Ecosystem Protection Act (S. 3073). Similar legislation (H.R. 4755) was also recently introduced in the U.S. House of Representatives.

5. I have been very impressed with all the witnesses for their initiative, expertise and passion in taking care of America's great water bodies. I continue to believe that the best decisions about water use and protection are made by the people who are closest to the waters. How can we ensure that we continue to balance the needs for water use with water protection and ensure that those who know a water body best are those who are ultimately making the decisions about protecting it?

Sustainably managing water use is the first of the Governors' priorities for protecting and restoring the Great Lakes. In 2008, following negotiation by the Governors and approval by our region's State legislatures and the U.S. Congress, the Great Lakes—St. Lawrence River Basin Water Resources Compact became law. We appreciate Congressional support for this Compact including the U.S. Senate's unanimous approval. As a result, our region has a strong framework in place under both State and federal law to sustainably manage water use and ensure that decisions are made by the region's Governors.

More broadly, federal policy should recognize the leadership role of the Great Lakes Governors in defining State and regional priorities for protecting and restoring our waters. As mentioned in my previous response, over the past several months we have worked collaboratively with representatives from Congress, local and Tribal governments, and non-governmental organizations to develop a framework embodying this and other principles. This framework is included in the recently introduced Great Lakes Ecosystem Protection Act (S.

3073) and similar legislation (H.R. 4755) that was also recently introduced in the U.S. House of Representatives. We look forward to working with members of Congress on this legislation and complementary efforts to achieve our shared objectives.

6. I understand the tight financial situations that states and local governments are currently experiencing. Having less money often means that we are unable to do things we would like to do for many of these environmental projects. However, even with the increased authorization levels given in many of the bills you are advocating, more federal dollars may not come your way. Without increased funding from Washington, DC, how will you continue to keep these programs going?

We look forward to working with Congress to deliver the large-scale, long-term funding that is needed to protect and restore the Great Lakes. The States understand budget challenges first-hand and will continue to leverage all available funding options to keep critical programs going. Beyond this, we look forward to working with federal leaders to make needed choices to meet our goals. But without needed federal funding, the likelihood of continuing these programs at the State and local levels will be greatly diminished, or at best significantly delayed, and we will have lost the momentum that we have worked very hard to build together.

Senator CARDIN. Thank you very much for your testimony.
Mr. Tauzel.

**STATEMENT OF JOHN R. TAUZEL, SENIOR ASSOCIATE
DIRECTOR OF PUBLIC POLICY, NEW YORK FARM BUREAU**

Mr. TAUZEL. Yes, good morning, Mr. Chairman, and thank you so much for the opportunity to be here today, and thank you to the members of the Committee as well.

I would also like to extend a thank you to Senator Gillibrand for her strong work in representing our State, and recognize Commissioner Grannis, who we have a strong ongoing discussion with regarding environmental issues.

I am so happy to be here to represent the 35,000 farm families of New York State. As many of you have discussed and as many panelists have discussed, agriculture is a critical component of any part of the Great Lakes and the great bodies of water that are being discussed today by the Committee.

In New York, that is certainly true. In the Great Lakes Basin we have over 17,000 family farms. Almost half of the farms in New York State are located in the Great Lakes Basin. On Long Island Sound, Suffolk County is our largest agricultural county by value. Suffolk County represents the eastern end of Long Island.

Agriculture has a role to play, and farmers are excited to help work on water quality issues. Water quality is critical. As you know, it is the lifeblood of New York agriculture and of agriculture in general, and farmers are truly committed to water quality.

Unfortunately, sometimes that runs into the fact that farming is a business. Farmers are faced with economic realities of making decision to protect water quality while making sure their businesses are sustainable over the long term.

Today, I would like to talk to you about a model that works in New York called the agricultural environmental management model. The Under Secretary talked a lot about two approaches: collaboration and coordination, and that is really what AEM was set up to do. Working through the New York State Soil and Water Conservation Committee, local soil and water districts, the New York State Department of Agriculture and Markets, the New York State Department of Environmental Conservation, and our Federal partners, USDA NRCS, farmers have for the past 10 years developed a unique model that focuses on solving local issues and addressing local concerns. By local, I mean farm site specific.

We have over 12,000 farms in the program, roughly one-third of the farms in New York. We focused on dairy and are expanding to focus on areas like equine, wineries and our fruit and vegetable farmers.

When I talk about farm specific focus, that is where our members have experienced the most benefit in getting to environmental benefits. On my home farm we established nutrient management plans which really help our farm to better utilize the nutrients available to us and also enhanced buffer strips to make sure that—and in fact, our farm is in the Chesapeake's—to make sure we are doing the best we can to protect the water.

AEM works. We know it works. In places where this voluntary, incentive based approach has been utilized, we have seen proven

monitored results of reductions in phosphorus. It also has worked over the long term. Farms are a long-term investment. My family has for over 80 years been involved in agriculture. As many in this room know, water quality is a long-term investment as well. We will see progression over the long term.

AEM and a voluntary incentive based approach that achieves participant buy-in helps establish this long-term goal. Farms are now buying into water quality. They are working hard to protect that water quality.

That helps regulators because Commissioner Grannis can focus on some of the larger issues from a DEC perspective, rather than agriculture, and that has been successful.

How can the Federal Government continue to help these farms? Well, the good news is you have done a great job already. The farm bill programs that you have established, like EQIP, WHIP, AMA, have been really tremendous to help agriculture. The Conservation Innovation Grant Program that you created has helped establish brand new innovative ways to push our boundaries and push the boundaries on farm environmental management.

I will say, one of the conversations and one of the points that came up earlier was this concept of regulation. I am not going to say that all regulation is bad. Certainly, certain regulations are needed. Our concern is just as environmental improvement is really best targeted on the local level, environmental regulation should also be targeted on the local level. There are significant tools out there that have already been established on the Federal level. Now, we recommend that the States really have that authority to then utilize those tools to move forward with that issue.

One-size-fits-all does not work, and from our personal experience dealing with the CAFO program established by Federal regulation, we have seen what Federal regulation can do. It does not take into account the unique nature of agriculture in all segments of the country. In fact, if our farms had not had a strong history of working for agriculture in the past and working for water quality improvement in the past, the current proposal would have stopped agriculture and unfortunately would have also stopped our DEC from—we believe would have stopped our DEC as well from administering other important programs.

With that in mind, I will just mention three other points to you. Forty cents per gallon, that is the amount of loss that every farmer took in New York State this year on the gallons of milk they produced; 35,7000 acres, that is the total number of acres in Suffolk County keeping—the total number of agricultural acres left in Suffolk County on Long Island holding back blacktop land; and \$37 million, that is green infrastructure investments—\$37 million is the amount of land that we—I am sorry—the requests that farmers had to EQIP programs this year that were not funded in New York.

Again, thank you for your time today. I appreciate all the opportunity today and look forward to answering any questions.

[The prepared statement of Mr. Tauzel follows:]



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**Testimony of John R. Tauzel
Senior Associate Director of Public Policy
New York Farm Bureau**

**Environment and Public Works Committee
Water and Wild Subcommittee
United States Senate**

**"Joint Hearing on the Legislative Approaches to Protecting, Preserving and Restoring
Great Water Bodies"**

Wednesday, February 24, 2010

On behalf of the farm families of New York Farm Bureau, New York's largest general farm organization, I appreciate the opportunity provided by Senator Boxer and Senator Cardin, the respective Chair and Subcommittee Chair, as well as respective Ranking Members Senator Inhofe and Senator Crapo to submit testimony regarding approaches to enhance the Great Lakes and the Long Island Sound. New York Farm Bureau is also grateful to Senator Gillibrand for her strong representation as both a member of the Environment and Public Works Committee and the Agriculture Committee.

My testimony today will focus on the most effective strategies to maximize the contribution agriculture can make in protecting, preserving and restoring our Nation's great water bodies. I respectfully request that these comments be entered in the Congressional record as part of today's proceedings.

In the context of great water bodies being considered today, the New York agricultural community has a strong interest in the approaches that will be developed and implemented. The seventeen percent of the Great Lakes Watershed within New York is home to over 17,000 farms or approximately one-half of New York's total. The five percent of the Long Island Sound Watershed that falls within New York includes the vast majority of the remaining farmland located on Long Island. Additionally, the state is responsible for about ten percent of the Chesapeake Bay Watershed, a water body of strong interest to the Committee. New York farms are active and vibrant in each of these areas, from orchards on the shores of Lake Ontario to lettuce growers along the St. Lawrence River to world-class farm wineries on the North Fork of Long Island, to the shaken, but fiercely determined dairy farms in the Finger Lakes.

Beyond environmental concerns, farming in the watersheds of both the Great Lakes and the Long Island Sound has additional challenges. On Long Island, farms have dealt with encroaching suburban pressures since before Levittown, the father of modern suburban development, was established over sixty years ago. One family farm on Long Island has moved three times during this period, each time further east to avoid continual development pressure. Today farms are at the end of Long Island, with the last 35,700 acres of farmland holding back dramatic development of the North Fork and around the Peconic Bay. Farmers on Long Island deal with an ever increasing suburban pressure on a daily basis.

In the Great Lakes Watershed farmers are continually faced with the changing economic conditions that an ever more competitive global market brings. Our dairy farms deal with a boom and bust cycle which, as members of the committee are very aware, has resulted in the most difficult milk pricing situation every experienced. Apple and vegetable farmers must continually deal with weaker processing markets as many companies focus operations on lower cost imports. Certainly these same conditions are felt by our farm neighbors in New England and throughout the Great Lakes States.

Despite these constantly changing variables, each and every day farmers across New York are working to improve their environmental sustainability. Farming is a long-term business and farmers recognize that appropriate natural resource management is critical to maintaining success of their businesses for future generations. Supporting farmers in these endeavors is how Congress can best aid agriculture in protecting water quality.

Agricultural Environmental Management—A positive approach

Discussions surrounding water quality improvements by private individuals and companies focus on two approaches, a voluntary, incentive based approach and a regulatory approach. While both approaches are needed, when working with agriculture, longstanding experience and numerous studies demonstrate that a voluntary, incentive based approach is the most productive way to achieve long-term water quality improvement. For this reason, states in the Great Lakes and Long Island Sound Watersheds have formalized and developed programs to support farm water quality protection efforts. In New York we have the Agricultural Environmental Management (AEM) program, in Michigan they've established the Agriculture Environmental Assurance Program, Massachusetts Farm Bureau has taken the lead on developing environmental best management practices (BMPs) and in Connecticut, USDA's Natural Resources Conservation Service (NRCS) has worked with many dairy farms to implement water quality protection initiatives.

For over fifteen years, New York's AEM program has aided farmers in protecting water quality. Formalized in New York State law in 2000, the program is a proven example of how government can help farmers be better stewards of our natural resources. The driving principles of AEM's success are what any approach by government should attempt to incorporate when implementing water quality programs that interact with agriculture.

Specifically these principles include:

A farm specific focus. Each farm represents a different environmental system with soil types, crop rotations and management capabilities that are specific only to the individual farm. These unique farm characteristics require a customized plan to address water quality issues. The AEM program achieves this goal by using a farm specific environmental evaluation and nutrient planning process to develop an overall implementation plan.

An educational component. Only by inspiring constant environmental awareness on a daily basis can we improve long-term water quality. To develop this recognition it is critical to achieve farmer buy-in of new management practices. This can only occur if programs have a strong educational focus. Under the AEM program, farms environmental knowledge is increased through a tiered planning approach that includes an ongoing evaluation component, ensuring continual improvement.

Locally Coordinated. Addressing water quality in an agricultural setting requires knowledge of specific environmental issues within each local watershed. Having local soil & water conservation districts lead efforts, such as they do in the AEM program, means limited resources are targeted to areas that will make the most impact in water quality improvement.

Participant Confidence. Regardless of the amount of cost share available for BMP implementation, there will always be a contribution by the farmer, whether in financial resources or even just focusing management time on the project. As business owners, farmers must have confidence in the technical assistance being provided or they will not view recommended water quality improvements as a wise and worthwhile investment. In New York's AEM program, technical assistance is provided by local soil & water conservation districts that have a long history and significant trust with farmers.

Farmers want to protect the environment and they are very proud of their responsibility as the caretakers our lands and waters. This is clearly demonstrated by farm participation in programs such as AEM which is currently working with over 12,000 of New York's approximately 35,000 farms.

Farmers are also the first to recognize that, while currently doing a tremendous job, more can be done to protect the environment. While many BMPs, such as the development of nutrient management plans (NMPs) make economic sense, higher-cost projects often cannot provide the payback necessary to make them financially viable. In an economic environment where income is already limited, this financial fact severely limits the ability of farms to implement new BMPs.

We clearly see this conflict of wanting to do more, but not having the financial ability to accomplish further BMP implementation, in data from current funding requests. Congress has been very gracious in supporting the Environmental Quality Incentives Program (EQIP), including new funding for both a Chesapeake and Great Lakes focus. Farmers in

New York and throughout the great water bodies are so very grateful for this support. Further enhancing this support would dramatically improve water quality and help maintain our family farms.

In New York last year, farmers requested over \$51 million in support from EQIP funds, only \$13 million of which was funded. In our New York State Agricultural Non-Point Source Abatement Grant Program, farms in the Great Lakes requested support for over \$22 million in new BMPs beyond what was funded and on Long Island over \$800,000 in funding requests could not be fulfilled. In the New York's portion of the Chesapeake Bay, only sixteen percent of requests were able to be funded under the new enhancement program. The will of farms to do more to protect water quality is there but we need Congressional help to accomplish these goals.

Beyond being effective on the farm, voluntary, incentive based programs are also the most effective way to utilize government funds to protect water quality. Regulatory agencies simply do not have the man power to have a constant presence on farms across watersheds. Education and assistance based programs result in an approach that achieves fundamental buy-in from the participating community. This strengthened knowledge about protecting our resources lowers the overall risk of involved sectors, allowing regulatory agencies to dedicate their limited resources to other higher-risk areas.

Technical Assistance Infrastructure

As business owners, farms recognize that spending must be done in the most effective way possible. With that in mind, we firmly believe that supporting local technical assistance is of vital importance to helping farms protect water quality. Having knowledgeable NRCS employees and strong local soil & water conservation districts means the ability to quickly and efficiently deploy green infrastructure projects. Aiding our land grant universities in developing and researching new BMPs and expanding the applied knowledge of nutrient management techniques helps ensure that farms continue to use the latest sound science to push the boundary on superior water quality protection. To this end, we strongly encourage increased support for local agencies involved in water quality improvement and enhanced funding for programs like NRCS's Conservation Innovation Grants.

Market Based Approaches

Encouraging farms to implement BMPs may in fact be the most cost effective mechanism to ensure water quality. However, while representing the lowest cost to society, these projects are not, in any way, a low cost investment to the farmer. In fact, forcing farms to adopt these practices will weaken their financial stability and may result in a termination of the farm business. This is particularly true given that farmers are "price takers" and cannot simply pass increased costs onto the consumer. The end consequence of farms leaving the business is often a decline in water quality as stormwater and impervious surfaces such as parking lots replace hay fields and forest land.

There are existing models that have demonstrated how society can install on-farm BMPs without mandates on the farm community. In New York, a landmark approach resulted in

New York City funding the installation of on-farm BMPs across its watershed region. These BMPs were installed at a fraction of the cost a new filtration plant would have cost the New York City and in addition aided family farms throughout the Catskills.

This cost-benefit approach, along with a nutrient trading approach is something we strongly urge Congress to consider when discussing efforts to improve water quality. Whether it be through authorizing interstate compacts within watersheds or supporting intrastate efforts, nutrient trading can allow market forces to aid in efficiently providing clean water. We would encourage that these nutrient trading discussions not just look at BMP implementation but also at purchase of development rights programs, provided lands remain as active farmland. The one point of caution on this issue is that establishing goals or even regulations that are based on expectations of “everything, everywhere from everyone,” dramatically limits the opportunities nutrient trading has to help farms.

Appropriate Regulation

In any sector, there will unfortunately be individuals that are not actively involved in protecting the environment. In these situations, we recognize there is a role for a regulatory approach. What is concerning to us is an emerging discussion about increasing the regulatory oversight and authority of the Federal Government to address this small segment. We are opposed to this approach of increased Federal authority. Necessary tools are already in place to allow states to comprehensively enforce water improvement efforts.

We mentioned above that appropriate assistance programs for water issues should be locally focused. Similarly, regulatory programs need to be designed based on local conditions and management practices. One need only look at the disastrous attempt by EPA to regulate CAFOs in order to understand the inherent fault of having increased Federal regulatory oversight of farms. For the past year, New York has struggled with EPA’s mandate that would bring New York dairies and our Department of Environmental Conservation to a standstill. This approach is counter to everything that’s been discussed about effective use of government resources and targeting areas of higher environmental risk. Again each individual farm is an environmental system unlike any other. This necessitates a targeted approach that Federal regulation simply cannot provide.

Having regulatory flexibility is important not just for local conditions, but also to allow for continually improving practices to be implemented on farms. The current Clean Water Act permit system focuses on wastewater treatment plants and chemical factories. Farms, as environmental systems, are much more dynamic in nature than these fixed structures. This means farms must have the ability to adopt new and innovative technologies as they continually undergo business change and face environmental variables. Unfortunately, regulation is not flexible enough to rapidly incorporate new technologies, hindering on-farm environmental improvement. This rigid approach certainly increases, the more broadly a regulation is applied.

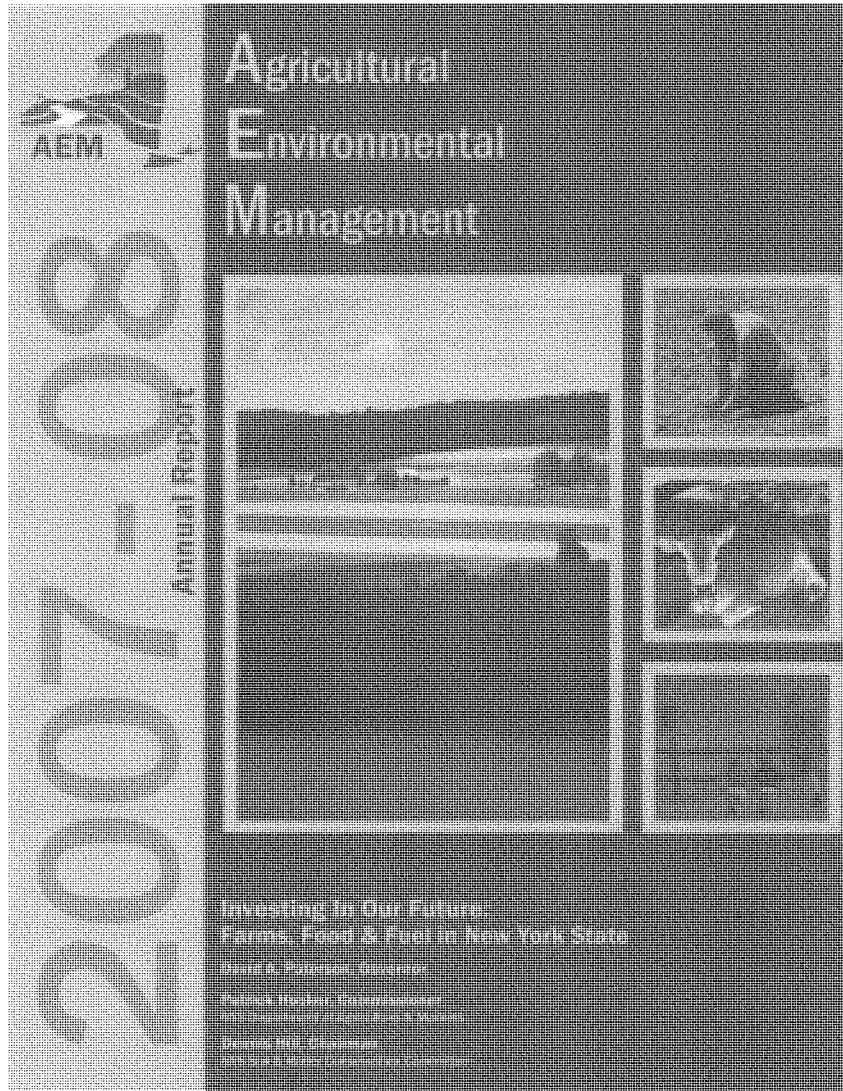
Finally, existing Federal regulatory paradigms cannot take into account the variability in price received by farmers. The current dairy farm crisis is, unfortunately an example of this.

Congress provided important support last year as part of the Dairy Economic Loss Assistance Payment program and farmers are so very grateful for those funds. However, as you all know too well, dairy farm families are making tough discussions about health insurance coverage and electric bills. Having a Federal regulatory program that doesn't recognize these difficult conditions and impose further mandates would simply add to the burden faced by these families and encourage further loss of vital farmland in watersheds.

We recognize that there is a desire to create accountable standards that every jurisdiction in a watershed must obtain. From a regulatory perspective, EPA already has this authority through its Total Maximum Daily Load (TMDL) establishment capabilities. Our understanding is that a multi-state TMDL has already been used as part of the restoration efforts of the Long Island Sound. We believe an even more effective approach to encourage higher standards is to reward water quality improvements. Each state can then balance an assistance based approach with its regulatory tools, including SPDES/NPDES permits, to achieve higher standards and gain even more support.

As the Senate moves forward in considering approaches to address the quality of great water bodies across the United States, we believe efforts to support farmers through increased funding and financial allocations are the initiatives that should be pursued. Increasing Federal oversight and expanded regulation will ultimately fail to provide the necessary attitudes needed for long-term changes, particularly in the agricultural sector. Further, this approach may have a negative impact on water quality by promoting loss of farmland, something we strongly oppose.

New York farmers believe in protecting water quality. Clean water is a critical resource to the long-term success of farm businesses. Adopting an approach that rewards farmers is the most effective way to encourage the environmental, economic and social sustainability of our family farms. Many thanks again for the opportunity to comment on this issue. New York Farm Bureau stands ready to assist in any possible way as the Senate moves forward on these important considerations.



Agricultural Environmental Management

Core Concepts

- Working landscape concept
- Preventive form to take
- Based on watershed scale
- Land use and management
- Credible to producers and others
- Addressing future environmental challenges
- Includes both on- and off-farm activities

Framework

Framework built on four pillars:

- 1. Identify current activities, resources, and potential environmental impacts
- 2. Develop a plan to address current and potential environmental impacts
- 3. Implement conservation plans to address current and potential environmental impacts
- 4. Monitor and evaluate progress and adjust as needed

Goals

- 1. To provide a framework for the development of a plan to address current and potential environmental impacts
- 2. To provide a framework for the implementation of a plan to address current and potential environmental impacts
- 3. To provide a framework for the monitoring and evaluation of a plan to address current and potential environmental impacts
- 4. To provide a framework for the adjustment of a plan to address current and potential environmental impacts

Investing in a Future for Our Future

The North Carolina Department of Agriculture and Consumer Services (NCDAS) is committed to ensuring that the state's agricultural resources are protected and managed in a sustainable manner. This commitment is reflected in the Agricultural Environmental Management (AEM) program, which provides a framework for the development and implementation of a plan to address current and potential environmental impacts. The AEM program is based on the working landscape concept, which recognizes that agriculture is a vital part of the state's economy and culture. By addressing environmental challenges in a preventive manner, the AEM program aims to ensure that the state's agricultural resources are protected and managed in a sustainable manner for future generations.

State Funding

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AEM funding is a key component of the state's commitment to ensuring that the state's agricultural resources are protected and managed in a sustainable manner. This funding is used to support the development and implementation of the AEM program, which provides a framework for the development and implementation of a plan to address current and potential environmental impacts. The AEM program is based on the working landscape concept, which recognizes that agriculture is a vital part of the state's economy and culture. By addressing environmental challenges in a preventive manner, the AEM program aims to ensure that the state's agricultural resources are protected and managed in a sustainable manner for future generations.

Advancing Conservation

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From 1980 to 1982, the drug and alcohol testing was conducted using the 17 questions and responses included in our current screening questionnaire. Several changes were made to the questions, and a new company, the University of Illinois Center for the Assessment of Substance Abuse, was hired in 1983. The following are our earlier drug testing questions, which have been omitted because of the extremely poor response rates on some of the items, except substance

Abstract

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Figure 1. The effect of the initial concentration of the monomer on the polymerization of *l*-lysine. The polymerization was carried out at 30°C for 24 h. The initial concentration of the monomer was 0.05, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, and 1.0 mol/L. The initial concentration of the initiator was 0.005 mol/L. The initial concentration of the catalyst was 0.005 mol/L. The initial concentration of the solvent was 0.05 mol/L. The initial concentration of the buffer was 0.05 mol/L. The initial concentration of the water was 0.05 mol/L. The initial concentration of the other components was 0.05 mol/L.

Figure 6. The effect of the number of iterations on the accuracy of the proposed algorithm. The figure shows two plots side-by-side. The left plot shows the error rate (Y-axis, ranging from 0.0 to 0.8) versus the number of iterations (X-axis, ranging from 0 to 10). The right plot shows the accuracy (Y-axis, ranging from 0.0 to 1.0) versus the number of iterations (X-axis, ranging from 0 to 10).

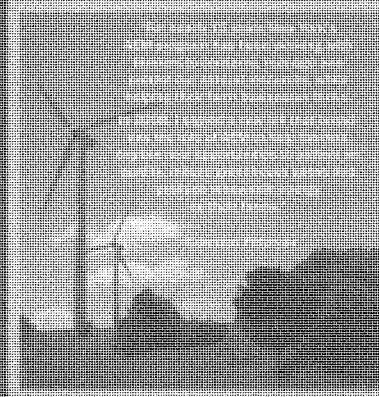


Figure 1. The relationship between the number of species and the number of individuals in a community. The x-axis represents the number of individuals (log scale) and the y-axis represents the number of species (log scale). The curve shows a positive relationship between the two variables.

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Measuring Achievements

Waterfowl Sustains Farmers Doing Their Part

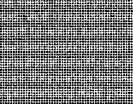
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1. The following information is required to be provided to the public:

- (a) The name of the person or entity that is the subject of the investigation;
- (b) The date of the investigation;
- (c) The name of the person or entity that conducted the investigation;
- (d) The name of the person or entity that received the results of the investigation;
- (e) The name of the person or entity that provided the results of the investigation to the public;
- (f) The name of the person or entity that provided the results of the investigation to the public;
- (g) The name of the person or entity that provided the results of the investigation to the public;
- (h) The name of the person or entity that provided the results of the investigation to the public;
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"My 1999 efforts at turning in the nomination are worth the change in strategy of voters' and party officials," he said.

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1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

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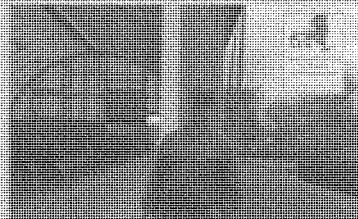
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| 1. Business Model: | 1. Business Model: |
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| 4. Cost Structure: | 4. Cost Structure: |
| 5. Channels: | 5. Channels: |
| 6. Customer Segments: | 6. Customer Segments: |
| 7. Relationships: | 7. Relationships: |
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Partnering to Protect Our Environment

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This week, I've been reading *Unsettled* by John M. Barry. It's a book about the early years of the American west, and it's a very good one. I've been reading it for a while now, and I'm enjoying it very much. It's a book that I would recommend to anyone who is interested in the history of the American west.

The following study is also consistent in its suggestion that, as a rule, people in positions of higher responsibility in the firm are more likely to engage in unethical behavior. The authors suggest that this may be due to the fact that people in these positions are more likely to be involved in decision-making and to have more power and influence over the firm's operations. They also suggest that this may be due to the fact that people in these positions are more likely to be involved in the firm's financial affairs and to have more knowledge of the firm's financial situation.

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Farming in Harmony With the Environment

Farmers with a Plan

For many farmers, the future of their land is a constant concern. The National Conservation Lands Program (NCLP) provides a framework for managing public lands in a way that is compatible with the needs of the people who live and work on them. The NCLP is a voluntary program that allows farmers to enter into agreements with the Bureau of Land Management (BLM) to manage their land in a way that is compatible with the needs of the people who live and work on them. The NCLP is a voluntary program that allows farmers to enter into agreements with the Bureau of Land Management (BLM) to manage their land in a way that is compatible with the needs of the people who live and work on them.

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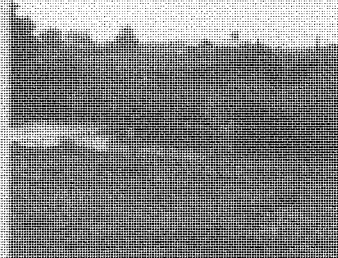
John Smith, owner of Smith Farm, stands in his field in the heart of the Great Smoky Mountains National Park. The farm is a member of the National Conservation Lands Program.

Conservation Buffers Lead the Way

The NCLP program has a dual focus: on increasing agricultural production and on increasing conservation. The program is designed to help farmers manage their land in a way that is compatible with the needs of the people who live and work on them. The NCLP is a voluntary program that allows farmers to enter into agreements with the Bureau of Land Management (BLM) to manage their land in a way that is compatible with the needs of the people who live and work on them.

In partnership with the National Conservation Lands Program (NCLP), the Bureau of Land Management (BLM) is working to create conservation buffers along the borders of public lands. These buffers are designed to protect the land from the impacts of development and to provide a buffer between the land and the people who live and work on it. The NCLP is a voluntary program that allows farmers to enter into agreements with the Bureau of Land Management (BLM) to manage their land in a way that is compatible with the needs of the people who live and work on them.

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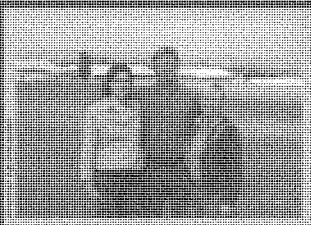
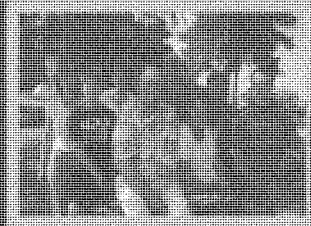


Water Buffalo

The NCLP is a voluntary program that allows farmers to enter into agreements with the Bureau of Land Management (BLM) to manage their land in a way that is compatible with the needs of the people who live and work on them. The NCLP is a voluntary program that allows farmers to enter into agreements with the Bureau of Land Management (BLM) to manage their land in a way that is compatible with the needs of the people who live and work on them.

AEM Award Winners

Figure 6. The effect of the number of iterations on the accuracy of the proposed algorithm. The results are averaged over 10 trials. The error bars represent standard deviation.

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This report covers
August 1967 - August 1968

Senator CARDIN. Well, thank you. I think the view from the agricultural community is extremely important in this debate, so thank you for being here.

Mr. Ullrich.

**STATEMENT OF DAVID A. ULLRICH, EXECUTIVE DIRECTOR,
GREAT LAKES AND ST. LAWRENCE CITIES INITIATIVE**

Mr. ULLRICH. Thank you very much, Senator Cardin, Senator Klobuchar, Senator Merkley. I appreciate the opportunity and your willingness to hear from local government as well today.

I am Executive Director of the Great Lakes and St. Lawrence Cities Initiative, which is a group of 70 United States and Canadian cities from across the Great Lakes and St. Lawrence. We represent about 13 million people in our cities. I am very happy to have our Chairman, Mayor George Heartwell of Grand Rapids, Michigan, here with me today as well. In addition to those responsibilities, I serve as the U.S. Section Chair on the Great Lakes Fishery Commission.

We in the Great Lakes community are extremely excited about this concept of great waters legislation where we can look across the country at the tremendous resource we have in our waters and figure how to do a much better job of protecting and restoring it long term into the future.

Senator, your earlier question about common elements struck me as I was listening to this panel and the other one, is that a tremendous amount of work has gone on already and progress has been made, but the magnitude and complexity of these resources, and the complexity of the problems we are dealing with, continue to increase the challenges that we have.

We all know there is not an unlimited amount of money to deal with this, so we have got to be looking at other ways to improve the way that we do business. I think a lot of good work has been done, but we can do better.

As Mr. Naftzger mentioned, we have been working quite heavily lately on trying to see if there are ways we can streamline and improve the effectiveness of the management of the resources that we have and increase and improve the collaboration and cooperation. The spirit is there, but making it a reality is the real challenge that we face.

Basically, the idea that we have come up with is a two-tiered management system with an added element in terms of having a good, tight, clear plan to improve the accountability and responsibility associated with utilizing the Federal, State and local resources, as well as achieving the results.

The first tier would be what we would call a leadership council that would essentially take the political leadership at the Federal, State, local and tribal level, basically working with the number of our States with eight Governors, but also having eight Mayors, eight tribal leaders, and eight leaders of Federal agencies. This council would serve as the overall policy directors, setting goals and objectives, setting the priorities, and basically giving the battle charge on an annual basis.

We would also have observers from the commissions that oversee the work, Great Lakes Commission, International Joint Commis-

sion and also the Great Lakes Fishery Commission. And we think we should invite our good neighbors from Canada to sit in on this as well. So with this overall policy-setting, and we would hope we could get a significant number of that political leadership every year together, and to really give the direction to the career staff to get out and get the job done.

The second tier would be a management committee that essentially would have one representative of each of those entities that is on the leadership council. Plus, here is where we would bring in the agricultural community, the industrial community, the environmental community to, on a more frequent basis, be monitoring the work that is being done, resolving disputes, basically pushing, pushing, pushing on more implementation and more action. That is what we really need to have happen, I think, at all of these resources, I know in the Great Lakes area specifically.

In both of these bodies, speaking of leadership, we do need leadership. We think the U.S. Environmental Protection Agency is in the best position to provide that kind of comprehensive chairing of both the leadership council and the management committee that we would have. They have a broad range of responsibility, and I think we are all prepared to rally around the kind of leadership that they have been showing recently with the Great Lakes Restoration Initiative. So we think those two elements are essential.

The third thing is really to have some clarity in a plan where you can go to it and you know who is responsible to do what by when, and that we can have accountability to one another. We can have accountability to Congress for the money that is being provided, and even more importantly, accountability to the broader public that is expecting us to do the kind of job that needs to be done on this.

So with all of these great waters, we are at a critical point. There are tremendous opportunities to improve in the future, and these are just a few ideas to work with.

Thank you again for hearing me out.

[The prepared statement of Mr. Ullrich follows:]



**SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
SUBCOMMITTEE ON WATER AND WILDLIFE
JOINT HEARING
“LEGISLATIVE APPROACHES TO PROTECTING, PRESERVING, AND
RESTORING GREAT WATER BODIES”
WEDNESDAY FEBRUARY 24, 2010
DIRKSEN 406
TESTIMONY OF DAVID A. ULLRICH, EXECUTIVE DIRECTOR
GREAT LAKES AND ST. LAWRENCE CITIES INITIATIVE**

Good morning distinguished leadership and members of the Subcommittee. I am David Ullrich, Executive Director of the Great Lakes and St. Lawrence Cities Initiative. Thank you for providing me this opportunity to speak. We are a coalition of 70 U.S. and Canadian cities with over 13 million population dedicated to the protection and restoration of the Great Lakes and St. Lawrence. We seek a long term, sustainable future for the region by finding the best possible balance among environmental, economic and social elements on the local level. Local governments from the U.S. and Canada along the Great Lakes and St. Lawrence are investing over \$15 billion annually to advance this agenda.

We are very pleased with the introduction of this legislation designed to advance the protection and restoration of the great waters of the United States. I will direct my attention to the provisions relating to the Great Lakes and focus on the proposed governance and management structure in the bill.

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Richard M. Daley, Mayor of Chicago, Founding United States Chair
David Miller, Mayor of Toronto, Founding Canadian Chair*



Many people have dedicated themselves to this effort over the years, much money has been invested, and much progress has been made. At the same time, the magnitude of the problems and increasing complexity of the challenges mean that much more remains to be done. One especially important step we can take as we go forward is to streamline the management and governance structure and improve its effectiveness. The fundamental problem is that there are so many people involved from so many different agencies of several orders of government, and no one has the overall authority, accountability, and responsibility for directing the effort. It is further complicated because these are international waters. In addition, there is no single plan or strategy that lays out a long term vision for the future, clear goals and measurable objectives, and actions to be taken by designated parties within established timeframes. Also, because of the very informed and committed environmental community in the Great Lakes, there must be a way to engage them at all steps of the process.

The key principles that should be applied for any future structure are:

- Simplicity, flexibility, and efficiency
- Transparent and open to the public
- Emphasis on tangible actions
- Accountability for actions that bring resource improvement
- Compatibility with international structures and relationships
-

The proposed two tiered management structure in the bill is fully consistent with these principles. The first tier is the Great Lakes Leadership Council, with high



level political leadership at the federal, state, local, and tribal levels providing policy direction, setting goals and objectives, establishing priorities, reporting progress, and building consensus. The leadership responsibility for the GL Leadership Council is placed with the EPA Administrator as Chair, providing clear accountability with a political appointee. Having the secretaries and administrators, governors, mayors, and tribal chairs on the Council provide clear direction to the career staff on an annual basis, and check progress on projects, programs, and environmental improvement on a regular basis will go a long way toward accelerating the work that needs to be done. Representatives from the various commissions that oversee work on the Great Lakes, as well as a Canadian representative, would serve as observers to the process to provide a connection to their own efforts and an independent perspective on the work of the Council. Importantly, all the right people would be in the same room at the same time. Also, oversight from the legislative bodies that appropriate funds for the projects and programs will contribute to a higher level of accountability.

The second tier, the Great Lakes Management Committee, provides direction to the planning, assessment, and reporting efforts, along with tracking and assisting with implementation. This group would include senior managers from government agencies, commissions, stakeholder groups, and others with in depth knowledge of the resource and the programs and projects designed to improve it. Leadership for this work is provided at the political level from U.S. EPA. It is this GL Management Committee that can provide the critical link to much more work happening on the ground. Although more funding is always needed, more can be accomplished with more effective management structures,

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In order for the GL Leadership Council and GL Management Committee to be effective, there needs to be a single plan for the Great Lakes that sets out the vision, goals, and objectives, along with the programs and projects designed to address the problems faced. The Great Lakes Plan must set out who is responsible for implementing the programs and projects and the time frames for action. However, we do not need a new, extended planning process for this purpose. Extensive planning has gone on in the past, and we need to move forward with action. The key elements of the recently released Great Lakes Restoration Initiative (GLRI) Action Plan, along with the Lakewide Management Plans completed under the Water Quality Agreement, and the 2005 Great Lakes Regional Collaboration Strategy provide most of the elements for a Great Lakes Plan. Some states, tribes, and local governments also have their own plans that can be a source of additional actions. The primary additions needed in the Great Lakes Plan are the designation of agencies having the lead responsibilities for actions, as well as timeframes for initiating and completing the work. Ongoing review of the work to make sure it is proceeding on schedule, along with monitoring and assessment of the environmental results, is essential to make sure the work is accomplishing the desired outcomes.

There are no magic formulas for success, but the three key elements of a policy level council, a strong management group, and an action oriented plan can bring much more direction, accountability, and results to the work on the Great Lakes. Obviously, investments are needed to make all of this happen, but a more effective management and governance structure can go a long way toward making more out of the funding available.

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Other key provisions in the bill will also contribute significantly to strengthening the Great Lakes programs in the future. The formal establishment of the Great Lakes Restoration Initiative and the Great Lakes Interagency Task Force are important parts of the institutional infrastructure for the Great Lakes. The GLRI can become the long term, broad scale funding source for programs and projects in the future. The Interagency Task Force is where the Federal government can work through the many issues that must be addressed to integrate multiple programs and agencies and make them more compatible. Federal legislation is not needed, and would not be appropriate, for similar actions at the state, local, and tribal levels. States have their Council of Great Lakes Governors and Great Lakes Commission, cities have the Great Lakes and St. Lawrence Cities Initiative, and the tribes their various councils, commissions, and associations to work through the issues for their governmental bodies. Likewise, the stakeholder groups also have groups to formulate policies and positions to represent their perspectives.

Thank you again for providing me this opportunity to bring the local government perspective to Congress. This legislation presents a major step forward for the protection and restoration of the Great Lakes and its long term sustainability.

SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE HEARING
FEBRUARY 24, 2010
FOLLOW-UP QUESTIONS FOR WRITTEN SUBMISSION

Submitted March 19, 2010

Questions for David A. Ullrich, Executive Director, Great Lakes and St. Lawrence Cities Initiative

Questions from Senator James M. Inhofe

- 1. These kind of collaborative programs require buy-in from all levels of government and stakeholders to work effectively and achieve goals. How do we structure legislation to ensure that the decisions made will receive widespread support, from local city and county governments, to states and EPA.**

The key to buy-in from all levels of government and stakeholders is a process that includes all of those interests from the very beginning, open and transparent operations, timely and rational decision making, and action to implement the decisions. People need to know they have been listened to for them to support decisions, even if the decision is not what they had hoped for. Explanations from the decision maker as to why certain actions will be taken, and why others will not, go a long way to convincing people to support the result. The worst-case situation is where no decision is made because it is too difficult or controversial, and discussions go on interminably. Also frustrating to participating governments and stakeholders is a decision with no action to implement it. Even if a decision is not 100% correct, which many are not, through implementation, changes can be made to make it more effective.

Legislation should be structured to create decision making bodies that include federal, state, local, and tribal governments, and opportunities for non-government stakeholders to participate and be heard. Also needed is an implementation body that will take the decisions of the policy makers and make sure they are carried out in a timely, efficient, and effective manner. A proposed structure for decision making and implementation bodies is included as Attachment A to these answers. In addition to these, an integrated, comprehensive plan that incorporates the vision, goals, objectives, policies, and priorities of the decision makers with specifics about who is responsible for what actions in what timeframes will go a long way to get buy in from all governments and stakeholders. The Great Lakes Ecosystem Protection Act (S. 3073) introduced in the Senate and similar legislation (H.R. 4755) also recently introduced in the U.S. House of Representatives are a major step in the right direction.

2. **The Great Lakes seem to have multiple programs that are all trying to reach the same goal of cleaning up the water.**
 a. **How are these being managed?**

There are multiple programs for cleaning up the water of the Great Lakes, and it does make management difficult. Just a few of the programs include the Clean Water Act, Safe Drinking Water Act, Superfund, Resource Conservation and Recovery Act, Clean Air Act, and many others, with multiple programs under each law. Likewise, each of the eight Great Lakes states has separate legislation and programs for the Great Lakes, as do some local governments and tribes. In a 2003 study, the Government Accountability Office found over 140 programs that apply to the Great Lakes. Because these authorities are under the jurisdiction of many different committees in Congress, and primary authority for implementation is placed in different Federal agencies and departments, a very difficult management challenge is presented. At the Federal level, management of the individual programs is taking place in each agency and department. The integration of the programs takes place at the Interagency Task Force created by Executive Order on the Great Lakes in 2004. For management with federal, state, local, and tribal involvement, there is a Great Lakes Regional Collaboration (GLRC) Executive Committee with representation from each order of government that tracks progress and encourages implementation of a wide variety of programs included under the 2005 GLRC Strategy. There is also quarterly interaction with a much broader group of stakeholders by conference call.

- b. **Is there a better way to organize the cleanup so we aren't duplicating efforts?**

Yes, there is a better way to organize our cleanup to avoid duplication of effort and increase the effectiveness and efficiency of our investments and our work. As mentioned in my testimony and referenced above, also depicted in Attachment A, a two tiered leadership and management structure with a comprehensive plan would be a much better way to organize. The Great Lakes Leadership Council, made up of eight senior level, political representatives (governors, mayors, tribal chairs, and secretaries/administrators) of Federal, state, local, and tribal governments,

with observers from the three major commissions on the Great Lakes and one from Canada, would articulate the vision, set the goals and objectives, establish priorities, and make the policies so that all orders of government have a clear understanding of what they are responsible for and the timeframe for doing the work. To direct and track ongoing progress, a Great Lakes Management Committee with one representative from each order of government, each commission, Canada, stakeholders from the environmental, academic/scientific, industrial, and agricultural communities, would be responsible.

In order for the GL Leadership Council and the GL Management Committee to function properly, there needs to be a comprehensive plan that covers the work to be done, the entities responsible, and timeframes for doing it. We do not need a new planning process for this. The GL Management Committee should take the recently adopted Great Lakes Restoration Initiative action plan, and add the appropriate elements from the GLRC strategy, the lakewide management plans, obligations under the Great Lakes Water Quality Agreement, and elements from any state, tribal, or local plans. To the extent that key cleanup activities fall outside these plans, like work under Superfund or projects funded under programs like the Clean Water Act State Revolving Funds, they should be included, as well. I cannot emphasize enough that we do not need a new plan or process, but rather a streamlined way to integrate what we have already. The GL Management Committee would monitor progress on a quarterly basis, with reports to the GL Leadership Council on an annual basis. Those reports would also be the appropriate basis for Congressional oversight hearings on how the appropriated funds are being invested. The comprehensive plan would cover 5 years, with the 2-3 year period for a mid term review and adjustments. This entire structure is designed to provide a much higher level of accountability than currently exists.

3. You spoke about adaptive management and how that is working in the Great Lakes. Please share with the committee how decisions are made to shift money away from programs that are not working to programs that are.

Adaptive management can be carried out in a variety of ways, including shifting money away from one program to another. Where such shifts are made, it must be clear that the Congressional authorization and appropriation would allow it, and that the necessary reprogramming be done at the Federal level. Other adaptive management approaches would include a change in cleanup strategies to accomplish the same or even higher goal in a more cost effective manner.

Two examples of adaptive management are instructive for this discussion. First, the primary strategy for solving the combined sewer overflow

problem and resulting water quality impairment has been more hard, grey infrastructure. Realizing how expensive those investments are and the limitations of traditional solutions, cities and sanitary districts have started to look at soft, green infrastructure solutions to deal with the non-point source storm water problem. Fortunately, U.S. EPA has listened to local and state officials, and makes State Revolving Fund money available specifically for green infrastructure.

A second example of adaptive management is the cleanup of Ashtabula Harbor in Ohio. This was on a Superfund track for cleanup, when the community and State came forward with a proposal of a more cooperative, voluntary approach to the problem. When Great Lakes Legacy Act money became available, it was applied and a long standing dredging project has finally been completed.

As to how these decisions are made, it is a pretty common sense process. People closest to the problem raise concerns about the existing course of action to other people who are in a position of authority to make a decision about changing the course. If those decision makers hear the arguments and are convinced of their merits, one hopes that they will decide accordingly and proceed with implementing the decision. This usually takes a lot longer than anyone would like, but it can be done.

4. Has this two-tiered management structure been used before in cleaning up water bodies?

To my knowledge, this two-tiered management structure has not been used before in cleaning up water bodies. I know it has not been used on the Great Lakes, and believe it is one of the major reasons we have not made more progress. So much time and energy is consumed in moving across so many tiers get decisions made, and so much confusion is created in the process, that it is very difficult to have a clear set of actions and timeframes where there can be responsibility and accountability for getting the job done.

The beauty of the two-tiered system is its simplicity and efficiency. Between the GL Leadership Council and the GL Management Committee, it is clear what decisions need to get made where. Once those decisions are made, all the emphasis can be put on implementation.

5. If so, has it been more successful than other approaches?

As noted above, I am not aware of where it may have been used. For the reasons stated, I believe it has a high potential for success.

6. I have been very impressed with all the witnesses for their initiative, expertise and passion in taking care of America's great water bodies. I continue to believe that the best decisions about water use and protection are made by the people who are closest to the waters. How can we ensure that we continue to balance the needs for water use with water protection and ensure that those who know a water body best are those who are ultimately making the decisions about protecting it?

The mayors of the Great Lakes and St. Lawrence Cities Initiative agree completely that the best decisions about water use and protection are made by the people who are closest to the waters. No one is closer than the mayors on the shores of the Great Lakes and their tributaries, who see the resource and hear from the citizens on a daily basis. The Cities Initiative appreciates how the states and Federal government have increasingly included the local government representatives and perspectives in policy making and decision making over the past seven years. This needs to increase and continue in the future.

At the same time, important work at the state, tribal, federal, and international level must be done. Establishing national permitting programs that are implemented by the states are a good example. Likewise, something like the State Revolving Funds for wastewater and drinking water are good approaches to program creation and implementation. State and federal authorities should also be balancing priorities across the region, and developing the scientific understanding of the resource that does not need to be replicated at all the local levels. Tribes have a unique role in terms of their historical and cultural relationship with the resource and need funding and flexibility on how to protect and restore it.

There are two key ways to make sure that those who know the water body best are those who are ultimately making the decisions about protecting it. First, local government must be given an equal role in decision making about policy and programs for the Great Lakes. This would be accomplished by the creation of the GL Leadership Council and the GL Management Committee. Secondly, for work that needs to be done at the local level, there must be broad discretion given to local decision makers on how to invest the funds that are made available to accomplish the agreed goals and objectives.

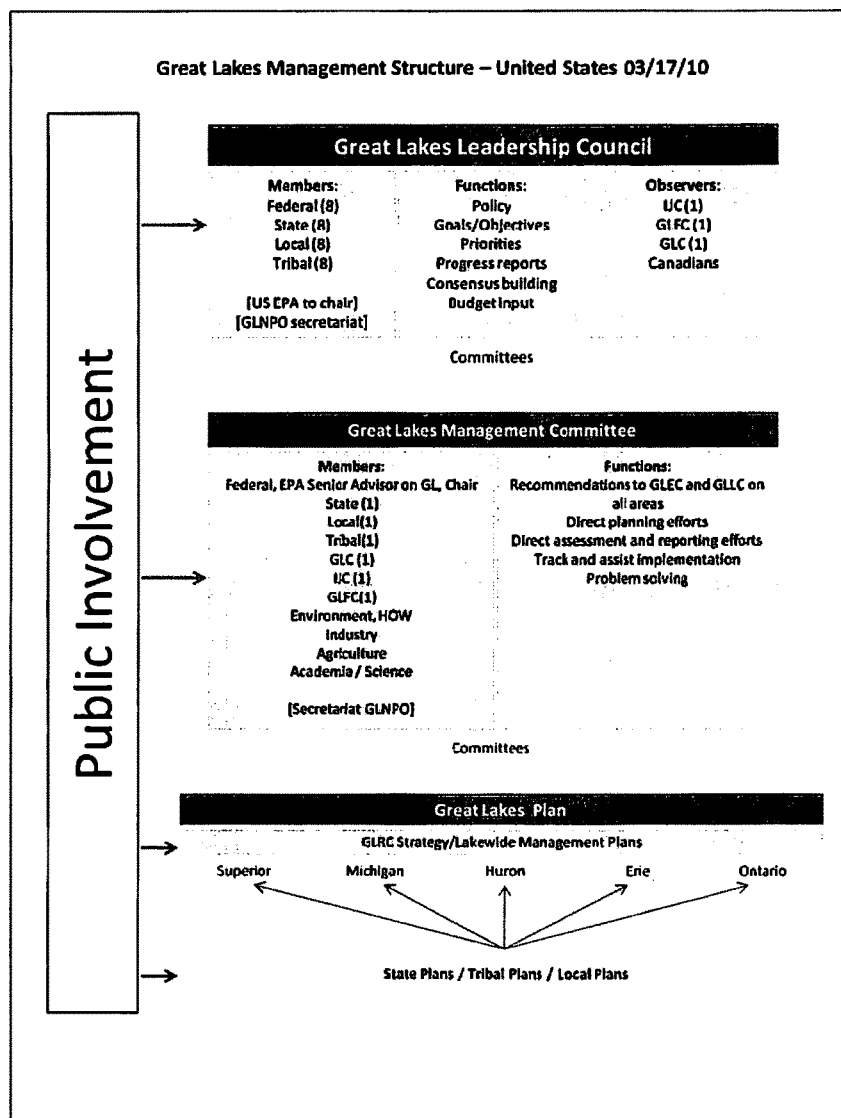
7. I understand the tight financial situations that states and local governments are currently experiencing. Having less money often means that we are unable to do things we would like to do for many of these projects. However, even with the increased authorization levels given in many of the bills you are advocating, more federal

dollars may not come your way. Without increased funding from Washington, DC, how will you continue to keep these programs going?

Local governments have been bearing the major burden of Great Lakes protection and restoration for some time. A 2008 report showed that local governments in the U.S. and Canada on the Great Lakes and St. Lawrence invest over \$15 billion annually in this effort. Although local governments have been hit as hard or harder than the Federal and state governments with tight budgets, cities must continue to provide drinking water, waste water, and many other services that benefit the people and the Great Lakes. Cities will continue to develop better practices on how to manage and conserve water, energy, land, and other resources to make sure the tax dollars are used most effectively.

With whatever combination of federal, state, local, tribal, and private dollars are available, the key is to get the most out of them. Under the current management and governance structure, that is very hard to do. There must be a better way to establish priorities, affix responsibility, and create accountability. The two tiered system with a clear plan for implementation will go a long way toward more action and results on the Great Lakes.

At the same time, people must understand that the longer protection and restoration investments are postponed, the more costly the solutions will be and the more delayed the results will be. Cities are committed to apply their own funds and those provided by federal, state, and private sources in the best interest of the public and the resource. The goal is to sustain the Great Lakes for the long term with economic, social, and environmental balance that promotes the economic well being and quality of life of the entire region.



Senator CARDIN. Well, thank all of you for your testimony.

It is my intention to call on Senator Merkley first, then Senator Klobuchar. Senator Klobuchar is one of our leaders on Canadian-American relations, so I am sure she can help us with the Great Lakes.

Senator Merkley.

Senator MERKLEY. Thank you very much, Mr. Chair.

And thank you so much, Debrah, for your testimony today and for all the work you have done to coordinate efforts to improve the health of the river system.

I grew up sailing and swimming in the Columbia and in the Willamette, and I had no idea of the challenges that the river system was encountering. In that regard, in your testimony you mention an effort to clean up a particular tributary, that a lot of work was done for habitat restoration. Fish didn't return because of the toxic contamination that was later discovered. Can you tell us a little bit more about that example and the insights that come from that?

Ms. MARRIOTT. Thank you, Mr. Chairman, Senator Merkley.

Yes, there is a tributary to the north of the Columbia where millions of dollars were invested in habitat to restore the threatened and endangered species, and the fish did not return as expected. When they did finally invest in toxics monitoring, they found significant contamination in the fish and in the sediments where the habitat was.

What this speaks to is the strong need to make sure that we are measuring for toxics in the water and fish and sediment as we are restoring habitat, and that particular activity has not been active and fully funded on the Columbia.

Senator MERKLEY. Do you know what the source of that particular toxic contamination was on that tributary?

Ms. MARRIOTT. Largely DDTs and new pesticides in fertilizers being used, runoff from numerous uses with various contaminants. The exact impacts are still being studied.

Senator MERKLEY. Well, turning to DDT, it remains persistent in the river system despite that fact it was banned some time ago. How do we go about addressing a chemical that we are no longer putting in the river, but are there things that can be done to diminish its impact on the river system?

Ms. MARRIOTT. Mr. Chairman, Senator Merkley, there are indeed things that we can do. Of course, clean up of small sites would be one of the first things we would look to do. Also, pesticide collection sites are turning out to be very, very helpful.

EPA has held a few collection sites in the Dalles and a few other locations above Bonneville Dam, and at one site in fact collected 17,000 pounds of DDT that were sitting in farmers' and others' barns, not used, thankfully, but sitting there as a potential threat to groundwater and the river systems. So those takeback sites, takeback events are very important and first step efforts to get us right on the ground, to get some of those chemicals out.

Senator MERKLEY. Another thing you mentioned in your testimony was that various products have hormonal effects. Either they may be directly, and I reference to perhaps birth control pills that are flushed down the toilets and end up in the waterway, but also other chemicals that have hormone simulation impacts.

Has there been enough study to really understand what the most significant threat is? Is there kind of like this is No. 1, this is No. 2 and so forth?

Ms. MARRIOTT. I have to say that is a little bit beyond my area of in-depth technical expertise regarding specific contaminants and their impacts. I do know that antibiotics and the birth control hormones that you mentioned are two of the significant contaminants. There are other medications, both over the counter and prescriptive medications, that cause the same kinds of impact. So again, drug takeback and collection sites are one immediate way to get at least the products we are not using out of the water systems.

Senator MERKLEY. One of the things that we have heard about in this Committee is the role of BPA. Is that right?

Ms. MARRIOTT. Yes.

Senator MERKLEY. BPA in plastics. And we have also heard a lot about the plastic bags and plastic bottles that are in the waterway. And is that considered one of the—is that a significant issue?

Ms. MARRIOTT. The source of that is largely flame retardants, and those are plasticizers that are in almost everything we touch, wear, live with—our computers, probably everything in this room, our fabrics. I know a couple of States, and I believe the State of Washington, has passed a limited ban products with flame retardants from being manufactured in the State. That is an issue that probably will take State and national leadership to have us address because the products are so widespread.

Senator MERKLEY. Well, my time is mostly up, so in 15 seconds, is there anything else you would like to add?

Ms. MARRIOTT. You know, I would, actually. I started doing this in the Columbia about 15 years ago, and shortly after that my son was born. And I remember saying at the time that when he was an adult, I wanted to be able to look him in the eye and tell him I had done everything I could to improve this water body. And I have to say, he is 13 now, and I can look him in the eye, but I can't quite tell him I am done. I think there is still much more work we need to do.

Thank you again for your leadership on this.

Senator MERKLEY. Thank you for all your work.

Senator Klobuchar.

Senator KLOBUCHAR. Very good. Thank you very much, Mr. Chairman.

Thank you to all of you. As you know, I am from Minnesota, which on our license plate it says Land of 10,000 Lakes, but it is really 15,000 lakes. One of them is very big, and that is Lake Superior. And as you know, we have had some recently a lot of concern about the Asian carp issue, something I actually also talked, as Senator Cardin mentioned, I head up the Interparliamentary Group with America and Canada. Congressman Oberstar heads it up on the House side. We talked about that as well.

So if you, Mr. Naftzger and maybe Mr. Ullrich, representing the Great Lakes piece of this panel, could comment a little bit about what you see as the best ways to prevent those large fish that jump up in the air and hit fishermen over the head and cause great danger to our ecosystem and our economies, what is the best route to go here.

I know there is talk about the lock closings, trapping these fish, shooting these fish. What is the best way to do it?

Mr. NAFTZGER. Mr. Chairman, Senator Klobuchar, thank you for the question. It is a huge problem, and as you know we have ongoing litigation among the States about some of the particular solutions that could be exercised.

Nevertheless, there are a number of things that the States and I think most of the region can agree on. One is to complete the Asian carp barrier that is in place in the Chicago sanitary and ship canal. The other is to expedite the Army Corps' work to study a long-term solution of ecological separation between the Mississippi River watershed and the Great Lakes system. And that would really be looking at preventing all transfer of species between those two watersheds. And we have certainly seen species go the other direction as well, although the carp, of course, is moving toward the lakes.

But nevertheless there is an unprecedented effort. There has been an effort led by the Illinois Department of Natural Resources, the U.S. Fish and Wildlife Service, the Army Corps and many other partners, and we are very hopeful that those efforts will be successful, but it is going to take a sustained and long-term commitment. This isn't likely a threat that will recede in the near term.

Senator KLOBUCHAR. Mr. Ullrich.

Mr. ULLRICH. Just a couple of comments, Senator. First of all, we are fortunate we don't have any litigation between any of our cities, so we are still together, I think, as a unit on this.

Second, I would say probably the most important thing is to retain the sense of urgency that we have gained over the last couple of months where the awareness of how far the carp appear to have gotten is known.

Senator KLOBUCHAR. I mean, I asked one of the Army engineers, is there some thought Lake Superior would be too cold, and no one can guarantee that because these fish adapt.

Mr. ULLRICH. Yes. They go where they want. But we must, as Mr. Naftzger said, we must maintain the sense of urgency as we move forward with critical short-term, mid-term and long-term actions. In the short term, as I understand, under the framework that was established by the Federal Government and State involved as well, increased and improved surveillance to find out where they really are now was started as recently as last Wednesday. There was a good effort before, but that has substantially been increased so we know where they are, how many of them there are, and where they are moving so that the various techniques to deal with them, whether it is rotenone treatment or other new approaches, can be utilized.

The next thing I would say is looking at the locks. I am concerned that it was viewed as a silver bullet solution to the problem that really, from everything I understand, is not the case. Some form of modified lock operation that dramatically reduces the likelihood of movement of the carp but at the same time allows for navigation to go through, I think is an important thing.

Accelerating the studies so that we can get to a true solution to this problem long term, including a commitment to a separation of these water bodies in a way that will not allow the species to so

easily go back and forth, is essential. Because it is Asian carp today, but it is going to be something else tomorrow.

Senator KLOBUCHAR. Right, other invasive species.

Mr. ULLRICH. Yes. We have heard about the quaggas and the zebras and everything else. They don't wait for anything. We have made it way too easy for them. So that needs to be a real commitment.

I think ongoing congressional oversight is critically important to this as well, but people are pulling together. It appeared the unity was fragmenting, but I think we are very committed to do everything we can to keep the Great Lakes community together on this.

Senator KLOBUCHAR. One last question. Just how would you view success, apart from the Asian carp issue, as we look at these restoration efforts with the Great Lakes? What should we have as our goals here for the Great Lakes as we look at the initiative and everything the Administration is doing? What do you think the key—the most important things are for the Great Lakes?

Mr. ULLRICH. Well, looking long term now, I think we need to have a goal of zero introduction of new invasive species to the Great Lakes. It may take a lot of work and a long time, but I think with that kind of a goal we will get closer sooner if we really stretch that. The 1972 Clean Water Act said zero discharge of pollutants by 1985. We didn't make it, but we got a lot farther because we had that kind of a goal.

Second, and near and dear to the hearts of our communities, is dealing with combined sewers and sanitary sewer overflows. I think we ought to have a long-term goal using green infrastructure and traditional gray infrastructure to continue to drive that down toward zero. I think those are two of the critical things.

Third, restoring habitat. We have got to get acres back in the coastal habitats, particularly the wetlands that are so critical in terms of water clarity, holding water for flood purposes, and habitat for fish, wildlife and others.

Senator KLOBUCHAR. Mr. Naftzger, do you want to add anything?

Mr. NAFTZGER. I think our challenges are many. We certainly have to restore the areas of concern. We have to deal with the wastewater and other issues that Mr. Ullrich referenced. And we need to stop invasive species. Those are just three of many challenges we face. It is going to take a concerted effort over a number of years, and we are very eager to build on the success we have had with the restoration initiative to really accelerate that progress.

Senator KLOBUCHAR. OK. Thank you.

Mr. Chairman, thank you for including two representatives from the Great Lakes. I don't know if you know this, but I served on the Oceans Subcommittee of Commerce during my first 2 years, and I went to the first meeting and every Senator there had an ocean except me, Lott, Snowe. And I finally turned to Frank Lautenberg. I said, "You know, everyone here has an ocean except me." And he wrote a note to me that said, "That is OK. Next year, just come back and ask for one."

[Laughter.]

Senator KLOBUCHAR. So there we are, but I have my Great Lakes. Thank you very much.

Senator CARDIN. Well, we will change the name to the Great Oceans. We will figure out the way to do that for you.

Well, again let me thank all of our witnesses.

Mr. Tauzel, I want to start with you, if I might, because I think the agricultural community is a very important part and player in this. They are clearly one of the major stakeholders in all of our efforts to deal with the great waters.

You mentioned farm environmental management tools that have been made available in various bills and legislation that worked its way through. I can tell you in the Chesapeake Bay watershed, it has been very important.

And then you said something which is typical of the agricultural community, your suspicion about regulations, but if we are going to have regulations, you would like them to be locally dominated, and we certainly understand that.

I want to get to the additional tools that could be helpful to the agricultural community as we look at all the stakeholders taking actions to help us in dealing with the water qualities issues. One is the Nutrient Trading Program. The other is technical assistance to farmers. I can just tell you that in my own State of Maryland, farmers do not have the resources to make the type of applications or plans that can help us with dealing with the Chesapeake Bay. Technical assistance is an issue that we have talked about.

But I would like to get your view as to how important those additional tools could be to help the agricultural community as responsible stakeholders here.

Mr. TAUZEL. Absolutely. Thank you, Senator Cardin.

So to the point, from a technical perspective, technical assistance perspective, you are absolutely right. I talked a lot about the need for agriculture, the needs out there to help support agriculture and best management practices on farms.

However, the technical assistance is a critical component of that as well. We can have all the funding up on top, but if we don't have technical assistance to move that funding on to farms, it is not going to happen.

I talked about the local concept of AEM, and really that is where it comes down to, the farm, local sewer and water districts in New York working together to implement best management practices. Anything that the Congress could do to move forward on increased technical assistance would be welcome by New York, certainly, and by New York farmers.

You talked a little bit about the nutrient trading program as well. And nutrient trading provides a market based approach to how do we address nutrient management and pollution controls on farms, as well as in other sectors as well.

Nutrient trading has potential. We certainly would welcome the opportunity to establish compacts to either allow for inter-State nutrient trading or to allow States that want to focus on solely in-State aspects of concern to stay intra-State as well.

There is a concern that when we apply Federal oversight, and we applied TMDL standards that require everything from everyone everywhere, that that eliminates the opportunity for farms to trade those credits and to then gain economic opportunity, basically saying that, you know, some of the models that you look at would say

everybody has to do all of the best management practices. Well, that leaves out a lot of the opportunity, then, that farms have to trade off those management practices and the nutrient reductions they would see from that and gain that economic advantage from that.

Senator CARDIN. Well, just to follow up on that, the programs that have been submitted dealing with nutrient reduction require a certain level from the agricultural practices. And it requires a certain level from wastewater treatment facility plants and development and other issues.

The point is that in the agricultural field you can get in some cases below what is required at less of a cost than perhaps dealing with development or wastewater treatment facility plants. So the economics of it is such that a municipality would say, look, we are prepared to buy your nutrient credits if you go beyond what the requirements would otherwise require you to do.

I think that is how it would work with a nutrient trading program. There is always more that can be done is the economics of it.

Mr. TAUZEL. Exactly, to a degree, you are correct. There is always more that can be done. Unfortunately, you will eventually hit that threshold, and if the expectations are so high on agriculture that there is nothing more that can be done or that physically it is not possible for a farm to do more, then that farm does not have that opportunity to transfer those funds and to take advantage of those opportunities.

Senator CARDIN. Certainly.

Mr. Grannis, I want to, if I might, just agree with your comments about how we are all interrelated here. New York and Maryland have a lot in common. As I mentioned, as you were going through the different water bodies in New York, the Susquehanna is very important to us, where it starts in Cooperstown, New York, and part of the watershed area.

I remember very much the debate concerning the migration of bass from New York near the Long Island Sound into the Chesapeake Bay. And our prized rockfish is part of the heritage that is involved somewhat in the work that you are doing in the Long Island Sound. So all this is interrelated.

I guess I have a question for the entire panel and would ask if you could respond briefly. The model seems to be similar in all of the great waters, and that is to try to bring together all the stakeholders to get the best technical information you can get, the best science, come up with a unified strategy that everybody signs on, to try to provide the resources to help implement those plans, to have the appropriate reviews and public support for the program.

But at the end of the day, if you have not accomplished what good science tells you you should have accomplished, how do we hold you accountable?

Mr. GRANNIS. That is a very good question, Senator. Obviously, you know, there is a huge wealth of intellectual capability and talent that we all bring to the table in these discussions. I think setting out after you get the science and after you get the stakeholder input are management plans with measurable goals. I think it is perfectly appropriate. I know we have had these discussions on

Chesapeake Bay about very strict standards and progress to be measured against so that we could see what we are doing, whether what we are doing makes a difference in the cleanliness of Chesapeake Bay.

I think having those measurable goals and then publicly announce those goals and measure our progress against that I think is critically important. It comes back to this other issue, though, with all the resources that we bring to bear. I mentioned this in my statement, the idea that somehow in these difficult times when we have such ambitious goals among all of us here for protecting our great waters, is that we are really going to have to rely even more heavily on a consensus at the Federal level to support these programs, particularly in the short term, with even more resources that might be needed in the long term as the economy recovers and we can bring our own financial resources to the table.

We are constrained. We have a huge budget deficit in New York, \$8.5 billion projected for next year. And so the matches required for Army Corps projects, for some of these ongoing efforts to meet these goals are going to be very, very tightly constrained.

Senator CARDIN. I am sympathetic to what you are saying, and I support the resources being made available and prepared to say that based upon the resources that are available and what science tells us we should achieve, and if still you do not achieve that level, what is the enforcement? What is the accountability?

How do I go back to the taxpayer of this Nation and say we made the investment, science told us we should have reached this level, that this is a national treasure, a regional treasure that you all want to pass on to your children and grandchildren? We want your 12-year-old to be able to enjoy this in the future. We want you to be able to, with a good conscience, be able to say you have done everything you can.

But if for reasons that the voluntary nature of these programs, and they are voluntary natures generally, doesn't result in what science tells us we should have achieved with the investment that we made, then how do we hold you accountable?

I will give Mr. Ullrich a chance, and I will come back to you.

Mr. ULLRICH. Well, I think this is all about problem solving, Senator. One of the good examples I think of what you are posing is the phosphorus levels, particularly in Lake Erie, that we dealt with. A tremendous effort was put in over the years to reduce phosphorus loadings, with a great deal of success, improvement in the water quality, best walleye fishery in the world in part as a result of that.

Early to mid-1990s, the phosphorus level started to go back up again without increases in loading, and the scientists were perplexed. I think the most common thought right now is the element that the zebra mussels have introduced and the way they process nutrients and particularly phosphorus is in fact making the problem worse.

I think the way you hold us accountable, and this is consistent with the concept of adaptive management. The first time, you don't always completely solve the problem. You bring us back and you say, OK, why didn't it work? And what are you going to do to fix it this time?

And I do believe—I sense that you are getting at somewhat the balance of voluntary and regulatory programs. You have got to have some regulatory programs. That is why we had the dramatic reductions in industrial and municipal discharges since 1972 and huge improvements in water quality.

I had a little experience with the Environmental Protection Agency over 30 years. Some of the early work was with the farming community and obviously not enjoying the regulatory approach too much, but a certain amount there. Confined animal feeding operations and dealing with that was a very important thing.

So you have to look at the right mix between voluntary and regulatory, with good enforcement associated with that. And then sometimes you have to go back to the drawing board and go forward with plan B.

Senator CARDIN. Anyone else want to comment?

Mr. Wright.

Mr. WRIGHT. Yes. I think in the Tahoe Basin, we do have that kind of mix that folks are talking about. TRPA long ago established a very aggressive, basically two-phased plan. One is a very strong regulatory framework, but we also have a comprehensive restoration plan that is voluntary, but they are linked. So local jurisdictions are put on notice that if they don't meet these certain non-regulatory targets, that there is going to be an impact on their ability to develop in the basin. And it has worked very, very well.

Obviously, you have to have agreement on those goals and those benchmarks to make that effective. And you also have to have a commitment, and this is where we all keep coming back to funding, it is relatively easy to get together a contentious group of State, local and Federal folks to develop a plan, but to sustain that plan, to continue to get funding for science and monitoring and oversight and coordination is probably the biggest challenge we all face because the political pressure is so intense to get projects done on the ground, as opposed to having the kind of performance measures, monitoring systems, adaptive management systems that will provide you with the kind of accountability you need.

So we think it is a combination of having a regulatory program and the voluntary program, but also have the systems in place so that we can track and account for the success that we are having.

Senator CARDIN. Mr. Dicks.

Mr. DICKS. Yes, I would just quickly echo that. I think one of the things we are finding is from a longevity standpoint, if you don't invest in monitoring and really actually know the truth about what is or is not happening on the ground, you can't have an accountability system.

So when Bill Ruckelshaus took the chairmanship of our Leadership Council, the one thing he asked our Governor was, you have got to invest in monitoring. And that was the commitment she made. Because if you don't do that, you don't know two things. One, you don't know how to change in an effective manner. So we tried this, it doesn't work, what do we do next. You don't learn. You don't have a learning sort of organization.

But secondarily, when you call us back here in a couple of years after some of these things are moving forward, if we can't say, we started here, and now we are here, and here is the monitoring re-

sults and credible science program to be able to peer review that, that is going to be the end of our programs. So I think a lot of us get that.

I would say just quickly on the voluntary versus regulatory side, it is this mix. Bill would also say, I think, you have to have rules. You have got to have limits, and you have got to have sort of a bottom line. But you also at that point have to sort of set that out, and then give people the capacity, the resources, the encouragement, the help, the scientific input to enable people to be successful to meet those targets.

So that is kind of the model we are trying to pursue with Puget Sound, and I think it is a very good question. Hopefully, with monitoring, with true understanding of what is going on, it is pretty easy to then hold people accountable in comparison to where we have maybe been in the past.

Senator CARDIN. Well, one of the things we learned from the Chesapeake Bay Program is that we had 5-year plans, and we would wake up after the fifth year and say, gee, we didn't do what we said we were going to do.

We are now looking at 2-year reviews and modifications based upon, again, good science during the entire period. So you have the monitoring, and you have the progress, and you don't wait until the end of the plan before recognizing that what was established 5 years earlier was either not realistic or was not complied with.

And you are absolutely right. We do have regulatory enforcement now. It is not necessarily directed toward the program that you all are trying to see specified by the Federal partnerships, so you have different pieces here and there. And what we are trying to do with the Chesapeake Bay is to try to focus it in on the Bay itself, to have local plans and local enforcement, but with accountability to achieve the results that science tells us we can.

Mr. Grannis, I interrupted you before. Did you have anything further?

Mr. GRANNIS. I think that is a very important point because we have the headwaters of the Susquehanna River, and our farmers on the northern border, the border with Pennsylvania, are saying, why should we do anything when Pennsylvania is letting their farmers go ahead and not do what we are being called on to do?

We have a very aggressive enforcement program. We are fully engaged and doing our part to clean up our contribution to the pollution that ends up in Chesapeake Bay, but in a political sense not having the same standards not only on paper, but enforced. And that is a very, very difficult issue for our farmers that are just looking at their contemporaries across the border and seeing that they can do things which our farmers aren't being allowed to do.

Senator CARDIN. Yes, I think that is a key part. You have to have a plan where, as you said all the lands are, whoever said, the last panel, said all the lands are included. All the geographical areas that are impacted need to be a part of the program so that there is a sense of fairness here.

You are right. If farmers in one State are treated differently than the farmers in another State with the same problem areas, that is not right; we need to have a coordinated plan. The plans need to

be locally sensitive because there are differences in New York and Pennsylvania, but they need to have the same objectives.

Mr. GRANNIS. Yes, sir.

Mr. NAFTZGER. If I might add, responding to your question, Mr. Chairman, I think we need to be more courageous than we have been historically and be more open to changing course when things aren't working.

Senator CARDIN. Right.

Mr. NAFTZGER. We in the Great Lakes had a system of managing how water was used for 16 years. It was not working particularly well. It took us 7 years to negotiate an inter-State compact and get that into law, so we solved that problem.

We have had many Federal programs that have been looking at the Great Lakes for many, many years. We have achieved some successes, but it wasn't working as well as it could or should have. So it took this Administration's proposal, this Great Lakes Restoration Initiative to say, let's try something different; let's try a different model and see what the results turn out to be. If those fall short, we should be back here having a conversation and saying, how can we change course again? And what can we be doing differently or better?

We need to be demanding, and we need to be courageous. I think we have gotten a few good examples that suggest that that is possible, but it is not easy.

Senator CARDIN. Clearly, being able to adjust, based upon the realities, need to be there. The realities might well be budgets. You know, you planned a program based upon certain support. Well, that support was not possible under the political environment of our time, so you have to be able to adjust. That is all part of the monitoring that I think is not just monitoring the progress you are making as far as the water quality; it is progress that you are making in regards to implementation of your plan.

Ms. Marriott.

Ms. MARRIOTT. I agree with my colleagues and certainly your points. I would add that I think sometimes we also need to do a better job talking about the implications of not acting and helping us as citizens understand why we need to undertake some of these efforts and how our individual efforts play into this as well.

Senator CARDIN. Agreed. Yes.

Mr. Tauzel.

Mr. TAUZEL. Thank you, Mr. Chairman. Yes, just to respond a little bit on the topic. You are absolutely right. Our farmers believe truly in equitable enforcement across—you know, if our farmers are being held to a level of environmental conservation and environmental stewardship, all farmers, we believe, should be held to that same level.

The question is, though, whether that necessitates additional legislative authority. And I think that right now, Federal regulations do provide every State the opportunity to regulate in the same level. Beyond that, I think what is also important to recognize when dealing with the agricultural community is that environmental management makes good business sense. Longer term businesses, sustainable businesses need to make sure that they are protecting the environment.

So with that in mind, if we have farms, what I want to suggest is another approach that the Federal Government could take for accountability procedures as well, is that if we have good actors, if we have people who are doing their job, and if they are protecting water quality, that we reward those participants, that we provide additional incentives to agricultural operations that are doing a better job in managing the environment.

Senator CARDIN. Well, I agree with that. And the other side of that is those farmers that have already made the right environmental investments need to be rewarded as we go forward with the next stage of expectations. We are trying, in the Chesapeake Bay region, to take those farmers who have gone beyond what they need to do on nutrient management, allowing them to benefit from the trading program because they have gone beyond what would have been required. So they have actually done more. You shouldn't be penalized because you did the right thing.

Mr. TAUZEL. Thank you for those thoughts, Mr. Chairman.

Senator CARDIN. Right. Well, thank you all. This has been a very helpful panel, and we thank you for your contributions. Obviously, this is going to be an area of great interest to our Committee and great interest to the U.S. Senate.

With that, the Committee-Subcommittee stands adjourned.

[Whereupon, at 12 p.m. the Committee and Subcommittee were adjourned.]

[Additional statements submitted for the record follow:]

STATEMENT OF HON. JAMES M. INHOFE,
U.S. SENATOR FROM THE STATE OF OKLAHOMA

Thank you, Madam Chairman and Chairman Cardin, for holding this hearing on the following great water bodies: the Great Lakes, Lake Tahoe, Puget Sound, Long Island Sound, and the Columbia River.

Americans use these great water bodies for recreation, and businesses use them as essential transportation links from ocean ports to inland ports where goods are then distributed throughout the country. Furthermore, water from these water bodies irrigate farms, provide drinking water and generate electricity. Their many important and essential uses to our everyday lives truly make them great.

The Clean Water Act states that "it is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources." (Clean Water Act, sec. 101(b)). Regional commissions have been established to, among other things, help States and local governments balance the many needs for water use with water protection.

When States have conflicts on how to respond to issues affecting these great water bodies regional commissions should serve as the appropriate referees to resolve these conflicts. If that option fails then the Federal Government can provide tools and assistance to reach a resolution.

Additionally, it is appropriate for the Federal Government to set national standards and provide assistance in meeting those clean water goals. It is not the role of the Federal Government, however, to decide how water bodies should be used or to plan for the use of land within States. Let me emphasize: Washington, DC, should not be issuing mandates determining how a water body should be used.

Several bills have either been introduced or are currently being worked on to help address some of pollution control concerns. I hope that this Committee will hold additional legislative hearings on these individual bills to determine how they balance the authority of Federal, regional, State, and local governmental bodies in addressing interstate or regional water concerns.

Thank you again.

STATEMENT OF HON. CARL LEVIN,
U.S. SENATOR FROM THE STATE OF MICHIGAN

The Great Lakes are vital not only to Michigan but to the Nation. Roughly one-tenth of the U.S. population lives in the Great Lakes basin and depends daily on the lakes. The Great Lakes provide drinking water to 40 million people in the U.S. and Canada. They provide the largest recreational resource for their 8 neighboring States and for millions more from other States and other countries. They form the largest body of freshwater in the world, containing roughly 18 percent of the world's total; only the polar ice caps contain more freshwater. They are critical for our economy by helping move natural resources to the factory and to move products to market.

While the environmental protections that were put in place in the early 1970s have helped the Great Lakes make strides toward recovery, a 2003 GAO report made clear that there is much work still to do. That report stated, "Despite early success in improving conditions in the Great Lakes Basin, significant environmental challenges remain, including increased threats from invasive species and clean up of areas contaminated with toxic substances that pose human health threats." More recently, many scientists reported that the Great Lakes are exhibiting signs of stress due to a combination of sources, including toxic contaminants, invasive species, nutrient loading, shoreline and upland land use changes, and hydrologic modifications. A 2005 report from a group of Great Lakes scientific experts states that "historical sources of stress have combined with new ones to reach a tipping point, the point at which ecosystem-level changes occur rapidly and unexpectedly, confounding the traditional relationships between sources of stress and the expected ecosystem response."

Asian carp represents a massive threat, and a number of important actions are required to deal with it. The zebra mussel, an aquatic invasive species, caused \$3 billion in economic damage to the Great Lakes from 1993 to 2003. In 2000, seven people died after pathogens entered the Walkerton, Ontario, drinking water supply from the lakes. In May 2004, more than 10 billion gallons of raw sewage and storm water were dumped into the Great Lakes. In that same year, more than 1,850 beach closures in the Great Lakes. Each summer, Lake Erie develops a 6,300-square-mile dead zone. There is no appreciable natural reproduction of lake trout in the lower four lakes. More than half of the Great Lakes region's original wetlands have been lost, along with 60 percent of the forests. Wildlife habitat has been destroyed, diminishing opportunities necessary for fishing, hunting and other forms of outdoor recreation.

These problems have been well known for several years, and in 2005, 1,500 people through the Great Lakes region worked together to compile recommendations for restoring the lakes. These recommendations were released in December 2005, and the President's Great Lakes Restoration Initiative has been a path to addressing these many threats. The Great Lakes Restoration Initiative is a 5-year commitment of the President. It represents great hope for the Lakes.

Building on past success, there are a number of programs that need to be authorized and reauthorized in Federal law. For instance, the Great Lakes Interagency Task Force, established by Executive Order in 2004, requires that the many Federal agencies operating in the Great Lakes coordinate with each other. Restoring the Great Lakes involves many stakeholders, including the Federal Government, States, cities, tribes and others, and Congress needs to be sure that the Federal agency efforts are in order.

The Great Lakes Legacy program has been extremely successful and has cleaned up about 900,000 cubic yards of contaminated sediments at areas of concern throughout the Great Lakes. This is a partnership program which requires a non-Federal cost-share to address the legacy of contaminated sediment in our region. The Legacy program expires at the end of 2010.

Finally, the Great Lakes region needs a process for advising the EPA and other Federal agencies on Great Lakes matters. While there have been various advisory groups that have been pulled together over the years, there has never been a standing advisory entity, and that has been a gap in the governance and management of the Great Lakes.

Mr. Chairman, the Great Lakes are a unique American treasure. We must recognize that we are only their temporary stewards. We must be good stewards by doing all we can to ensure that the Federal Government meets its ongoing obligation to protect and restore the Great Lakes.

[Additional material submitted for the record follows:]

Rep. Dean Heller
Statement for the Record
Senate Environment and Public Works Committee Hearing

Madam Chairwoman,

Thank you for holding this hearing today to discuss S.2724, the Lake Tahoe Restoration Act of 2009. Lake Tahoe is a national treasure and a great source of pride for all Nevadans.

Anyone who has been to Lake Tahoe understands why it is important that we protect the natural beauty of the lake for future generations. Preventing catastrophic wildfires, increasing lake clarity, and investing in critical infrastructure is vital to the long-term ecological health of the Tahoe Basin. Additionally, the threat of aquatic invasive species presents an urgent threat to the Basin that must be addressed.

As you know, Nevada and California both have stewardship over this treasure and I was honored to work across the aisle and across state lines with you, as well as our colleagues, to craft a bill to protect this invaluable resource.

This legislation is a result of countless hours of participation from a variety of stakeholders in the Lake Tahoe Basin. As such, the final product has tremendous support. I look forward to continuing our work to protect Lake Tahoe for future generations.

**Testimony of Amey W. Marrella
Commissioner
Connecticut Department of Environmental Protection
before the
United States Senate
Subcommittee on Water and Wildlife
Committee on Environment and Public Works**

February 24, 2010

**Protecting and Restoring an Estuary of National Significance:
Long Island Sound**

My name is Amey Marrella and I am Commissioner of the Connecticut Department of Environmental Protection (CT DEP). I want to thank you for your invitation to provide testimony about the status of Long Island Sound and our role in the partnership to protect and restore Long Island Sound through the **Reauthorization of Section 119 of the Clean Water Act, which I strongly support**. There is no question that the citizens of Connecticut and New York value the Sound as a prominent resource which is important to their lifestyle and livelihood. The years of federal support that the Long Island Sound Study has enjoyed through the Clean Water Act, and especially the **Long Island Sound Restoration Act (LISRA)** and the **Long Island Sound Stewardship Act (LISSA)** under Section 119, have been instrumental to our progress in many areas of research and management. These successes are attributable to the efforts of an attentive Congress and, of course, the Connecticut/New York Long Island Sound caucus. This special attention given to Long Island Sound for nearly 25 years, and your understanding of our needs, is greatly appreciated. This partnership has indeed been the cornerstone of our commitment to improve the water quality, habitats and health of aquatic life in Long Island Sound, and the human uses that depend on a healthy Sound.

CT DEP and the Long Island Sound Study partners have made great strides in managing the Sound, despite resource limitations and the unparalleled difficulty of the task. While some impairments persist after nearly 25 years of concerted management efforts, there are also good stories to share. This past summer a pod of nearly 200 bottlenose dolphins passed through Long

Island Sound in late June for the first summer reporting in at least 30 years, which many believe is a result of improving water quality conditions. We hope that this is not an isolated event and that the dolphins will become regular visitors to the Sound along with the four species of endangered sea turtles that migrate into our waters in late Summer and four species of seals that have been increasingly visiting the Sound during the winter months.

While the appearance of dolphins is a certainly a hopeful sign, perhaps more important are the numerous successes that contribute to the underlying improvement. In particular, we are making progress raising levels of dissolved oxygen to meet water quality standards, along with management of bacterial indicators to ensure safe beaches and healthy shellfish consumption. We have been able to make great strides protecting the land, and improving habitats that benefit the ecosystem, and the recreational and commercial uses of the Sound. We also have long understood the link between the land and the health of Long Island Sound and have adopted a **"Healthy Watersheds – Healthy Long Island Sound"** perspective in our management programs.

In spite of all of our successes, we are continuously uncovering new challenges. There are many issues, climate change being prominent among them, which must be better understood in order to ensure that management goals and objectives are attainable and have the intended outcome. To provide that assurance, we must comprehensively address the interconnected effects of air, land and water pollutant sources that we can control while considering changes, and biological responses, that may be beyond our direct control. These issues force us to continually dig deeper into the more difficult and costly management of increasingly diffuse pollutant sources, and critical habitats, distributed throughout a large watershed in an ever changing environment. That's going to cost money, and federal support through the reauthorization of Section 119 is needed now more than ever.

Today's environmental challenges can strain our abilities as scientists and regulators as well as our funding resources, as we grapple with multimedia issues such as atmospheric deposition of nitrogen and its effect on Long Island Sound water quality, and pollutant sources from individual homes and septic systems that are individually minute, but collectively the next big slice of the management pie. Couple this with the societal lifestyle and economic demands that create landscape conditions that are often incompatible with healthy ecosystems; the wide range of physical, chemical and biological consequences of those demands that must be understood and remedied; and the effects of climate change, and you have today's environmental management challenge for Long Island Sound.

Meeting these challenges will require a large measure of trust on the part of Congress that the Long Island Sound Study Conference can continue to be effective in its operations. And that will require the flexibility to use Section 119 to address the most pressing needs that Long Island Sound faces. While I recognize that there needs to be assurances that the dollars spent are spent effectively, and consistent with Congressional intent, we need to be nimble in our approaches to management. We continue to learn and adapt along the way, and it would be unfortunate to be constrained by yesterday's priorities as conditions change and our understanding grows. I encourage you to leave adequate flexibility by minimizing conditions in the reauthorization of Section 119 so the Study partnership can remain vibrant. That way, we can be sure these scarce dollars are used wisely to the greatest benefit of the Long Island Sound ecosystem, and the public.

In summary, Connecticut and its partners in the Long Island Sound Study have made exceptional progress in addressing many of the water quality, land use, habitat, and stewardship issues identified in the Comprehensive Conservation and Management Plan (CCMP). Yet, there is now, and likely always will be much left to do – new issues and new challenges will require new and innovative management actions, and a large public financial commitment. Pressures from development, competing uses, and maintenance of existing infrastructure place enormous

demands upon diminishing state and federal resources. We must keep the priorities established under the CCMP at the top of our management agenda, and be watchful of diverting or overextending our scarce and diminishing state and federal resources into new activities before we complete many of the tasks outlined above. We must also recognize the convergence of management actions around common sources of pollution, especially from runoff from the land, where multiple problems might be resolved by better land management practices.

Until we have resolved the problem of hypoxia in Long Island Sound, that should remain a top priority for management, including a primary use of our Clean Water Fund, Connecticut's state revolving fund. Habitat restoration, land use management, and stewardship are also high and relevant priorities in the Long Island Sound clean-up effort. But, they can only be incorporated if adequate funds are provided to meet those needs.

We need to keep an eye towards climate change, which will greatly complicate management strategies and casts uncertainty on the final outcomes of our efforts. Federal law and funding needs to provide a high level of flexibility to ensure states and the public can be responsive to a changing environment and are not forced to use yesterday's tools to fight tomorrow's problems.

Finally, the Long Island Sound Study has been an excellent focus for the discussions between Connecticut, New York, federal agencies and the public, providing funding and motivation to monitor, manage and educate. Continued support through the Clean Water Act Section 119 coupled with the National Estuary Program Section 320, are just two of the vehicles to ensure consistent and steady progress.

Long Island Sound is an **"Estuary of National Significance"** and is highly valued by the residents of Connecticut, New York, and many others throughout the region. Let's be sure these excellent efforts implemented over the past 25 years are continued as the necessary means to provide a healthy and vibrant resource to the public.

**Testimony of Amey W. Marrella
Commissioner
Connecticut Department of Environmental Protection
before the
United States Senate
Subcommittee on Water and Wildlife
Committee on Environment and Public Works**

February 24, 2010

APPENDIX

Long Island Sound is not one-dimensional in its attributes, or its needs. The State of Connecticut and our many partners in the effort to manage this Estuary of National Significance do our best to represent the interests of as many of the 8 million people that live along the shores of the Sound and throughout its watershed as we possibly can. All have aspirations and commitments to protect the habitats, living resources, water quality, and economy that are integral to a functional ecosystem and our human presence and reliance on its bounty. Collectively, we all have much to relate, and much to be proud of, that this testimony could never fully capture. However, for my part, I will review some of the highlights and challenges that face Connecticut as a major Long Island Sound stakeholder and, hopefully, reinforce the value of consistent and adequate funding that Section 119 reauthorization would provide.

While **Water Quality** is a primary, cross-cutting issue that affects all of the areas to be covered today, there is no controversy over the priority water quality problem that we must continue to address for the foreseeable future. It is hypoxia, the condition of low dissolved oxygen that plagues the bottom waters of Long Island Sound each summer, and the challenges of managing the pollutant that is most responsible for its occurrence – nitrogen. Nitrogen comes from many sources ranging from coastal sewage treatment plants to Midwestern power plant emissions, and from many individual activities that infuse our everyday lives from driving our cars to walking the family dog. There is no easy or quick fix. Connecticut and New York have been diligent in their application of sewage treatment plant technologies and expect to reach nitrogen reduction targets before the close of this decade.

Connecticut is especially pleased with the progress and success of their nitrogen-trading program, which has accelerated progress in sewage treatment plant nitrogen control. We are presently more than three-quarters of the way towards meeting the 2014 target for the 79 municipal plants participating in the trading program. We are proud of this success and in 2007 EPA awarded their Blue Ribbon for Water Quality Trading to our **Nitrogen Credit Exchange**. Just last month, the Nitrogen Credit Exchange received a second honor from the New England Water Environment Association for excellence and innovation in water quality management. It took a lot of effort to get that program off the ground, and the support of the Long Island Sound Study in scoping the possibilities for trading and the funds provided through the Long Island Sound Restoration Act to promote planning and design for facilities upgrades in distressed communities were essential, and appreciated.

Since 1993, nearly 40 nitrogen removal projects in Connecticut have been completed or are in the works. These projects have a total capital cost of nearly \$1 billion for all of the work performed at those facilities, of which more than \$300 million is specific to nitrogen removal. Since 2002, more than 15.5 million nitrogen credits have been bought or sold in eight annual exchanges with a total value approaching \$46 million. Through trading, Connecticut has been able to maintain steady progress towards the 2014 nitrogen waste load allocation for the 79 facilities, and has easily attained the 2009 interim target ("2009 WLA" line in Figure 1). In fact, 2009 was our best performance year yet, setting the lowest annual nitrogen load to date, with due credit given to the municipalities who have been extremely cooperative and have spent the money, and worked hard towards meeting this interim goal.

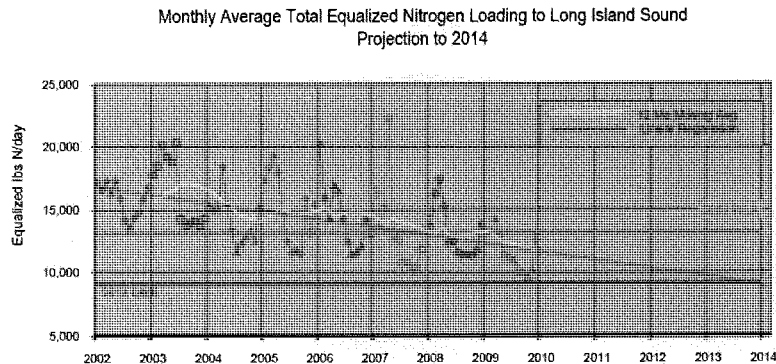


Figure 1. Performance of Connecticut's Nitrogen Credit Exchange, 2002-2009.

This is unquestionably a very expensive effort with much of the cost borne by the local taxpayers. However, the market forces of trading have created economic efficiencies that are estimated to save in the range of \$300 - \$400 million in construction costs when fully implemented in 2014. Yet, that single action to manage sewage borne nitrogen will not fully resolve the hypoxia problem.

We have learned that the success of our nitrogen control programs in Connecticut depends on a steady, and large, infusion of funds. A 2007 analysis by a committee established by Governor Rell to assess the future of our Clean Water Fund reported nearly \$5 billion in infrastructure needs for municipal sewers and sewage treatment over the next 20 years, a number that continues to grow. Included in that figure was approximately \$600 million for nitrogen removal.¹ Increased bonding at the state level over the past two fiscal years and the added infusion of federal funds into the state revolving fund program through the American Reinvestment and

¹ "The Clean Water Fund Dilemma: Increasing Demands with Diminishing Fiscal Resources". A report of the Clean Water Fund Advisory Work Group to DEP Commissioner Gina McCarthy. http://www.ct.gov/dep/lib/dep/water/municipal_wastewater/cwf_a_g_report.pdf

Recovery Act, has made an enormous difference in our ability to meet the demands for financing as municipalities step up to upgrade for nitrogen removal.

Congress and EPA have also provided more flexibility for use of state revolving funds to support **Green Infrastructure**, manage storm water, septic systems, and even purchase land for preservation if related to water pollution control. However, because federal resources are still a relatively small portion of Connecticut's annual revolving fund allotment, and the needs are enormous, we have elected not to divert funds towards these expanded uses at this time beyond meeting the requirement of ARRA. As identified by the Connecticut Clean Water Fund evaluation, there are traditional needs that cannot currently be met; diluting our efforts to other causes, which are certainly worthy, would not provide for added or accelerated environmental gains at this time. This is yet another reason why reauthorization of Section 119 is so essential to our goal of a healthy Long Island Sound: it can provide resources to delve into areas of management that may not have adequate support. The Long Island Sound Study is an effective partnership through its activities including the restoration and stewardship actions funded through Connecticut and New York, and through the broader community. For example, the Long Island Sound Futures Fund managed by the National Fish and Wildlife Foundation has been an important driver of this progress, reaching where state funds and activities could not.

We know from recent modeling efforts supported by the City of New York and the Long Island Sound Study that management of Connecticut's and New York's treatment plants for nitrogen alone will not attain water quality standards for dissolved oxygen. It will require nitrogen reductions from other states in the watershed (Massachusetts, New Hampshire and Vermont), more attention to stormwater and nonpoint source runoff, and atmospheric deposition controls from both power plant emissions and mobile sources that may go beyond the present Clean Air Act requirements and State Implementation Plan goals. Whether or not reductions in those areas can be accomplished to the point where water quality standards in the Sound will be met is highly uncertain, but there is no doubt that implementation in those areas will be costly. Because of this

uncertainty, and the unlikelihood of an enormous infusion of dollars to support stormwater and nonpoint source efforts, easily in excess of \$1 billion in Connecticut alone, the Long Island Sound Study is evaluating innovative bioremediation alternatives to close the management gap. For example, enhanced production of shellfish or seaweeds, which do an excellent job of filtering water and sequestering nutrients, could supplement nutrient removal by harvesting and potentially provide viable products for market. Again, the Long Island Sound Study uses the resources provided under Section 119 to promote these activities, but the funding gap is clearly still very large with millions provided, and gratefully received, against billion dollar needs.

There is no better evidence of our need to do more than the current state of the Sound. Although we see signs of **Improvement in Dissolved Oxygen Levels** from our monitoring of Long Island Sound over the last 20 years, they are less than dramatic, but not necessarily inconsistent with the level of nitrogen removal attained to date. We should certainly be pleased that over the last ten years, the area of hypoxia in the Sound has only significantly exceeded the long term average in one year – 2003, and severe hypoxia (less than 1 ppm dissolved oxygen) appears to be in decline, with an anomalous, slight upward bump in 2008 (Figure 2). And this is despite some of the warmest years on record that have exacerbated the Sound's sensitivity to hypoxia. Because of the large amount of inter-annual variation caused by weather conditions, the five-year moving average presents the best indicator of change, and it is heading in the right direction.

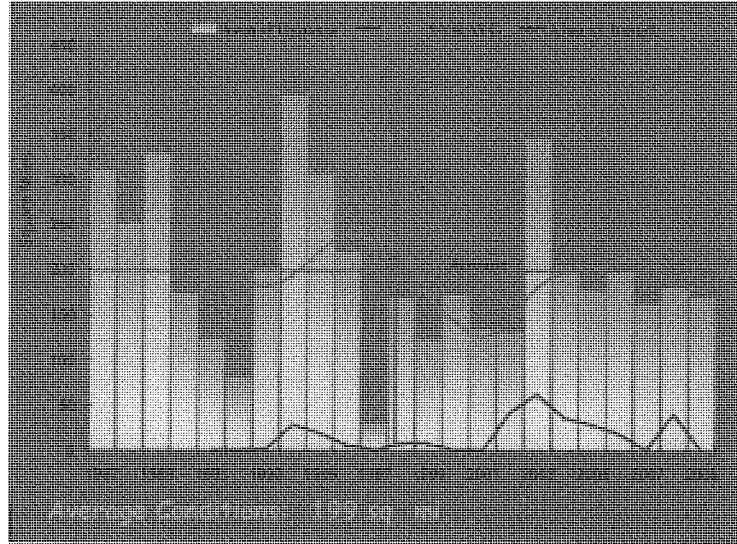


Figure 2. Areal extent of hypoxia in Long Island Sound, 1987-2009.

One additional water-quality condition warrants mention at this time -- **Closures at Beaches and Shellfish Beds**. Excess levels of indicator bacteria close beaches and shellfish areas, a problem that can have significant economic consequences. Closed beaches impact tourism and businesses that rely on open beaches during the short, summer bathing season in New England. A week's closing at a busy beach can meaningfully impact a beach vendor's bottom line and if shellfish are unsafe for market there are economic consequences not only for the shellfish industry, but for the food industry that relies on a consistently available supply.

For Long Island Sound with its highly-urbanized watershed, **Storm Water** is a primary source of bacterial indicators; in a few older cities combined sewer systems remain a problem today. Bridgeport and New Haven, for example, are urban coastal communities where combined sewer overflows (CSO) during wet weather can contribute to beach and shellfish area closings. Both CSO and stormwater impacts are managed pre-emptively in many towns. Beaches or shellfish

beds are closed based on the amount of rainfall, which is presumed to deliver unacceptable amounts of indicator bacteria during storms. Additional research, as EPA has been mandated to perform in recent federal legislation, using better predictive models, indicators, and monitoring protocols, could improve responsiveness and, thus, potentially reduce the number and duration of closings. Ultimately, better control of sources by implementation of long-term control plans for CSOs and management of storm water are the primary objectives. Management of these sources is difficult, and will require education, innovative approaches and activism on the part of residents. The solutions are costly, and certain to exceed \$1 billion for CSO abatement and stormwater management alone. While Section 119 cannot conceivably close this funding gap, the well-thought out research, monitoring, outreach and implementation actions of the Long Island Sound Study partnership have boosted our ability to make inroads, especially with storm water and nonpoint source runoff. Those are the "people" problems that aren't easily addressed by regulation and government programs, but that are effectively being addressed by the Study.

Land Use Practices, particularly urban and suburban development, have had a major influence on both the quality and quantity of storm water and nonpoint runoff delivered to Long Island Sound and to surface waters throughout the state of Connecticut. Conventional storm sewer systems serve to quickly deliver runoff to surface waters, and bypass infiltration opportunities that can help renovate polluted runoff. According to the University of Connecticut's Center for Land Use Education and Research (CLEAR), between 1985 and 2006, about 145 square miles of land was developed and associated impervious cover has increased in the state by more than 20%.

These uses of the land help deliver nutrients, bacteria, suspended solids, oil and grease and heavy metals associated with runoff from streets, highways, and parking lots to our surface and ground waters. The sources of those pollutants are varied, but can usually be attributed to human activities such as fertilizing lawns and gardens, not cleaning up after pets, leaking cars and trucks, poor erosion and sediment control, and use and corrosion of metals and other materials

exposed to weathering. This is our dilemma as managers and stewards of our most precious aquatic resources, and the number one challenge for the Long Island Sound Study partnership.

Fortunately, changes are being made to better manage the land, albeit slowly. Connecticut, through state and federal programs, is stepping up efforts to regulate storm water and to educate and implement best management practices for runoff, including **Low Impact Development** techniques. We were pleased to host a recently completed 10-year study in partnership with the University of Connecticut, the Town of Waterford, the U.S. EPA and other partners at Jordan Cove in Waterford that demonstrated the benefits of low impact development.² The study, funded through the EPA Sec. 319 (nonpoint source) program, proved that low impact practices work, with post-construction runoff almost identical to the amount of runoff measured before ground breaking.

The DEP through the EPA Clean Water Act Section 319 (nonpoint source) program is now developing several **Watershed-Based Plans** as a new approach to comprehensively identify pollution problems that impair surface waters, with a focus on nonpoint sources. The first such plan was completed for the Niantic River basin in eastern Connecticut and DEP, in partnership with local representatives, has been implementing the recommendations of that plan to protect eelgrass beds in Niantic Bay and to reduce bacterial indicator loading to protect beaches and shellfisheries in the area. Most important, it is helping to engage municipal officials, who have the authority to regulate local land practices, and whose residents are the primary stakeholders and beneficiaries of the positive outcomes. Key objectives will be to promote low impact development to stop additional deterioration of conditions, educate members of the public about their individual roles and responsibilities to protect the watershed through pollution prevention and landscaping techniques, and to install best management practices to mitigate existing sources where possible. There are similar plans under development in other watersheds throughout the state. It is hoped that over time watershed-based plans will be completed for all the state's impaired watersheds

² <http://www.cag.uconn.edu/nrme/jordancove/>

and implementation will be underway; however, the availability of Sec. 319 funds, which have been reduced in recent years, limit the number of active projects that can realistically be completed, and as a result, the number of management actions that can be implemented. It is anticipated that through the Long Island Sound Futures Fund, with the additional Section 119 funding received in FY2010, that municipalities and watershed associations will have an opportunity to receive funds to begin to implement watershed-based plans.

CTDEP is also building a **Low Impact Development (LID)** program to promote better development practices in the state that will help slow the negative effects of poorly planned development. Recently, grants have been awarded to a dozen communities to conduct reviews of their local development regulations and ordinances to see how LID practices can be better accommodated and promoted in their towns. Ancillary to LID activities, CT DEP is also participating in a pilot study for a new EPA initiative – **Healthy Watersheds**. We have long advocated a **Healthy Watersheds – Healthy Long Island Sound** philosophy because, in fact, the Sound reflects the care and attention given to its lifeblood that flows from throughout the watershed. We see the result of subpar treatment of the lands that drain to Long Island Sound, and rely on many EPA programs to begin to address those problems, including Section 119.

Complementing efforts to improve watershed management practices, **Habitat Restoration** activities not only aid the protection and enhancement of fish and wildlife populations statewide, but healthy habitats also provide conditions that help purify water. Wetlands, river buffers, green corridors, and vegetated uplands all serve to keep the air and water clean, and can mitigate the effects of climate change. The difficult and time-consuming work for Long Island Sound habitats encumbers a lot of uncertainty, and can be quite costly. Therefore, when conditions exist that do not allow for full restoration, we try to restore the habitat's functions and values as fully as possible. This is often done in partnership with the many federal agencies, including the EPA's Long Island Sound Office, the U.S. Fish & Wildlife Service, Natural Resources Conservation Service and the National Marine Fisheries Service, as well as academic experts and non-profit

groups. All provide expertise and can bring public and financial support to our programs to complement Section 119 funding.

Since 1980, over 1,920 acres of degraded tidal wetlands have been restored through such partnerships. Support provided by Section 119 through the Long Island Sound Study Habitat Restoration Team has been instrumental in identifying and advancing restoration opportunities. Completed restoration projects have included: removal of tidegates to restore tidal exchange; channel dredging to improve tidal circulation and water quality; construction of osprey platforms; fencing of beaches to protect piping plover and least tern nest sites; planting of beach grass to stabilize shorelines and prevent beach erosion; and installation of fish ladders to reestablish anadromous fish runs. A project is currently underway to remove 41 abandoned cottages and associated docks on a barrier beach system in Stratford, which will provide restored habitat for beach nesting birds, endangered dune plants, horseshoe crabs, and an important stopover area for a number of migratory species of birds including snowy owls. The project received a number of grants including one from the Long Island Sound Futures Fund and \$909,000 in ARRA funding through the US Fish and Wildlife Service, which would not have been possible without the partnership network that has been created through the Long Island Sound Study.

A recent NOAA grant under ARRA is furthering habitat restoration objectives with a \$2.5 million grant to complement \$2.25 million in state funds to provide fish passage around Tingue Dam on the Naugatuck River. That action will reopen 31 miles of the river to anadromous fish migration. Similarly, another NOAA grant under ARRA provided funding for a collaborative project completed in 2009 that improved tidal flow and fish passage at Bride Brook within Rocky Neck State Park. The project will have many direct benefits to fish populations and water quality, protect infrastructure from potential flooding and return the system to a more natural hydrology that will benefit the marshes and allow for adjustments to sea level rise in the future.

In addition to restoring habitats, it is evident that we must be good stewards of our coastal landscape features, especially along our coastal shoreline, for both the environmental attributes they support and for the benefit and enjoyment of future generations. Open space and protected natural features preserve the scenic qualities that help define the cultural heritage of our shoreline towns, maintain the biodiversity of our environment by protecting sensitive habitats such as river corridors and ridge tops, and expand opportunities for public use and enjoyment of our coastal waters. Passage of the Long Island Sound **Stewardship** Act in 2006 held promise for additional funding to assist with restoration activities under the Long Island Sound Study. The Study's stewardship approach brings key players to the table, engages the public, and is built upon several years of evaluations in the habitat initiative fostered by the Study. Habitat protection and restoration is a key component of state and federal plans to restore Long Island Sound, and complement and contribute to investments made to improve water quality. Continued funding of LISSA through Section 119 reauthorization will help maintain stewardship momentum gained from preceding authorizations.

Clearly, the **Need for Additional Resources** to preserve the Sound's most significant recreationally and ecologically valuable lands is real and pressing. Connecticut's historic settlement pattern favors higher density development near Long Island Sound and its saltwater tributaries. Fifty-one percent of the land within Connecticut's coastal boundary, a narrow band of land within 1,000 feet of salt water, is classified as "developed;" over twice the rate of developed land state-wide. Despite the increased value of coastal area real estate over the last decade, coastal development pressure has intensified, threatening the quality of our coastal resources and increasingly placing coastal land conservation out of reach of public agencies. Of Connecticut's 332 miles of shoreline directly fronting on Long Island Sound and its bays, harbors and coves, 73 percent is privately owned, much of it in small parcels that have been developed. A

recent CT DEP analysis revealed that only 31 parcels greater than 50 acres remain as potential conservation acquisitions.

Yet we can report occasional **Conservation Success** stories at some of our most ecologically significant coastal areas. For example, in 2004 we were able to add 144 acres, which had been approved for a golf course development, to our largest and most significant state coastal Wildlife Management Area at Barn Island in Stonington. In 2007 we transformed an area at that same property that had been used as dredged material disposal site into a native plant demonstration garden and salt marsh overlook and outdoor education interpretive area. In 2009, the Barn Island Wildlife Management Area was expanded to a total of 1,118 acres with the addition of 48 contiguous acres that were purchased by DEP utilizing a \$650,000 grant from the EPA Long Island Sound Study Stewardship Program. Also in 2009, a 600-acre conservation property was acquired along the East River marshes in Guilford. This acquisition, one of the largest in Connecticut's history, was made possible through a collaborative effort of the Town of Guilford and the Connecticut DEP, with \$3 million in funding made available through NOAA's Coastal and Estuarine Land Conservation Grant Program towards the \$14.4 million cost. The Long Island Sound Study Stewardship Workgroup plays an important role in identifying land acquisition opportunities and potential funding sources.

These projects would not have been possible without grant funds from the U.S. Fish and Wildlife Service, EPA and NOAA. Unfortunately, for every such coastal conservation success story in Connecticut there are dozens of opportunities lost to development each year due a lack of available funds to acquire ecologically or recreational important coastal land. Again, we call upon the Long Island Sound Study funding resources under Section 119 to continue this important work.

Finally, all our management activities – water quality, habitat, living resources and landscapes– all need to be conducted with an eye to the potential effects of **Climate Change**, especially accelerated sea level rise, increased intensity of storm events and increasing temperatures. I am pleased to report that there is a concerted, multi-agency and public effort underway in Connecticut by a Subcommittee on Climate Change Adaptation that I co-chair with Lise Hanners of the The Nature Conservancy. It is a component of Governor Rell's climate change initiative under her Governor's Steering Committee on Climate Change. Within the Adaptation Subcommittee, we are looking at ways to adapt to climate change so that we can better protect our infrastructure, public health, agriculture, and natural resources. If there is a lesson to be learned from the Katrina tragedy in Louisiana and Mississippi, and the effects of flooding in general, it's the value that wetland and barrier beach areas provide to dampen the effects of storms and to absorb rainfall. They need to be protected and restored for these human needs as well as intrinsic habitat values.

Monitoring of existing conditions and attunement to latest science is crucial to formulate effective strategies for Connecticut and Long Island Sound. To address these needs, the Long Island Sound Study partners embarked on the *Sentinel Monitoring for Climate Change in Long Island Sound initiative*. Through this initiative we are identifying climate change drivers and potential indicators in LIS and its coastal ecoregions, and establishing a framework for compiling data that will assist in assessing the impacts of climate change and developing adaptation responses. DEP and the Long Island Sound Study have also partnered with ICLEI-Local Governments for Sustainability to host a series of workshops for coastal adaptation in Groton, Connecticut. The first of its kind to engage federal, state and local stakeholders to coordinate and develop municipal adaptation strategies, this series of workshops and final report will make Groton a model for the northeast and any communities that want to pursue adaptation for their coastal communities. Both of these projects have been made possible through funding provided by the Long Island Sound Study and EPA's Climate Ready Estuaries program.

In future years, DEP and its partners will continue our adaptation efforts in the key areas identified above and will work with our partners in the Long Island Sound Study to ensure that these climate change initiatives are part of the solution. We must be sure that there is steady funding over the long term to address the many challenges that climate change presents, and the types of collaborative initiatives that we have been able to undertake through the Long Island Sound Study should remain a top priority for decades.

As you can see, there are myriad activities for which the Long Island Sound Study has served as a catalyst, and an opportunity, for the partners to chart direction for water quality and land management that serves the citizens throughout the watershed and the Long Island Sound environs well. In many ways this is a home-grown effort that has clearly benefitted from the expertise of local researchers and managers, as well as the care of those who live, and make their living, in the watershed. The Long Island Sound Study Management Conference provides the appropriate forum for good science, good decisions, and good policy that have yielded benefits for the Sound and the public that enjoys its bounty.

