S. HRG. 106–284

ESTUARY AND COASTAL HABITAT CONSERVATION

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED SIXTH CONGRESS

FIRST SESSION

ON

S. 492, A BILL TO AMEND THE FEDERAL WATER POLLUTION CONTROL ACT TO ASSIST IN THE RESTORATION OF THE CHESAPEAKE BAY

S. 522, A BILL TO AMEND THE FEDERAL WATER POLLUTION CONTROL ACT TO IMPROVE THE QUALITY OF BEACHES AND COASTAL RECREATION WATER

S. 835, A BILL TO ENCOURAGE THE RESTORATION OF ESTUARY HABITAT THROUGH MORE EFFICIENT PROJECT FINANCING AND ENHANCED COORDINATION OF FEDERAL AND NON-FEDERAL RESTORATION PROGRAMS

S. 878, A BILL TO AMEND THE FEDERAL WATER POLLUTION CONTROL ACT TO PERMIT GRANTS FOR THE NATIONAL ESTUARY PROGRAM TO BE USED FOR THE DEVELOPMENT AND IMPLEMENTATION OF A COMPREHENSIVE CONSERVATION AND MANAGEMENT PLAN, TO REAUTHORIZE APPROPRIATIONS TO CARRY OUT THE PROGRAM

S. 1119, A BILL TO AMEND THE ACT OF AUGUST 9, 1950, TO CONTINUE FUNDING OF THE COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

H.R. 999, AN ACT TO AMEND THE FEDERAL WATER POLLUTION CONTROL ACT TO IMPROVE THE QUALITY OF COASTAL RECREATION WATERS

JULY 22, 1999

U.S. GOVERNMENT PRINTING OFFICE
59–371 CC WASHINGTON : 2000

For sale by the U.S. Government Printing Office
Superintendent of Documents, Congressional Sales Office, Washington DC 20402

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED SIXTH CONGRESS

JOHN H. CHAFEE, Rhode Island, *Chairman*

JOHN W. WARNER, Virginia	MAX BAUCUS, Montana
ROBERT SMITH, New Hampshire	DANIEL PATRICK MOYNIHAN, New York
JAMES M. INHOFE, Oklahoma	FRANK R. LAUTENBERG, New Jersey
CRAIG THOMAS, Wyoming	HARRY REID, Nevada
CHRISTOPHER S. BOND, Missouri	BOB GRAHAM, Florida
GEORGE V. VOINOVICH, Ohio	JOSEPH I. LIEBERMAN, Connecticut
MICHAEL D. CRAPO, Idaho	BARBARA BOXER, California
ROBERT F. BENNETT, Utah	RON WYDEN, Oregon
KAY BAILEY HUTCHISON, Texas	

JIMMIE POWELL, *Staff Director*

J. THOMAS SLITER, *Minority Staff Director*

C O N T E N T S

ESTUARY AND COASTAL HABITAT CONSERVATION

THURSDAY, JULY 22, 1999

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

The committee met, pursuant to notice, at 9:29 a.m. in room 406, Senate Dirksen Building, Hon. John H. Chafee (chairman of the committee) presiding.

Present: Senators Chafee, Warner, Voinovich, Lautenberg, Lieberman, and Boxer.

OPENING STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

Senator CHAFEE. I want to welcome everyone here this morning. Other Members will be coming along, I'm sure.

The purpose of the hearing is to learn more about six bills that are before us relating to habitat restoration and coastal water quality. The legislation before us is particularly concerned with estuaries and other coastal resources.

What are estuaries? Estuaries, as you are going to hear a lot about today, are bays, gulfs, inlets, and sounds where fresh water meets and mixes with salt water from the ocean. These estuaries and their adjacent wetland habitat are some of the most biologically diverse and economically productive systems in the entire world.

More than half of our migratory birds, neo-tropical migratory birds in the United States, and a large number of endangered species depend on estuaries for their survival.

And, of course, estuaries are very popular with tourists. Some 180 million tourists visit our coasts every year.

The commercial fishing industry is dependent upon estuaries, and that is a $40 billion industry. Of the commercial fish and shellfish catch, 75 percent depend on estuaries for their survival.

Of our Nation's population, 75 percent lives within a tidal watershed, and population densities across the coastal areas are four times the national average.

But these estuaries are under tremendous strain. Of the 30,000 square miles of assessed estuaries, 38 percent are impaired. Over 55 million acres of coastal wetlands in the United States has been destroyed since the Colonial time. Oyster harvest in the Chesapeake Bay has declined from 133 million pounds in the 1880's, 100 years ago, to now one million pounds. Narragansett Bay in Rhode Island has lost 70 percent of its eel grass beds.

So we look forward to hearing the suggestions that will come from the witnesses today, and I want to welcome our first panel, which consists of three Senators, all of whom are extremely interested in this subject and have given a lot of thought to it, so we welcome each of you.

[The prepared statement of Senator Chafee follows:]

STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR
FROM THE STATE OF RHODE ISLAND

Good Morning. I would like to welcome everyone to the committee and thank all of the witnesses for testifying this morning. The purpose of today's hearing is to learn more about six bills before the committee that relate to habitat restoration and coastal water quality.

While we have made great progress in cleaning our nation's waters, there is still much work to be done. The goal of the Clean Water Act is to ensure the chemical, physical, and biological integrity of our nations waters. Most of our progress relates to the chemical aspect of water quality. We must broaden our efforts and focus on health of the entire aquatic system.

We should be particularly concerned about our estuaries and other coastal resources. Estuaries are bays, gulfs, inlets, and sounds where freshwater meets and mixes with salt water from the ocean. Estuaries and their adjacent wetland habitat are some of the most biologically diverse and economically productive systems in the entire world. More than half of the neo-tropical migratory birds in the United States and a large number of endangered and threatened species depend on estuaries for their survival.

Birds are by no means the only ones that rely on coastal ecosystems. Each year, roughly 180 million tourists visit the coasts. In addition to recreation, a number of Americans depend on estuaries for their livelihoods. The commercial fishing industry contributes $40 billion annually to the national economy. 75 percent of the commercial fish and shellfish catch depend on estuaries for their survival and reproduction.

According to the National Academy of Sciences, unmanaged growth and development are the principal causes of water quality degradation and of fish and wildlife declines in coastal areas. Roughly 75 percent of the country lives within a tidal watershed, and population densities along coastal areas are 4 times the national average. Population growth in coastal areas is three times that of non-coastal areas. Out of the 30,000 square miles of assessed estuaries, 38 percent are impaired. From colonial times to the present, over 55 million acres of coastal wetlands in the continental United States have been destroyed. The oyster harvest in Chesapeake Bay has declined from 133 million pounds in 1880 to today's annual catch of one million pounds. Narragansett Bay, in my home State of Rhode Island, has lost 70 percent of its eel grass beds. Unless action is taken to address our impacts on coastal ecosystems, we will lose some of our most important natural resources.

Today's bills seek to address the threat to our coastal ecosystems. S. 835, which I introduced in April of this year, sets an ambitious goal of restoring one million acres of estuarine habitat by the year 2010. The bill encourages partnerships between public and private sectors and among all levels of government. My bill also reauthorizes the National Estuary Program and allows Federal grants to support the development and implementation of estuary conservation plans. S. 878, introduced by Senator Torricelli, also focuses on the importance of implementing conservation plans developed under the National Estuary Program.

The 1990 Comprehensive Wetlands Planning, Protection and Restoration Act allocates a percentage of revenue from the Aquatic Resources Trust Fund to be used for wetlands projects. The funding authorization for the program is set to expire in 1999. S. 1119, introduced by Senator Breaux, would re-authorize the program through 2009.

S. 492, introduced by Senator Sarbanes, would re-authorize the Environmental Protection Agency's Chesapeake Bay Program office. The Chesapeake Bay Program office helps to coordinate State and Federal efforts to restore the Bay. S. 492 would authorize the EPA to provide technical assistance and grants to non-Federal entities helping to restore and protect Chesapeake Bay.

We will also discuss two bills relating to beach monitoring and notification of the public; H.R. 999 by Representative Bilbray and S. 522 by Senator Lautenberg. Both bills would require States to update their water quality criteria and expand the role of the Federal Government in beach monitoring and public notification programs. The bills also would establish national standards for beach monitoring and public

notification and provide Federal funding to help States develop and implement their programs.

Senator CHAFEE. All right, Senator Sarbanes, why don't we start with you?

STATEMENT OF HON. PAUL S. SARBANES, U.S. SENATOR FROM THE STATE OF MARYLAND

Senator SARBANES. All right. Thank you very much, Mr. Chairman.

First of all, I am pleased to be back before the committee. I welcome this opportunity to testify specifically in support of S. 492, the Chesapeake Bay Restoration Act, which I introduced earlier this year, along with Senator Mikulski, Senators Warner and Robb, and Senator Santorum.

At the very outset though, Mr. Chairman, I want to certainly acknowledge your leadership in crafting legislation to restore America's estuaries. I am pleased to cosponsor the legislation that you have introduced, as well as the bill that Senator Torricelli has put in with respect to the national estuaries program.

I need hardly tell you that the Chesapeake Bay is the largest estuary in the United States. It is the key to the ecological and economic health of the mid-Atlantic region. Members of Congress, of course, know the Bay well, and Henry Mencken, H.D. Mencken, once referred to the Chesapeake Bay as ''the world's greatest protein factory.'' We haven't quite been able to measure up to those past standards of production, but I think it is an apt label.

Through the concerted effort of public and private organizations, we have increasingly come to understand the complexities of the Bay.

Mr. Chairman, I know you have a full panel, and I am going to quickly summarize. I'd like my full statement to be included in the record.

Senator CHAFEE. Definitely.

Senator SARBANES. We put in place this Bay program. We were able to get the States of Maryland, Virginia, and Pennsylvania some years back to come together in undertaking the watershed recovery program. The Federal Government participated in that. EPA is an active partner in that effort. And there are a number of private organizations, many of them—the Chesapeake Bay Foundation, for one—from whom I think you will be hearing later this morning on one of the other panels.

This cooperation has been essential in order to improve the water quality in the Bay.

We've made some progress, but we are under tremendous stress, as everyone recognizes. We had this phisteria outbreak, although we've not had it this year, fortunately. You know, we have fish kills and so forth. Some of the crab catch is down this year. So we know there are continuing problems. And then we have the natural impacts. The drought, of course—thank goodness we had this big rain, but, you know, we need a lot more of it.

In any event, we need to remain vigilant in the efforts to restore the Bay. We think the Bay program has been a model and we've always appreciated greatly the support of this committee for our efforts. We have joined together in the past, of course, in efforts not

only on the Chesapeake but the Narragansett, as well, Puget Sound out in the State of Washington, and elsewhere.

I think the broader bill which you are introducing is a very important contribution.

This legislation, in a sense, reauthorizes the Bay program which has been in place now for a number of years. It makes a couple of changes. It develops a better coordination mechanism amongst the Federal agencies, which we think is important. It provides for better agency disclosure and budget coordination, so we get the information out and encourage greater citizen participation. And also it authorizes the EPA to establish a small watershed grants program. We've tried that on a demonstration basis and it has worked exceedingly well. A lot of small local organizations, local governments, have been drawn in and have instituted their own projects. We draw in matching moneys as a consequence, and we think this is a very important initiative.

This bill has been very carefully crafted, with the advice and counsel of many hard-working organizations in the Bay region—the Chesapeake Bay Commission, the Alliance for the Chesapeake Bay, the Chesapeake Bay Foundation, and the three State governments of Maryland, Virginia, and Pennsylvania.

Mr. Chairman, we think we are making advances, but we need to continue the effort, obviously. Otherwise, we will simply slip back. This is a fairly critical time, because the EPA administrator, the Governors of the three States, and the mayor of the District of Columbia are now renegotiating the cooperative agreement, and we will certainly want to maintain the Federal role, which has been essential as a catalyst. The money side of it from the Federal level is important too—the major money comes at the State level, and it is very significant, indeed, but we need to maintain the Federal Government as a catalyst and a coordinator, and I very much hope the committee can approve this legislation and, indeed, the other legislation that is pending before you.

Senator CHAFEE. Senator, I want to commend you and the Senators from your adjoining States for what they've done. They've all taken extremely seriously their working on this.

You know, the encouraging thing is that we can make a difference. I know you followed closely the efforts we made in connection with the striped bass, and it is remarkable how that has come back from really dire circumstances.

Senator SARBANES. Right.

Senator CHAFEE. And that came about because a whole series of steps were taken, as you recall.

So I share your deep concern and want to praise you for what you've done in coming forth with this legislation, and we take it very, very seriously.

Senator SARBANES. Thank you, Mr. Chairman.

Mr. Chairman, I would be remiss if I didn't make the point that I simply picked up this leadership role from Senator Mathias, who many years ago went on a boat tour of the Chesapeake Bay, and off of that began the whole process of trying this major effort to restore the Bay, and he exercised tremendous leadership and, of course, continues, even to this very day, to take a very keen interest in this effort.

Senator CHAFEE. Fine.
Senator Boxer.

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

Senator BOXER. Mr. Chairman, due to my terrible schedule, I wondered if I could have 1 minute to make a very brief opening statement.

Actually, I'd like to put my statement in the record.

Senator CHAFEE. Sure. You can have not only 1 minute; you can have 2 minutes.

Senator BOXER. Well, that's very kind. That's why I'm going to miss you so much.

First, I wanted to say how proud I am of our colleagues here who are working so hard on these ocean protection issues and how strongly I support them, as well as your bill on estuaries.

I want to state to them that I will work as hard as I can to make sure that this all happens.

I also wanted to welcome my friend, Ted Danson, a great environmentalist and protector of the oceans, founder of the American Oceans Campaign, who has been working with me and many other colleagues for many, many years on ocean protection. He will be on the third panel.

I'm just so happy that you are here, Ted. It is so wonderful when you can get away from your business to help preserve the environment.

I wanted to say that, as usual, I will be offering an amendment to one of the bills to make sure that, when we cleanup, we cleanup to protect the children, because sometimes the Federal Government will cleanup to a lesser standard, and the kids go unprotected. Every time I've done that, I've gotten it through this committee. I will be pressing on that again.

And I just want to say again to my colleagues, thank you for your caring and your concern and your leadership.

And to you, Mr. Chairman, thank you very much.

[The prepared statement of Senator Boxer follows:]

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

Mr. Chairman, thank you for holding this hearing today on these important coastal restoration and protection bills. I support all of the bills on today's agenda and look forward to working with the Committee to ensure their timely passage.

I would like to begin by welcoming our witnesses here today. In particular, I would like to pay special tribute to my friend Ted Danson. As many of you know, Ted Danson has been a leader in environmental preservation for many years. During the 11 years since he founded the organization, Ted has been a valuable advocate for protection of our coasts and a valuable friend to me. I am pleased to see him here promoting a cause he truly believes in.

I am a co-sponsor of three of the bills on the agenda today: Senator Chafee's Estuary Bill, Senator Torricelli's Estuary Bill and Senator Lautenberg's Beach Bill. All three of these bills will assist California and the entire nation in protecting and preserving our precious marine resources. I look forward to the discussion about these bills.

With 1,100 miles of coastline in California, these bills are critical to protecting our marine environment, maintaining a healthy population and promoting a strong economy. Californians know that the health of our economy is inextricably linked to the health of our coastal and marine resources.

I commend you Mr. Chairman for your estuary bill. S. 835, the Estuary Habitat Restoration Partnership Act of 1999 establishes a program to restore 1 million acres of estuary habitat by 2010. This is a laudable and much needed goal. I strongly support this effort.

I would also like to commend Senator Lautenberg for his beach bill. This legislation is not only important for environmental restoration, but also for protecting public health and safety.

Mr. Chairman, when people go to enjoy our beaches, they should go home with a tan, not a tummy ache. Unfortunately, all along our nation's coasts, beach waters are being contaminated by land-based pollution. Bacteria, viruses, toxic chemicals, nitrogen, and other contaminants that are dumped into beach waters by storm drains, malfunctioning septic systems, and overburdened sewage treatment plants and threatening the health of swimmers, surfers, and other beach goers.

At best, this contamination must stop. At the least, we must ensure the health and safety of the American people by establishing uniform, national standard that will be used to test beach waters for contamination. And it's not enough to just have a standard in place. There must be monitoring, and most importantly, public notification of possible harm.

However, I would like to inform the Committee that I intend to offer an amendment to this legislation that will ensure that this national standard is set at a level that protects children and sensitive sub-populations. Are children should be free to play in the waves without getting sick.

Mr. Chairman, I am a strong supporter of the bills being discussed today. I look forward to working with you and the rest of this Committee to move these bills forward expeditiously.

Senator CHAFEE. All right. And we hope you can stay. I know you've got a busy schedule.

Senator BOXER. I have to go to the floor is the problem.

Senator CHAFEE. OK. Fine.

All right. Senator Breaux.

Is Congressman Bilbray back there? Why don't you come on up and take a seat up here?

Among other things, he is head of the Surfers Coalition, I believe. Is that the name of it?

Mr. BILBRAY. It's the Surfers Caucus.

Senator CHAFEE. Surfers Caucus, and he has made me an honorary member, which is really stretching things a long way.

[Laughter.]

Mr. BILBRAY. Senator, I've seen the surf at Scarborough Beach in Rhode Island, and you are right, it is stretching it.

[Laughter.]

Senator CHAFEE. No one will accuse him of buttering me up, anyway.

Senator Breaux.

STATEMENT OF HON. JOHN B. BREAUX, U.S. SENATOR FROM THE STATE OF LOUISIANA

Senator BREAUX. Thank you very much, Senator Chafee and Senator Boxer, for your comments.

Mr. Chairman, I am here to urge the reauthorization of the Act that Congress—and you were involved, Mr. Chairman, and we all were back in 1990—known as the Coastal Wetlands Planning, Protection and Restoration Act. President Bush signed that bill into law back in 1990, so it is almost 10 years since it has become law.

I think that it has allowed all of the coastal areas in my State, and in other coastal States, to take all the studies and all of the planning that had accumulated over the years in libraries about what to do about wetlands, take all those studies and plans and

take them off of the shelf and actually implement them into projects aimed at restoring the coastal lands.

I think all of us from coastal areas realize that when coastal areas are lost they are gone forever. When we have a hurricane and it blows down buildings, the buildings can be rebuilt. When we have an earthquake and it destroys homes, the homes can ultimately be rebuilt. But every day a little bit of my State breaks off and floats away into the Gulf of Mexico and it is never coming back.

Louisiana loses somewhere between 25 and 30 square miles every year of coastal land because of erosion. To put it in perspective, that's about a football field every 30 minutes. If that continues, my coastal area will be somewhere around Chicago, which is not something that I'll look forward to seeing.

When we set up this coastal wetlands planning, protection and restoration program, the idea was to take the Federal gasoline tax on small gasoline engines which are not driven on interstate highways and put the small engine gas tax into a fund from every gallon of gas that is bought for a snow blower or a lawn mower or a chain saw and put it into a trust fund and give it to the coastal States in order for them to use that money in order to take those plans off the shelf and out of the library and actually implement them, and the success, I think, has been incredible.

Since the Act has been established, we have restored or enhanced over 460,000 acres of coastal wetlands. The Federal Government has contributed about $397 million, and the States and other partners have matched and contributed more than $327 million, for a total which exceeds $724 million earmarked for these type of projects.

The Federal highway bill that we just passed has already reauthorized a funding source. The only thing that is left and is necessary is for this committee to reauthorize the authorizing part of the legislation. The funding source has already been reauthorized through the Federal highway program.

The final comment, Mr. Chairman, I would make is that in Louisiana—a coastal wetlands task force has been set up by the Act. One of the problems has been, as we all know, that every agency wants to do the work itself. States want to do it, the local governments want to do it, the Federal agencies want to do it. In the past, we've seen an incredible amount of interparliamentary bickering among all of the agencies about who is going to do the work.

I can proudly say in Louisiana we established a task force which brings together all of these groups, working together to draft the plans, to have them approved by vote of the task force. On that task force are the Corps of Engineers, the National Marine Fisheries Service, the Environmental Protection Agency, the USDA, the Fish and Wildlife Service, and, of course, the State of Louisiana, and they must work together. They are directed to work together by the Act to come up with a type of plan that they can use to reduce the wetland loss and to actually restore the wetlands that have been lost.

The State has recently signed a program that guarantees its matching share as a dedicated source of funding showing the State's commitment. Mr. Chairman, I wholeheartedly encourage

you and other Members to continue the good work that this bill has accomplished by reauthorizing it again.

Thank you very much.

Senator CHAFEE. Well, that makes a lot of sense, and I am confident we are going to do what you requested.

If you and Senator Sarbanes have other appointments, feel free to—I know you've got a heavy schedule.

Senator Torricelli.

STATEMENT OF HON. ROBERT G. TORRICELLI, U.S. SENATOR FROM THE STATE OF NEW JERSEY

Senator TORRICELLI. Thank you, Mr. Chairman, very much, and thank you for having me back again this year. It is becoming a regular opportunity to address a subject I know that is important to you and me.

I've come to bring your attention to S. 878, the National Estuary Conservation Act, that I have introduced and you were good enough to cosponsor, along with other members of the committee in previous years—Senator Moynihan, Gramm, Lieberman, and Boxer. Indeed, I am happy to thank you because last year you included important parts of this legislation in your own comprehensive estuary bill which passed the Senate. My hope is that you would continue in your support of this initiative, and that the House this year will follow your lead.

Like my colleagues, I am here principally to draw attention to some things we all recognize but need repeating—the role of estuaries in our economy, our cultural, and our family lives in this country.

Indeed, commercially, 75 percent of the commercial fish catch in the United States depends on the health of these relatively limited estuaries. Of the Nation's population, however, 45 percent resides in the same estuary areas.

To give you an idea locally of how important we recognize this to be, we have a $24 billion tourist economy relying on the same estuaries for fishing, habitats, boating, and outdoor recreation. Indeed, despite the growth of many other important high-tech and service industries in New Jersey, this remains our principal source of income in the State.

But, like many other States, the problem is relatively easily defined. These same limited estuaries, as we speak, in the months of July and August—Barnegat Bay, for example, our best-known and largest of the New Jersey shore, doubles in population when the summer months approach.

In the New York/New Jersey area, those same estuaries have 730 combined sewage overflow spills polluting into the harbor—an old infrastructure, a doubling population, spilling pollution into very sensitive and limited estuary areas.

The recognition of these facts persuaded the Congress in 1987 to create the national estuary program to begin important planning for dealing with this environmental stress. This program has provided some valuable grants to State and local governments to develop plans to preserve their estuaries. Twenty-eight such estuaries across the country were designated, including three in New Jer-

sey—Barnegat Bay, Delaware Estuary, and the New York/New Jersey Harbor.

To give you an idea of the importance of these estuaries, 42 percent of the continental United States' shoreline is within the watersheds of these 28 estuaries.

Unfortunately, once the plans were developed, State and local agencies were left with their own resources to implement the plan. That's the problem: good planning, good participation, great ideas, and no resources to implement them.

It is just like John Breaux just pointed out—all the greatest ideas for preserving these estuaries have been developed, and they're all sitting on the shelf.

Currently, there are funding levels of $17 million for all 28 plans—barely allow enough to allow development, no less any implementation.

To give you an idea of the scale, finally, of the problem that that $17 million would have to address, New York and New Jersey Harbor, alone, having completed its plan, calls for 300 different environmental initiatives, including preserving habitat, a project which identifies source pollution, and controlling the combined sewer overflows, which involve 730 different construction projects.

The needs, the demand for resources is, obviously, enormous, and the legislation that I have introduced, which would increase funding to $50 million, is barely, itself, a contribution, but it would allow some implementation of some of these plans.

The resources to implement all of these plans will never be available in a single year, or even in several years. This is a question of beginning.

At the moment, there is no implementation. I would hope, building upon the suggestions I've made, the legislation that I've offered and members of the committee have cosponsored, when the chairman begins his own efforts he would include some of these aspects into his bill to allow some dedicated funding so that we can begin implementing at least some of these plans.

Mr. Chairman, thank you again for having me, for your support for this effort through the years. I'm very grateful.

Senator CHAFEE. Thank you very much, Senator.

As I mentioned, I am deeply interested in these, and I agree with you that there has to be better funding for it. We're going to need your continuing enthusiasm as we go through this.

It is one thing to get it through the Senate; it is another thing to get it through the House. Your experience over there can be helpful to us.

Senator TORRICELLI. Thank you very much.

Senator CHAFEE. Thank you very much. If you wish to be excused, go to it.

Congressman Bilbray, nice to see you again here, and glad to hear your thoughts.

STATEMENT OF HON. BRIAN BILBRAY, U.S. REPRESENTATIVE FROM THE STATE OF CALIFORNIA

Mr. BILBRAY. Thank you, Mr. Chairman.

Mr. Chairman, I apologize. I really came here to listen to the testimony before you, but I can't pass up the chance to articulate the

fact that we have the BEACH bill that has been passed unanimously on the House side and now is up for consideration on your side.

Let me just restate my experience with this whole issue, Mr. Chairman.

I grew up in a city called Imperial Beach, which is the most polluted surfing beach in America. Mexico pollutes it periodically, and as a child I grew up a block from the surf. It was just part of our lifestyle that every morning when you went down with your surfboard to go surfing you didn't know if you were going to be greeted by these bright red signs that said, "Contaminated, keep out." And the frustration of young people and citizens that their beaches are closed periodically is really terrible.

The trouble is, Mr. Chairman, the only thing worse than having the red signs up when the beaches are polluted is not having them up when they are polluted, not knowing when it is safe and when it isn't.

As somebody who comes from the west coast and has now spent some time on the east coast, when I take my family to the Delaware area or Maryland, I do not know, as a parent, is it safe for my son and daughter to go out into the surf at that time. Is the water safe for contact?

The BEACH bill that we have proposed is actually an outcome-based piece of legislation that not only will inform all Americans who travel across State boundaries—which, let's face it, that is one of the major reasons why this federation we call the "United States" was formed, to encourage and allow interstate commerce and interstate travel—the people that do travel there today do not know if it is safe to enter the waters of the United States.

With the BEACH bill, we will be able to create that and will be able to do it in an interesting way. Those of us who have worked on environmental issues with the Federal Government recognize that too often Washington has tried to set standards that do not reflect reality in mainstream America, and with this proposal the health directors of the States and the locals will work with EPA at developing a standard that is applicable to the rest of the country.

I also want to point out that those of us who have worked on these pollution problems have actually been lulled into believing that our standards have always been good. The fact is, the water contact standard that even we use in California and in New Jersey and Florida is really based on one study that was done in 1951 in Lake Eerie, one study with fresh water, and based on a whole unique situation.

This bill, the BEACH bill that we got passed and hopefully you'll pass, will finally get us to upgrade it and bring it to the 1990's standards and hopefully we'll go into the new millennium with a new standard working with local health officials that will protect our children and our families for the future and make sure that all of us, when we go to the beach, can be assured that it is safe for us to enter that water and that our children and our families will be able to enjoy not just a day at the beach but also the days that followed without getting sick.

Thank you very much, Mr. Chairman.

Mr. Chairman, I appreciate the huge support that you've given to the effort of these kind of projects. As somebody who looks forward to continuing to be involved in water contact sports, I appreciate the legacy that you have built for all Americans.

Senator CHAFEE. Well, thank you very much, Congressman. You're right—I am interested in it, and it is wonderful to have your enthusiasm and support in all these efforts, so I'm optimistic we are going to be able to do some good things.

Thank you very much for coming over.

Mr. BILBRAY. Thank you very much, Mr. Chairman.

Senator CHAFEE. All right. Now, the next panel will consist of Mr. Charles Fox, assistant administrator for water at EPA; and Hal Davis, Deputy Assistant Secretary for civil works, Department of the Army.

Now, I am very conscious today, gentlemen, of the fact that we have quite a long list of witnesses, and the way things seem to work in testifying at congressional hearings is that the last people sort of get short shrift, and we don't want that to occur, so we'll start with Mr. Fox, and if you could limit your testimony to 5 minutes, and you'll see the lights here and eventually get to the red light, and then we'll go on to Mr. Davis.

All right, Mr. Fox, go to it.

STATEMENT OF HON. J. CHARLES FOX, ASSISTANT ADMINISTRATOR FOR WATER, ENVIRONMENTAL PROTECTION AGENCY

Mr. FOX. Mr. Chafee, thank you. With luck, I can do this in under 5 minutes.

I do really appreciate the opportunity to be here today and to offer kind words on behalf of the Administration for all of the legislation being considered by this committee here today.

The previous speakers have talked about the ecological and economical values of coastal waters, so I don't need to get into that.

I do need to mention, though, that all of our coastal waters, as you well know, are facing very significant environmental problems, ranging from the loss of dissolved oxygen to the loss of wetlands to increasing toxic contamination of many waters around the country.

The Clean Water Action Plan announced by the President and the Vice President includes 111 specific actions to improve water quality, and I'm happy to say that the BEACH legislation that has been proposed by Senator Lautenberg and is also included in the House legislation, closely mirrors the Actions announced by the President in the Clean Water Action Plan.

The BEACH legislation introduced by Senator Lautenberg provides for a comprehensive program to improve beach monitoring and assure that the public has good information about the health risks. H.R. 999, passed by the House of Representatives, includes comparable but somewhat different provisions.

As indicated in my written testimony in more detail, both bills have strong points and we would be happy to work with the committee to develop the most acceptable bill possible as you go through the process.

Turning to your bill, Mr. Chairman, as you know, you were the founder and the creator of the National Estuary Program. It has worked tremendously well around the country since 1987, when it was created by amendments to the Clean Water Act. Today we have 28 National Estuary Programs around the country. As you know, they develop management conferences that include a number of participants at State and local levels to develop a comprehensive plan for protecting and restoring these estuaries.

The legislation that you have introduced would create new authority and authorize new funding for the Army Corps of Engineers. EPA supports the new authority for estuarine habitat restoration proposed in the bill. My written testimony includes several suggestions for improvements to the bill, and we have provided some technical comments to committee staff.

The bills introduced by Senator Torricelli and you, Mr. Chairman, both would extend and increase authorizations for the National Estuary Program. The Administration supports changes to the Clean Water Act to allow National Estuary Program grants for both program management, as well as program development.

We also included in our budget for this year, fiscal year 2000, some provisions for implementing National Estuary Programs Comprehensive Conservation and Management Plans (CCMPs) that would allow Governors to set aside a certain portion of their State revolving loan funds for CCMP implementation. That proposal is pending right now before Senator Bond's subcommittee on the appropriations side.

The Administration also supports legislation to protect Chesapeake Bay that was introduced by Senator Sarbanes and Senator Warner. I am a long-time advocate of Chesapeake Bay the cleanup, and I noted the comeback of the striped bass in your remarks. One thing I have noted is how we all have unique names for these species. I was once up fishing with my brother in Newport and learned that they don't call them "rockfish" in Rhode Island, but they called them "gummers," which I found interesting, and I guess that refers to the fact that they don't have a whole lot of teeth.

But the story of the comeback of striped bass I think is a classic success story of people working together in the spirit of the estuary programs.

The Administration also supports the legislation introduced by Senator Breaux, which would reauthorize the Coastal Wetlands Planning, Protection, and Restoration Act, an act that is known here in Washington as CWPPRA. It is known in Louisiana, of course, as simply "the Breaux Act," and it is something that has, I think, resulted in remarkable achievements in protecting coastal wetlands in Louisiana.

In closing, I would like to make a special appeal to the committee to consider the difficult challenges the Agency will face in implementing some of these important programs proposed in the legislation in light of the budget reductions that are likely to be imposed on EPA in fiscal year 2000.

Under the budget allocations currently being considered by Congress, EPA may be forced to implement far-reaching, general reductions in spending. If this is to occur at the same time that in-

creased funding is requested for these critical bills, the Agency might have to dramatically reduce current core program efforts.

I urge this committee to consider the best overall approach, and we look forward to working with you in that regard.

Senator CHAFEE. Well, I share your concern about the caps and I'm deeply worried about that situation, what it is going to mean. Obviously, that is going to play into everything that is going on around here in connection with tax reductions and so forth, but I'm glad you talked about the funding for EPA. It's something we've all got to bear in mind as we continue this whole budget exercise.

Senator Lautenberg, do you have something you wish to say at this time?

Senator LAUTENBERG. I'm sorry I got here a little bit later.

Senator CHAFEE. Yes. I am trying—as I mentioned a little before, just before you came in, we have quite a list of witnesses, and I've recognized that the last witnesses always get short shrift, so I'm trying to be fair to everyone to make sure everybody is heard.

You go ahead.

OPENING STATEMENT OF HON. FRANK R. LAUTENBERG, U.S. SENATOR FROM THE STATE OF NEW JERSEY

Senator LAUTENBERG. Well, Mr. Chairman, I would spare you the opportunity to listen to my opening remarks. I ask unanimous consent that we can put them in the record and——

Senator CHAFEE. That will be fine.

[The prepared statement of Senator Lautenberg follows:]

STATEMENT OF HON. FRANK R. LAUTENBERG, U.S. SENATOR FROM THE STATE OF NEW JERSEY

Mr. Chairman, thank you for holding today's hearing on the coastal waters bills, especially my Beaches Environmental Assessment Closure, and Health (B.E.A.C.H.) Act of 1999.

I would like to welcome my good friend, Mayor Martin Paugliughi from Avalon, New Jersey, to Washington and thank him for agreeing to testify today on the importance of monitoring and notification programs for coastal recreational waters.

I would also like to thank Senators Boxer, Lieberman, Feinstein, Dodd, Kerry, Sarbanes and Torricelli for cosponsoring my B.E.A.C.H. Act. I'd like to also welcome Ted Danson, from American Oceans Campaign, and Chuck Fox, from EPA and thank both of them for supporting my bill.

Finally, would like to acknowledge Representative Pallone from New Jersey who has introduced the companion bill in the House.

Mr. Chairman, as you know, have introduced this bill in each Congress since 1990.

As a Senator representing a State with coastal recreational waters, I am very aware of the importance of monitoring beach waters for pathogens and bacteria and notifying the public when contaminated waters are not safe for recreational activities.

Coastal tourism generates billions of dollars every year for local communities since beaches are the top vacation destinations in the Nation. A recent survey found that tourists spend over $100 billion in the coastal portions of twelve States studied. Tourists at beaches on the Jersey shore generate more than $7 billion annually for the local economy.

The United States and coastal states could potentially lose this important source of revenue. According to a recent survey by Conde Nast Traveler magazine, 25% of people surveyed said they actually changed their travel plans because of environmental problems at their intended destination.

If recreational waters aren't properly managed, the increasing use of public beaches and coastal parks—for swimming, wading, and surfing—will mean greater risks to public health and to the financial stability of coastal communities.

This is an ongoing and serious public health problem. People often can't tell that the water they're swimming in is safe or unsafe. As a result, each year many people

come down with illnesses—from gastroenteritis to hepatitis—that are especially serious for children and senior citizens.

In a recent report on beach-water quality, the Natural Resources Defense Council reported more than 7,000 closings and advisories at U.S. beaches in 1998 due to pollution problems.

And the number of beach closings and advisories may represent only a small portion of the problem.

States are still taking inconsistent approaches in monitoring water quality at public beaches and notifying the public of unhealthy conditions. As a result, one state might close a beach because of a high bacteria count while, just next door, another state might allow beach-goers to enter the same polluted water.

In fact, only nine states have adequate policies for monitoring water quality and notifying the public of problems.

Due in part to my urging, in 1997 the Environmental Protection Agency (EPA) established its B.E.A.C.H. program to recommend appropriate monitoring criteria and public notification of beach water quality.

But EPA can't require states to adopt those recommendations. My legislation would give EPA the authority to require states to develop beach-water monitoring and public notification programs that uniformly protect public health. It also would authorize $9 million in grants to the states to carry out the requirements of this Act.

I realize there are other ways to improve water quality and warn people about pollution-related health risks. I think the approach in my BEACH bill is the most effective, but I am willing to work with my colleagues to develop a consensus to this serious public health problem.

Mr. Chairman, as other witnesses will tell you at this hearing, a day at the beach shouldn't be followed by a day at the doctor. I urge my colleagues to join me in supporting legislation to ensure safe and healthy beaches for all American citizens.

Mr. Chairman, thank you once again for holding this hearing.

Senator LAUTENBERG. I just wanted to say that what we're looking for is a basis for equalizing the way beach waters are analyzed throughout the country and make it the same.

My State is, as is yours, Mr. Chairman, pretty tough on the quality of water that we encourage people to jump into, and that's the mission here—to preserve the health and well-being of people and not have a day at the beach spent by a day at the doctor.

So that's where we are going, and I know that Mr. Fox is registering support for the Administration for the bill.

I've introduced this BEACH bill in every Congress since 1990, and I worked to help encourage EPA to develop its BEACH program. While the BEACH program is a good start, EPA's ability to require States to adopt water quality criteria monitoring and notification programs remains limited.

Can you tell us—now, I missed your testimony, and I don't want it to be repeated because it is in the record, but how will the BEACH bill enable EPA to address those problems that we know are prevalent in many American beaches in an expedient manner?

Mr. FOX. Senator, your legislation I think will have very significant and substantial benefits to the American people by assuring: that we have a level regulatory playing field for all States in the country; so that we have water quality standards that are developed in a consistently protective fashion; and that we have a comprehensive monitoring program so that the public will have a good understanding of the quality of the waters that they're swimming in. I think, overall, your leadership on this issue has really helped shape the Agency's beach program as a result.

Senator LAUTENBERG. I thank you. In order, Mr. Chairman, to move things along, I will reserve the opportunity to submit questions in writing.

I heard your comments about the striped bass, rockfish, call it what you will, and Senator Chafee deserves an awful lot of credit for the resurgence of that fish population. It is terrific. I also spend a lot of time in those waters, and it is a pleasure to see what the fishermen are taking in from New Jersey on up through Massachusetts—lots of striped bass.

Senator CHAFEE. It is remarkable. Once in a while something works, and the resurgence of the rockfish or the stripers or whatever you want to call them is just truly remarkable. We, obviously, see it up on our shoreline, as you do.

I guess it has been a—everybody can say it is a success. Do you think that's safe to say, Mr. Fox?

Mr. FOX. I think unquestionably it is safe to say that it is a success. I can tell you that in the Chesapeake Bay, where I go fishing as often as I can, it is very different today than it was even 5 or 10 years ago, and I think that this is a credit to the work of this Congress and some of the national controls on striped bass, as well as State legislatures around the country.

Senator CHAFEE. I've always felt that if you give nature half a chance it will come back, but you've got to give it that half a chance.

Mr. FOX. Right.

Senator CHAFEE. All right. Fine. Thank you, Mr. Fox.

Mr. Davis.

STATEMENT OF HON. MICHAEL DAVIS, DEPUTY ASSISTANT SECRETARY FOR CIVIL WORKS, DEPARTMENT OF THE ARMY

Mr. DAVIS. Mr. Chairman, Senator Lautenberg, I am Michael Davis, the Deputy Assistant Secretary of the Army for Civil Works, and it is a real pleasure to be here today to present the Army's views on S. 835, the Estuary Habitat Restoration Partnership Act of 1999.

I would also like to discuss the Coastal Wetlands Planning, Protection, and Restoration Act, and S. 1119, which would extend the funding for implementation of environmental projects under this act.

For over 200 years, the Nation has called upon its Army Corps of Engineers to solve many of its water resources problems. Historically, the Corps has emphasized its flood damage reduction and navigation missions. In recent years, however, pursuant to Water Resources Development Acts, we have elevated our environmental restoration and protection mission to a level equal to our more-traditional missions.

The Corps now uses its engineering, project management, real estate, and environmental expertise to address environmental restoration and protection problems throughout the Nation. The Corps has a powerful tool kit of authorities and programs that can be brought to bear to help solve these environmental problems.

Over the last decade, alone, the Corps has helped restore hundreds of thousands of acres of habitat benefiting hundreds of fish and wildlife species. Examples include 28,000 acres of habitat restored on the upper Mississippi River, 35,000 acres of flood plan and wetlands restoration under construction today along the Kissimee River in Florida, and hundreds of acres of coastal wet-

lands restored by beneficially using dredge material, including an 1,100-acre project in the Chesapeake Bay known as "Poplar Island."

As you know, Mr. Chairman, on July 1 the Army submitted to Congress a comprehensive plan to restore the Everglades, the world's largest ecosystem restoration project. This plan, alone, will help restore over 2.4 million acres of wetlands in the south Florida ecosystem.

Throughout the world, estuarine and coastal areas serve as a focal point for human use and development. These same areas also perform critical functions from an ecosystem perspective.

Estuaries help protect us from flooding, help maintain water quality, and provide habitat and food for an abundance of fish and wildlife species, many of them threatened or endangered. These coastal environments generate billions of dollars annually through such industries as tourism and sport and commercial fisheries. There is an urgent need to protect and restore these fragile ecosystems, recognizing the economic, social, cultural, and environmental benefits they provide.

We applaud the cosponsors of S. 835 for their vision and leadership in this area. If enacted, S. 835 would enhance the Corps' ability to restore and protect estuarine habitat. In this regard, the Army supports S. 835 and looks forward to working with you in enacting such legislation.

The goal of restoring one million acres of estuarine habitat by 2010 is consistent with the President's clean water action goal of restoring 100,000 acres of wetlands annually beginning in the year 2005.

The proposed national framework and the national estuarine habitat restoration strategies help partners identify and integrate existing restoration plans, integrate overlapping plans, and identify processes to develop new plans where they are needed.

We would recommend that the use of the existing organization and structure of the Coastal America partnership be considered fully. Coastal America has national and regional teams already in place, and many of the members on these teams would be the very same experts that we would need to consult under S. 835.

We are pleased to note that important changes the Army requested have been incorporated into S. 835. These same changes were also made to companion legislation, H.R. 1775. We do suggest a few additional minor modifications to S. 835. For example, we urge the committee to revise the bill to make it clear that non-Federal sponsors are responsible for providing all lands, easements, rights-of-way, dredge material disposal areas, and relocations, as is required for all other Army civil works water resource projects.

We also believe the that Secretary of the Army, not the Collaborative Council, should determine the acceptability and value of in-kind contributions.

The Army Corps of Engineers has extensive policies and regulations in place and vast experience in placing values on in-kind services. We feel that it would be appropriate for the Secretary to have this responsibility, since the Army ultimately is accountable for appropriations and project implementation.

In addition, we believe that you should consider including the Great Lakes region, which is widely recognized as a coastal region of the United States, with very similar problems and opportunities of other coast areas.

The Army supports S. 835, and we look forward to working with you, Mr. Chairman, and your committee to enact this bill.

Now I'd like to just briefly turn to S. 1119. The Army also supports 1119, which provides continued funding for the Coastal Wetlands Planning, Protection, and Restoration Act, or the Breaux Act. The Breaux Act is an important part of the implementation of the more-comprehensive, longer-term solution to the national problem of coastal wetlands losses.

Approximately 40 percent of the coastal wetlands of the lower 48 States are located in Louisiana. Over the past 50 years, Louisiana has lost an average of 40 square miles of marsh per year. This represents about 80 percent of the Nation's annual coastal wetlands lost for the same period.

Through the Breaux Act, substantial efforts are currently underway to slow this loss of Louisiana's coastal wetlands. To date, eight priority lists have been formulated and we have 81 active projects, 30 of which have been completed. When implemented, these projects will reduce the loss of coastal wetlands by 70,000 acres over the next 20 years.

In conclusion, the Corps has been increasingly involved in recent years with efforts to protect and restore our estuaries. My staff and I enjoyed working with you and your staff on S. 835 and the other legislation before your committee. We look forward to continuing this relationship as work on these important bills is completed.

Mr. Chairman, that concludes my statement.

Senator CHAFEE. Thank you, Mr. Secretary.

Senator CHAFEE. How effective are these measures? In other words, you talk about we are to restore in Louisiana "X" thousand acres of wetlands. I mean, I know what they do up my direction is the eel grass they're planting that is acting as something that can holds the marshes together. But I just don't know what they do in Louisiana and how effective is it.

Mr. DAVIS. We've seen some tremendous successes in Louisiana and other coastal areas throughout the United States where we're using dredged material to elevate areas that have subsided, for example, to recreate the natural topography and the natural elevations that allow the natural vegetation to return, literally thousands of acres in Louisiana.

One of the premier sites in this country is Oakland Harbor in California, the Sonoma Bay wetlands, where we have taken dredged material and created 330 acres there. So we have had tremendous success with these programs.

Senator CHAFEE. Well, it is good to hear it because—and I want to commend you for your testimony.

What do you say in this business of testing the quality of the water and whether it is safe and all? What do you say about you're getting into a one-size-fits-all problem here? How do you gauge what is safe? It might be completely different for something in San Diego than it would be for Narragansett Bay or Barnegat Bay.

Mr. FOX. Mr. Chairman, at EPA we try and develop national standards based on the best scientific information we have about what levels of a contaminant would be protective of public health, but in every case we allow a State to vary from that national standard if they have information in their State waters that would suggest that a different standard should apply.

To me, what this BEACH legislation does is it suggests that all States need to be serious about focusing on the development of these standards so that they are protective of public health, but if States wanted to vary from these to meet specific needs, they should be allowed. Certainly in Hawaii, for example, in the tropical water, the kinds of problems and critters that they've got, microbial critters, are very different from those in Narragansett Bay.

Senator CHAFEE. We're delighted that Senator Warner is here. Senator Warner has long had a deep interest in the quality of waters in the Chesapeake Bay.

Senator if you have some comments or an opening statement, we'd be glad to hear it.

OPENING STATEMENT OF HON. JOHN W. WARNER, U.S. SENATOR FROM THE COMMONWEALTH OF VIRGINIA

Senator WARNER. Thank you. I appreciate the opportunity to say a few words.

In 1981—I was elected to the Senate in 1978, 21 years ago—I started working on the Chesapeake Bay with a wonderful senator, Senator Mack Mathias, and Senator Sarbanes joined us.

It appeared to be an impossible task, but we have made some progress. When I say ''we,'' Congress put in place appropriate legislation, then a lot of wonderful people sort of took over and have been trustees to make it happen. So I want to just read a few sentences here, if you don't mind.

Since 1981, the Chesapeake Bay restoration program has been a voluntary Federal/State partnership. The Federal Government and States provide funds for the States to select control strategies to reduce the toxics. You know the basics of that.

All of our efforts have been designed to improve the water quality and better manage the living resources.

Today, the structure of the Bay program is, I think, seriously jeopardized by the pending conflict between continuing the voluntary partnership efforts or leaving or being overtaken by Federal regulatory controls.

We're concerned that the Bay agreement with the States is threatened by EPA's intention to issue regulatory controls on pollutants into the Bay. We've asked the—EPA intends to consider this partnership. Give us a little background on this and tell me what you want to do here.

If I don't like it, we'll legislate against it.

Mr. FOX. Senator Warner, the Chesapeake Bay, in many ways, has become a model for so many of the bay and estuary cleanup efforts——

Senator WARNER. Across the Nation.

Mr. FOX [continuing]. Around the country. Being involved, I think, in one of your first press conferences in 1982 with Senator Mathias, I have been following it fairly closely since that time.

Senator WARNER. You were there?

Mr. FOX. Yes.

I would say that——

Senator WARNER. Were you with the EPA then?

Mr. FOX. I was actually with an environmental organization at the time.

Senator WARNER. Good for you.

Mr. FOX. Looking at what the Chesapeake Bay has done, I think one of the most shining examples is the commitment to reduce nutrient pollution by 40 percent by the year 2000. It was, in fact, a voluntary agreement reached by the political leadership at the time that included a number of Members of Congress, as well.

Senator WARNER. We embraced Maryland, Virginia, the District of Columbia, and reached up into Delaware.

Mr. FOX. And even up into New York State. Right.

Senator WARNER. Yes.

Mr. FOX. And that 40 percent reduction goal represented at the time an understanding of the elected officials as to what would be a doable and cost-effective action that we could take to achieve a water quality end point in the Chesapeake Bay.

Our understanding of that has improved over time, and scientists today are evaluating, "Well, is 40 percent enough? Do we have to do more than 40 percent?"

What EPA's regulatory program is looking to do in the Chesapeake and around the country is to make a connection between a scientific-end point, what is adequate for healthy water, and then what is the pollution reduction necessary to achieve that scientific end point?

In the Chesapeake, like other waters around the country, we are doing this process that we call "load allocations." How much pollution should be discharged? And we are, in fact, in the process of developing new regulations that would set in place the framework for this system to take place around the country.

These regulations, it is my hope, will allow for cost-effective pollution control and will result in pollution trading that happens between point sources and nonpoint sources so that we can figure out as a society what is the most effective way to get to that end point.

These regulations will be proposed in draft form some time in the next, probably, 3 weeks, and we will, obviously, go through a very extensive public comment period. We have been spending a good deal of time in the Chesapeake Bay watershed, in particular, trying to work with State officials so that we can come to agreement as to how these regulations will be implemented.

Senator WARNER. It certainly is a commendable objective, and I'm certain that all involved in this would agree that we should reexamine the 40. If it's not the correct percentage, then pursue, presumably, a higher one. But we would not want to go back and reverse this really magnificent State/Federal partnership, together with voluntary organizations.

So can you assure this committee that the regulatory framework will not vitiate the legal framework established by the States, together with the voluntary organizations?

Mr. FOX. I can assure you that there will be nothing in the regulations that will in any way, shape, or form undo a lot of the

progress that has been made in the Chesapeake. Our goal is nothing more than to build on this.

Something important to keep in mind is that I'm watching around the country as more and more water bodies are taking on these very difficult challenges. In Senator Lieberman's Long Island Sound, they have agreed to nitrogen reductions that surpass that of the Chesapeake Bay.

I was down in the Mississippi Delta, or the Delta of the Mississippi, as I was corrected, realizing that there is an oxygen problem at the mouth of the Mississippi that is about the size of New Jersey where they don't have enough oxygen for fish to survive. This will ultimately require nutrient reductions in the Mississippi River.

So I am hoping that we can put in place a sensible framework so that we can start addressing these problems nationwide.

Senator WARNER. All right. And I accept your proffer on behalf of the distinguished administrator, but I assure you that I am going to keep a watchful eye, Mr. Chairman and members of the committee, and I will communicate with you directly.

Let me just read this. Ann Loomis has been with me throughout this program. She said——

Mr. FOX. I remember her in the early 1980's, too.

Senator WARNER [continuing]. The Bay States will have no need to confine the Bay agreement if EPA sets its own standards. The trouble is I can't read her handwriting in most instances. Have I got that right, Ann? How about that?

Mr. FOX. Senator, our goal is to work in unison with the Bay States. We have had, I think, as of now, at least three or four meetings specifically on this question of bringing our regulatory program together with the voluntary program of the States, and I'm very hopeful that we will be able to work something out.

Senator WARNER. I will watch it very carefully. I thank the Chair. I thank you, Mr. Fox.

Mr. FOX. Thank you.

Senator WARNER. We look forward to working with you.

Senator CHAFEE. Thank you, Senator.

Senator Lautenberg.

Senator LAUTENBERG. I just want to focus on one thing that was said by my good friend from Virginia, and that is that we all have an interest in what goes on in a place like the Chesapeake because, not much different than clean air—I mean, it travels. It goes all over the place. And so we want to make sure that our interests, other States, are also protected when we are doing pollution cleanup or reductions, as may be.

Now, Senator Chafee asked an interesting question. He said, "Might there be different standards for different areas?" But aren't we working with bacteria, to eliminate bacteria pollution that, regardless of where it shows up, unless some of our States start developing people with scales, it is obviously going to affect human beings in similar fashion? Is that not the case?

Mr. FOX. That is true. The tension becomes as to the kinds of microorganisms you are testing for and the different test methods that apply and how they grow in different waters.

What we've tried to do at EPA is to develop some uniform, national testing procedures that would give us a strong sense of confidence in a standard that would protect public health. My comment to the chairman was simply that some States have developed equally valid scientifically supportable variations of this, depending on their local conditions.

One of the classic differences is in water temperature, and trying to test for microorganisms in Florida is very different than in Maine.

Senator LAUTENBERG. Right, but the measurement of the toxic material, if I can call it that, is a toxic material, and it is not good for people in New Jersey and it is not good for people in Hawaii and it is not good for people in Rhode Island.

So if we're talking about approaches or how you determine what the threats are, that's one thing. But if you're talking about what the ultimate objective is, I don't see——

Mr. FOX. That's correct.

Senator LAUTENBERG. Thanks so much, Mr. Chairman. Thanks, Mr. Fox.

Senator CHAFEE. All right. Fine.

I want to thank both of you very much for coming here. Obviously, we will be having more contact as we go along, because it is—I think you are going to see action on all these bills that we have before us.

Thank you.

Now, the next panel consists of Mr. Pagliughi—perhaps you'd like to introduce the mayor, Senator.

Senator LAUTENBERG. I would.

Senator CHAFEE. And Mr. Ted Danson, president of the American Oceans Campaign; Ms. Linda Shead, executive director of Galveston Bay Foundation; Richard Ribb, Narragansett Bay estuary program; Michael Hirshfield, Chesapeake Bay Foundation; and Len Bahr.

All right. We'll start with the mayor. Senator, if you'd like to introduce him?

Senator LAUTENBERG. I just want to say that I welcome Mayor Pagliughi here. We spend time together, not fighting over disparate partisan issues, but rather on what we do to keep the ocean clean and how we continue to attract people to use that wonderful facility known as the ocean.

The mayor has several distinctions, not the least of which is that they have the lowest tax rate in the county, which is pretty impressive because the town continues to develop and take care of its citizens in really good fashion.

Senator Chafee was Governor, and he knows that when you're in a job, not like the ones we presently have, but where you meet the people, you know immediately whether you're doing a good job, and Mayor Pagliughi always gets good response.

I also, Mr. Chairman, would take a minute to welcome Ted Danson. We appreciate your views and the fact that you are president of the American Oceans Campaign. With the considerable attention that you bring when you appear like this and lend your weight to a project, it means something. We are delighted to have you here with us. Thank you.

Senator CHAFEE. All right.

Mayor, won't you proceed, please? You know the ground rules. Stay within the 5 minutes.

STATEMENT OF HON. MARTIN L. PAGLIUGHI, MAYOR, BOROUGH OF AVALON, NJ

Mayor PAGLIUGHI. Mr. Chairman, my name is Martin Pagliughi. It's Irish, that name.

Senator CHAFEE. OK.

Mayor PAGLIUGHI. I'm the mayor of Avalon, NJ, a barrier island tourist community, and a board member of the American Coastal Coalition, and I'm very pleased to be here today and thank Chairman Chafee and ranking member of the committee, Senator Baucus of the Public Works Committee, for the invitation to testify here today.

I also express my sincere appreciation to Senator Lautenberg for the opportunity to speak in support of his BEACH Act, which proposes to establish uniform testing of marine recreational waters and which will establish a nationwide standard for notifying the public when these waters are contaminated.

The Senator's bill provides for swift implementation of the testing program, which is imperative. I'm very proud of the fact that since 1985 New Jersey is the only State to have mandatory beach protection program that includes bacteria standards, a monitoring program, and mandatory beach closure requirements when the bacteria standard is exceeded, but I am also appalled that 14 years later we still do not have a nationwide mandatory testing program for our recreational waters, which is so critical, and it impacts, No. 1, public health and, No. 2, the U.S. economy.

Does it make any sense to carefully monitor foods and drugs in this country to protect public health, yet permit people to swim in untested recreational waters? We know for a fact that waters can appear clean but may harbor many life-threatening pathogens.

You may recall that in 1987 and 1988 New Jersey experienced beach closings due to trash and medical waste washing up on our shore, losing almost $3 billion in tourism revenues. Unfortunately, those tourists who left to go elsewhere had no assurance of the quality of water where they went because neighboring States had no similar testing programs.

To regain our previously loyal beachgoers, obviously we had to fix a variety of pollution problems. This we have done.

Last week, the National Resource Defense Council announced that beach closings in New Jersey were at a record low, but without the cooperation of the coastal monitoring program that would not have happened.

Here's how the program works in Avalon: the county health department samples the water quality weekly at 10 recreational sites from mid-May through mid-September, testing for fecal coliform and enterocci bacteria. If the bacterial count of these sites is above the permissible limit, the beach is closed to swimmers. This means large signs are posted advising bathers that they are not permitted to swim, and lifeguards remain on duty to inform the public and keep them from entering the water.

Obviously, beach closings are not a PR-plus for the tourist community, but they are a must when you are protecting the health and welfare of our visitors, which is first and foremost.

Fortunately, in Avalon we have not had a beach closing in years, but this is not by accident. Since 1991, Avalon has won seven of the eight Quality New Jersey Shore Awards for steps it has taken to prevent pollutants from entering recreational waters.

With the threat of possible beach closings, we have taken those steps necessary to assure that the water quality remains excellent. During the last decade, Avalon has spent millions of dollars to prevent nonpoint source pollution, which is the primary cause of pathogens entering recreational waters. Major expenditures have been made on equipment to clean beaches, streets, catch basins, and on projects such as storm water disposal system rehabilitation, repair and reallocation of outfall lines, manhole cover repair, the installation of tide flex valves on storm water outfalls, required capping of all sewer vents, and TV inspection of all of our infrastructure.

Avalon has taken these projects with little outside help, but Senator Lautenberg's legislation, which includes $9 million in grants to the States, should help get the ball rolling.

By enacting this legislation, you will send a message to the world that we in the United States care about the public health of our tourists who visit our beaches.

I would remind you that the No. 1 tourist designation in the United States is the beach, with coastal States receiving about 85 percent of all tourist-related revenues, generating billions of Federal tax dollars.

Foreign tourists who prefer the United States' beaches create significant trade surpluses; therefore, it is incredible to me that our Federal Government makes such a feeble effort to support, promote, and improve our national beaches and recreational waters. In the future we will pay for such a lax attitude.

Meanwhile, other countries who wish to compete are hard at work. From 1950 to 1993, the U.S. has subsidized only $15 million in shore restoration projects, versus Germany, who has spent $90 million. Spain has spent $250 million, and Japan has spent $1.4 billion.

If we are going to maintain an edge in the world tourism, we must be able to give visitors assurances that we have the world's best beaches and that United States' recreational waters are monitored uniformly and consistently. They must know that if there is a problem they will be advised and prohibited from entering those waters that could be dangerous to their health.

That's why the Federal Government must immediately begin to address the quality of its beaches and recreational waters. We are meeting that challenge in New Jersey, and I am here today in support of Senator Lautenberg's BEACH Act, which would make the water quality testing mandatory nationwide.

It is time this Nation begins to protect and enhance one of the most economically vital assets we have—its beaches and recreational waters.

Again, my sincere thanks to you, Mr. Chairman, for allowing me to speak here today. I also thank Senator Lautenberg for the invitation. The borough of Avalon supports his beach bill 100 percent.

Senator CHAFEE. That's very interesting, what you've done in Avalon and the expenditures you've made, and you've listed them there in your speech, in your remarks. It is impressive what you've done.

Mr. Danson, president, American Oceans Campaign.

Mr. Danson.

STATEMENT OF TED DANSON, PRESIDENT, THE AMERICAN OCEANS CAMPAIGN

Mr. DANSON. Mr. Chairman and members of the committee, good morning. My name is Ted Danson. I am the president and cofounder of the American Oceans Campaign.

American Oceans Campaign is a national, nonprofit organization based in Santa Monica, CA, and is dedicated to protecting and enhancing our Nation's oceans and coastal resources.

On behalf of AOC and the many other organizations that endorse the BEACH bills, I wish to express my thanks to Senators Chafee and Baucus and the other members of this committee for inviting me to testify today on the BEACH bills.

I also commend Senator Frank Lautenberg and the other cosponsors of S. 522 for their determined leadership in addressing the problems of inconsistent testing and public notification of unhealthy beach waters.

Since the early 1990's, American Oceans Campaign has focused significant attention on the health of recreational beach waters. Health risks associated with the presence of human and animal wastes in our beach waters are persistent due to leaking septic systems, inadequate sewage treatment, storm water pollution, and agricultural runoff. Unfortunately, families often do not know when it is unsafe to hit the surf.

This year, AOC, the Surfrider Foundation, the Center for Marine Conservation, the Clean Water Network, and many other organizations were strong advocates for the passage of H.R. 999, the Beaches Environmental Assessment, Cleanup, and Health Act of 1999, the BEACH bill.

On Earth Day, House of Representatives unanimously passed this bill. We are now all diligently working to promote swift passage of the BEACH bill in the Senate.

This summer, thousands of adults and children will swim, snorkel, surf, or wade in the beach waters that, unbeknownst to them, are contaminated by disease-causing microorganisms. These pathogens may cause a variety of illnesses, including gastroenteritis, hepatitis, and eye, nose, and throat infections. Bouts with these ailments can quickly ruin a family vacation or a weekend getaway and can cause a person to miss work or school.

To protect themselves from harmful pathogens, swimmers must rely on beach water quality tests, often conducted by local public health agencies. Unfortunately, the testing standards vary significantly, and often vary within a State. Several States do not regularly monitor their beach waters for pathogen contamination, and only a minority of States and local communities consistently notify

the public about poor beach water conditions. Last year, more than 7,000 beaches were closed due to polluted beach waters. More troublesome is that countless other beaches were not even posted when swimming could cause illness.

For example, the "Miami Herald" reported last Friday that the waters off Fort Zachary Taylor Beach on Key West had three times more than the acceptable amount of disease-causing pollution, yet the county health department decided not to post a warning.

To improve the flow of information about polluted recreational waters and to provide uniform protections for beachgoers, American Oceans Campaign, along with other conservation organizations, strongly supports a national BEACH bill. A BEACH bill will ensure that States have adequate beach testing programs to protect citizens from health risks, while allowing States flexibility in determining beach closures or in implementing stricter standards.

American Oceans Campaign would like to once again thank Senator Lautenberg and Representatives Bilbray, Pallone, and Boehlert for their tireless leadership on this issue.

A BEACH bill will allow us to protect ourselves and our children from disease-causing pathogens by setting national beach water quality criteria, establishing nationwide monitoring programs, and ensuring prompt public notification of contamination.

The language of Senator Lautenberg's bill, S. 522, is based on prior BEACH bills introduced by the New Jersey delegation over the past decade. It requires States to adopt beach water quality standards that are consistent with current EPA criteria. Under S. 522, should a State not adopt the current standards, EPA criteria will be deemed promulgated and becomes the State's water quality standard.

The bill also calls for EPA to promulgate regulations addressing beach water monitoring and public notification.

By comparison, the House bill, H.R. 999, requires States to adopt standards that are as protective of human health as the EPA beach water quality criteria. If a State fails to adopt such standards, EPA must promulgate regulations establishing the beach water quality standards for that State.

The House bill also differs in that it requires EPA to establish performance criteria for beach water monitoring and notification.

Though performance criteria aren't legal requirements, States, tribes, or localities must design programs that meet the criteria in order to receive Federal grants for their beach water testing programs. For example, if a locality does not propose an appropriate plan, it will not get any money to run the BEACH program. In that case, EPA must eventually conduct the monitoring and notification activities for that area.

Mr. Chairman, both BEACH bills promote a nationwide commitment to ensure beachgoers receive the basic information needed to protect themselves and their families from harmful pathogens.

The BEACH bills also alert communities about concentrations of coastal pollution. Although neither version of the bill contains provisions to act against polluters, the monitoring and notification process will empower local governments and States to be better stewards of beaches.

I urge this committee to support passage of the BEACH bill in the Senate, because a day at the beach should not end up with a trip to the doctor.

I'd just like to add that 10 or 11 years ago I, myself, took my children to Santa Monica Beach, Will Rogers State Beach, and bumped into one of those signs, you know, "Water is polluted, no swimming." It changed my life forever. It turned me into an activist, for which I am forever grateful. So not only do you protect public health, but you offer the public an opportunity to become part of the solution. You will inform them and give them the right to get involved, which I think is one of the most exciting parts about these bills.

I'd like to thank you, Mr. Chairman, for providing this opportunity.

Senator CHAFEE. Thank you, Mr. Danson.

Senator CHAFEE. I think the approach of that legislation, holding out the carrot—in other words, if the State will agree to this monitoring, then they will get a subsidy for it. If they don't want to do it, obviously you're running into a State's rights problem here. Is Washington trying to tell people how to do things? If they don't want to do it, then, of course, they don't get the money, as I understand the legislation.

Mr. DANSON. For the House bill, yes.

Senator CHAFEE. That's the House bill, is it?

Mr. DANSON. Yes.

Senator CHAFEE. Well, it seems to me to make sense.

All right. Fine. Thank you very much.

Now Ms. Linda Shead from the Galveston Bay Foundation.

Ms. Shead, we welcome you.

STATEMENT OF LINDA SHEAD, EXECUTIVE DIRECTOR, GALVESTON BAY FOUNDATION, ON BEHALF OF RESTORE AMERICA'S ESTUARIES

Ms. SHEAD. Thank you. Good morning.

On behalf of the Galveston Bay Foundation and Restore America's Estuaries, thank you, Senator Chafee and other members of the committee, for the opportunity to present strong testimony on behalf of Senate bill 835, the Estuary Habitat Restoration Partnership Act. I am privileged to be here before you today.

My name is Linda Shead, and I am executive director of the Galveston Bay Foundation, a nonprofit organization in Galveston Bay, TX, and our mission is to preserve and enhance the Bay for its multiple resources.

I am also a member of the board of Restore America's Estuaries, which is an alliance of 11 regional groups, each of which devotes a substantial part of its efforts toward protection and restoration of our Nation's estuaries, and it is to represent these vital national estuarine resources where the rivers meet the sea that Galveston Bay Foundation and Restore America's Estuaries are here before you today.

The geographical sweep of the Restore America's Estuaries alliance is revealed most clearly in the testimony, the written testimony that you have—11 groups in 16 States around the Nation's

coastline in the estuaries that receive the waters that drain the vast majority of the Nation's land surface.

The alliance represents a combined membership of 250 members.

The vital importance of the Nation's coastal estuary resources is well documented and has been mentioned in various testimony and in Senator Chafee's opening remarks here today.

In Galveston Bay, for example, three-quarters of North America's bird species can be seen around the Bay at some time during the year.

Without the habitats, estuaries would be virtually dead and the vibrancy that provides so many of our coastal communities would be ended.

Estuarine habitat is the lifeblood, as mentioned earlier, of 75 percent of all commercial fish species, and the 28 million people that depend on these fish species for their livelihood and for economic impact.

The losses are also well documented. In the estuary I know best, Galveston Bay, we've lost 30,000 acres of wetland habitat in the last 40 years. We only have 700 acres of sea grasses remaining.

In Louisiana, as you've heard earlier, the losses are measured in square miles per year.

In Narragansett Bay, 70 percent of the eel grass beds lost, 50 percent of the marshes.

In the Hudson Raritan Estuary, 80 percent of the wetlands lost.

Long Island Sound, 40 percent of the wetlands lost.

San Francisco Bay, 95 percent of the original marsh lands gone.

In the fisheries we have the example of Chesapeake Bay, mentioned earlier, from 1959 to 1989 going from 25 million pounds to 1 million pounds of oysters.

These are astounding statistics. They demand action. Fortunately, we still have time to act, but we need to start now to turn the tide on this devastating trend and actually foster the rebirth of our estuaries and their critical wetlands.

We believe S. 835 is an essential part of any coordinated and effective plan of action to do this. Where S. 835 can play a particularly important role is in helping provide leadership and resources to allow the Nation's coastal regions to seize restoration opportunities, which must be acted on if the biological productivity of the Nation's coastline is to begin to recover.

We need the Federal participation and the enhanced funding in a partnership that includes individual citizens, nonprofit organizations, private businesses, local and State governments. I won't spend a lot of your time going over the legislation, but there are some key words I'd like to highlight for you. One is that we do get new Federal resources, but they leverage local and State resources.

The projects are driven from the community up. They are based on watershed-based planning. They build on existing plans, like the national estuary program, but they get to work restoring our estuaries. They help build a new level of streamlining and coordination, including bringing the Corps into the process.

We believe that S. 835 will be an important part of helping to lock in and advance the real and important change in the stated goals of the Corps of Engineers to work on coastal restoration.

The bill takes the Corps at its word and then builds a strong collaborative process. Restore America's Estuaries members are committed to helping you move forward with S. 835 in a bipartisan effort, with strong, diverse stakeholder support, and get it enacted into law this year.

The bill is a vital component of our efforts to bring back healthy conditions, not only in Galveston Bay but in Narragansett Bay and Long Island Sound and Puget Sound and all around the Nation.

Galveston Bay is my home. It's the watershed where I live. It's where I work. It's where I recreate. I want our quality of life and our economy and our children's future protected. S. 835 can help us accomplish this vital task and help ensure a secure and bountiful future.

On behalf of Restore America's Estuaries, thank you very much for the opportunity to be here, and thank you, Senator Chafee and all the members of the committee, for your vision and leadership in bringing this bill forward. It is important to get this very good bill into a very good law this year.

Thank you very much.

Senator CHAFEE. Well, thank you very much, Ms. Shead.

Do you believe you can take steps to stem this terrific loss that I think you—Galveston Bay lost 30,000 acres of marsh habitat in the last 40 years. Only 700 acres of sea grasses remain. What do you do? How do you bring it back?

Ms. SHEAD. Well, there are several things that are going on right now in Galveston Bay. Most of our losses are a result of subsidence from groundwater withdrawals for municipal and industrial drinking water. We've halted those groundwater withdrawals around the bay and subsidence has halted. But, unfortunately, that subsidence has set in motion a process drowning the marshes and setting up increased erosion on our shorelines, and so now we have to go back in and protect those shorelines and restore those elevations.

Senator CHAFEE. How do you do that?

Ms. SHEAD. We're doing that in several ways. Sometimes we are trying some projects this year that are being piloted using geotubes in some areas to protect—that's a big, mud-filled sock out on the shoreline—to help slow down the wave energy. We're trying some techniques that have been used in Louisiana—terracing, where you build a series of levees in an open, square pattern that then can slow down the wave energy and help restore the marshes.

So if we can have the resources, once these methods are tested and shown to be effective in our bay system, then we can hope to keep doing that around the bay shorelines.

Senator CHAFEE. Do you perhaps use the sea grasses to help, too?

Ms. SHEAD. Yes, we do use sea grasses. For a long time, Galveston Bay has not had the water quality that would allow the sea grasses to come back. We've had so much stirring up of the bay bottom and so much sediment washing down that the water wasn't clear enough to support sea grasses, but we are in a project with National Marine Fisheries Service this year to start doing some sea grass restoration in Galveston Bay.

Senator CHAFEE. Well, I hope you have success.

We're delighted Senator Lieberman is here.

Senator if you want to make a few comments right now, this would be a good time, or we can wait until a little later. It is up to you.

Senator LIEBERMAN. It's your pleasure, Mr. Chairman.

Senator CHAFEE. Why don't you go ahead and make your comments?

OPENING STATEMENT OF HON. JOSEPH I. LIEBERMAN, U.S. SENATOR FROM THE STATE OF CONNECTICUT

Senator LIEBERMAN. That's very kind of you, and I will, therefore, begin by thanking you both for holding today's hearing on coastal habitat restoration and water quality, also on the leadership that you've shown over the years and again in this session on this very, very important matter. I am proud to be a cosponsor and a very strong supporter of your bill, the Estuary Habitat Restoration Partnership Act.

Many of us feel very strongly and share your view that our estuaries are true national treasures, for without healthy and productive estuaries like Narragansett Bay and Long Island Sound, the quality of life in our States would be greatly diminished.

The success of the national estuary program is, I think, amply demonstrated by the enormous improvement in the quality of Long Island Sound, which, of course, is critically important to our State.

In 1985, Congress directed New York and Connecticut to establish a Long Island Sound study in order to assess the water quality of the Sound. Two years later, the study became one of six original estuaries designated under the Clean Water Act's national estuary program. Citizen advisory and management committees were established to coordinate the study and ensure local input.

By 1994, the comprehensive conservation management for the Sound was complete and approved in an agreement by EPA and the Governors of New York and Connecticut to implement the plan.

So we have seen a Federal and State government partnership which has shown dramatic effect. I mean, it reminds me of what I think Greg Esterbrook wrote in his book, which is that environmental protection is probably the singlemost successful government program, he said then in the post-war period, the post Second World War, I think leaving Social Security to be noted for the pre-war period.

But in the Sound this program has restored fish populations, is restoring them, that have been impacted, improving and restoring degraded wetlands, and beginning to address the toxic mercury pollution that has led to health advisories.

This has all been the result of Federal, State, and private funds which I think have been extraordinarily well-spent, and set us now ready to go to the next phase of the national estuary program by leveraging cost-shared Federal funding for the implementation of these conservation plans.

So, Mr. Chairman, again I thank you for your leadership here. There are several ways in which I hope Congress will pay appropriate tribute to you for your years of remarkable and constructive service, and I hope one of them is that we pass this legislation, and I look forward to working with you and other members of the committee of both parties toward that end.

Thanks very much for your courtesy.

Senator CHAFEE. Thanks very much, Senator. There are some good bills before us, and I'm confident that we can work as a committee and come up with some amalgamation of these various proposals and get something done, and I think there is a chance to do something really constructive.

Senator Voinovich, I apologize for not calling on you earlier. If you have a few comments, now is the time.

OPENING STATEMENT OF HON. GEORGE V. VOINOVICH, U.S. SENATOR FROM THE STATE OF OHIO

Senator VOINOVICH. Thank you, Mr. Chairman.

First of all, some may be surprised that I am familiar with estuaries and some of the problems that some of the witnesses have been talking about, but one of the things that I am very proud of in my career is the battle to save Lake Erie. We had the War of 1812, and we won that battle with the English, and the question was whether we could save Lake Erie again.

I think that one of the real wonderful things that has happened in this country is we brought it back from the days when it said it was going to be a dying lake.

In terms of estuaries on Lake Erie, we do—Old Woman's Creek. We know how important that is in terms of our water quality and wildlife habitat, and it is a—it's not as extensive as some of the ones, Mr. Chairman, that have been talked about here, but it is significant.

I'd like to mention that many of our States are doing a good job in terms of paying attention to their beaches and to erosion and trying to do what they can with their resources to be responsible.

One of the things that some of you might be interested in is that a major project that we undertook for Lake Erie was the Lake Erie quality index, where we went through and established indicators as to where we are with water quality, pollution sources, habitat, coastal recreation, boating, and so on down the line, with the idea that we could go back and we could monitor our performance in terms of where we are with these respective indexes.

So often what happens is we just keep talking, but we don't have a baseline or a benchmark to reach toward, and it seems to me, Mr. Chairman, that any legislation that we're talking about contemplating doing ought to be involved with some connection with the States, whether it is a carrot type of thing, but some coordinated type of activity, recognizing that our States really do have the major role in taking care of this problem, and perhaps in some States, where maybe they aren't paying attention, the fact that we do offer a carrot may cause them to step forward and to start taking some steps that they ought to be taking in their respective States.

So I am pleased to be here today and to hear some of this testimony, and hopefully we can do something constructive in this area to improve this situation across the country.

Senator CHAFEE. Thank you very much, Senator. That's very interesting, the system you set up for monitoring the States and the grading system that you had worked out, which sounds very inter-

esting. I think it is good, because then you can see how you are doing. Thank you.

I would hope you would remember that the victor at the Battle of Lake Erie was Oliver Hazard Perry from Rhode Island.

[Laughter.]

Senator CHAFEE. All right. Mr. Ribb, director, Narragansett Bay Estuary Program from the Department of Environmental Management in Rhode Island, on behalf of the Association of National Estuary Programs.

Mr. Ribb, go to it.

STATEMENT OF RICHARD RIBB, DIRECTOR, NARRAGANSETT BAY ESTUARY PROGRAM, RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, ON BEHALF OF THE ASSOCIATION OF NATIONAL ESTUARY PROGRAMS

Mr. RIBB. Good morning, Senator Chafee and members of the committee.

I'd like to thank you for the opportunity to appear here this morning.

I'm here to present testimony on behalf of the Association of National Estuary Programs. This association includes representatives of industry, agriculture, tourism, community and citizen groups who volunteer their time and effort to implement the management plans that have been created through the National Estuary Program. We appreciate the opportunity to provide information to the committee.

I also would like to give a little perspective on the local National Estuary Program does, such as we do in Narragansett Bay and on what the bills here that are being discussed here today mean to these community-based programs.

You've heard from previous witnesses about the challenges we face in the estuaries, and we believe the National Estuary Programs have proven to be a successful approach for addressing many of these problems.

The collaborative, science-based estuary plans where all interested parties work together to create local solutions for local problems have been developed over the last dozen years. Senator Chafee, of course, was a leader in getting this program going.

We have had a lot of support from citizens in our watersheds, and we hope to continue work that is valuable to local communities.

In regards to the association's position on the bills discussed today, we'd like to focus on two bills—Senator Chafee's bill, S. 835, and Senator Torricelli's bill, S. 878.

We applaud the collaborative approach and the commitment of Federal funding that S. 835 will bring. This commitment will be very useful to the programs on the ground effecting habitat restoration. And Senator Torricelli's bill is a straightforward reauthorization of the National Estuary Program. Both of these increase funding for the program.

The Association of National Estuary Programs strongly supports Senator Chafee's bill. We feel it would be a critical resource in meeting local restoration needs from across the 28 estuaries and the Nation. The bill sets goals and creates a national strategy for

habitat restoration and a significant Federal commitment of funding. We feel this would be very effective in making the Federal Government a real partner with the States and local communities in effective habitat restoration.

We have three specific comments on the bill. First, we endorse the use of section 320 Clean Water Act funds for both plan development and implementation. We support a mechanism to increase regional and local input in the development of the national strategy and in setting criteria for the grant program. And we also support expanding the definition of Federal estuary management plans in the language of the bill to include the CCMPs or comprehensive management plans created through the National Estuary Program.

In terms of Senate bill 878, the Association endorses the funding level that is described in that bill, and we believe that that level of funding would be a good investment, and I'll tell you why from the national estuary perspective that we feel it would be a good investment.

The estuary program has had successful results, as you heard from Senator Lieberman, Senator Torricelli, and Mr. Fox. It is an excellent model for estuary management. It has been a laboratory and a testing ground for many of the watershed management techniques that are now being used across the country.

It is a process that allows for meaningful public participation, and with that comes much more commitment from the local communities and local people.

Some of the successes, briefly. Tampa Bay has had 3,000 acres of sea grass restored or expanded, 400 acres of wetlands restored. Massachusetts Bay has had 600 acres of shellfish reopened. Indian River Lagoon in Florida, 40,000 acres of marsh and mangrove wetlands reconnected.

We have been restoring habitat for oysters, clams, salmon, trout, heron, lobsters. It is a pretty extensive list.

We have also been preparing in our estuaries in hope that this estuary habitat bill will pass, because it would give us the resources to work with to make significant progress.

Included in our testimony is a chart which shows the leveraging ability of the National Estuary Program. In essence, what happens is that for every Federal dollar that we get from the Clean Water Act, section 320, we have been able to get two dollars of other funding, either State, local, private sector, or other sources, and we think that speaks for the effectiveness of the program, to direct those State and local and Federal resources together to address priority problems in the Nation's estuaries.

We would ask that you look at NEP reauthorization and the estuary habitat bill as strongly linked. We feel that the funding included in the bill is the fuel for the work that we are doing in the estuaries, and that the NEPs are the vehicles in those nationally significant estuaries for effective habitat restoration.

With that kind of stable funding, we can also address the emerging issues that our Governors and citizens are asking us to address—invasive species, sea level rise, and other factors, like water quality, that impact the effectiveness of estuary habitat restoration.

So these bills are definitely critical to the health of the Nation's estuaries—we support them very strongly and if the Association of

National Estuary Programs can assist in any manner, please call on us.

Senator CHAFEE. Well, thank you very much.

It is encouraging that so much is being done on the local scene working together, as you pointed out, with not only the organization you have, but the organization that was described by Ms. Shead.

Next witness is Mr. Michael Hirshfield from the Chesapeake Bay.

Mr. Hirshfield.

STATEMENT OF MICHAEL HIRSHFIELD, SENIOR VICE PRESIDENT, CHESAPEAKE BAY FOUNDATION

Mr. HIRSHFIELD. Thank you, Mr. Chairman, members of the committee, for the opportunity to present testimony on behalf of the Chesapeake Bay Foundation in strong support of S. 492, the Chesapeake Bay Restoration Act of 1999.

We would especially like to thank Senator Sarbanes and Senator Warner, as well as their colleagues in the Chesapeake Bay region, for their consistent and longstanding support for the Bay exemplified by the Bay Restoration Act.

My name is Michael Hirshfield. I am the senior vice president of the Chesapeake Bay Foundation, which has its headquarters nearby in Annapolis, Maryland. CBF is a member-supported, nonprofit environmental education and advocacy organization with over 80,000 members throughout the Bay watershed and nationwide. Our mission is simple—it is to save the Bay, to restore and protect the Chesapeake Bay and its watershed.

Mr. Chairman, I have good news and bad news concerning the health of the Chesapeake Bay.

About a year ago, the Chesapeake Bay Foundation released its first annual State of the Bay Report. If the Bay of 300 years ago was considered 100 percent, we calculated that the Bay of 1998 was only 27 percent—bad news, indeed, in Chesapeake Bay—only a small fraction of what it once was and what it could be.

But there is good news. We also concluded that, on balance, the Bay is in somewhat better shape than it was 15 years ago. Mr. Chairman, for the Bay to be even slightly better off than it was 15 years ago in the face of the pressures of population growth during that period is nothing short of remarkable, and it owes that improvement in no small measure to the hard work of the dedicated individuals from both the public and private sector led by the Chesapeake Bay program.

Chesapeake Bay program has been described as a national and international model of a cooperative ecosystem restoration program. The relatively modest amount of Federal dollars devoted directly to the Chesapeake Bay program through the EPA are leveraged many times over by other Federal, State, local, and private dollars.

We at the Chesapeake Bay Foundation have been critical of the Bay program in the past, and I'm quite confident we'll be critical of it in the future. I'm sure you'd be surprised and disappointed if we weren't.

We are impatient, but we are also very respectful of the Bay program, and it is because of that respect that we are critical. We expect nothing less than the best from it.

The Bay program has done a lot for the Bay since the 1980's. At the present time, it is in the process of challenging itself once more to develop goals and objectives for the next decade and beyond. We will be urging the Bay program to set lofty goals, and we will be working hard to help achieve them, but to do the work of saving the Bay we need a solid framework for the Bay program.

S. 492, the CBRA of 1999, provides such a framework. It reauthorizes the Bay program and provides it with the institutional resources necessary to carry out such an enormous task.

We are pleased to see that it includes mechanisms to ensure good public accounting of its actions and expenditures. We believe that such public accounting mechanisms are essential to ensure public confidence in government leaders.

We are also excited to see the new section on small watershed grants that will enable local government and community groups, including our own, to actively engage in active restoration.

CBF is only one of the many organizations spending time and resources on Bay restoration under the umbrella of the Bay program. On behalf of all those organizations and groups who are not here today, I urge you to move rapidly to approve S. 492 so that the effort to save the Bay can continue with renewed energy and momentum on into the next century.

I would also like to take a moment to comment on some of the other legislation before you today. In particular, the Bay Foundation would like to thank you, Mr. Chairman, for introducing and working for passage of S. 835, the Estuary Habitat Restoration Partnership Act of 1999.

Let me simply add my voice to my colleague and urge the committee to move swiftly to pass it.

Finally, I would like to join my other colleagues on this panel in urging you to support passage of a BEACH bill in this Congress, as well as legislation that would restore coastal Louisiana and strengthen the implementation of plans developed by estuaries as part of the National Estuary Program.

Thank you, again, for the opportunity to appear before you today.

Senator CHAFEE. Thank you very much. I want to commend you and your organization. I think it is wonderful what you've achieved, and certainly, if I read correctly here, you have some 80,000 members.

Mr. HIRSHFIELD. That's correct.

Senator CHAFEE. These are legitimate, dues-paying contributors?

Mr. HIRSHFIELD. Absolutely.

Senator CHAFEE. Good. All right.

The final witness—and I might say I think we've set some kind of a record here, and we're coming up to you, Mr. Bahr, not at 10 minutes of one, when everybody is hungry and desperate to get out of here, but with a leisurely 5 minutes of—about 11:05. So the floor is yours.

STATEMENT OF LEN BAHR, COASTAL ADVISOR TO THE GOVERNOR, STATE OF LOUISIANA

Mr. BAHR. Thank you, Mr. Chairman.

On behalf of Governor Mike Foster and the State of Louisiana, I am very grateful to the committee and to you for giving us a chance to appear today and to share some thoughts on vital matters that you've already heard a lot about this morning.

By the way, I'd like to put in a plug for Mr. Hirshfield. He put in a plug for Louisiana. I grew up in the Chesapeake Bay and worked there for 3 years, so I'm equally supportive of efforts to restore that estuary.

My name is Len Bahr. I'm executive assistant to the Governor, and Governor Foster couldn't be here today and asked me to appear in his stead.

Of course, the primary matter that I want to address today to you and the committee is a national crisis, an important piece of legislation, the reauthorization of the Coastal Wetlands Planning, Protection, and Restoration Act, or, as Senator Breaux has already told you, we refer to it in Louisiana as the "Breaux Act."

Now, the importance of this act and its reauthorization is only recognized if you understand the problem that it was intended to address—that is, the calamitous loss of wetlands and barrier shorelines, coastal wetlands and barrier shorelines that are absolutely critical to our national interest.

The Act, as it was written in 1990, recognized two indisputable facts—first, that the lands were essential to our ecological, cultural, and economic well-being; and, second, that regulatory and education programs, alone, are not sufficient to ensure sustainability of these vital lands.

In other words, it was recognized that an active campaign to restore coasts around the country was absolutely essential, and we, of course, agree. Louisiana you've already heard has incredible losses that are—you heard the statistics. I would like to point out, to refer to your attention a map that I think was handed out to members of the committee that shows the coast of Louisiana in 1895 and then contrasted with 1990, and, as you will see, it is a shadow of its former self. It is a very compelling picture that is worth an awful lot of words.

Before the Breaux Act was passed in 1990, we were literally—the coastal part of Louisiana was in a state of collapse, and there wasn't any real prospect of saving it, so a legacy of decades of leveeing, dredging, and draining—all large projects, many of them incident to Federal policies and programs, by the way—this was a coast in which the hydrology had been so altered that land was disappearing over 40 square miles a year.

In 1989, the State, prior to passage of the Breaux Act, took its own unprecedented step. It created a multi-agency coastal wetlands restoration authority within the Governor's office. I am the chairman of that task force. And it created a dedicated trust fund from oil and gas severance taxes that support the work of this effort, but we couldn't do it alone. The complexity and enormity of the challenge really demanded a national effort and State and Federal effort if the tide of land loss was to be stemmed.

Now, with the Breaux Act the complexion improved dramatically. I can't emphasize that enough. This act forged a working partnership not only between the State and Federal Government, but also among Federal agencies that have, as we all know, have had a long history of working at cross purposes sometimes.

In the 9-year history of this Act, it has been responsible for—and I know this. I have been involved since it began—it has been responsible for unprecedented partnering and comprehensive planning.

Most recently I'll call your attention also to a passage of the coast 2050 plan, which I think you were all given copies of the executive summary. It's very dramatic.

So this Act has led to development and implementation of a generation of restoration and protection projects, but also a lot more than that. I want to point out a few salient facts of the history since this Act began.

During the first 8 years—and we are now in the ninth year of the Breaux Act—the Federal/State task force that I sit on for the Governor has approved about 85 projects, about 60 percent of which have been completed or are under construction. The remainder of the projects are in various stages of planning and design.

That's great. I mean, we are very proud of these and we couldn't have done it on our own. But these projects are expected to result in a 15 percent reduction in projected land loss over the next 20 years. That's very good progress. It is still far from where we have to be ultimately.

Second thing, the Breaux Act created a working partnership between and among five Federal agencies, the State of Louisiana, and local governments, landowners, business, and interest groups.

the Act garnered an extraordinary level of public support, and this Coast 2050 planning is a good example of that. We met endlessly with local interests and local governments and got a consensus that I've never seen happen before.

The Breaux Act spurred the development and dissemination of scientific and technical information about the nature of the problem and its solution, and I think this—what we've learned in coastal Louisiana is definitely relevant to other coastal areas around the world, particularly other delta systems that are threatened like ours is.

The Breaux Act is responsible for the development, of course, of this plan, which is a blueprint for recreating a sustainable coast in 50 years, and I've already talked about the consensus it achieved.

The Breaux Act spawned a recently completed major feasibility study of restoring a system of barrier shorelines along the most-threatened part of our coast. Our barrier islands and shorelines are particularly threatened.

The Breaux Act plans and partnership have been the basis for the State of Louisiana's recent commitment of significant additional funds. We are trying to do our share, to the extent that we can, to ensure the State's ability to be a true and effective partner with the Federal Government.

Now, this partnership has produced benefits that go way beyond just developing restoration projects. I want to emphasize that. We're not just about projects. The program has increased the effec-

tiveness of all agency regulatory and resource management programs by focusing agencies on a common set of goals and objectives for the coastal area.

And, last, our initial small-scale river diversion projects are proving to be especially effective.

Mr. Chairman, you asked some of the other witnesses what they can really do, and the river is the key in our case. We've got to reconnect the river through diversions and other things to the delta that it was cutoff from, which would set this whole process in place.

The history of success that I've described warrants extension, and the true measure of the Act I think is much more than a list of milestones. It is best measured in the foundation that it has created, and it has provided a true sense of collective responsibility for the stewardship of a vital national treasure, and it is the foundation upon which all future work will build. It has worked well, but it has much more to do.

The State and Governor Foster strongly urge you to allow this effort to continue.

In addition to the reauthorization of this Act, I want to also, Mr. Chairman, support strongly the Estuary Habitat Restoration Partnership Act that you are the sponsor of. I think this is very complementary to the Breaux Act. It would authorize a program that would complement Breaux and the National Estuary Program that has been described already. It would authorize a non-regulatory, competitive grant program, it would broaden the partnering circle to include local governments, landowners, and interest groups, and focus on estuarine habitats of all types, not just marshes, but the marshes and swamps, submerged grass beds, reefs, and others.

It is very well-conceived, it is implementable, and it is cost-effective and very much needed.

Again, I thank you for allowing us to share our experience, and we will be glad to offer you any assistance we can.

Senator CHAFEE. Well, that's certainly high praise for the Breaux Act, and justifiably so, apparently. You are close to it, and it makes sense. I see every reason in the world that we would reauthorize it.

Senator Voinovich.

Senator VOINOVICH. Mr. Chairman, I have no questions.

Senator CHAFEE. OK.

Senator Lieberman.

Senator LIEBERMAN. Thanks, Mr. Chairman.

Thanks to the witnesses. I appreciate the testimony, some of which I have had an opportunity to read.

Mr. Danson, it is great to welcome you back, to see you again. Thank you for the time that you give to the American Oceans Campaign. I notice that you are here on behalf of, among other groups, Save the Sound, which I appreciate very much.

I just had one question, which is taken from your testimony, Mr. Danson. I'd welcome a response from others, as well.

You mentioned your concern about inconsistent public notification when beach waters are contaminated, and I share that concern, as does the general public, I'm sure. In Connecticut, the State, Save the Sound, other environmental groups recently devel-

oped an environmental monitoring project for Long Island Sound in which they collect water information, water quality information, from buoys that are set up in the Sound, and they allow people to access real-time data through the internet. It's a fascinating program, and it raises a question about whether there may be an opportunity to develop similar collaborative environmental monitoring projects to collect and post beach safety information.

The question that I really wanted to focus on was—well, I welcome your response to that, but the question of whether EPA should issue standardized regulation for monitoring waters to ensure that they meet health and safety criteria. In other words, what should an ideal BEACH bill do here? Should we leave it up to the discretion of the States? Should we be a little bit more involved and at least set some clear performance criteria which the States have to follow?

Mr. DANSON. My understanding is that you get to the same place with both bills, roughly, in the same timeframe, which is extraordinarily long—6 years. But, nevertheless, they both get there at the same time.

My opinion is that it needs—the Senate needs to pass a bill as quickly as possible, because this seems to be the time, when the iron is hot and there's a lot of people and excitement behind this. The public wants it. The press is interested, the President has issued something where the Federal beaches will be monitored, so there is a lot of momentum. I would hate to see politics get in the way of something being passed now. There is a lot of energy.

That's the only thing I have to say. It seems to me that both bills get eventually to the same place.

Senator LIEBERMAN. Thanks. I agree.

Mayor, I gather that you've had some experience with the program of beach notification. I wonder if you have anything to say in response to my question.

Mayor PAGLIUGHI. I agree with Mr. Danson. I think that, unfortunately, a lot of elected officials need to be pried a little bit. They're not——

Senator LIEBERMAN. Yes.

Mayor PAGLIUGHI. And local elected officials. They're not going to move until someone forces them to move.

We had an unfortunate situation in New Jersey back in 1987 where there was medical waste washing up on the beach, various pollution in the water. We wondered what the reaction of the people would be if they closed some these beaches under the bill. We had some drastic reaction. We had one local mayor dump chlorine tablets into the ocean to try to solve the problem, and that brought a hefty fine from the local DEP. But, I mean, you can go right down the line.

But the biggest concern was some of the businesses along New Jersey, but I think in 1987, when the beach closings happened, the following year, in 1988, they lost about $3 billion in New Jersey in taxable revenue, so I think it woke them up real quick.

I think the biggest thing today and why this has to be enacted swiftly and quickly—and I think 6 years is entirely too long—is we happen to be on the information network today, and under the EPA website we can pull up—for example, I happened to pull up

the Borough of Avalon, and I can go right down through each streets that test it each week and give the bacteria results on how clean the water is.

I just think that people are a little bit more educated today before they go on vacations, especially with children. We are all elected officials and we take an oath of office to protect the public health, safety, and welfare, and I think this BEACH bill has to be enacted quickly.

Does that answer your question, sir?

Senator LIEBERMAN. It sure does. Thank you. I appreciate it.

Does anybody else want to add to that?

[No response.]

Senator LIEBERMAN. Thanks very much.

You know, it seems to me, as you told that story, that the beaches have become a metaphor for the entire environmental protection experience and movement, because there was a sense over a lot of years that the environment was unlimited, it would absorb whatever we threw into it, and so people were throwing a lot of awful stuff into the water, people and businesses, etc., etc.

When it suddenly started to literally wash up on the beach—and I know that was only a margin, a small part of what was out there, because it tended to be the visible part—then people got truly agitated because they saw the intersection of the disposal that they were a part of, a lot of junk into the water, and their desire to go to the beach, their quality of life. I think it really turned things in the movement around, and I think it makes it all the more important that at this point we take the advice that you've both given, which is to act on this bill as quickly as possible.

Thank you. Thank you all.

Senator CHAFEE. Each of you have described the energy you put into it, and whether it is Galveston or Louisiana or whatever it might be. I guess my question is: can we win this battle? Dr. Bahr, you know, we go into all this effort, and you're going to reduce it by 15 percent over the next 20 years. You've got a long way to go.

Mr. BAHR. We have a long way to go, sir.

Senator CHAFEE. I'm not sure. What's the most effective way of handling this? You mentioned, if I understood it correctly, that one of the primary contributors, I suppose, has been the fact you've channelized the river and now you don't have that water going into wherever it might be.

Mr. BAHR. Right.

Senator CHAFEE. Do I have it right?

Mr. BAHR. You have it right. Basically, 100 years ago we started changing the plumbing, and, as you know, the whole southern part of Louisiana is part of a huge delta complex that the river built. And once we accidentally—inadvertently, we started isolating the river from the delta. When we did that, we set a whole bunch of things in place in the progress, and one of them was to keep all that rich nutrient-and sediment-laden water going right past the State, past the delta, out into the Gulf of Mexico, where it causes other problems like the anoxia that someone mentioned earlier, the Dead Zone that a lot of people are interested in now in the Gulf of Mexico.

We have the capacity to solve a number of problems—not solve them all, but to head them in the right direction by the same procedure—that is by, as artfully as we can—it's going to take some very good engineering to reconnect the river to the delta system.

What has happened in the 100 years since the river was leveed and isolated, a lot of people have moved onto the levee system and in between the river and the marshes that we need to nourish, so it is going to take some good engineering.

I am confident that we can do that. We're smart enough to do that.

Another idea that has been proposed to speed up the process is to actually use pipelines to mine sediments from the river and to pipe the sediment out to jump start the process, to build deltas much faster than nature does. That's expensive, but it is feasible.

Of course, with barrier island restoration, it is a fairly straightforward thing to do. That's pumping sand, basically, from offshore.

There are just a number of things like this. We need at the same time, of course, to provide comprehensive hurricane protection for the people who live there, and I'm very encouraged to see that the Federal Emergency Management Administration is now—I met with Mr. James Lee Witt recently. He is very interested in investing, as restoration is an investment that also avoids the catastrophic disaster relief that is going to happen.

The interesting thing is that it is a challenging problem, but if we don't do it we are going to guarantee that there is going to be a lot more Federal money spent for disaster relief, and that's not the best way to spend public dollars, in my opinion.

So I think an investment—a prudent investment based on good science that uses our growing knowledge—our knowledge is much better now than when the Breaux Act started 9 years ago. We know much more. We don't know everything. We still have to do some advanced study in engineering. But we have a—coast 2050 lays out a pretty good idea of what we need to do.

It is going to cost some money. The number in here says $14 billion. But when you compare the cost of the Denver Airport or a couple of B–1 bombers, I mean, we are talking about an investment that can prevent $100 billion of loss.

So I think it is clear what we have to do. And not taking any action is making a decision that the Nation can't afford, I don't think.

Senator CHAFEE. Well, Doctor, you've got a big job ahead of you, and I want to commend you and those who work with us, and certainly, as I said, that's high praise for the Breaux Act, so we'll bear all that in mind as we wrestle with these matters.

Senator Voinovich.

Senator VOINOVICH. Yes. Dr. Bahr, this is impressive that you've started to turn it around after the Breaux Act.

Approximately what percentage of the cost of this has been paid for by your State and how much of it has been paid for by the Federal Government?

Mr. BAHR. The way the Breaux Act is set up at present, originally it was 25/75—that is, 75 Federal, 25 State. The State put together a comprehensive conservation plan that pretty much eliminated losses due to permitted development in the coast. Our prob-

lem is not the fact that we are giving wetland permits for development. That's not the case. The fact is that this is not a regulatory problem. It is a problem we have to ambitiously restore coasts that have been lost by other projects.

The State is putting up—at present, because we passed this conservation plan, our cost share was reduced to 15 percent; however, that is somewhat misleading, because we are spending a lot of other—we are building restoring levees and roads that have been destroyed by the loss of wetlands and hurricane damage and other things, so our State costs are very great.

I don't know the exact percentage, but I think it is probably closer to—I think the State is probably spending something like 40 percent of the total cost of this whole restoration effort.

I want to emphasize that this is a comprehensive thing. It goes beyond recreating marshes. It is rebuilding infrastructure that has been damaged. As the marshes have gone away, everything becomes more vulnerable.

Senator VOINOVICH. It started out as a 75/25 project and you imposed taxes on the oil people and——

Mr. BAHR. Yes, we've put up our own oil and gas severance taxes and fees to the State for production within the State of Louisiana. Unfortunately, the oil production in the State has moved from State waters to the Gulf of Mexico to deep water offshore. As you know, there is some legislation pending in this Congress that I'm very interested in that would perhaps share some of the revenues from the offshore production to help us in this struggle against this.

Senator VOINOVICH. I'd be really interested in your providing me with an update of just where the percentages are and where the revenue sources are coming from, because a lot of these areas is a question of how much of this responsibility is the Federal Government's and how much is the States', and it would seem to me that many of the States have an obligation to step forward.

In a period where State revenues are far better than the Federal Government's—we have a $5.5 trillion deficit, and maybe we'll have a non-budget surplus next year, and there are so many demands that are coming in that they want the Federal Government to get involved here and there. We've got people who want reducing their taxes. We've got other programs that are coming up. There's a big picture that we need to look at today in terms of what are the respective responsibilities of the level of governments.

Mr. BAHR. Right.

Senator VOINOVICH. I think this has got to be a partnership. So I'd be real interested in that, any thoughts on what you think is fair.

Mr. BAHR. As a matter of fact, in this past—our legislative session just ended, and we passed a so-called "2 percent" bill that commits a greater percentage, a fixed percentage of this total severance taxes that the State receives from oil and gas to coastal restoration specifically, and that is money. It's a zero sum game, as you know. That's money from the general fund. It goes to restoration.

The State is stepping up. Again, as I said earlier, we started a State only program before the Breaux Act passed, and we are struggling with this.

But I would be glad to provide you with that information, sir.

Senator VOINOVICH. Mr. Danson, I would be interested in knowing, have you lobbied your Governor, past Governors and new Governor, and legislature to get involved in this effort?

Mr. DANSON. I believe we passed a BEACH bill. It is being implemented right now. California does have exactly what we're talking about.

Senator VOINOVICH. So that, in effect, you have set standards in terms of where your beaches should be, and you have a formal monitoring program, so the State has taken over responsibility of that?

Mr. DANSON. Yes. I think it is in process of being implemented, but that bill has been passed.

Senator VOINOVICH. I am pleased to hear that, because I think probably you come from a State where people are as environmentally conscious and aware as any place in the country, and I'd be really disappointed if the State wasn't playing a role in getting the job, because I think that has been part of the problem, Mr. Chairman, in some of these places if there is a big—who does the monitoring of the water quality? Is it the State or is it the local health department? And it is somewhere between and it falls through and it doesn't get done. So to have a statewide program where the State picks up the cost of doing it sets the standard. It seems to me an appropriate way to go.

The question I have, though, is: if the State has stepped to the table and is doing this, is it required that we have the Federal Environmental Protection Agency come out and set the national standards?

Reaction?

Mr. DANSON. I believe so, absolutely, because EPA already has criteria, and a third, I think, roughly of the beaches are tested and posted, so that's not working. I do think you need to encourage the States that have a standard that is met, so that you can go to California and feel good but you may not be able to go to Florida and feel assured that your children are swimming in healthy water. So you do need, I think, top-down criteria.

Senator VOINOVICH. Do you know what the standard is in California? I guess maybe the question is: if we were going to set a national standard today, would California be above or below it?

Mr. DANSON. Yes, good news.

Senator VOINOVICH. OK. Would there be any other comment on that?

Mayor PAGLIUGHI. Yes, Senator. I'd like to just mention that I am a republican and I don't like big government, big brother looking down over my borough and telling me what to do, but I think in a situation like this, this is very important.

As I mentioned before, in the State of New Jersey, back in 1987, we had a lot of beach closing, and it cost an enormous amount of revenue for taxes in the State of New Jersey.

We had a local official that got up at a hearing and said, "We don't need this beach testing any more. Look what they did. They closed down our beach. My town has a very active storm water cleaning program."

Well, about 3 days later I drove through that elected official's town and I saw a tomato plant about that high growing out of a catch basin. Now, I'm not a farmer, Senator, but I know that that catch basin in that storm water cleaning was never done.

It is unfortunate that some local elected officials are not proactive, they are reactive, and I think an issue as important as this, it does have to come down as a directive and make it uniform nationwide, because States that do the testing and who are proactive, like California, New Jersey, a lot of the people feel that those tourists are going elsewhere.

Now, my island, for example, is—my borough is approximately five miles long by a quarter of a mile wide. I've got about 2,500 year-round residents, but for the 3 months in the summer it grows to 45,000 people. I think that is a pretty good draw, because those people know that that coastal water is clean.

Like I said before, the information age today, people are looking this stuff up and they're looking at where they are going to go.

Senator VOINOVICH. Let me say this to you: has your State set standards?

Mayor PAGLIUGHI. Yes.

Senator VOINOVICH. OK. And who pays for the monitoring of it?

Mayor PAGLIUGHI. The State DEP directs the local county health departments to do the monitoring. The county pays for the monitoring to be done. The State also went one step further that if the bacteria limit exceeds 200 parts per million they close the beach for 24 hours or 48 hours or whenever a secondary test can be done.

Senator VOINOVICH. OK. So the fact is that, again, there's an example. Your State has stepped up to the table and has taken some responsibility.

Mayor PAGLIUGHI. That's correct, sir.

Senator VOINOVICH. OK. And you are here today saying that you'd like the Federal Government to unify it, because you feel there are other communities that are not doing it, they are not—why don't you explain that to me? You have other communities that are——

Mayor PAGLIUGHI. Like I said before, Senator——

Senator VOINOVICH. Why?

Mayor PAGLIUGHI [continuing]. I don't think a lot of elected officials are going to step up to the plate unless they are told what to do.

Senator VOINOVICH. But in New Jersey they're doing it?

Mayor PAGLIUGHI. They're doing it. They have no choice but to do it.

Senator VOINOVICH. OK.

Mayor PAGLIUGHI. The outcry was, when they first did it and closed beaches, like I said, the outcry 1 year, for example, the businesses went up in arms. The local chambers of commerce were wild. But when they saw the following year that the State lost $3 billion in revenues, it woke them up pretty quickly.

On the other hand, it is a public health, safety, and welfare issue.

Senator VOINOVICH. Right. But the question I'm asking is: is somebody else in another State not doing their job and it is impeding on you, or is the problem other States are not setting standards

and enforcing it and customers that ought to be coming to your State are going to other States?

Mayor PAGLIUGHI. That's probably true. If there is no water testing, it appears to be clean, they go there. It is really putting everybody on an equal playing field.

Senator VOINOVICH. Well, I think one of the things that communities ought to do is I believe in the old-fashioned free enterprise competitive marketplace, and I would advertise, "Clean beaches. We have set high standards. We do have clean beaches, as compared to other places," particularly today with the information that is available. It is another approach to this.

Ted.

Mr. DANSON. I also feel that this monitoring and posting for public health is the tip of the iceberg. I think that eventually you hope that people will locate the problem and do something about it.

So if you are taking care of your State waters, that's nice, but, you know, currents—polluted water travels, and if the State next to you doesn't and isn't marching to the same standards, then you are paying the price.

So it does seem that, in all fairness, all States should be operating under the same standards.

Senator VOINOVICH. And I think that gets back, again, what's the problem. I mean, we're getting into the issue of polluted beaches. It is communities that haven't done a good job with waste water treatment, it's communities that haven't done the job in terms of industrial pollution that may be going into the streams. It may be communities where agriculture—where you're getting stuff going into the streams that is polluting the water. So this is just the result of a lack of enforcement in a whole lot of areas.

I recall, when we were talking about Lake Erie, that we had primary treatment. Today we have tertiary treatment of all waste water and there is an enormous effort that has been by the industries in terms of their pollution controls, and farmers are now doing no-till farming and a lot of other things.

I think that I guess it is like every other problem. We can deal with this problem and we can post it and we can do everything, but if we don't do these other things we are still going to have the problem.

You talked about hitting the beaches. I was told by a doctor, "Don't let your kids go in the water unless they get their shots, because they are bound to get something if they swim in Lake Erie." And today that is not the case.

So I really appreciate your being here today. I've enjoyed your testimony and we'll try to help.

Senator CHAFEE. I second that and want to thank everybody in the panel. Some of you have come considerable distances, and we appreciate that, and you've been a big help to us, and even those who weren't present here will be able to read about this and learn from their staff, so thank you all.

That concludes the hearing.

[Whereupon, at 11:37 a.m., the committee was adjourned, to reconvene at the call of the chair.]

[Additional statements submitted for the record follow:]

STATEMENT OF HON. BOB GRAHAM, U.S. SENATOR FROM THE STATE OF FLORIDA

Mr. Chairman, members of the committee, thank you for the opportunity to speak on the subject of estuaries and coastal protection. With 1,800 miles of coastline and 1,200 miles of beaches in Florida, these are very important issues in my State.

As you know, estuaries are areas where fresh and salt water mix. They serve as nurseries where baby fish, crabs, and other animals can grow, and provide resting and feeding areas for migrating birds. They also support recreational activities such as fishing, boating, and birdwatching. In addition, estuaries are often located close to ports that are important for commercial shipping. We need to protect our estuaries so that they can continue to support these diverse activities.

The Clean Water Act Amendments of 1987 established the National Estuary Program to identify important estuaries and promote planning, restoration and protection activities. There are now 28 estuaries across the country participating in this program, four of them in Florida. The Environmental Protection Agency works together with other Federal, State, and local government agencies as well as industry and local citizens to identify and address an estuary's environmental problems.

I am a long time supporter of the National Estuary Program, and the cooperation between Federal, State, and local agencies that it encourages. Over its 10 year life, the program has had many successes in reducing nutrient loadings, protecting habitats, and controlling stormwater runoff into coastal waters. Florida currently has more estuaries participating in the program than any other State.

I am a co-sponsor of Senator Chafee's S. 835, the Estuary Habitat Restoration Partnership Act, and Senator Torricelli's S. 878, to reauthorize the National Estuary Program for an additional 5 years. I support coordination of the various existing Federal, State, and local estuary protection initiatives. I also support funding for implementation of the National Estuary Program Comprehensive Conservation and Management Plans. Development of the plans is an important step, but they are of little value without funding for implementation.

Clean beaches are very important to the people of Florida and the 48 million visitors who come to our State each year. Our residents and visitors want to know that they can enjoy swimming, snorkeling, surfing, and other water contact recreation without fear of disease. However, we have some concerns about the beach bills in their current form. Beaches and coastal waters in Florida are different from those in Maine or California, and our States need to be allowed the flexibility to implement beach protection programs that will be the most appropriate for each State. I look forward to hearing what our witnesses have to say today and to working with my colleagues on the committee to resolve these issues.

STATEMENT OF HON. PAUL S. SARBANES, U.S. SENATOR FROM THE STATE OF MARYLAND

Mr. Chairman and Members of the Committee, thank you for this opportunity to testify in support of S. 492, the Chesapeake Bay Restoration Act, which I introduced earlier this year along with my colleagues, Senators Mikulski, Warner, Robb, and Santorum.

At the very outset I want to commend Chairman Chafee and Senator Torricelli for their leadership in crafting legislation to restore America's estuaries. I am pleased to be a cosponsor of both S. 835, Chairman Chafee's Estuary Habitat Restoration Partnership Act, and S. 878, Senator Torricelli's bill, which would authorize grants to implement conservation management plans developed under the National Estuaries Program. Both measures would help rehabilitate estuary habitat by improving the financial mechanisms by which the Federal Government participates in restoration projects.

As you know, the Chesapeake Bay is the largest estuary in the United States and the key to the ecological and economic health of the mid-Atlantic region. The Bay, in fact, is one of the world's great natural resources. We tend to take it for granted because it is right here at hand, so to speak, and I know many Members of this body have enjoyed the Chesapeake Bay. The Bay provides thousands of jobs for the people in this region and is an important component in the national economy. The Bay is a major commercial waterway and shipping center for the region and for much of the eastern United States. It supports a world-class fishery that produces a significant portion of the country's fin fish and shellfish catch. The Bay and its watershed also maintain an enormous tourism and recreation industry.

The Chesapeake Bay is a complex system that covers more than 64,000 square miles and parts of six States. The Bay's relationship to the people, industries, and communities in those six States and beyond is also complex and multifaceted.

I could continue talking about these aspects of the Bay, but my fellow Senators are aware of the Bay's importance and have consistently regarded the protection and enhancement of the quality of the Chesapeake Bay as an important national objective.

Through the concerted efforts of public and private organizations, we have learned to understand the complexities of the Bay and we have learned what it takes to maintain the system that sustains us. The Chesapeake Bay Program is an extraordinary example of how local, State, regional, and Federal agencies can work with citizens and private organizations to manage complicated, vital, natural resources. Indeed, the Chesapeake Bay Program serves as a model across the country and around the world.

When the Bay began to experience serious unprecedented declines in water quality and living resources in the 1970's, the people in my State suffered. We lost thousands of jobs. We lost much of the wilderness that defined the watershed. We began to appreciate for the first time the profound impact that human activity could have on the Chesapeake Bay ecosystem. We began to recognize that untreated sewage, deforestation, toxic chemicals, agricultural runoff, and increased development were causing a degradation of water quality, the loss of wildlife, and elimination of vital habitat. We also began to recognize that these negative impacts were only part of a cycle that could eventually impact other economic and human health interests.

Fortunately, over the last two decades we have come to understand that humans can also have a positive effect on the environment. We have learned that we can, if we are committed, help repair natural systems so that they continue to provide economic opportunities and enhance the quality of life for future generations.

We now treat sewage before it enters our waters. We banned toxic chemicals that were killing wildlife. We have initiated programs to reduce nonpoint source pollution, and we have taken aggressive steps to restore depleted fisheries.

The States of Maryland, Virginia, and Pennsylvania deserve much of the credit for undertaking many of the Actions that have put the Bay and its watershed on the road to recovery. All three States have had major cleanup programs. They have made significant commitments in terms of resources. It is an important priority item on the agendas of the Bay States. Governors have been strongly committed, as have State legislatures and the public. There are a number of private organizations—the Chesapeake Bay Foundation, for example—which do extraordinary good work in this area.

But there has been invaluable involvement by the Federal Government as well. The cooperation and attention of Federal agencies has been essential. Without the Federal Clean Water Act, the Federal ban on DDT, and EPA's watershed-wide coordination of Chesapeake Bay restoration and cleanup activities, we would not have been able to bring about the concerted effort, the real partnership, that is succeeding in improving the water quality of the Bay and is succeeding in bringing back many of the fish and wildlife species.

The Chesapeake Bay is getting cleaner, but we cannot afford to be complacent. There are still tremendous challenges facing Bay.

As you may recall, 2 years ago we faced a major outbreak of toxic Pfiesteria which had impacts, not only on the fish population, but on human health as well. The suspected cause of the 1997 bloom was the excessive release of nutrients to the Bay.

While we've been fortunate not to have suffered toxic Pfiesteria outbreaks last summer or so far this summer, we have had other problems.

Earlier this month, an estimated 200,000 dead fish were found in the Magothy and Patapsco rivers, both tributaries to the Chesapeake Bay. That was the largest fish kill in Maryland in a decade. The cause was low dissolved oxygen.

The Blue Crab catch is down this season. In Maryland, this year's early season catch was down 23 percent from the same time last year.

And then there is the drought. Now in its third year, the drought we are experiencing has exacerbated problems in the Bay. If the drought continues, it could prove catastrophic, in part, because the Bay's natural resiliency has been compromised. We can't stop droughts, but we can stop undermining the natural processes that the Bay's ecology relies upon to recover from periods of natural stress.

We need to remain vigilant in continuing to address the needs of the Bay restoration effort. The hard work, investment, and commitment, at all levels, which has brought gains over the last three decades, must not be allowed to lapse or falter.

This legislation reauthorizes the Bay program and builds upon the Federal Government's past role in the Chesapeake Bay Program and the highly successful Federal-State-local partnership to which I made reference. The bill also establishes simple agency disclosure and budget coordination mechanisms to help ensure that information about Federal Bay-related grants and projects are readily available to the scientific community and the public.

As I mentioned before, the Chesapeake Bay Program is a model of efficient and effective coordination. Still, there is always room for improvement as experience informs and enlightens our judgments. While coordination between the various levels of government has been exemplary, coordination among Federal agencies can be strengthened. This legislation begins to develop a better coordination mechanism to help ensure that all Federal agency programs are accounted for.

In addition, this bill requires the Environmental Protection Agency to establish a Small Watershed Grants Program for the Chesapeake Bay region. These grants will help organizations and local governments launch a variety of locally designed and locally implemented projects to restore relatively small pieces of the larger Chesapeake Bay watershed. By empowering local agencies and community groups to identify and solve local problems, this grant program will promote stewardship across the region and improve the whole by strengthening the parts.

This bill was carefully crafted with the advice, counsel, and assistance of many hard working organizations in the Chesapeake Bay region, including the Chesapeake Bay Commission, the Chesapeake Bay Foundation, The Alliance for the Chesapeake Bay and various offices within the State governments of Maryland, Virginia, and Pennsylvania.

I would like to close by pointing out that the need for Federal assistance is great. State and local governments and community organizations are ready and willing to help preserve the Chesapeake Bay.

This is a critical time for the Bay community. Many of the goals of the multi-jurisdictional Chesapeake Bay Program were originally indexed to the year 2000. Now, the community is setting new goals. The Governors of Pennsylvania, Maryland, Virginia, the Mayor of the District of Columbia, the Chairman of the Chesapeake Bay Commission and the Administrator of the EPA are renegotiating their cooperative agreement. In this time of change one thing is absolutely certain—the entire Bay community expects the Federal Government to continue its unwavering support for restoring the Chesapeake Bay. Our State and local partners are prepared to go the distance and they expect that we are willing to do the same.

I hope that the Committee can swiftly approve S. 492.

STATEMENT OF J. CHARLES FOX, ASSISTANT ADMINISTRATOR, OFFICE OF WATER, ENVIRONMENTAL PROTECTION AGENCY

Good morning; I am Chuck Fox, Assistant Administrator for Water at the Environmental Protection Agency (EPA). I appreciate the opportunity to be here and to talk with you about some of the things we are doing to protect the Nation's estuaries, coastal waters, and oceans. I will also comment on pending legislation to protect and restore these important natural resources.

I. COASTAL WATERS—VALUE, CONDITION, AND RESPONSE PROGRAMS

Coastal waters are a rich natural heritage for all Americans. Protecting and restoring the quality of these waters has tremendous environmental and economic benefits. EPA, along with many other Federal, State and local agencies and organizations, is working hard to implement effective programs to protect coastal water quality and natural resources.

Coastal Resource Values

Estuaries, near-coastal waters, and oceans provide some of the most diverse and biologically productive habitat in the country and are critical to a wide variety of marine life—from manatees, to migratory wildlife, to salmon. Coastal waters provide essential habitat during critical portions of the life cycles of roughly two-thirds of the fish and shellfish caught commercially in U.S. waters.

Coastal waters are also important economically. They support 28.3 million jobs and generate billions of dollars in goods and services every year. The coastal recreation and tourism industry is the second largest employer in the Nation, serving 180 million Americans visiting the coasts every year. The commercial fish and shellfish industry is also very important, contributing $45 billion to the economy every year, while recreational fishing contributes $30 billion to the U.S. economy annually. A large part of this income is derived from coastal waters.

Condition of Coastal Waters

Because so many people are drawn to, or depend on, coastal waters, restoring, maintaining, and enhancing the health of these waters is of great importance. Unfortunately, coastal waters suffer from serious pollution problems. Recent studies document a wide range of pollution in coastal waters including low dissolved oxygen

levels, contamination of shellfish, contamination of water and sediment with metals and organic contaminants, and beach closings.

Water quality monitoring reports by State agencies under the Clean Water Act (CWA) indicate that, of the 72 percent of estuary miles assessed (i.e., almost 30,000 square miles) 38 percent are impaired. Pollutants causing these impairments are nutrients, bacteria, toxic pollutants, and oxygen depleting substances. The leading sources of pollutants causing impairments of estuary waters are industrial discharges, urban runoff, and sewage discharges.

States assessed only 16 percent of ocean shoreline miles (or 6 percent if Alaska shoreline is counted) and found 13 percent of these waters impaired. Bacteria and nutrients are the pollutants of most concern here, and urban runoff and sewage are by far the leading causes of impairment.

A recent national assessment of conditions in 28 estuaries addressed in the National Estuary Program (NEP) concluded that the most common problems are:

(1) nutrient overenrichment; (2) pathogen contamination; (3) toxic chemicals; (4) alteration of freshwater flow; (5) loss of habitat; (6) declines in fish and wildlife; and (7) introduction of invasive species.

Harmful Algal Blooms (HABs) are another serious threat to coastal waters. The death and decay of algal blooms can lead to hypoxia, or total oxygen depletion, known as anoxia, in the water, resulting in widespread mortality of fish, shellfish, and invertebrates, and submerged grasses/vegetation. Hypoxia occurs in many parts of the world, and in the United States it occurs in several near-coastal waters.

For example, on the Gulf of Mexico's Texas-Louisiana Shelf, an area of hypoxia forms during the summer months covering 6,000 to 7,000 square miles, an area that has doubled in size since 1993.

This condition is believed to be caused by several factors including a complex interaction of excessive nutrients transported to the Gulf of Mexico by the Mississippi River and physical changes to the River, such as channelization and loss of natural wetlands and vegetation along the banks. The interaction of freshwater from the River with the saltwater of the Gulf is also a factor.

There is evidence that associates algal blooms and hypoxia with nutrient pollution—excessive nitrogen and phosphorus—in the water. The sources of these pollutants vary widely from one geographic location to another. However, in general, we see three significant sources:

- human waste from septic systems and sewage treatment plants;
- agricultural runoff from fertilizer and animal waste; and,
- air deposition from motor vehicles and electric utility facilities.

Finally, there is growing evidence of serious threats to coastal resources and human health from microbiological organisms. For example, *Pfiesteria* outbreaks have occurred in the Chesapeake Bay and North Carolina rivers in recent years, resulting in fish kills and suspected human health impacts. Red tides cause fish kills, the closing of shellfish beds, and beach closures each year. These outbreaks undermine public confidence in the safety of coastal waters and can result in dramatic impacts on fishing, tourism, and related interests.

We know that coastal waters face serious pollution problems now. In the future, the potential for such problems is likely to persist because coastal waters are especially vulnerable to degradation as a result of high population density, intense land uses, and rapid population growth in coastal areas.

Coastal Pollution Response Programs

It is essential that we have strong and effective programs to restore and protect the quality of the Nation's coastal waters.

EPA has strong statutory authority for protection of coastal and ocean waters under the Clean Water Act and the Marine Protection, Research, and Sanctuary Act (MPRSA). For example, EPA and delegated States require permits for the discharge of pollutants to waters of the United States under section 402 of the CWA. In the case of discharges to ocean waters, these permits impose additional controls consistent with guidelines established under section 403. EPA also works with the Army Corps of Engineers to manage ocean dumping of dredge materials under the MPRSA.

In addition, EPA implements a range of additional programs focusing on coastal water quality including the NEP, beach water quality programs, and programs to protect specific geographic areas, such as the Chesapeake Bay. EPA and NOAA work with States to implement nonpoint pollution control programs with specific authorities to protect coastal waters from nonpoint pollution. Several of these programs are discussed later in this testimony.

The Clean Water Action Plan, announced by President Clinton in February of last year, provides an overall framework for efforts by Federal and State agencies to

work with local governments and organizations for cleaner and safer water. A key theme of the Action Plan is cooperation among different levels of governments and other parties to develop solutions to water pollution problems on a watershed basis.

the Action Plan also specifically addresses how diverse coastal programs, including the work of EPA, the National Oceanic and Atmospheric Administration (NOAA), and the Army Corps of Engineers, fit into a larger clean water strategy. Some of the specific coastal protection activities described in the Action Plan include——

- a coastal research and monitoring plan;
- efforts to address Harmful Algal Blooms (HAB's) and Pfiesteria;
- better focused efforts to assess shellfish bed condition and restore these valuable resources;
- specific schedules for State programs to control pollution of coastal waters by nonpoint sources; and
- better coordinated efforts to protect coastal wetlands.

Since the publication of the Action Plan last year, EPA has expanded efforts to protect coral reefs and address the threats posed to these waters by invasive species.

II. ASSURING BEACH SAFETY

Beach Water Quality Problems and Programs

Water pollution at the Nation's beaches is a persistent problem.

The number of reported beach closures and health advisories has increased over the past several years. EPA recently completed the second annual, National Health Protection Survey of Beaches, which is a voluntary survey of government agencies that collected information on beach health activities. Based on this survey, EPA estimates that about one-third of the 1,062 beaches reporting in 1998 had at least one advisory or closing. This is an increase from the first survey, when about 26 percent of 738 beaches reporting had at least one closing or advisory. More detailed information is available at EPA's ''Beach Watch'' site on the Internet (www.epa.gov/ost/beaches).

Using EPA data and other information, the Natural Resources Defense Council recently estimated that the number of beach closure days (i.e., days that various beaches were closed or under advisories) rose from over 4,000 in 1997 to over 7,000 in 1998. Although some portion of the increase in both estimates is the result of better monitoring and reporting, this is evidence of a serious problem.

Beach advisories and closings are generally due to disease-causing microorganisms, or pathogens, originating from discharges of sewage or runoff from many different sources, into local waters. Beachgoers, especially children, are at risk of infection from ingestion or inhalation of contaminated water, or through contact with the water.

To protect waters designated for this recreational use, States use scientific information developed by EPA to set water quality standards that include criteria for levels of indicator pathogens with known risk of infection. States and local governments then monitor waters for these indicators, compare their results to the criteria, and determine if action is needed to protect public health or the environment.

However, only 16 of the States have adopted EPA's current criteria for recreational water quality. In addition, some recreational waters are not monitored at all. EPA believes that better monitoring and improved water quality standards will lead to greater recognition of the health threats posed by beach pollution and increased commitment to restore the quality of these important waters.

Recognizing the need to strengthen beach programs, EPA's Administrator, Carol Browner, announced the Beaches Environmental Assessment, Closure and Health (BEACH) Program on May 23, 1997. The goal of this program is to significantly reduce the risk of health threats to users of the Nation's recreational waters through improvements in recreational water programs, communication, and scientific advances.

The BEACH Program emphasizes three themes:

- getting up-to-date beach water quality standards adopted in all States;
- informing the public about recreational water quality; and
- conducting research to develop new indicators for non-gastrointestinal diseases and new monitoring protocols to ensure detection of water quality problems.

These key concepts are carried forward in the Clean Water Action Plan.

In early 1999, EPA released an Action Plan for Beach and Recreational Waters describing priority actions for Federal, State, Tribal, and local implementation of beach monitoring and notification programs. The research agenda set forth in the Plan covers several areas, including monitoring strategies, improved indicators, enhanced modeling tools to predict beach contamination, and epidemiology studies.

The Beach Plan also describes the importance of States adopting up-to-date water quality standards for protecting beach water quality and public health, and describes EPA's commitment to promulgate the criteria with a goal of assuring that the criteria apply in all States not later than 2003.

Beach Environmental Assessment, Closure, and Health Acts—S. 522 and H.R. 999

The Beaches Environmental Assessment, Closure and Health Act (S. 522), introduced by Senator Lautenberg, provides for a comprehensive program to improve beach monitoring and to assure that the public has good information about health risks at the Nation's beaches. H.R. 999, passed by the House of Representatives, includes comparable, but somewhat different, provisions. As noted below, both bills have strong points. The Administration supports beach safety legislation that is generally consistent with the approach in these bills.

An important provision of both bills would require States, within 3½ years of enactment, to adopt water quality criteria for pathogens and pathogen indicators for their coastal recreation waters that are at least as protective of human health as EPA's recommended criteria for pathogens and pathogen indicators, which EPA published in 1986.

EPA has encouraged States promptly to adopt current criteria for pathogen indicators into their water quality standards for their coastal recreation waters and, as noted above, intends to use current statutory authority to adopt appropriate standards for these waters where States fail to do so.

A key difference between the bills is that S. 522 proposes that water quality standards are "considered" promulgated where a State has not adopted the standards at the end of the 3½ year period. H.R. 999 would require EPA to go through additional steps of disapproval of existing standards and formal adoption of new standards. Although it varies from EPA's current process for promulgating water quality standards, the approach in S. 522 would result in faster adoption of needed water quality standards.

Both bills provide for States or local governments to conduct expanded monitoring of beach quality and to notify the public of water quality problems at beaches. The Senate bill provides a clear and direct mandate to States to follow regulations that the EPA Administrator would be required to publish. Nine million dollars would be authorized for grants to support State and local efforts.

The House bill would authorize up to $30 million for grants to States to develop and implement beach monitoring and assessment programs. The Administration has concerns about the funding source for this program and will work with the Committee to identify an appropriate funding mechanism. Further, EPA agrees with the concept in the House bill that EPA can implement the program in a State if the State fails to participate.

There are several other differences between the House and Senate bills that will need to be resolved before enactment and EPA stands ready to work with the Congress to develop the best possible beach safety legislation for final enactment.

III. PROTECTING THE NATION'S ESTUARIES

Estuaries are one of the most productive types of ecosystems and yet are also among the most stressed. Estuaries often serve as sinks for pollutants originating upstream within their watershed and upwind of their "airshed." In addition, estuaries are directly impacted by human activity—well over half the people in this country live, work, or play near the coast.

National Estuary Program

The National Estuary Program (NEP) was established by Congress in 1987 to address the complex problems associated with estuary management and protection.

The NEP seeks not only to protect and restore the health of estuaries and their habitat and living resources, but also to support economic activities that take place in, or depend on, healthy estuaries. Under the NEP, EPA provides modest grants to support "management conferences" of interested parties and these groups develop a Comprehensive Conservation and Management Plan (CCMP) for the estuary. EPA supports 28 estuary projects around the country.

Unlike traditional approaches to environmental protection, the NEP acknowledges that pollution problems of estuaries are exacerbated by combined and cumulative impacts of many individual activities throughout the coastal watershed. In order to address watershed-wide concerns, the NEP encourages the use of a combination of traditional and nontraditional water quality control measures available through Federal, State and local authorities as well as private sector initiatives. The NEP has strongly influenced our evolution toward watershed management, including the focus on watershed restoration and protection in the Clean Water Action Plan.

A cornerstone of the NEP is that management decisions are made through an inclusive process involving multiple stakeholders. This emphasis on public participation not only ensures a balanced approach to resource problems, but encourages local communities to take the lead in determining the future of their own estuaries, thus bolstering program success through community support.

Estuary Habitat Restoration Partnership Act—S. 835

The Estuary Habitat Restoration Partnership Act, introduced by Chairman Chafee, would create new authority and authorize new funding for the Army Corps of Engineers to work with other Federal agencies, States, and communities to carry out projects to restore estuary habitat. The bill would also reauthorize the National Estuary Program.

The goals of the bill are laudable and include——

- a national goal of restoring 1 million acres of estuary habitat by 2010;
- fostering coordination of Federal, State and community estuary habitat restoration programs, plans and studies through creation of a "Collaborative Council" and other means;
- establishment of estuary habitat restoration partnerships among public agencies and between the public and private sectors;
- promotion of efficient financing mechanisms for estuary restoration activities; and
- development and enhancement of monitoring and research capabilities to ensure that estuary habitat restoration efforts are based on sound scientific understanding.

The habitat restoration provisions of S. 835 can make an important contribution to the coastal protection program described in the Clean Water Action Plan and will complement the work underway in the National Estuary Program. For example, the Action Plan calls for coordinated approaches to protecting and restoring water quality on a watershed basis. Coastal habitat restoration projects could complement traditional water pollution control projects implemented as part of watershed restoration plans.

EPA supports the new authority for estuary habitat restoration proposed in the bill. We also have several suggestions for improvements to the bill, described below, as well as some technical comments that will be provided to Committee staff.

First, S. 835 defines estuaries to include areas where a body of water in which "freshwater from a river or stream meets and mixes with salt water from the ocean." We suggest even broader language to include not only estuarine water areas, but also near-shore marine habitats and associated ecosystems.

We would also like to see further clarification of the bill with respect to its relationship to local NEPs and other local habitat restoration plans. We suggest that the term "Federal estuary management plan" be clarified to specifically include such plans as NEP and other such Plans. We note that although NEP plans must be approved by EPA, they are in fact local plans generated by the collaborative NEP process, rather than "Federal" plans.

In addition, we would like to see further regional coordination to ensure that habitat restoration priorities are set on a region-by-region basis. The House version of this bill, H.R. 1775, includes a regional review process to facilitate priority setting and we would support the inclusion of regional review teams.

Finally, EPA agrees that an "estuary habitat restoration activity" should include "clean-up of contamination related to the restoration of the estuary" but recommends that this provision be expanded to include measures to restore or protect water quality, such as buffer strips or related measures to prevent polluted runoff. The provision of the bill prohibiting support of activities "regulated" by Federal or State law is appropriate, but the prohibition on activities that are merely "otherwise governed" by such laws needs to be clarified.

Legislation to Reauthorize the National Estuary Program—S. 835 and S. 878

Both S. 835, discussed above, and S. 878 would extend and increase the authorization for the NEP.

Both bills would also make grants under section 320 of the Clean Water Act, now used for development of CCMPs, available to implement projects called for in CCMPs. S. 878 would require a 50 percent non-Federal match for implementation of projects whereas S. 835 would require only the current 25 percent match for such projects. In addition, both bills increase the authorization for the NEP program from the current level of $12 million—to $25 million, in the case of S. 835, and $50 million, in the case of S. 878.

The President's fiscal year 2000 budget request for the NEP is for approximately $17 million. This amount reflects the continued development of CCMPs and the

costs associated with providing limited grant support for local program management of approved CCMPs. Program management grants assure oversight of implementation efforts and involvement of stakeholders in the implementation phase of CCMPs. In some past appropriation statutes, Congress has included specific language to permit EPA to award grants for the implementation of CCMPs.

The Administration supports amendment of the Clean Water Act to more specifically support NEP grants for program management as well as program development and supports increase of the authorization level consistent with the long-term balanced budget agreement.

EPA recognizes that implementing pollution control projects called for in CCMPs sometimes requires Federal assistance. A primary source of financial assistance is the Clean Water State Revolving Funds (SRFs) under Title VI of the Clean Water Act.

Projects to implement NEP plans developed under section 320 of the CWA are currently eligible for CWSRF loans. In addition, the President proposed in the fiscal year 2000 budget new authority for Governors to use up to 20 percent of the annual Federal funding for Clean Water SRFs for grants to implement projects called for in CCMPs as well as to implement measures to reduce polluted runoff, including runoff to coastal waters. Use of this provision would be at the discretion of a Governor. EPA believes this is a very effective way to the Federal Government to make a major financial contribution to implementation of CCMPs.

IV. PROTECTING THE CHESAPEAKE BAY

Chesapeake Bay Resources and Protection Program

Chesapeake Bay is a national resource of outstanding significance and vital national importance. The Bay, which is served by a watershed of 64,000 square miles, provides millions of pounds of seafood, is a hub for shipping and commerce, offers habitat for wildlife and fish, and provides recreational opportunities for residents and visitors.

The Chesapeake Bay Program was originally created in 1983 and gets its statutory authority from Section 117 of the Clean Water Act. The Bay Program's emphasis on watershed management, public participation, and voluntary partnerships has been a model for similar efforts elsewhere in the United States, as well as in the world. In fact, the National Estuary Program was based on the Chesapeake model, and the President's Clean Water Action Plan finds its origins in the Program, as well.

There have been many successes in the Bay restoration effort. Nitrogen and phosphorus pollution has been reduced dramatically. The Program should meet its 40 percent reduction goal for phosphorus in 2000, but a similar goal for nitrogen reduction will probably not be achieved until a couple of years after 2000. The comeback of striped bass is a success story that benefits the entire east coast. The Program has also provided national leadership in the restoration of riparian forest buffers, nutrient management, biological nutrient removal at wastewater plants, and many pollution prevention programs.

The Chesapeake Bay Program, which is a partnership of the Bay States, the District of Columbia, local governments and the EPA, is currently in the process of creating a new Chesapeake Bay Agreement for 2000. This process is a cooperative effort by all of the partners and it seeks to involve all sectors of the public. Just this month, the Chesapeake Bay Program partners held a joint press conference to announce the kick-off a new Agreement in 2000, and to solicit public input into the process.

Chesapeake Bay Restoration Act—S. 492

I'd like to thank Senators Sarbanes and Warner, and the rest of the Chesapeake Bay delegation, for their leadership and vision in introducing the Chesapeake Bay Restoration Act. It is my understanding that this bill reflects a consensus among the governments of Maryland, Virginia, Pennsylvania and the District of Columbia.

This bill seeks to continue the highly successful Chesapeake Bay Program into the 21st Century. It will allow the Bay Program to better develop new goals and commitments for the next century and implement programs to restore and protect the entire Chesapeake Bay watershed. For example, the bill authorizes Federal support for small watershed programs, assessment of ways to strengthen current protection programs, and expanded study of the relationship between living resources of the Bay ecosystem and water quality. EPA strongly supports these and related provisions of S. 492.

S. 492 would also increase the authorization for the Bay program under section 117 of the Clean Water Act from $13 million to $30 million. The Administration

supports funding of the Chesapeake Bay program at levels above the current statutory authorization. The President's fiscal year 2000 budget proposes funding of almost $19 million.

V. PROTECTING AND RESTORING COASTAL WETLANDS

Coastal Wetlands Restoration Challenges and Programs

The Nation's coastal wetlands are in trouble. Thousands of acres of coastal wetlands have already been lost and additional acres have been degraded by pollution. Because of the alteration of several important coastal wetland processes over the past 75–80 years, Louisiana has lost more than 600,000 acres of coastal vegetated wetlands and is now losing coastal wetlands at an annual rate of more than 25–35 square miles per year (20,000–25,000 acres per year).

Further, the concentration of the U.S. population along coastal areas is a continuing source of development pressure. Threats to coastal wetland resources include residential and commercial development, agricultural and urban run-off, shoreline modification, municipal waste disposal, oil and gas development, and over-harvesting of resources.

Louisiana's 3.5 million acres of coastal wetlands represent about 40 percent of all of the coastal wetlands in the continental United States. These wetlands are an extremely valuable resource. They protect against flooding, provide effective storm protection/ buffering, help maintain water quality, and provide habitat for fish/shellfish and wildlife. Coastal environments are important economically, generating billions of dollars annually through such industries as tourism and commercial fisheries. Coastal wetland habitats in Louisiana serve as a foundation for a $1 billion seafood industry and a $200 million sport hunting industry.

EPA has worked in close partnership with other Federal agencies, including the Corps of Engineers, the Fish and Wildlife Service, and the Federal Emergency Management Agency, to implement coordinated wetlands protection policies and programs. Some of our projects include joint rulemakings and guidance as well as participation on the White House Interagency Wetlands Working Group. We also have formed successful partnerships with State, Tribal and local groups.

We have made great strides over the last decade at reducing wetlands loss. While much remains to be done, the Clinton Administration has demonstrated a strong commitment to meaningful wetlands protection. EPA has implemented wetlands activities described in the Clean Water Action Plan, increasingly integrated wetlands regulatory provisions into watershed plans, worked with the Corps to make nationwide Permits more environmentally protective, and undertaken additional activities that help ensure the wetlands program is fair and effective.

EPA's initiatives and effective partnerships will help to achieve the Administration's goal of a net increase of 100,000 wetland acres per year by 2005.

Coastal Wetlands Planning, Protection, and Restoration Act

The Coastal Wetlands Planning, Protection, and Restoration Act (Public Law 101–646, Title III—CWPPRA), also known as the Breaux Act, was signed into law in 1990. It ensures that State and Federal moneys are available for coastal restoration and conservation efforts.

the Act directed that a Task Force consisting of representatives of five Federal agencies (including EPA) and Louisiana develop a comprehensive approach to restore and prevent the loss of coastal wetlands in Louisiana. A Priority Project List is developed and approved by the Task Force each year, outlining which projects will receive CWPPRA funding. Pursuant to CWPPRA, coastal restoration projects in Louisiana may be eligible to receive 85 percent of the project funds through Federal funding. The remainder of the funds are used for projects to protect, restore, and enhance coastal wetlands under the North American Waterfowl Management Plan.

EPA has strongly supported CWPPRA as a means to address a significant ecological problem, and endorses S. 1119, which provides for the extension of authorizations for CWPPRA through 2009 at existing levels. It is my understanding that this bill may have a pay-as-you-go (PAYGO) impact.

CONCLUSION

Thank you for the opportunity to review the diverse programs EPA is implementing to protect and restore coastal waters and to comment on proposed measures to protect estuaries, coastal and ocean resources.

In closing, I want to make a special appeal to the Committee to consider the difficult challenges the Agency faces in implementing some of the important and needed programs proposed in legislation we have discussed today given the budget reductions likely to be imposed on EPA in fiscal year 2000.

Under the congressional budget allocations, EPA may be forced to implement significant reductions in fiscal year 2000. If these general reductions occur, at the same time that increased appropriations are provided at the levels these coastal bills authorize, the Agency might have to dramatically reduce current core program efforts. I urge this Committee to consider the best overall approach to meeting coastal project funding needs in the context of the serious budget constraints the Agency is facing.

In addition, the President's fiscal year 2000 budget calls for new authority for Governors to have the option of allocating up to 20 percent of Federal capitalization grants for Clean Water SRF to make grants to implement NEP plans and to implement measures to reduce polluted runoff, including runoff to coastal waters. Enactment of this new authority for Governors to direct resources to areas of critical need will be a major step forward in our efforts to protect and restore coastal waters and I hope that the C

ommittee will agree that this proposal is a key piece to the coastal funding puzzle.

As I have indicated on previous occasions, we welcome dialog with the Congress and others concerning the appropriate, long term funding level for the clean water SRF program.

This concludes my remarks and I will be happy to answer any questions you may have.

Thank you.

RESPONSES BY CHARLES FOX TO ADDITIONAL QUESTIONS FROM SENATOR CHAFEE

Question 1. Coastal States are concerned that EPA beach monitoring and public notification criteria or regulations will be rigid and require States to adopt one-size-fits-all programs. States have pointed out that beaches in California are different from beaches in Florida or beaches in New England. How does EPA intend to develop criteria that will provide uniform, consistent, national standards while still allowing States the flexibility to take into account site specific conditions?

Response. EPA agrees that beach monitoring and public notification programs must be consistent nationally in order to provide better public health protection but that site-specific flexibility for States is important. S. 522 and H.R. 999 would require EPA to develop standards for recreational water quality, water quality monitoring, and public notification.

Both bills include provisions for consistent water quality standards. EPA believes that consistent, scientifically defensible water quality standards for States and tribes are very important. These standards provide the scientific and programmatic framework for enhancing protection of public health at beaches. EPA is working with all States and tribes to ensure that they adopt State standards that incorporate the Agency's published criteria for Escherichia cold and enterococci; research data support the use of these microbes as indicators of swimming- associated gastrointestinal disease. The water quality standards program framework established by the Clean Water Act and continued by the bills is flexible, allowing for State variation consistent with protection of public health and good scientific practice, and revisions by EPA as new microbiological indicators, monitoring protocols, and models are developed.

The bills also include provisions for EPA to establish either performance criteria or regulations for all other aspects of a beach monitoring and notification program. EPA intends to work with State and local governments to develop these performance criteria/regulations. In developing these performance criteria/regulations, EPA would incorporate available scientifically valid tools for predicting health risks associated with recreational waters, and promote the use of these tools within a nationally consistent framework for recreational water monitoring and notification. We anticipate that EPA performance criteria/regulations would provide flexibility to accommodate local circumstances. For example, EPA will consider the significance of site-specific conditions (e.g. known pollution discharges; hydrological factors such as water depth, distance from shore, currents; rainfall events, beach usage, etc.).

Question 2(a). EPA has recommended targeted monitoring of certain beaches. Given the extremely scarce resources at the Federal, State, and local level, how would EPA target its monitoring?

Response. EPA believes that beaches should be targeted for monitoring on the basis of recreational use and public health risk. This targeting can be accomplished by focusing on high use beaches, such as those with lifeguards, and known risk factors, such as proximity to storm sewer or combined sewer outfalls. Through its National Health Protection Survey of Beaches, EPA has compiled information on swimmer use and on known sources of pathogen contamination at coastal and Great

Lakes beaches. This and other available water quality data (such as State or local data) will be useful in setting priorities for beach monitoring and notification activities.

Question 2(b). Do all beaches suffer from contamination and need to be monitored, or only beaches in certain areas?

Response. The goal of State and local governments should be to maintain a regular monitoring program for all their waters. However, we recognize the need to prioritize waters due to resource constraints. In order to protect public health, EPA believes that beach monitoring should be conducted at high recreational use beaches, in both inland and coastal areas. The highest priority for monitoring could be assigned to those beaches associated with known risk factors such as proximity to storm sewer or combined sewer outfalls.

Question 3(a). While some States have statewide monitoring and notification programs, many States do not. Does EPA know why so many States and local governments are unable to implement monitoring and notification programs?

Response. Implementation of beach monitoring and notification programs is inconsistent among and within States. Inconsistency exists because of differences in microbial water quality standards, testing methods, and beach advisory and closing practices. Monitoring is also limited by the availability of resources. To enable nationally consistent implementation of beach monitoring and notification programs, EPA intends to provide the guidance, tools, and training needed by State and local governments. EPA will develop and validate predictive models for assessing recreational waters. EPA will develop better, faster indicators of disease causing organisms. EPA will also develop and provide training on guidance for beach water quality monitoring, risk assessment, and risk communication.

Question 3(b). Do States and local governments possess the resources to develop and implement such programs in the absence of Federal grants?

Response. We have not conducted any formal analyses of States' and local governments' ability to finance these programs; however, lack of resources is cited anecdotally by States and local governments.

Question 3(c). What are EPA's estimates of the cost to develop and implement statewide monitoring and notification programs? Does this estimate include the cost to upgrade testing protocols?

Response. EPA has developed a preliminary estimate of the cost to implement a beach monitoring and notification program in all coastal and Great Lakes States. However, there are limitations to this estimate, including the fact that it does not factor in existing State beach monitoring expenditures and there is uncertainty about the total number of beach miles to be monitored.

Question 4. EPA has placed the main stem of the Chesapeake Bay on the Virginia list of impaired waters.

Should this be taken as an indication that EPA believes the voluntary approach implemented by the Chesapeake Bay program was not achieving results fast enough?

What effect, if any, will listing the Chesapeake Bay have on the operation of the Bay program?

Will completion of a total maximum daily load (TMDL) plan for the Chesapeake Bay require the implementation of additional control measures beyond what is currently contemplated by the Bay program?

Response. Section 303 (d)(1) of the Clean Water Act and EPA's implementing regulations requires States to list those waters which, after application of technology-based and other controls, are not achieving water quality standards. The statute and regulations then require that TMDLs be developed for waters on the list unless the TMDL developing authority determines that no TMDL is necessary for the water (I, because the water is achieving applicable water quality standards or is reasonably expected to achieve applicable water quality standards as a result of required controls).

While the Chesapeake Bay States have made much progress in the recovery of the Bay, pollution levels continue to impair the living resources in the Bay including the Bay grasses, finfish and shellfish. These impairments, which disrupt the natural ecology of the Bay, are primarily caused by low levels of dissolved oxygen, which is traced to excessive nutrients. For this reason Maryland listed the Bay on their 303(d) list and EPA added the Bay and certain tributaries to the 303(d) list in Virginia.

Identifying the Chesapeake Bay for TMDL development will be harmonized with the ongoing Chesapeake Bay program. EPA sees the 303(d) process as a supplement to help assure that water quality standards will be met. While great progress has been made, it is uncertain if the Chesapeake Bay program will bring the Chesa-

peake Bay back to attainment of water quality standards. If as a result of these voluntary and regulatory programs the Bay achieves water quality standards, it need not be included in future section 303(d) lists and thus would not need a TMDL. If the voluntary approach is not sufficient for the Bay to achieve water quality standards, then the Clean Water Act requires EPA and the States to continue with the development of a TMDL. The perception that the Chesapeake Bay Program nutrient reduction strategy is totally voluntary is somewhat misleading. Point source reduction of phosphorous have been incorporated into NPDES permits for more than 3 decades, and where necessary so have nitrogen.

Under an agreement reached by the EPA Regional Administrator and the State environment and natural resources secretaries in Maryland, Pennsylvania and Virginia, the Chesapeake Bay Program will continue to pursue nutrient reduction goals under its cooperative approach, while laying the groundwork for a TMDL if those efforts fall short. The States of Delaware, New York, and West Virginia, as well as the District of Columbia are part of this broad effort. A consensus is emerging that this will entail working together over the next decade to reduce the nutrient inputs to the Bay and its tidal tributaries by 2010, thus allowing the Bay to meet water quality standards and the Bay to be "delisted".

The Bay nutrient goals have been established since 1987. While EPA commenced discussion with the States on an approach for developing a TMDL for the Bay, we have not yet drawn out a timeframe for the TMDL but expect to wait until 2010 to see if the Bay meets water quality standards. Since the development of a TMDL for the Bay is a complex scientific effort involving 6 States and the District of Columbia, our expectation is that it could take 5 to 10 years to complete this TMDL. Thus, EPA believes that the cooperative approach will be given ample time to demonstrate effectiveness in achieving water quality standards. All the participating States also have mandatory nutrient management laws applying to agricultural activities.

Question 5. The Chesapeake Bay watershed includes parts of six different States and the District of Columbia. Pollution is flowing into the Chesapeake comes from multiple different States. Several of those States have neither signed the Bay agreement nor become part of the Chesapeake Bay program. How would Virginia go about implementing a TMDL for pollution originating outside of the State?

Response. The Administration has on many previous occasions identified the Chesapeake Bay Program as one of the leading examples in the United States of successful approaches to solving water quality problems on a watershed basis. The Bay Program has been implementing a policy, adopted in 1992, of engaging all of the States in the watershed, not just the signatories to the Bay Agreement, in cooperative approaches to address specific issues of need. Nutrient management through point and non-point source controls was identified as an area for early action and attention. The Program has witnessed significant progress and growth in the relationship with non-signatory States in addressing selected issues.

With regard to the specific challenge of developing TMDLs for the entire watershed, the Principals' Staff Committee of the Chesapeake Bay Program discussed, in June 1999, the need to integrate the cooperative and statutory programs of the Chesapeake Bay and its tributaries. Since then, representatives from all of the six Bay watershed States, the District of Columbia, EPA, and others have held three meetings and several conference calls to outline a process for continuing a watershed process to restore the Chesapeake Bay. The group has reached several agreements on approach and guiding principles. These include the goal of improving the water quality in the Bay and its tributaries so that the waters may be removed from the impaired waters list (delisted) prior to the timeframe when a TMDL would be established. A target date of 2010 was established for this. In addition, they agreed that the Year 2000 Chesapeake Bay Agreement would more clearly define the relationship between the Bay Program and the Clean Water Act listing and TMDL processes.

Most importantly, the group of States has agreed to continue working together on a watershed basis to address the impairment problem in the main Bay which was the cause of the 303(d) listing for Virginia. They are fully cooperating in the development of the next round of nutrient reductions through the expanded TMDL effort.

The Chesapeake Bay Program and EPA will continue to provide the leadership and a coordinating role for this group since it clearly involves a multi-state effort to be successful.

RESPONSE BY CHARLES FOX TO AN ADDITIONAL QUESTION FROM SENATOR LAUTENBERG

Question. My Beaches Environment Assessment, Closure, and Health Act (S. 522) gives EPA flexibility in creating regulations for beach water quality criteria and for monitoring and notification programs. Under this framework, States have ample opportunity to adopt their own programs. In fact, States have 3 years and 180 days to develop acceptable water quality criteria and monitoring and notification programs specific to the States' needs. States may also delegate responsibility to local government authorities. Does EPA intend to work with the States to allow them to develop flexible plans that take into consideration the individual States' situations?

Response. EPA agrees that beach monitoring and public notification programs must be consistent nationally in order to provide better public health protection but that site-specific flexibility for States is important. S. 522 and H.R. 999 would require EPA to develop standards for recreational water quality, water quality monitoring, and public notification.

Both bills include provisions for consistent water quality standards. EPA believes that consistent, scientifically defensible water quality standards for States and tribes are very important. These standards provide the scientific and programmatic framework for enhancing protection of public health at beaches. EPA is working with States and tribes to ensure that they adopt State standards which incorporate the Agency's published criteria for Escherichia cold and enterococci; research data support the use of these microbes as indicators of swimming-associated gastrointestinal disease. The water quality standards program framework established by the Clean Water Act and continued by the bills is flexible, allowing for State variation consistent with protection of public health and good scientific practice, and revisions by EPA as new bacteriological indicators, monitoring protocols, and models are developed.

The bills also include provisions for EPA to establish either performance criteria or regulations for all other aspects of a beach monitoring and notification program. If either bill is enacted, EPA intends to work with State and local governments to develop these performance criteria/regulations. In developing these performance criteria or regulations, EPA would incorporate available scientifically valid tools for predicting health risks associated with recreational waters, and promote the use of these tools within a nationally consistent framework for recreational water monitoring and notification. We anticipate that EPA performance criteria/regulations would provide flexibility to accommodate local circumstances. For example, EPA will consider the significance of site-specific conditions (e.g. known pollution discharges; hydrological factors such as water depth, distance from shore, currents; rainfall events, beach usage, etc.).

STATEMENT OF MICHAEL L. DAVIS, DEPUTY ASSISTANT SECRETARY OF THE ARMY FOR CIVIL WORKS, DEPARTMENT OF THE ARMY

INTRODUCTION

Mr. Chairman and members of the Committee, I am Michael L. Davis, Deputy Assistant Secretary of the Army for Civil Works. I am here today to discuss the Army Corps of Engineers environmental restoration and protection mission and present the Department of the Army's views on S. 835, the Estuary Habitat Restoration Partnership Act of 1999. I will also discuss the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA), commonly referred to as the Breaux Act and S. 1119, which extends funding for implementation of CWPPRA.

ARMY CORPS OF ENGINEERS ENVIRONMENTAL MISSION

For over 200 years the Nation has called upon the Army Corps of Engineers to solve many of its water resources problems. Historically, the Corps has emphasized its traditional mission areas of improving our navigation and transportation system, protecting our local communities from flood damages and other disasters, and maintaining and improving hydropower facilities across the country. The Corps environmental activities have expanded over time with major changes in environmental law and policy, such as the National Environmental Policy Act of 1969, which requires each Federal agency to assess fully its actions affecting the environment, and the Federal Water Pollution Control Act of 1972 (commonly called the Clean Water Act) in which the Corps was given a major responsibility for regulating the discharge of dredged or fill material into all of our Nation's waters, including wetlands. In recent years, however, pursuant to the Water Resources Development Act (WRDA) of 1986

and subsequent WRDAs, the Corps has elevated its environmental restoration and protection mission to a status equal to its flood damage reduction and navigation missions. With an overall objective to link economic growth with protection of the environment, the Corps now uses its engineering, project management, real estate, and environmental expertise to address environmental restoration and protection opportunities.

The Corps has a powerful toolkit of standing authorities and programs that can be brought to bear to help solve environmental problems. Over the last decade alone the Corps has helped to restore hundreds of thousands of acres of habitat of many types, and which benefit thousands of fish and wildlife species. Examples include: 28,000 acres of habitat restored for the Upper Mississippi River (98,000 projected by 2005); 35,000 acres of restored flood plain under construction as part of the Kissimmee River Restoration Project in the Florida; and, hundreds of acres of coastal wetlands restored under authorities for the beneficial use of dredged material for ecosystem restoration.

On July 1, the Army submitted to Congress a comprehensive plan to restore the Everglades. The plan proposes the world's largest ecosystem restoration project, one which will help restore over 2.4 million acres of wetlands in the south Florida Ecosystem as well as improve the health of estuaries and Florida Bay.

We are especially proud of our efforts on all coasts in conjunction with the Coastal America initiative. Some examples of projects where the Corps led multi-agency, multi-level efforts (Federal, State, local and private) include: restoration of a coastal salt marsh area in the Galilee Bird Sanctuary, Rhode Island; the initial demonstration area for restoration of tidal wetlands in the Sonoma Baylands, California; the Sagamore Salt Marsh Restoration, Massachusetts; restoration of 1100 acres to provide riparian and submerged habitat at Poplar Island, Chesapeake Bay, Maryland; and, shoreline stabilization and submerged aquatic vegetation restoration around Tangier Island in the Chesapeake Bay. Our fiscal year 2000 budget request includes study funds for 12 potential projects directed at protecting or restoring the benefits of estuaries, as well as funding for many other activities that would be beneficial to the environment in or adjacent to our Nation's estuaries.

SIGNIFICANCE OF ESTUARINE AND COASTAL AREAS

Throughout the world, estuarine and coastal areas serve as focal points for human use and development. These same areas also perform critical functions from an ecosystem perspective, providing habitat and food for myriad fish and wildlife species. Estuaries are unique in that they serve as a transition zone between inland freshwater systems and uplands, and ocean marine systems. There is an urgent need to protect and restore these ecosystems recognizing the economic, social, and environmental benefits they provide. In this regard, we would add as a purpose of the bill the need to promote a greater public appreciation and awareness of the value of our estuary and coastal resources. As with many environmental issues, future generations depend upon our actions today.

Legislation to expand the authority of the Corps to use its unique skills and experience to restore and protect estuary habitat would add to the Corps environmental portfolio. The authorities are being applied to achieve an economically and environmentally sustainable future for the Nation and the world. Let me assure you that the Department of the Army is prepared to take a leadership role in reaching the goals of S. 835. Army would approach implementation of S. 835 in accordance with the policies and procedures which grew out of the Water Resources Development Act (WRDA) of 1986, subsequent WRDAs, and long-standing partnership and public involvement practices.

Additionally, Army would explore the possibility of using the existing organization and structure of the Coastal America partnership to jump-start restoration efforts. Coastal America has National and Regional Implementation Teams already in place, and many of the members of these teams would be the very same experts we would consult with under S. 835.

S. 835

I would now like to focus on the Department of the Army views on S. 835. The Department of the Army supports efforts to enhance coordination and efficiently finance environmental restoration and protection projects. The goal of restoring 1 million acres of estuary habitat by the year 2010 is in consonance with the President's Clean Water Action Plan and its goal of a net increase of 100,000 acres of wetlands, annually, beginning in the year 2005. We also agree with the philosophical basis for the legislation, that estuaries and coastal areas are being degraded rapidly, and that there is an urgent need to attain self-sustaining, ecologically based systems

that are integrated into surrounding landscapes. The proposed national framework, or national estuary habitat restoration strategy, to be completed at the end of the first year, should help partners identify and integrate existing restoration plans, integrate overlapping plans, and identify processes to develop new plans where they are needed. This framework document could help us maximize incentives for participation, leverage Federal resources, and minimize duplication of efforts. We support the requirement to publish the draft strategy in the Federal Register for review and comment to enhance public involvement. We believe that the legislation is consistent with the National Estuary Program (NEP), which was established to manage and protect aquatic ecosystems in coastal watersheds, and the National Estuarine Research Reserve System (NERRS), which uses science to improve management of estuaries. The NEP and the NERRS strive to protect and restore habitat through consensus and initiatives which are community-based. The legislation also is consistent with the Coastal Wetlands Preservation Protection and Restoration Act, a unique multi-Federal and State agency partnership which is working to restore and protect approximately 73,000 acres of coastal wetlands in Louisiana over a 20-year period.

We are pleased to note that important changes that the Army requested at your Committee hearing held on S. 1222 last Congress have been incorporated into S. 835. These changes limit Federal assistance for each habitat project to 65 percent of project cost, strengthen the role of the Secretary of the Army commensurate with the need for accountability for appropriations received, and allow the Collaborative Council to consider, where appropriate, non-governmental organizations as sponsors for environmental restoration and protection projects. We also are pleased that the bill makes it clear that the term "estuary habitat restoration activity" does not include mitigation for the adverse effects of an activity regulated or otherwise governed by Federal or State law, or acts that constitute restitution for natural resource damages required under any Federal or State law.

While S. 835 is a bill that the Department of the Army could support, we urge the Committee to revise the bill to include the Federal agency participation on the Collaborative Council and establishment of the Regional Council structure set forth in the companion House bill, H.R. 1775. We feel that S. 835 could be revised to make it clear that non-Federal sponsors are responsible for providing all lands, easements, rights-of-way, dredged material disposal areas and relocations, as is required for Army civil works water resources projects. We also believe that the Secretary, not the Collaborative Council, should make the determination, in accordance with existing water resources policies, as to the acceptability and valuation of any in-kind contributions for local cost sharing. As is the case with essentially all water resources projects undertaken by Army Civil Works, the Secretary may consider giving non-Federal sponsors credit, toward their cost share, for lands, easements, rights-of-way, dredged material disposal areas and relocations required for the Federal project.

We urge you to consider expanding the geographic scope of the habitat protection and restoration activities proposed in S. 835 to include the Great Lakes region, which is widely recognized as a coastal region of the United States. This coastal region has many ecosystem problems that mirror those of more traditional coastal areas and has, for that reason, been included as a coastal region in the programs authorized under the Coastal Zone Management Act of 1972, as amended, and in the Administration's Coastal America Initiative. We believe that the addition of a regional council representing the Great Lakes region, to include the States of Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania and New York, merits serious consideration. You also may wish to consider including the islands and territories of the United States for similar reasons.

Many environmental restoration techniques and approaches are new, and when dealing with natural systems, there is a need to test new ideas, learn from successful and not so successful projects, and manage adaptively to adjust to ever-changing conditions. Environmental restoration efforts for the Everglades, the Upper Mississippi River System Environmental Management Program, and the Coastal Wetlands Preservation Protection and Restoration Act, all acknowledge, to varying degrees, the value of demonstration projects and adaptive assessment approaches. Adding to S. 835 a demonstration component with a cost share that is consistent with that applied to habitat projects, and a requirement for non-Federal sponsors to manage adaptively, would encourage the partners to try out new ideas and learn more about how to restore and protect estuary and coastal areas.

The Army Civil Works program plays a critical role in providing and maintaining water resources infrastructure to meet future needs in consonance with other national priorities and a balanced budget. We try to avoid creating false hope by not authorizing projects that we cannot reasonably expect to fund or complete within

a reasonable timeframe. In light of the $27 billion backlog of ongoing Corps construction projects, and other authorized projects awaiting construction, the dollar magnitude of new projects and programs in the Administration's proposal for WRDA 1998 was constrained. Thus, while we could support being involved in a program to restore and protect estuaries and coastal areas, we are concerned that this new program could impact on other new and ongoing projects and programs which have been carefully prioritized and evaluated for phased implementation over a period of years. We are committed to a sustainable long-term construction program and more timely project delivery to non-Federal sponsors.

We applaud the co-sponsors of S. 835 for their vision and leadership in this area. The Army supports S. 835 and looks forward to working with you and your House counterparts in enacting such legislation.

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

The Army also supports S. 1119, which provides continued funding for the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA), an integral foundation to the implementation of more comprehensive, longer term solutions to the National problem of coastal losses. As I noted earlier, coastal wetlands are valuable resources because they protect against flooding, help maintain water quality, and provide habitat for myriad fish and wildlife species, many of them threatened and endangered. Coastal environments generate billions of dollars annually through such industries as tourism and sport and commercial fisheries. Coastal wetlands also provide infrastructure protection by reducing damage from hurricanes and other storms.

Louisiana's coastal wetlands provide habitat for fisheries, waterfowl, neo-tropical birds and furbearers; amenities for recreation, tourism, and flood protection; and the context for a culture unique to the world. Benefits go well beyond the local and State levels by providing positive economic impacts to the entire nation.

Approximately 40 percent of the coastal wetlands of the lower 48 States are located in Louisiana. Over the past 50 years, Louisiana has lost an average of 40 square miles of marsh per year. This represents 80 percent of the Nation's annual coastal wetland loss for the same period. If the current rate of coastal wetland loss is not slowed, by the year 2050 an estimated additional 640,000 acres of wetlands will disappear from the Louisiana coast. As a result, the Louisiana shoreline could advance inland as much as 33 miles in some areas. The loss of coastal wetlands is a national problem. However, Louisiana is a showcase for this issue. Economic losses are substantial and could run into the billions over 50 years.

By serving as a buffer to destructive climatic forces and the episodic impact of storms, Louisiana's coastal wetlands provide protection for the people who live and work there and the infrastructure that supports them—including 400 million tons of waterborne commerce per year (the largest in the nation), natural gas valued at $7.4 billion per year, and petroleum products valued at $30 billion per year.

Concerns for wetland losses have prompted both Louisiana and Congress to act. In 1989, Louisiana established a dedicated Wetlands Trust Fund for coastal wetlands restoration. Congress passed the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) in 1990. Commonly referred to as the Breaux Act, it created a CWPPRA Task Force with representatives from the Department of Army, the Environmental Protection Agency, the Department of Commerce, the Department of Interior, the Department of Agriculture and the State of Louisiana. The Task Force provide oversight and develops, annually, lists of high priority projects focused on marsh creation, restoration, protection or enhancement.

To date eight priority lists have been formulated involving 81 active projects, 30 of which have been completed. When implemented, these projects will reduce the loss of coastal wetlands by 67,726 acres over the next 20 years. It should be noted, however, that the CWPPRA and the other Corps small projects authorities are only a partial solution. The current rate of wetland loss is staggering and projections are that only 23 percent of coastal wetland losses will be offset by gains accomplished under these authorities.

S. 1119 may be subject to the pay-as-you-go requirements of the Omnibus Budget Reconciliation Act of 1990, in which case the bill could have an appreciable impact on direct spending.

CONCLUSION

The Corps has been increasingly involved in recent years with efforts to protect and restore the benefits of estuaries and their surrounding habitat. We have enjoyed working with you and your staff on S. 835 and other legislation before your committee, including a 1999 WRDA. We look forward to continuing this relationship as

work on this important legislation continues. The Department of the Army is also looking forward to working with the Environmental Protection Agency, the Departments of Commerce, Agriculture, Interior, and Transportation, and the non-Federal participants in the designated coastal regions, to restore and protect our nation's estuary habitat. You can be assured that Army Civil Works is committed to making partnerships work. Mr. Chairman, this concludes my testimony. I would be pleased to answer any questions you or the committee may have.

STATEMENT OF MAYOR MARTIN L. PAGLIUGHI, AVALON, NEW JERSEY

Ladies and Gentlemen, my name is Martin L. Pagliughi. As Mayor of Avalon, New Jersey, a barrier island tourist community, and a Board Member of the American Coastal Coalition, I am very pleased to be here today and thank Senators John H. Chafee, Chairman, and Max Baucus, Ranking Member of the Committee on Environment and Public Works, for the invitation to testify here today. I also express my appreciation to Senator Frank Lautenberg for the opportunity to speak in support of his BEACH Act, which proposes the establishment of uniform testing of marine recreational waters and which will establish a nationwide standard for notifying the public when waters are contaminated. The Senator's bill provides for swift implementation of the testing program, which is imperative.

I am very proud of the fact that since 1985 New Jersey is the only State to have a mandatory beach protection program that includes a bacteria standard, a monitoring program, and mandatory beach closure requirements when the bacteria standard is exceeded. But I also am appalled that 14 years later we still do not have a nationwide, mandatory testing program of our recreational waters, which so critically impacts (1) public health and (2) the U.S. economy!

Does it make any sense to carefully monitor foods and drugs in this country to protect public health, yet permit people to swim in untested recreational waters? We know for a fact marine waters can appear clean but may harbor life-threatening pathogens.

You may recall that in 1987–88 New Jersey experienced beach closings due to trash and medical waste washing ashore, losing almost $3 billion in tourism revenues. Unfortunately, those tourists, who left to go elsewhere, had no assurance of the quality of the water where they went because neighboring States had no similar water quality testing program.

To regain our previously loyal beach goers, obviously we had to fix a variety of pollution problems. This we have done. Last week the Natural Resources Defense Council announced that beach closings in New Jersey were at a record low. But without the Cooperative Coastal Monitoring Program, that would not have happened.

Here's how the program works in Avalon. The county health department samples water quality weekly at 10 recreational sites from mid-May through mid-September, testing for fecal coliform and enterocci bacteria. If the bacterial count at any of the sites is above the permissible limit, the beach is closed to swimmers. This means large signs are posted advising bathers they are not permitted to swim, and lifeguards remain on duty to prevent the public from entering the water.

Obviously, beach closings are not a PR plus for a tourist community. But they are a must when you are putting the health and welfare of your visitors first and foremost. Fortunately, in Avalon, we have not had a beach closing in years. But that is not by accident. Since 1991 Avalon has won seven of eight Quality New Jersey Shore Quality Awards for the steps we have taken to prevent pollutants from entering recreational waters. With the threat of possible beach closings, we have taken those steps necessary to assure that water quality remains excellent.

During the last decade Avalon has spent many millions of dollars to prevent nonpoint source pollution, which is the primary cause of pathogens entering recreational waters. Major expenditures have been made on equipment to clean beaches, skeets and catch basins, and on projects such as storm water disposal system rehabilitation, repair and relocation of outfall lines, manhole cover repair, the installation of tide flex valves on storm water outfalls, required capping of all sewer vents, TV inspection of our infrastructure, and intense litter abatement, to name a few.

Avalon has undertaken these projects with little outside help. But Senator Lautenberg's legislation, with the inclusion of $9 million in grants to States, should help get the ball rolling. By enacting this legislation you will send a message to the world that we in the U. S. care about the public health of tourists who visit our beaches.

I would remind you that the No. 1 tourist destination in the United States is the beach, with coastal States receiving about 85 percent of all tourist-related revenues,

generating billions of Federal tax dollars. Foreign tourists who also prefer U.S. beaches, create a significant trade surplus.

Therefore, it is incredible to me that our Federal Government makes such a feeble effort to support, promote and improve our nations beaches and recreational waters. In the future, we will pay for such a lax attitude. Meanwhile, other counties, who wish to compete, are hard at work. From 1950 to 1993 the United States subsidized only $15 million in shore restoration projects versus Germany which spent $90 million; Spain, $250 million and Japan, $1.4 billion.

If we are going to maintain our edge in world tourism, we must be able to give visitors assurance that we have the world's best beaches and that all U.S. recreational waters are monitored uniformly and consistently. They must know that if there is a problem, they will be advised and prohibited from entering waters that could be dangerous to their health.

That is why the Federal Government must immediately begin to address the quality of its beaches and recreational waters. We are meeting that challenge in New Jersey and I'm here today in support of Senator Lautenberg's BEACH Act which would make water quality testing mandatory nationwide. It is time this nation begins to protect and enhance one of its most economically vital assets—its beaches and recreational waters.

Again, my sincere thanks to Senators Chafee, Baucus and Lautenberg for the opportunity to testify here today.

RESPONSES BY MAYOR MARTIN L. PAGLIUGHI TO ADDITIONAL QUESTIONS FROM SENATOR CHAFEE

Question 1. While New Jersey has a statewide monitoring and notification program, many other coastal states do not. Why do so few state or local governments have monitoring and notification programs?

Answer. My experience has been that it is rare for local government to police its own activities. In fact, a local government might even be tempted to hide or cover up a situation which they believe may be detrimental to the financial well being of their community.

However, with a federal monitoring program in place, I believe it would be highly unlikely for state or local government to deliberately conceal violations. In fact it would behoove local government to aggressively enforce and attack any potential contamination problems.

New Jersey is a perfect example of the latter. In 1986 health care professionals and the public described illnesses thought to be related to swimming at New Jersey beaches. In 1987 the New Jersey Department of Health initiated a comprehensive study, greatly expanding the Ocean Outfall Monitoring Program begun in 1984. For the most part the study did not reveal any contamination exceeding permitted limits but the damage already had been done in the public mind. In 1987 and 1988 tourists deserted their favorite Jersey beaches and headed into Delaware, Maryland, North Carolina and elsewhere where monitoring, notification and beach closure programs were non-existent. Billions of New Jersey tourist dollars were lost. As a result, New Jersey coastal communities, my own community of Avalon included, have spent millions of dollars to prevent non-point source pollution, which is the primary cause of pathogens entering recreational waters, to prevent a reoccurrence of the 1987–88 fiasco.

Question 2. Congress has traditionally viewed beach monitoring and public notification as a state or local government responsibility. Why should the federal government become involved in how local governments monitor their waters and notify their citizens?

Answer. The federal government has an obligation to protect the public health. Thus, it needs to establish a uniform beach monitoring and notification program for all recreational waters. Without a consistent program nationwide, tourists are permitted to leave a monitored area, where a beach has been closed due to contamination, and head for unmonitored waters where contamination could be more hazardous.

RESPONSES BY MAYOR MARTIN L. PAGLIUGHI TO ADDITIONAL QUESTIONS FROM SENATOR LAUTENBERG

Question 1. In 1985 New Jersey enacted laws that require a statewide program that includes monitoring of beach waters, public notification of the water quality and mandatory closure of beaches when the waters have excessive amounts of bac-

teria. Can you describe the initial and long-run public reaction to the beach waters being tested and, as a result, sometimes facing closed beaches?

Answer. New Jersey initiated comprehensive water monitoring when there already was a perception New Jersey waters were polluted. Thus the initial reaction by the public was fear of swimming in the ocean off the Jersey coast and, in many cases, desertion to other tourist locations. However, because New Jersey communities have taken extraordinary steps to prevent pollutants from entering recreational waters, ocean testing has shown New Jersey waters to be clean. Thus, there have been fewer and fewer beach closings. The public has reacted very positively and has returned to their favorite vacation spots along the Jersey coast. As for the occasional beach closure, I believe the public has become educated to the fact that it is for their own protection and appreciates that the public health is being safeguarded. Unfortunately, because there is no federal beach monitoring and notification program, there is always the threat of contamination of New Jersey waters from neighboring states who have no program in place.

Question 2. You mentioned in your testimony how much the Nation financially benefits from tourism and general recreational activities at beaches. Can you explain either with concrete numbers, or in general terms, how you have seen New Jersey benefit financially by maintaining a coastal water monitoring and public notification program?

Answer. During 1987–88, the public had the perception that New Jersey coastal waters were contaminated due to beach closings because trash and medical waste had washed ashore. As a result, New Jersey lost almost $3 billion in tourism revenues. Once beach monitoring results proved our waters were clean, vacationers began to return in ever increasing numbers. In recent years tourism to the Jersey shore has been on the upswing. In 1996, tourism throughout the state generated approximately $25 billion. And it appears 1997, 1998 and 1999 will substantially surpass that dollar amount.

Question 3. As you know, protecting public health remains the paramount objective of my Beaches Environmental Assessment, Closure, and Health Act (S. 522). As you astutely noted in your testimony, it will take up to six years under the House bill before public coastal waters have monitoring and notification programs. If other States are allowed to delay implementing programs, how does that negatively affect those States that are actively trying to protect the public?

Answer. Permitting other states to delay implementing monitoring programs could very adversely effect not only those states who have a monitoring program in place but the tourist industry as a whole! We know that the number one tourist destination in the U.S. is the beach, with coastal states receiving about 85% of all tourist-related revenues, generating billions of federal tax dollars. If there were a sudden rash of illnesses among tourists swimming in waters off a coastal state with no monitoring program in place, the perception more than likely would be that swimming in the ocean can be hazardous to ones health and that beach vacations are not a good idea. This not only would be extremely unfair to New Jersey and any other states with a monitoring program in place, but could prove an economic disaster for the nation as a whole. The immediate implementation of Senator Lautenberg's Beach Act would give visitors assurance that we have the world's best beaches and that all U.S. recreational waters are monitored uniformly and consistently.

STATEMENT OF TED DANSON, PRESIDENT, AMERICAN OCEANS CAMPAIGN

Mr. Chairman and Members of the Committee: Good morning. My name is Ted Danson. I am the President and cofounder of American Oceans Campaign. American Oceans Campaign (AOC) is a national, nonprofit organization based in Santa Monica, California and is dedicated to protecting and enhancing our nation's oceans and coastal resources.

On behalf of AOC and the many other organizations that endorse the B.E.A.C.H. bills, I wish to express my thanks to Senators Chafee and Baucus, and the other members of the Senate Environment and Public Works Committee, for inviting me to testify today on the B.E.A.C.H. bills.

Since the early 1990's, American Oceans Campaign has focused a significant amount of attention to the health of recreational beach waters. Working with many, dedicated advocates from different regions of the Nation, we have long-supported reducing coastal water pollution, improving beach water testing programs, and consistently informing the public about contaminated beach waters. We have worked with Los Angeles County to improve its beach water testing protocol and advocated for a California beach water monitoring and public notification bill, which was en-

acted into law. Additionally, AOC produces and distributes many television, radio, and print public service announcements about beach water quality. Over the last 2 years, these PSAs have reached hundreds of millions of people.

This year, AOC, the Surfrider Foundation, the Center for Marine Conservation, the Clean Water Network and many other organizations were strong advocates for the passage of H.R. 999, the Beaches Environmental Assessment, Cleanup and Health Act of 1999—the B.E.A.C.H. bill. On Earth Day, we were delighted that the House of Representatives unanimously passed this bill. We are now diligently working to promote swift passage of a B.E.A.C.H. bill in the Senate. I commend Senator Frank Lautenberg and the other cosponsors of the S. 522 for their determined leadership in the Senate to address the problems of inconsistent testing and public notification of unhealthy beach waters.

INTRODUCTION

Beaches are leading tourist destinations in the United States. In 1997, California's beaches alone attracted almost 116 million visitors.[1] As a child growing up in Arizona, I used to visit cousins in California and spend time at the beach. Like most Americans, I have always had a huge desire to be near the ocean. Years later, I took my daughters to the beach and saw a sign that read, "Water polluted, no swimming." Trying to explain that to my children was difficult. I left that day grateful for the warning but concerned about the health of our coastal waters. This summer, thousands of adults and children will swim, snorkel, surf or wade in beach waters that, unbeknownst to them, are contaminated by pathogens. These pathogens may cause a variety of illnesses, ranging from gastroenteritis, dysentery, hepatitis, and various ear, nose, and throat infections. Bouts with these ailments can quickly ruin a family vacation or a weekend getaway, and can cause a person to miss work or school. Mr. Chairman, a day at the beach should not end with a trip to the doctor's office.

To protect themselves from harmful pathogens, swimmers must rely on beach water quality tests conducted by local public health agencies and proper, timely notification about unhealthy beach waters. Unfortunately, the testing standards and monitoring practices used by coastal States and localities vary significantly, and often vary within a State. Several States do not regularly monitor their beach waters for pathogen contamination and only a distinct minority of States and local communities consistently notify the public about poor beach water conditions.

I believe the public has a right to know about the quality of recreational beach waters that are open for swimming and other water sports. To improve the flow of information about polluted recreational waters and to provide uniform protections for beach-goers, American Oceans Campaign, along with other conservation organizations, strongly support both B.E.A.C.H. bills—as common sense solutions. The B.E.A.C.H. bills will ensure that States have adequate beach testing programs to protect citizens from health risks, while allowing States flexibility in determining beach closures or in implementing stricter standards.

PATHOGENS IN BEACH WATERS

Pathogens are disease-causing microorganisms that are found in animal and human wastes. There are a number of potential sources of pathogens in coastal waters. After heavy rainfalls, animal wastes can run off lawns and agricultural fields, be carried by storm sewers and eventually dumped into coastal waters at storm drain outfalls. In many older coastal communities, storm sewer lines are combined with sewage conveyance lines. During rain storms, these combined pipes overflow and the wastewater is sent to be discharged in rivers, coastal waters, and other receiving waters, rather than proceeding to the wastewater treatment plant. These events (called combined sewer overflows) discharge raw sewage into the nation's waters. Another common source of pathogens is overburdened sewage treatment plants that will occasionally release raw or partially treated sewage into waterways. Malfunctioning individual septic systems, runoff from agricultural lands, and improper disposal of wastes from boats are other sources of pathogens in coastal waters.

When raw or inadequately treated sewage is discharged into coastal waters, pathogen contamination can result. In many coastal areas, pathogen-contaminated waters lead to beach closures, restrictions on shellfish harvesting, and other water sport limitations. According to a recent report published by the Natural Resources Defense Council (NRDC), Testing the Waters 1999: A Guide to Water Quality at Vacation Beaches, there were at least 7,236 individual beach closures and public health advisories at U.S. ocean, bay, Great Lakes, and a few other freshwater

[1] Los Angeles Times, March 27, 1998.

beaches during 1998.[2] Since 1988, there have been at least 29,996 closings and advisories.[3]

HEALTH RISKS ASSOCIATED WITH PATHOGENS

Various pathogens can be found in water: (1) *viruses* that can cause hepatitis and gastroenteritis—a complex of flu-like symptoms including vomiting, diarrhea, nausea, stomach cramps, headache, and fever; (2) *bacteria* that can also cause gastroenteritis as well as cholera, typhoid fever, eye and ear infections; and (3) *amoeba* and other *protozoa* that can cause giardiasis, skin rashes, dysentery and other diseases. These illnesses rarely threaten human life, however they can lead to significant physical discomfort, cause a person to miss work, and be spread to others. Also, the physical consequences of these diseases can be more significant for select members of the general population, such as children, the elderly, and people with weakened immune systems.

SANTA MONICA BAY EPIDEMIOLOGICAL STUDY

During the summer of 1995, the Santa Monica Bay Restoration Project (SMBRP) sponsored an epidemiological study, conducted by researchers at the University of Southern California. The purpose of the study was to assess the health risks associated with swimming in Santa Monica Bay.[4]

In the study, water samples were analyzed for the presence of total and fecal coliforms, *enterococci, E. Coli,* and enteric viruses (all indicators of pathogens). On the days the water samples were made, more than 15,000 swimmers were approached and asked to participate in a telephone survey. Within 10 to 14 days after being questioned at the beach, more than 13,000 swimmers were telephoned and asked to describe any symptoms they experienced after swimming in the Bay. Researchers eliminated from the study those who visited the beach more than once during the study period in order to show a clear relationship between a single day's exposure and pathogen levels. The study compared swimmers near storm drains to those 100 and 400 yards away. The study determined that people who swim within 100 yards of storm drains emptying into Santa Monica Bay are 50 percent more likely to get colds, flu, sore throats, and diarrhea than those who swim farther away. This study, one of the strongest documentations yet of the link between beach water pollution and illness, concluded that as many as one in ten of those individuals swimming near storm drains will experience symptoms related to pathogen exposure.

From this study, it is reasonable to extrapolate that more frequent swimming—as is common among surfers, windsailers, snorkelers, vacationers, or youth living in beach communities—is likely to cause more frequent or more serious symptoms of illness. Second, because the SMBRP study was conducted during dry weather, it is likely that symptoms would be greater for those entering the water during the wet season or after heavy rainfalls when more contaminants flow into coastal waters.

Surfers, in particular, have long reported symptoms after spending time in recreational waters. Skeptics have dismissed these symptoms as being merely anecdotal reports, or resulting from exposure to the cold rather than to pathogens in the water. The scientific evidence, especially that presented in the SMBRP epidemiological study, validates surfer's claims: immersion in coastal waters can and does cause illness, if those waters contain unhealthy levels of pathogens.

EPA EPIDEMIOLOGICAL STUDIES

Prior to the SMBRP study, EPA conducted a series of epidemiological studies that showed:

- swimmers who bathe in water contaminated with sewage are at greater risk of contracting gastroenteritis;
- as the quality of bathing water degrades, the swimming-associated illness rate increases; and
- at equivalent indicator densities in marine and fresh waters, the illness rate in swimmers was greater in marine swimmers than in freshwater swimmers.[5]

These studies, comparing the symptomatic ailments between swimmers and non-swimmers at beaches, demonstrated the relationship between water quality and

---

[2] Sarah Chasis and Mark Dorfman, *Testing the Waters 1999:* A Guide to Water Quality at Vacation Beaches., (New York: Natural Resources Defense Council, 1999) v.

[3] *Id.*

[4] Robert W. Haile, et al., *An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay* (Santa Monica Bay Restoration Project, 1996).

[5] United States Environmental Protection Agency, *Action Plan for Beaches and Recreational Waters,* (Washington DC: U.S. Environmental Protection Agency, 1999), EPA/600/R–98/079, 12.

human illness.[6] Other studies conducted around the world established the link between contracting illnesses and swimming in feces contaminated waters.[7] Some of the studies conducted abroad displayed an inverse relationship between water quality and rate of disease contraction—as water quality deteriorated, the risk of infection increased.[8]

INCONSISTENT MONITORING PRACTICES

There are currently no Federal requirements for monitoring recreational beach waters for pathogen contamination. In 1986, the United States Environmental Protection Agency (EPA) issued recommendations for State health officials to use in setting statewide standards for bacterial pollution in coastal recreational waters.[9] Thirteen years after EPA issued its recommendations, only a handful of coastal States have accepted the Agency's recommendation, enterococcus, as the bacterial indicator in their marine water quality standards. Some of these States have set the enterococcus standard at levels less protective than EPA recommendations. It is interesting to note that recreational saltwater just meeting EPA's recommended standards will cause an estimated 19 swimmers out of 1000 to become ill.[10]

Instead of enterococcus, several States use either fecal coliform or total coliform as the bacterial indicator forming the basis of their State standards. Because of the use of various indicator organisms and different concentrations of these indicator organisms to determine whether swimming should be allowed, beach-goers are subject to vastly different levels of protection. Beach waters with the same concentration of pathogens may be closed or subject to health advisories in one State, but be open to the public in another State. In many States, these discrepancies can be noted among counties or other local jurisdictions.

Not only is there significant variation among the States with regard to accepted bacterial standards for recreational waters, but there is also significant inconsistency in beach water monitoring practices among coastal States, and often within States. Last week, the Natural Resources Defense Council published its ninth annual survey of State beach water testing programs and beach closures. In producing this report, NRDC surveyed coastal areas and used data from an EPA survey of coastal and Great Lakes communities and counties about their monitoring programs and beach water quality conditions. According to the most recent report, four coastal States do not regularly monitor their public beach waters to determine if they are contaminated by pathogens and thus, pose health risks for swimmers.[11] Thirteen States only monitor a portion of their recreational beach waters.[12] Only nine States regularly monitor all or a significant portion of their coastline.[13] Two States and one territory test their beach waters, but do not share the results with the public.[14] In order to better protect the beach-going public from possible illness associated with pathogen-contaminated waters, there needs to be more consistent beach water monitoring activities.

---

[6] *Id.*

[7] *Id.* At 13.

[8] United States Environmental Protection Agency, *Action Plan for Beaches and Recreational Waters,* (Washington DC: U.S. Environmental Protection Agency, 1999), EPA/600/R–98/079, 13.

[9] The EPA recommended standard for recreational salt waters is 104 enterococcus bacteria per 100 ml for a single, instantaneous sample and 35 enterococcus bacteria for a geometric mean sample. The recommended standard for recreational waters in the Great Lakes is a geometric mean of 33 enterococcus bacteria per 100 ml or 126 E. Coli bacteria per 100 ml of water. Enterococcal bacteria are associated with human illness whereas other common measures, such as fecal or total coliform do not necessarily cause illness, but are found in conjunction with bacteria that do.

[10] Chasis and Dorfman, 7.

[11] Chasis and Dorfman, viii.

Beaches in Alabama, Louisiana, Oregon, and Washington are not monitored regularly.

[12] Chasis and Dorfman, viii.

The thirteen states that have regular monitoring and public notification programs for a portion of their public beaches include: California, Florida, Hawaii, Maine, Maryland, Massachusetts, Michigan, Minnesota, New York, Rhode Island, South Carolina, Virginia, Wisconsin. New York State comprehensively monitors and provides public notification for its ocean beaches but only limited monitoring for its Great Lakes beaches. In 1999, Georgia will begin a monitoring program.

[13] Chasis and Dorfman, viii.

The nine states that comprehensively monitor their recreational beaches and notify the public are Connecticut, Delaware, Illinois, Indiana, New Hampshire, New Jersey, North Carolina, Ohio, and Pennsylvania.

[14] Chasis and Dorfman, viii.

Mississippi, Puerto Rico, and Texas have monitoring programs for all or portions of their beaches, but no programs for public notification or beach closures.

In recent years, several coastal States have taken steps to upgrade their beach water monitoring programs. In 1997, the State of California passed a State "right to know" bill that amended the State Health and Safety Code. Weekly monitoring between April and October will be required at all public beaches with more than 50,000 annual visitors. Regular monitoring will also be conducted at beaches located near storm drains. California beach waters that fail to meet health-based standards as a result of tests will be posted with public health advisories, and a toll-free number providing daily reports of polluted beaches will be established.

INCONSISTENT PUBLIC NOTIFICATION

Among the States that do monitor their waters, procedures for notifying the public when waters are too contaminated for safe swimming differ considerably. In too many States, even when there is a monitoring report showing polluted water conditions, health authorities fail to properly warn the public or close the beach. As a result of these inconsistent public notification practices, many of the millions of Americans and international tourists visiting our beaches will be swimming in unhealthy waters, totally unaware of the health risks. For example, the Miami Herald recently reported that the waters off Fort Zachary Taylor beach on Key West had three times the acceptable amount of disease causing pollution—yet the county health department decided not to post a warning.[15]

American Oceans Campaign believes that the public deserves better protection. We believe people have a right to know about the water quality of public, recreational beaches—especially, if tests indicate that swimming in contaminated waters could lead to physical illness. The information provided to the public should be timely and conspicuous. Notice of health-based violations of water quality should be provided at public access points, such as lifeguard stations. Armed with accurate, timely information, individuals can take appropriate steps to protect their health and the health of their families.

B.E.A.C.H. BILLS

On March 3, 1999, Senator Frank Lautenberg (D-NJ) introduced S. 522, the Beaches Environmental Assessment, Closure, and Health Act (the "B.E.A.C.H. bill"). The next day, Representative Brian Bilbray (R-CA) introduced H.R. 999, the Beaches Environmental Assessment, Cleanup and Health bill. Both B.E.A.C.H. bills will ensure that coastal States have adequate beach water quality testing programs to protect public health and safety. American Oceans Campaign energetically supports both bills and we commend Senator Lautenberg and Representative Frank Pallone for their leadership on this issue over the last decade. We also thank Representative Brian Bilbray and Representative Sherwood Boehlert for their strong leadership on this critical issue.

American Oceans Campaign believes both B.E.A.C.H. bills establish a common sense, national approach to the problems of inconsistent beach water quality testing and public notification. The bills:

- protect beach goers from health risks associated with pathogen-contaminated waters by requiring States to adopt minimum water quality standards for recreational beach waters.
- direct nationwide public beach water monitoring so that States and localities will know when and where beach water contamination occurs.
- provide timely, important information about violations of health-based standards to the public. American Oceans Campaign believes this notice should be provided at public access points to recreational beaches.
- call for the U.S. EPA to conduct further research to develop better indicators for detecting harmful contaminants and more expedient testing practices. The bill also requires the EPA to develop a more complete list of potential health risks from swimming in pathogen-contaminated waters.
- authorize the EPA Administrator to make grants to assist States in their efforts to make beach water testing consistent nationwide.

It is time for a comprehensive national program to protect the public from potential health risks associated with swimming and surfing in polluted waters. Beach visitors have a right to know that the waters they choose to play in are safe for recreation. The B.E.A.C.H. bills promote a nationwide commitment to ensure beachgoers receive the basic information needed to protect themselves and their families from harmful pathogens.

---

[15] Miami Herald, July 16, 1999, *see* Attachment 1.

S. 522

The language of Senator Lautenberg's bill, S. 522, is based on prior B.E.A.C.H. bills introduced by the New Jersey delegation over the past decade. It requires States to adopt beach water quality standards that are consistent with current EPA criteria. Under S. 522, should a State not adopt the current standards, EPA criteria will be deemed promulgated and becomes the State's water quality standard.

The bill also calls for EPA to promulgate regulations addressing beach water monitoring and public notification. States will have 3½ years from the date of enactment to implement a monitoring and notification program. S. 522 authorizes nine million dollars (per year for 5 years) for grants to States to implement these programs. The Federal share of such programs cannot exceed 50 percent. Fortunately, the successful implementation of beach water programs is not contingent on funding. Once EPA promulgates the regulations, States will be required to monitor coastal beach waters and notify the public when swimming in polluted waters could cause illness.

H.R. 999

H.R. 999, Representative Bilbray's B.E.A.C.H. bill, requires States to adopt standards that are as protective of human health as the 1986 EPA beach water quality criteria. If a State fails to adopt such standards within 3½ years of enactment, EPA must promulgate regulations establishing the beach water quality standards for that State. H.R. 999 also differs from S. 522 in that it requires EPA to promulgate "performance criteria" for beach water monitoring and notification. Though performance criteria have no force or effect of law, States, tribes, or localities must satisfy the criteria and demonstrate where and how it will monitor and notify the public in the event pathogens contaminate the water. This State requirement is a prerequisite to receiving EPA grants for implementation of a beach water program.

H.R. 999 authorizes 30 million dollars (per year for 5 years) to be distributed to States for their programs. The Federal share is 50 to one hundred percent of the cost of such program. Under this bill, EPA must maintain a list of areas that do and do not meet the performance criteria for monitoring and notification. If a State or locality fails to implement an approved program 3 years after EPA formulates the above list, EPA must conduct the monitoring and notification activities for that area. EPA will be entitled to use dollars not distributed to such State or locality to conduct its beach program in that area.[16]

COASTAL TOURISM

Coastal communities and States derive great benefits from the revenue generated and the jobs created by coastal recreation activities. Visitors to the beach spend millions of dollars to participate in water related recreation, such as swimming, sport fishing, boating, birdwatching or other activity. In 1997, the California Trade and Commerce Agency estimated the value of California's coastal tourism derived from nine coastal counties to exceed $37 billion and the number of tourism related jobs to be more than 387,000.[17] In 1990, it was calculated that the annual economic value of boating, sport fishing, and swimming in the Long Island Sound was more than $5.2 billion.[18] Also, the Florida Department of Revenue estimated that tourist expenditures totaled $23 billion in its coastal counties in 1995[19] and the South Carolina Department of Parks, Recreation and Tourism estimated that $4 billion and more than 73,000 jobs were generated from coastal tourism in 1997.[20] Similar impressive figures are reported by other States that track tourism in their coastal areas.

Coastal water pollution puts these benefits at risk. For those that become ill from swimming in pathogen-contaminated waters, medical expenses and lost workdays can result in personal economic losses. Of course, closing beaches adjacent to polluted waters will result in short-term economic losses for a community. However,

---

[16] Attachment 2 provides a more detailed comparison of both B.E.A.C.H. bills.

[17] Information provided by the California Trade and Commerce Agency, Division of Tourism to the Natural Resources Defense Council, cited in Chasis and Dorfman, 9. The nine California counties are Los Angeles, Monterey, Orange, San Mateo, Santa Barbara, San Diego, San Luis Obispo, Santa Cruz, and Ventura.

[18] Marilyn A. Alotbello, *The Economic Importance of Long Island Sound 's Water Quality Dependent Activities* (Storrs, Connecticut: University of Connecticut, College of Agricultural and Resources Economics, 1992) 8, 23, 31.

[19] Sarah Chasis and Peter Lehner, *Testing the Waters Volume VII:* How Does Your Vacation Beach Rate?, (New York: Natural Resources Defense Council, 1997) 10.

[20] Chasis and Dorfman 9.

if the community's public health agency uses such incidents as an opportunity to educate beach-goers about the steps it is taking to protect public health as it also works to reduce the sources of beach water pollution, the community stands to gain the public's confidence and a beach-goer's return visit.

Investing in clean water improvements will help maintain the health of swimmers, the productivity of fisheries that attract recreational anglers to the coast, and the jobs of local citizens who work in water sport businesses and related enterprises (hotels, restaurants).

The coastal States and counties that have established regular beach water testing programs are able to protect the public at reasonable costs. The State of New Jersey regularly monitors its 127 miles of public beaches, provides notice to the public, and closes beaches when beach waters are found to violate health-based standards.[21] Its annual cost for beach water testing activities was $250,000 in 1998.[22] New Jersey's annual cost per beach mile monitored is $1,969. The State of Delaware also regularly monitors 50 miles of bay and ocean beaches, and spends $31,250 annually for its monitoring and notification activities.[23] This represents an annual cost per beach mile of $625.

A comparison of the revenue generated by coastal tourism with the costs of beach water monitoring and notification programs suggests that the relative costs are modest. For example, New Jersey received $5.8 billion from coastal tourism expenditures in 1998 and spent $250,000 on beach water testing. Utilizing funds for a beach program is a sound investment that not only helps to protect the public but also pinpoints pollution problems that need to be addressed in order to maintain the quality of beaches and fisheries that attract people to the Jersey shore.

REDUCING AND PREVENTING BEACH WATER POLLUTION

The B.E.A.C.H. bills will improve beach water standards, monitoring and public health. However, they do not include any requirements to reduce or prevent the sources of beach water pollution. It is my hope that the raised awareness about beach water quality will identify where large challenges remain and will lead to even greater public support for controlling pollution.

More than a quarter century after the passage of the Clean Water Act, there are several remarkable success stories concerning coastal water quality. For example, in many estuaries, the acreage of sea grasses and other aquatic vegetation is increasing from levels observed just a decade ago. Many coastal areas that were "permanently" closed to shell fishing or swimming are now open. Much of the progress is attributed to advancements in sewage treatment technologies and in pretreatment of industrial wastewater. In addition, the public is becoming more involved in hands-on, community-wide projects to protect their waters and citizens are letting their elected officials know that they expect clean, healthy waters for their families and communities. These efforts are helping to improve the quality of many water bodies.

We still have much work to do before America meets one of the goals of the Clean Water Act—to make all waters swimmable and fishable. A recent national water quality report disclosed that about 38 percent of the nation's surveyed estuaries are not clean enough to meet basic uses such as fishing or swimming.[24] Many beach waters and shellfish harvesting areas are closed due to pathogen and toxic contamination. In 1995, almost one-third of our nation's shellfish harvesting areas were closed or harvest-limited; polluted urban stormwater was identified as the leading source of pollution contributing to harvest restrictions.[25] Other coastal waters are subject to an increasing number of fish consumption advisories.

American Oceans Campaign believes that significant steps still need to be made in reducing and preventing coastal pollution. The U.S. needs to develop a comprehensive strategy to reduce and prevent nonpoint source pollution—often called "polluted runoff." We believe the Coastal Nonpoint Pollution Control Program, led by the National Oceanic and Atmospheric Administration (NOAA) is the most effective national program designed to reduce and prevent pollution from diffuse sources—such as marinas, urban sites, agricultural lands, forested lands, and septic

---

[21] Chasis and Dorfman 104.
[22] Chasis and Dorfman 104.
[23] Chasis and Dorfman 56.
[24] United States Environmental Protection Agency, *Water Quality Conditions in the United States:* A Profile from the 1996 National Water Quality Inventory Report to Congress (Washington DC: U.S. Environmental Protection Agency, 1998).
[25] United States Department of Commerce, National Oceanic and Atmospheric Administration, *The 1995 National Shellfish Register of Classified Growing Waters* (Rockville MD: U.S. Department of Commerce, 1997) 7.

systems. We encourage members of this Committee to continue supporting the NOAA program through the appropriations process.

In addition, we support many of the specific actions identified in the Administration's Clean Water Action Plan (CWAP). AOC would like to thank Congress for increasing funds to this important program last year. The Plan targets additional measures to help reduce polluted runoff into impaired watersheds and improve public health protections. The Plan also establishes a framework to improve coordination among Federal agencies and State officials. We expect this Plan to help the United States make further advancements in cleaning up our nation's waters—particularly some of our most impaired waters. American Oceans Campaign urges Congress to provide maximum funding for the various Federal agencies that will be working on this coordinated strategy to reduce polluted runoff and protect public health.

American Oceans Campaign also believes that Congress should use revenues from offshore oil drilling to protect critical resources, without providing incentives for new offshore drilling. Funding for specific existing coastal and ocean programs has been left out of many Federal funding proposals being considered by Congress, that deal with this revenue source. Funding for ocean and coastal programs is of crucial importance. AOC urges Congress to fund existing high value, underfunded Federal ocean programs such as the Coastal Polluted Runoff Program, the Marine Sanctuary Program, estuarine programs and ocean habitat research and protection. Outer continental shelf (OCS) oil revenues are a logical source of funds for these programs since they are derived from non-renewable ocean resources and the adverse impacts of OCS development fall predominantly in the oceans and on the coasts.

At the same time, we support increasing investments for important water infrastructure projects, such as upgrading sewage treatment plants, eliminating combined sewer overflows, and improving urban stormwater management. We believe the authorization for and appropriations to the Clean Water State Revolving Loan Fund should be significantly increased to help continue the progress toward achieving improved water quality.

Clean water is extremely valuable. We cannot live without clean water to drink and grow our food. We cannot fish or swim without clean water. We cannot manufacture many products, ranging from computer chips to soft drinks, without a dependable supply of clean water. In a world where we all live downstream, using public funds to help cleanup public waters just makes good sense.

RECENT ACTIVITIES—PRESIDENTIAL DIRECTIVE

In a May 1999 radio address, President Clinton announced a multifaceted directive to Federal agencies, requiring them to strengthen water quality protections—particularly as they relate to beaches. The President required the Federal Government to take the lead in beach water safety by having the U.S. Park Service and other agencies monitor coastal waters under their jurisdiction and notify the public if poor water quality threatens human health. The measures also called on EPA to speed up work with States to upgrade beach water quality standards and directed EPA to propose strong national sewage regulations within 1 year to deal with sanitary sewer overflows (a significant source of beach water pollution).

RECENT ACTIVITIES—EPA PROGRAM

Over the past 2 years, the United States Environmental Protection Agency has made numerous advancements in helping to establish a more comprehensive beach water monitoring program and improve the public's access to beach water quality information by creating a website. The "BEACH Watch" website provides information about past beach closures and health advisories and describes the monitoring activities that are used at our nation's public beaches. In the future, EPA hopes to provide real-time advisory and closure information.

As part of their enhanced beach monitoring program, the EPA is "strongly encouraging" States to adopt Agency-recommended criteria for beach waters. It is committing itself to work with States, tribes and municipalities to improve monitoring practices by increasing training activities and providing additional guidance to State agencies. EPA will also work to develop new, improved criteria for microbiological organisms that should be in place by 2003. Finally, the Agency will also sponsor research to accelerate the delivery of accurate laboratory results.

American Oceans Campaign applauds and supports the leadership EPA has shown in improving beach water quality programs and promoting more consistent protections for swimmers and other water sport enthusiasts. The Agency has done much work to involve environmentalists, State officials, public health experts and other Federal agencies in putting their program in place.

We believe the Administration's program must go further. In order to provide maximum protections for beach-goers, States should continually upgrade their beach water quality standards to reflect new science. In addition, we believe States need to regularly monitor beach water for pathogen contamination. Finally, we believe posting historical information about beach closures and health advisories should not be a substitute for providing timely, accurate information about current water quality conditions that could pose health risks to swimmers. For these reasons, we promote passage of the B.E.A.C.H. bill to ensure consistent protections for beach-goers.

THE IMPORTANCE OF ESTUARIES

In addition to health and safety measures at the beach, the Nation also needs improved estuary protections. This hearing will address estuary bills before the Senate and therefore, American Oceans Campaign will offer the following comments.

Estuaries are dynamic bodies of water along our nation's coasts that are formed by the mixing of freshwater from rivers and streams with saltwater from the ocean. Typically, these waters are semi-enclosed by surrounding mainland, fringing wetlands, peninsulas, or barrier islands. Many of the renowned water bodies of the United States are estuaries—Long Island Sound, Chesapeake Bay, Narragansett Bay, San Francisco Bay, and Puget Sound, for example. In addition to bays and sounds, estuaries are commonly known as lagoons, sloughs, bayous, and inlets.

The combination of freshwater and saltwater creates a distinct environment where aquatic plants and wildlife thrive. An abundance of land and ocean nutrients, ample light promoting the growth of aquatic vegetation, and a continuous mixing of the system by winds, tides, and river inflows create conditions that give life to some of the richest and most productive ecosystems in the world.

In addition, estuaries support a variety of coastal businesses and are valued as places to live and visit. In 1990, it was estimated that 45 percent of the nation's population live in estuarine areas[26]—and the predicted population trends suggest that this percentage will rise in the upcoming years.

The functions and values of estuaries are considerable. For example:

- Estuaries provide valuable commercial benefits. Approximately 28 million jobs are generated by commercial fishing, tourism, water-dependent recreation, and other industries based near estuaries and other coastal waters.[27] It is estimated that commercial and recreational fishing contributes $152 billion to the nation's economy and generates approximately two million jobs.[28]
- Estuaries provide important spawning and nursery habitat for commercial and recreational fish species. More than 75 percent of the U.S. commercial fish catch uses estuaries during at least one stage of life—usually the critical early stages.[29] In the Southeastern United States, 96 percent of the commercial fish catch and more than 50 percent of the recreational catch are comprised of fish and shellfish that are dependent on estuarine and coastal wetlands.[30]
- Estuarine wetlands improve water quality by filtering pollutants before they reach coastal waters.
- Estuarine wetlands and barrier islands protect shorelines and inland areas from coastal storms and flooding. In their natural state, these areas are able to temporarily store large quantities of flood waters and help to minimize damaging impacts of storm events.

MAJOR THREATS TO PRODUCTIVE ESTUARIES

Estuaries are threatened by rapid population growth along the coasts, habitat loss, and pollution. Some of the major problems affecting our nation's estuaries include:

- *Nutrient pollution.* Nitrogen can enter estuaries from a variety of sources, including sewage treatment plants, failing septic systems, combined sewer overflows, polluted runoff from agricultural lands, stormwater, and atmospheric deposition. Excessive loadings of nitrogen disrupt estuarine life by accelerating the growth of

---

[26] United States Department of Commerce, National Oceanic and Atmospheric Administration and National Ocean Service, *Estuaries of the United States:* Vital Statistics of a National Resource Base (Rockville MD: United States Department of Commerce, 1990) 1.

[27] Dwight Holling, et.al., State of the Coasts: A State by State Analysis of the Vital Link Between Healthy Coasts and a Healthy Economy (Washington DC: Coast Alliance, 1995)8.

[28] William M. Kier Associates, *Fisheries, Wetlands, and Jobs:* The Value of Wetlands to America's Fisheries (Sausalito CA: Clean Water Network, et al., 1998)1.

[29] Elliot A. Norse, Ph.D., *Global Marine Biological Diversity:* A Strategy for Building Conservation into Decision Making (Washington DC: Island Press, 1993)65.

[30] United States Environmental Protection Agency, *Wetlands Fact Sheet #2* (Washington DC: United States Environmental Protection Agency, 1995).

algae. When large blooms of algae develop, they block sunlight needed by the estuary's submerged aquatic plants. In addition, as algae decompose, they require such great amounts of oxygen, that other aquatic life are deprived of oxygen. Oxygen-deficient conditions (called hypoxia) can result in massive fish kills.

- *Loss of Habitat.* Due to development pressures and increasing pollution, natural estuarine habitats are being destroyed. Coastal wetlands, mangroves, and submerged sea grasses provide important nursery, spawning, and sheltering areas for fish, shellfish, and other wildlife. Ninety-two percent of the original wetlands base of the San Francisco Bay area has been destroyed.[31] In addition, between 1950 and 1982, sea grass coverage in Tampa Bay decreased from 40,627 acres to 21,647 acres—a 47 percent reduction[32]—because of increased pollution, development and boating activities. The loss of fish habitat is a frequently-cited, contributing factor in the severe declines of fish populations along our nation's coasts.
- *Pathogens.* Disease-causing microorganisms, called pathogens, contaminate productive shellfish beds and recreational beach waters in estuaries across the United States. Pathogens are found in animal and human waste and enter estuaries from overburdened sewage treatment plants, combined sewer overflows, agricultural runoff, and malfunctioning septic systems. Eating shellfish or ingesting water contaminated with pathogens can cause a variety of diseases in humans, including gastroenteritis, hepatitis, and others.
- *Toxics.* Often, elevated levels of toxics can be detected in the sediments, the water column, and in the tissues of fish, shellfish, and other organisms that inhabit estuaries. Heavy metals, pesticides, polychlorinated biphenyls (PCBs), and hydrocarbons are the most common toxic contaminants in estuaries. These toxic substances originate from a variety of sources, including agricultural runoff, polluted urban stormwater, automobile emissions, and industrial discharges.

NATIONAL ESTUARY PROGRAM AS A MODEL FOR COMPREHENSIVE ESTUARY PROTECTION

Estuaries are highly valued and intensely used waters. However, Congress only recently recognized these areas as a unique and severely depleted resource requiring special attention. During the 1987 Clean Water Act reauthorization, Congress established the National Estuary Program (NEP) to resolve many of the complex issues that contribute to the deterioration of our nation's estuaries.

Governors of coastal States nominate particular estuaries for inclusion in the National Estuary Program. The EPA selects "nationally significant estuaries" to participate in planning activities. After designating a particular estuary, the EPA convenes management conferences to address all uses affecting the restoration and maintenance of the chemical, physical, and biological integrity of each estuary. Conference participants include representatives of the relevant interstate, or regional agencies, Federal agencies, the Governor(s), appropriate State agencies, local government agencies, affected industries, educational institutions, and citizens. The mission of these conferences is to develop a Comprehensive Conservation and Management Plan (CCMP) that will protect and restore the water quality and living resources of estuaries. The priority actions identified in the CCMP are to be consistent with other provisions of the Clean Water Act and other Federal laws.

The NEP has been, and continues to be a model for outstanding watershed management plans; however, implementation of the plans is more problematic. Over the years, we have discovered as more and more plans are completed, they unfortunately languish on the shelf waiting for the dollars necessary for implementation.

Currently, 28 nationally significant estuaries participate in the National Estuary Program. These estuaries were added in five distinct rounds, or "tiers." Eighteen of the 28 estuaries have completed their plans and are proceeding to implement the identified priority actions. The following table provides a quick summary of the status of the local programs.

Nationally Significant Estuary	Year Designated	CCMP Status
Puget Sound (WA)	1987	Approved 1991.
Buzzards Bay (MA)	1987	Approved 1992.
Narragansett Bay (RI)	1987	Approved 1993.

[31] San Francisco Estuary Project, *Comprehensive Conservation and Management Plan* (Oakland CA: San Francisco Estuary Project, 1992) 44.

[32] Tampa Bay National Estuary Program, *Charting the Course for Tampa Bay, 1996* (St. Petersburg FL: Tampa Bay National Estuary Program, 1996) 14–15.

Nationally Significant Estuary	Year Designated	CCMP Status
San Francisco Estuary (CA)	1987	Approved 1993.
Albemarle-Pamlico Sounds (NC)	1987	Approved 1994.
Long Island Sound (CT, NY)	1987	Approved 1994.
Galveston Bay (TX)	1988	Approved 1995.
Santa Monica Bay (CA)	1988	Approved 1995.
Delaware Inland Bays (DE)	1988	Approved 1995.
Sarasota Bay (FL)	1988	Approved 1995.
Delaware Estuary (DE, NJ, PA)	1988	Approved 1996.
Massachusetts Bay (MA)	1990	Approved 1996.
Casco Bay (ME)	1990	Approved 1996.
Indian River Lagoon (FL)	1990	Approved 1996.
Barataria-Terrebonne Estuary (LA)	1990	Approved 1997.
New York/New Jersey Harbor (NY, NJ)	1988	Approved 1997.
Tampa Bay (FL)	1990	Approved 1997.
Corpus Christi Bay (TX)	1992	Approved 1999.
Maryland Coastal Bays (MD)	1995	Expected 1999.
Tillamook Bay (OR)	1992	Expected 1999.
Lower Columbia River (OR)	1995	Expected 1999.
Peconic Estuary (NY)	1992	Expected 2000.
San Juan Bay (PR)	1992	Expected 2000.
Barnegat Bay (NJ)	1995	Expected 2000.
Morro Bay (CA)	1995	Expected 2000.
Mobile Bay (AL)	1995	Expected 2000.
New Hampshire Estuaries (NH)	1995	Expected 2000.
Charlotte Harbor (FL)	1995	Expected 2000.

One of the strengths of the National Estuary Program is its reliance on a watershed approach to address and solve the problems of the estuary. By identifying, examining, and correcting environmental problems that may originate upstream, the estuary restoration plans and actions have a substantially better chance of success. National Estuary Programs are designed to consider a myriad of issues: stormwater pollution, nutrient enrichment, heavy metals, sea grass loss, wetlands destruction, sewage treatment, industrial discharges, agricultural runoff, fishery landing trends, wildlife populations, land-use practices, and others. Past approaches to restoration and protection have typically concentrated on a narrow examination of a particular type of pollution or a particular species of fish. Although many of these efforts are making progress, a more complete understanding of the cumulative effect of all the estuary's stresses should produce more extensive beneficial results.

Another strength of the programs is the range of participation they attract from interested parties. The work of NEP Management Conferences provide great opportunities for collaboration and building consensus among the varied interests of the community. Joint decisionmaking during the studying and planning phase, although sometimes difficult to achieve, can lead to far fewer hurdles during subsequent implementation.

During today's hearing, two estuary bills will be addressed. One bill focuses Federal resources in support of community based habitat restoration, while the other initiative strives to strengthen and expand the existing National Estuary Program (NEP).

The Estuary Habitat Restoration Partnership Act of 1999 (S. 835). On April 20, 1999, Senator Chafee, along with several members of this Committee, introduced S. 835. The objectives of the bill include improving coordination among various Federal and non-Federal estuary habitat restoration programs and increasing the level of Federal funding dedicated to these important restoration efforts. The bill is supported by leading estuary protection organizations across the Nation, American Oceans Campaign, and by several other organizations that are part of the Clean Water Network. American Oceans Campaign considers the approach detailed in S. 835 to be an essential component of a national strategy to improve the health of estuaries.

In particular, the bill will improve efforts to restore estuarine habitat in numerous ways:

- It establishes an ambitious, critical goal of restoring one million acres of estuarine habitat by 2010. Numerous commercial and recreational fish and shellfish species use estuarine habitats for nurseries and shelter. Such an increase in estuarine

habitat should significantly aid efforts to restore estuarine and marine fisheries to sustainable levels.

- It establishes a Federal inter-agency council to better organize the various Federal programs involved in estuarine habitat restoration. The Collaborative Council is to be comprised of the heads of various Federal agencies involved in estuary protection and land-use decisions. the Activities of the Collaborative Council will increase awareness about estuarine health among key Federal officials and greatly assist coordination and priority-setting. One potential outcome of increased coordination will be the compilation of completed and ongoing restoration plans in the national estuary habitat restoration strategy. A data base that gives a brief account of restoration projects; the types of restoration methods used; the various governmental roles included in the project; and the effectiveness of the restoration will prove to be an invaluable resource for coastal communities that are determined to initiate their own restoration campaigns but unsure of how to start and what to include in a plan.
- It promotes a through national approach for restoring estuary habitat. The bill calls for the Council to develop a comprehensive strategy that addresses fish and shellfish, wildlife, water quality, water quantity, and recreational opportunities. Such a strategy should aid in directing scientific and financial attention to the most pressing estuarine habitat concerns, in balancing national attention between small scale and larger habitat restoration projects, and in evening geographical distribution of estuary restoration projects.
- The bill encourages community-based involvement by seeking the Active participation of concerned individuals, non-profit organizations, and businesses.
- The bill authorizes appropriations to carry out estuary habitat restoration projects. The increased investments will allow States to leverage their own contributions to restoration projects and should accelerate and enhance estuary restoration activities.

The National Estuary Conservation Act (S. 878). Senator Torricelli introduced S. 878 on April 26, 1999. The bill permits grants that are authorized under the National Estuary Program to be used to develop and implement comprehensive conservation management plans. The bill also increases the authorized levels for the NEP to $50 million a year for fiscal years 1999 through 2004.

If enacted, Senator Torricelli's bill would set a meaningful advancement for the National Estuary Program. The bill would open the door to using NEP grants for implementation of approved CCMPs.

American Oceans Campaign believes that the Nation should invest an even greater amount. An annual Federal allocation of $50 million divided among 28 programs in various stages of their planning and implementation will not fully solve the current problem of inadequate Federal funds available to implement CCMP actions. A much more significant Federal investment is needed to ensure these plans have a chance for success.

CONCLUSION

In conclusion, Mr. Chairman, I wish to thank you for holding this hearing about important ocean and coastal issues. It is time for a comprehensive, national strategy for estuary protection and beach water testing and public notification.

American Oceans Campaign urges Congress to support bills that are dedicated to achieve an actual increase in coastal habitat. Congress should also support bills that require the implementation of, and authorize appropriations for approved estuary management plans. Specifically, Congress should support initiatives that strengthen the National Estuary Program.

In addition to estuary protections, the Nation needs health and safety measures at the place where most of us get to enjoy the ocean firsthand—the beach. Health risks associated with the presence of human and animal wastes in coastal waters are persistent due to leaking septic systems, inadequate sewage treatment, stormwater pollution, and agricultural runoff. Unfortunately, families often do not know when it us unsafe to hit the surf. The B.E.A.C.H. bill will allow us to protect ourselves and our children from disease causing pathogens by setting national beach water quality criteria, establishing nationwide monitoring programs, and ensuring prompt public notification of contamination.

The B.E.A.C.H. bill protects the health of families and alerts communities with vital information about coastal pollution. Although the B.E.A.C.H. bill does not contain provisions to act against polluters, the monitoring and notification process will empower local governments and States to be better stewards of beaches. I therefore urge this Committee to support the B.E.A.C.H. bill.

Thank you. I look forward to your questions.

ATTACHMENT 1

[From the Miami Herald, Friday, July 16, 1999]

SWIMMERS NOT WARNED ABOUT POLLUTED BEACH

(By Marika Lynch)

KEY WEST—The waters surrounding Fort Zachary Taylor—like those off all other public beaches on this island—are so polluted that anyone daring to swim risks ear infections and gastrointestinal diseases, test results released Thursday show.

But the general public may not get the news.

Despite tests that show Fort Taylor's waters have three times the acceptable amount of a feces indicator, the Monroe County Health Department has decided not to post a warning at the popular beach, said Jack Teague, the department's environmental administrator.

Knowing what he does about the results, Teague says he personally wouldn't risk swimming off that beach. But because the specific test the department uses isn't recognized by Florida law, he says his agency isn't required to post a health advisory.

"It's unbelievable," said DeeVon Quirolo, of Key West's environmental group Reef Relief. "It's a short-term effort to try to salvage some beach so the tourists can go for it. We are caught in a very sad situation that could have been avoided years ago."

Jim Gentilucci, who swam with his wife and two sons off Fort Taylor on Thursday, was surprised he didn't see anything about the tests at the park. He said he wouldn't have gone in the water, had he known.

"If they are telling me there's sewage runoff, I wouldn't go in, like I wouldn't go swimming in my toilet," said the visitor from Frederick, Md.

For the past month, the health department has posted warnings against swimming at six popular spots—including all of Key West's other public beaches—after routine tests showed elevated levels of fecal coliform bacteria. City engineers believe leaking sewer pipes and boaters who dump their waste overboard are the likely causes. The pollution hasn't spread to the reef, which department officials say is fine for swimming.

The health department recently began testing Key West's beach waters for another sewage indicator called enterococci bacteria, which the Federal Environmental Protection Agency has lobbied States to use as their standard.

Enterococci is a better indicator of human waste, especially in marine waters, said Dale Griffin, a researcher with the University of South Florida who has studied Keys waters. While fecal coliform typically dies quickly, enterococci bacteria sticks around, making it easier to detect for a longer period.

Tests at Fort Taylor showed the waters had minimal levels of fecal coliform, yet have more than three times the acceptable level of enterococci. Because the State relies only on the fecal coliform test, the health department has decided not to warn swimmers—even though a health risk does exist.

"I would say that the readers of this information can make their own decision, knowing what has been written about enterococci," Teague said. "And they can take into account what this level is.

"But that's something that is quite different than what the formal constraints are for our agency."

ATTACHMENT 2

S. 522 and H.R 999 Side-By-Side Comparison—Courtesy of the Center for Marine Conservation

Key: WQS—Water Quality Standards; WQC—Water Quality Criteria; CWA—Clean Water Act, Federal Water Pollution Control Act; EPA—United States Environmental Protection Agency.

Topic/Heading	H.R. 999 (passed 4/22/99)	S. 522 (introduced 3/3/99)
Findings and Purposes	None	§ 2: Contains findings and purposes (to protect public safety and improve environmental quality)

Topic/Heading	H.R. 999 (passed 4/22/99)	S. 522 (introduced 3/3/99)
State Coastal Recreation Water Quality Criteria and Standards.	§2 [CWA §303] ..... • States must adopt within 3½ years of enactment, and/or 3 years after revised criteria are adopted by EPA, WQC and WQS for pathogens and pathogen indicators. • State WQC must be ''as protective of human health'' as EPA criteria.	§3 [CWA §702(a) and (b)] • Same • State WQC must be ''at a minimum, consistent with'' EPA criteria
Failure of State to Adopt WQC/WQS within 3½ years of enactment.	§2 [CWA §303(i)(2)]: EPA must prepare and publish proposed regs for the State setting forth the initial WQS for pathogens.	§3 [CWA §702 (c)]: EPA criteria is deemed promulgated and becomes the State WQC.
Studies	§3(a) [CWA §104(v)]: EPA must conduct studies within 3 years to provide additional information for use in developing more complete determination of health risks, effective indicators for improving detection, and guidance for state application of WQC.	§3 [CWA §703 (a)]: Same
Revised Criteria	§3(b) [CWA §304(a)(9)]: Within 4 years of enactment, EPA must issue new or revised WQC for pathogens and pathogen indicators based on studies, and at least every 5 years thereafter must review and revise the WQC as necessary.. [No requirement for EPA to issue regulations if states do not adopt revised criteria.].	§3 [CWA §703(b)]: EPA must issue revised WQC within 5 years of enactment and not less than every 5 years thereafter. [No requirement for EPA to issue regulations if states do not adopt revised criteria. EPA criteria not ''deemed'' to be that of the State.]
EPA Monitoring and Notification Requirements.	§4 [CWA §406(a)]: Within 18 months, EPA must publish performance criteria necessary for the protection of public health and safety for:. • monitoring ''coastal recreation waters adjacent to beaches or other points of access open to the public for attainment of applicable WQS,'' and protection of public safety from floatable materials. • and for prompt notification of any exceedance of WQS. • §406(e): EPA must also provide technical assistance to states, tribes and localities. [The details of monitoring and notification requirements developed by EPA are in the §406(a) performance criteria and §406(b) state grant conditions (below)].	§3[CWA §704(a-c)]: Within 1½ years, EPA must promulgate regulations requiring monitoring by states of ''public coastal recreation water and beaches'' for compliance with WQC, and maintenance of public safety which specify: • methods, frequency and location of monitoring; • methods for detecting harmful pathogens and harmful short term increases, conditions and procedures for exempting discrete areas by EPA from monitoring; and • prompt notification and posting of signs of failure or likelihood of failure to meet WQC. • Regulations must be reviewed every 5 years. • Within 1½ years, EPA must also issue guidance to establish core performance measures for testing, monitoring, notification and delegation to local governments, and provide technical assistance to monitor and assess floatables
Coastal Recreation Waters Defined.	§5[CWA §502(21)]: Great Lakes and marine coastal waters, including coastal estuaries used by the public for swimming, bathing surfing or other similar water contact activities.	§3[CWA §701(1)]: water adjacent to public beaches of the Great Lakes and marine coastal water (including bays, lagoon mouths, and coastal estuaries within the tidal zone) used by the public for swimming, bathing, surfing or similar body contact purposes.

Topic/Heading	H.R. 999 (passed 4/22/99)	S. 522 (introduced 3/3/99)
State Monitoring and Notification Programs.	§4 [CWA §406(b)(2)] ..... • EPA is authorized to make grants to states, tribes and local governments that meet EPA's ''performance criteria.''. • Grants also contingent on public notice and comment; identification of coastal recreation waters within the jurisdiction of the state or tribe; identification of coastal recreational waters covered by the program; monitoring priorities; frequency of monitoring based on periods and nature of use, as well as proximity to sources of pollution; delegation to local governments; methods for detecting harmful pathogens; prompt notification; and posting of signs.	§3 [CWA §704(d)]: States have 3½ years from enactment—and 2 years from any revisions—to implement a monitoring and notification program consistent with the regulations. • §3 [CWA§706]: EPA may make grants for use in meeting requirements of §§702 (water quality criteria and standards) and 704 (monitoring and notification practices).
List of Waters	• §4 [CWA §406(b)(4)]: After receiving federal grants, states, tribes and local governments must submit to EPA a list of discrete areas that are subject to the program for monitoring and notification, and a list of areas where fiscal constraints prevent compliance with performance criteria.. • CWA §406(f): Within 18 months, EPA must maintain a list of areas that do and do not meet the performance criteria for monitoring and notification.	No such list
EPA implementation	§4 [CWA §406(g)]: 3 years after an area is listed under §406(f) as not meeting performance criteria for monitoring and notification, EPA must conduct the monitoring and notification program for that area. Funds appropriated for grants to that area revert back to EPA to implement programs in that area.	Not specified: States simply required within 3½ years to implement monitoring and notification programs consistent with EPA regulations pursuant to §704(d).
Federal Grants	§4 [CWA §406(b)(5)]: Federal share 50%–100%.	§3 [CWA §706(b)]: Federal share cannot exceed 50%
Federal Agency Monitoring and Notification Programs.	§4 [CWA §406(c)]: Federal agencies must monitor and post coastal recreation waters subject to their jurisdiction, consistent with performance criteria.	No Federal agency monitoring and notification programs required.
National Coastal Recreation Water Pollution Occurrence Database.	§4 [CWA §406(d)]: EPA must maintain and make available to the public, a database to provide information on exceedances of beach WQS.	§3 [CWA §704(g)]: EPA must maintain a database listing communities that conform to the regulations and information reported to EPA, including failures or likelihood of failures to meet WQC.
Funding Authorization	• §4 [CWA §406(h)]: $30 million/year for 5 years for State, tribal, and local grants.. • §7: Congress authorizes other sums necessary to carry out the provisions of this Act.	§3 [CWA §707]: • $9 million/year for 5 years for state grants. • $3 million/year to carry out provisions of this Act
Report to Congress	§6: EPA must report to Congress within 4 years of enactment, within the succeeding 4 years, and periodically thereafter:. • on the need for additional WQC, ... • other actions needed to improve water quality,. • an evaluation of Federal, State and local efforts to implement the Act, and. • recommendations on improvements for monitoring.	§3 [CWA §705]: EPA must report to Congress within 4 years and periodically thereafter: • on the need for additional WQC, • other actions necessary to improve beach water quality, and • an evaluation of state efforts to implement the Act.

STATEMENT OF MICHELLE KREMER, SURFRIDER FOUNDATION

Mr. Chairman, and honorable members of the Committee, it is indeed an honor and a privilege to be able to present to you today our written testimony concerning an issue that both myself and the Surfrider Foundation are very passionate about—the BEACH bill. Not only will this legislation dramatically impact my life, it will also provide benefit for every person that comes in contact with our Nation's coastal waters.

My name is Michelle Kremer and although I am not able to testify in person on this most worthy issue, our spokesperson today, Ted Danson, President of the American Oceans Campaign, has presented to your Committee the reasons why this legislation is needed today. The Surfrider Foundation, American Oceans Campaign, Center for Marine Conservation, Coastal States Organization, and Environmental Protection Agency have been intimately and passionately involved with the final legislation included in House Resolution 999, the Beaches Environmental Awareness, Cleanup and Health Act of 1999, passed by your esteemed colleagues in the House of Representatives on Earth Day April 22, 1999.

Key Aspects of the BEACH bill:

- Creates a National Water Testing Standard;
- Utilize State Health Agency Department input to formulate the Standard;
- Provides for Monitoring Criteria to be set by the EPA;
- Provides for Federal grant money for states to implement the monitoring; and
- Creates a National Clearinghouse of monitoring data.

In promoting ocean care and environmental awareness every day, Surfrider Foundation continues to support the key issue and need for legislation that adopts a National Beach Water Quality Testing Standard. The Surfrider Foundation is an international not-for-profit organization whose 25,000 Members are dedicated to the preservation and enjoyment, for all people, of the worlds waves, oceans, and beaches through conservation, activism, research, and education (CARE). The Surfrider Foundation is an issue-driven non-profit environmental organization. We support issues and not people. We are thankful for the opportunity to participate in this cause in which we strongly believe. The Surfrider Foundation is hopeful that a National Water Testing Standard is signed into law this year. The Surfrider Foundation has advocated for the types of protections addressed by the BEACH Bill for many years. As a representative of Surfrider Foundation's staff, membership, and constituency of an estimated 2 million U.S. surfers, who as a result of their enthusiasm for ocean recreation are in contact with coastal waters on average of 250 days per year, I can state unequivocally that the health and safety of all who venture into coastal waters whether daily or infrequently, are at stake.

In your review and consideration of the BEACH Bill you have undoubtedly heard of the Santa Monica Bay Restoration Project Epidemiology Study. This study, a first of its kind, evaluated the health risk associated with human ocean water contact at or near flowing storm drains. The Study concluded that contact with the ocean near where a storm drain empties places you at a "Statistically significant increase in risks for a broad range of adverse health effects including infection, coughing with phlegm, respiratory disease, and gasteroentric disease with nausea, and diarrhea." According to the Natural Resources Defense Council 1999 report "Testing the Waters," in 1998 we had over 7,000 pollution caused beach closures or health advisory warnings issued in the U.S. The BEACH bill represents a sound starting point from which we can accomplish a goal that the environmental community shares, that of clean and healthy coastal recreational waters.

The issue is not whether we have infrastructure problems throughout this country that contribute to or result in episodes of contaminated water. That much is clear. The issue is whether we can assist the pubic in recognizing and evaluating the hazards associated with water contact. For the general public who may venture to the coast on a vacation once a year, or even for the experienced ocean enthusiast, the ability to evaluate the health risks of water contact at most locations can be an impossible task. Lack of standardized testing methods, no consistent method providing public notice and the lack of National criteria for evaluating water quality all work to frustrate and confuse the concerned public. Any life long surfer can tell you that one question that we are often asked is "what do you do if you see a shark?" Well, my answer always is—it is the ones you can not see that you need to worry about.

This provides a fine analogy to the matter at hand. First, it is outside the general public's ability to evaluate the condition of the ocean water beyond what they can see, or sometimes smell. And, it is what you can not see that you must worry about. It is, however, within the ability of local health agencies, who are familiar with local conditions, to conduct testing, and to create a consistent, understandable, and accessible method of providing timely public notice of ocean conditions.

In the BEACH bill's Findings, it states that "the Nation's beaches are a valuable public resource used for recreation by millions of people annually." It has been reported that water-related recreation is an annual $380 billion dollar industry. Employing 6 million people, it is the second largest employer in America, second only to health care. We Americans truly love our seaboards. Clean and safe water is good for local economies, and good for America. The BEACH Bill is the right kind of regulation. It does not impose any restrictions upon the pubic, but does provide them with the ability to evaluate the conditions and choose for themselves.

Amid the backdrop of voluntary testing programs, and spotty pubic notice programs, comes the cry, "we do not need mandatory testing or mandatory posting, it will upset the voluntary programs in place." I am a living witness to the fallacy of that logic. Even in California, where testing and posting of contaminated beaches is mandatory, government agencies only reluctantly comply when beach closures would impact local economies. The intent of BEACH bill is to seek solutions, not to point fingers and assess blame. The effective identification and elimination of contamination episodes should be addressed using a "watershed approach." Only mandatory testing and posting of contaminated coastal recreational waters, followed by source identification and elimination will insure the public health, and the long-term financial well being of local economies.

Application of promulgated standards, mandatory testing, and public notification, together with the watershed approach to source identification and elimination builds in a balance that even the playing field between large cities and small municipalities. The incentives created by posted beaches, whether at Rehoboth Beach, Delaware, or Huntington Beach, California are the same. More importantly though, the public has a right to know where ever their health risk is beyond acceptable levels.

Throughout the Committee's consideration of the BEACH bill legislation before you, I respectfully request that you not lose sight of the value of local input. It is voluntary actions and programs of local agencies and municipalities, accomplished at water testing and notification of the pubic, that can provide important details and experience that can turn a Federal mandate into working pubic health legislation. Likewise, the experience of NGO's, such as the Surfrider Foundation, which has conducted a nationwide program of coastal water testing and public outreach, must also be considered. The scientists and laboratories of the Environmental Protection Agency surely can provide leadership in determining proper standards and methods. Although, I would hope that representatives of the Environmental Protection Agency could comment on the relative merit of the lengthy time indicated in the body of the Bill, and whether that amount of time is necessary to identify standards and methods. The experience of Surfrider, in cooperation with the County of San Diego, and the State of California indicate that reasonable scientific consensus currently exists regarding preferable testing standards and methods. The time has come for this legislation.

Again, I thank you for the opportunity to submit this written testimony to the honorable members of this Committee. Since its introduction, myself and key colleagues with Surfrider Foundation have continued to review and analyze the BEACH bill legislation and worked with interested Federal agencies, non-profit environmental organizations and other groups who have all made additional comments and support to the merit of this legislation. I would be happy to share comments from other members within Surfrider Foundation with staff so that the perspective of other citizens who come in constant contact with the coastal water of the United States can be considered. With that offer, I conclude my comments and would be happy to answer any questions the Members may have.

STATEMENT OF LINDA SHEAD, EXECUTIVE DIRECTOR, GALVESTON BAY FOUNDATION

Good morning. On behalf of the Galveston Bay Foundation (GBF) and Restore America's Estuaries, I would like to thank Senator John Chafee and the other members of the committee for this opportunity to present testimony in strong support of S. 835, the Estuary Habitat Restoration Partnership Act. I am privileged to be before you today.

Before I speak to the vital importance to the Nation of working to pass S. 835 this session, let me introduce myself. My name is Linda Shead. I am the executive director of GBF, which is located in Galveston Bay, Texas and is a member supported, non-profit organization. Our mission is to restore and protect the Bay and its watershed.

I am also a member of the board of RAE, which is a coalition of 11 regional environmental organizations that devote a substantial part of their efforts to estuary protection and restoration.

GBF and RAE members unabashedly represent a very special interest—the restoration and protection of this nation's coastal estuaries. These are resources that not only have high inherent aesthetic and "quality of life" values but also Unction as the heart of significant biological activity that has a direct connection to the human economy along the Nation's highly populated coastline. Our work, our mission is fundamentally about good stewardship and assuring strong and vibrant coastal communities.

The geographical sweep of the RAE alliance's focus is revealed most clearly by indicating where we are located:

- Chesapeake Bay in Maryland, Virginia, Pennsylvania, and Delaware
- Long Island Sound in Connecticut and New York;
- Narragansett Bay in Rhode Island and Massachusetts;
- The Gulf of Maine from Cape Cod Bay to the Bay of Fundy;
- The Hudson/Raritan estuary complex in New York and New Jersey;
- The North Carolina coast;
- Tampa Bay in Florida;
- Coastal Louisiana;
- Galveston Bay in Texas;
- San Francisco Bay in California, and
- Puget Sound in Washington State.

This geographical listing, however, or the combined 250,000 members of our organizations are simply the tip of the resource we are speaking for: RAE stands for a national effort to champion estuary habitat restoration and protection wherever those resources are located and whoever is working on them.

Our organizations have in some cases been working to restore and preserve our estuaries for 35 years or more. We have pledged collectively to restore at least one million acres of habitat in our nation's estuaries by the year 2010. And the need for action is great.

The vital importance and historical losses of the Nation's coastal estuary resources are well documented. Estuarine habitat provides food, shelter, resting areas and breeding areas for thousands of species of flora and fauna. Without these habitats, estuaries would be virtually dead and the vibrancy they provide to so many of our coastal communities ended.

Along the Gulf Coast, habitat is still being lost, and in the estuary I know best, Galveston Bay, we've lost more than 30,000 acres of marsh habitat in the last 40 years alone. In addition, only 700 acres of seagrasses remain. In Galveston Bay, diverse users, such as the petrochemical industry, environmentalists, commercial and recreational fishers, recreational boaters, and commercial navigation interests, have realized the importance of establishing habitat and are working together to restore and protect the Bay. We have had some successes, but the losses are great and they continue. These losses have dire consequences for our environment, our economy, our way of life, and our health.

Estuaries around the country have lost varying degrees of habitat and biological function. For example, 70 percent of the eel grass beds, and 50 percent of the salt marshes around Narragansett Bay in Rhode Island have been lost due to human activity, and the Hudson Raritan Bay area in lower New York Harbor has lost over 80 percent of its original wetlands. In the Chesapeake Bay the oyster harvest collapsed from 25 million pounds in 1959 to only a million pounds in 1989. And of course, the Wisteria crisis is now well known to everyone. In the Long Island Sound more than 40 percent of the wetlands are gone. The story continues on west coast. San Francisco Bay has lost 95 percent of its original marshland.

Additionally, and sadly, tens of thousands more acres of estuarine habitat continue to be destroyed each year. Habitat that is the life blood of 75 percent of all commercial fish species, and the 28 million jobs that depend on healthy, vibrant estuaries.

These are astounding statistics. They demand action. Fortunately we still have time to act. We need to start now and turn the tide on this devastating trend and actually foster the rebirth of our estuaries and their critical wetlands. And we believe S. 835 is an essential part of any coordinated and effective plan of action.

In some cases, the losses are irretrievable and we simply need to proceed with a heightened resolve to prevent or minimize further future losses of coastal estuary habitat. I would emphasize that Senator Chafee's habitat restoration legislation is simply one critical piece of the legislative and policy equation that must include a strong Clean Water Act and a rejuvenated National Estuary Program if we are to ever get ahead of the curve in stemming coastal resources losses and degradation.

Where S. 835 can play a vital role is in helping provide the leadership and resources needed to restore earlier damage to estuary habitats that can be fully or partially reversed. S. 835 will allow the Nation's coastal regions to seize restoration

opportunities which must be acted on if the biological productivity of the Nation's coastline is to begin to recover.

Without spending too much time on the specifics of the legislation, let me highlight why S. 835 will serve as a national catalyst for helping restore our Nation's Estuary habitat. Once up and running, it is designed to:

- Infuse limited new Federal resources that will leverage local resources and commitment sufficient to help our communities achieve an actual increase of one million acres of habitat by 2010.
- Give our communities and our organizations a real voice in the selection process because restoration projects will be driven from the community up through voluntary efforts that build effective public-private partnerships.
- Look to watershed based planning efforts and build on existing plans such as the comprehensive plans we've worked to develop as part of the NEP. There's no reinventing of the wheel here, just a focused effort to make good use of good planning and get to work restoring critical estuary habitat.
- Build a peer review process that will assure that only the most deserving projects are selected.
- Help build a new level of streamlining and coordination among Federal programs and agencies. The importance of accomplishing this task is highlighted by a report RAE released last year on Federal funding for habitat restoration which identified over 65 programs scattered over 7 different agencies. S. 835 would help us much better coordinate and increase the on-the-ground impact of these many programs.

RAE also supports S. 835's choice to fund this work through an inter-agency effort led by the Army Corps of Engineers. Many RAE members have long histories of strong disagreement with the Corps. At the same time, we also recognize that in recent years the Corps has started to try and change course and work to restore habitat in partnership with other Federal agencies, State and local government and our communities.

We believe that S. 835 will be an important part of helping lock in—and advance—this real and important change in the stated goals of the Corps and in the way it does business. The bill takes the Corps at its word and then builds a strong collaborative process of project selection and work that will assure that funds are used to implement real restoration in all of the Nation's estuaries.

It is through these mechanisms, and the interest they've generated that S. 835 is already helping us focus attention on restoration, focus attention on the critical need to bring new resources and dedication to the conservation of our nation's estuaries. The bill's bipartisan cosponsors in the Senate and the House speak to this growing awareness of the need to act now and move on this legislation. So does the strong support the bill has received from our colleagues in the environmental community, the sporting industry, business and our State and local governments.

RAE members are committed to helping you move forward with S. 835, and get it enacted into law this year. The bill is a vital component of our efforts to bring back healthy conditions not only in Galveston Bay, but in Narragansett Bay, Long Island Sound, Puget Sound, and the other estuaries that make up one of this Nation's most precious resources.

Galveston Bay is my home. Even if we live miles from it's shore, it is part of what makes our whole region special. The bay is our lifeline. It nourishes our environment, strengthens our economy, enhances our leisure time, protects our children's futures. We need to care for the bay and invest today in its health and very survival. We need to do the same in all of the Nation's estuaries. S. 835 helps us accomplish this vital task and helps us ensure a secure and bountiful future for our country.

On behalf of all of the RAE membership, I want to thank Senator Chafee and the members of this committee for their vision and leadership in working to help us protect and restore our nation's estuaries. RAE members looks forward to working with you to move this important legislation forward and turn a very good bill into very good law. Thank you for this opportunity to speak with you.

RESPONSES BY LINDA SHEAD TO ADDITIONAL QUESTIONS FROM SENATOR CHAFEE

Question 1a. Many different stakeholders have recognized the importance of Galveston Bay and come together to protect the Bay.

How did you manage to get the petrochemical industry, the environmental community; fishermen, boaters, and the tourism industry to work together to develop a management plan?

Answer. The formation of the Galveston Bay National Estuary Program (a federal-state program) paralleled the formation of the Galveston Bay Foundation (a nonprofit organization) in 1987–1988. With the heavily populated and industrialized Galveston Bay region, it was recognized early on, for both entities, that the old paradigm of adversarial approaches would not succeed in ensuring the future health of the invaluable resources of Galveston Bay. The various interests were approached with the notion of having a seat at the table to assure that their perspective was heard. A seminal moment in the formation of the Galveston Bay Foundation (GBF) came when representatives of the commercial fishing industry and recreational fishermen agreed to work together within the Galveston Bay Foundation to ensure there is a resource, and to continue in other arenas their debate over who gets to use it.

Question 1b. What have you found are the major impediments to on-the-ground implementation of restoration projects?

Answer. We have found two key impediments to restoration projects One is simply having enough financial resources and enough flexibility within the funding requirements to meet the restoration needs. It has taken decades of mis-use to create our current state of lost habitat value, and will take a major commitment of resources at every level (public/private, local/state/national) to begin to repair the damage. The latter issue (flexibility) relates specifically to matching funds requirements. The National Fish and Wildlife Foundation, for example, used to require that matching funds be routed through that entity, when many of local funding partners would want to give the matching money directly to a local entity (such as GBF). It still requests that checks for the match go to them to be re-disbursed to the local entity. Prohibitions on federal-federal matches are another example that hurts building partnerships.

The second impediment is institutional problems. That is, getting agencies (and particularly legal departments) to work for solutions instead of throwing up roadblocks. One example is the new interpretation by NOAA's legal department that prohibits nonprofit organizations from being a recipient of coastal management grants for restoration projects. Another example has been the incredible slowness, in Texas, of getting a reasonable process in place for the selection of projects and disbursement of Natural Resource Damage Assessment funds.

You also mention that historically, the relationship between the environmental community and the Army Corps has not always been ideal.

Question 1c. How are the current working relationships between the various stakeholders and the Corps and the other federal agencies?

Answer. The national office of the Corps of Engineers and many of the new leadership have embraced the idea of working on habitat restoration. However, some of the long-term rank-and-file of the agency have not yet adopted this attitude. They also have not always perceived themselves as part of a team of players and experts within a community, instead of being the holder of wetlands knowledge. The situation has improved somewhat, but still varies with each new district engineer appointment (every 2–3 years) and depends on the civilian leadership for continuity, or lack thereof.

Question 2a. A 1996 report on estuaries by the American Oceans Campaign stated that roughly 6.7 million people live in the Galveston Bay watershed. Over 566 municipal wastewater treatment plants discharge into the Bay watershed, and it has been estimated that Galveston Bay receives over 50 percent of all the permitted wastewater discharged in Texas.

How are you balancing the pressures of development and a growing population with the need to protect a nationally important estuary?

Answer. The Galveston Bay Foundation has adopted a position supporting the concept of sustainable development. We believe that projects can be designed to minimize negative impacts or even to enhance the environment without making them infeasible. The current project to deepen and widen the Houston Ship Channel stands a very good chance of becoming an example of sustainable development. After the initial project was condemned in 1987–1988 by a wide variety of environmental and Congressional interests, it was reduced in size, re-designed, and incorporated beneficial uses of dredge material for the restoration of bird habitat and of marshes (some 4,260 acres over the 50-year life of the project).

Question 2b. Do you feel that you are making progress in restoring the Bay, or are all of your efforts simply keeping the situation from getting worse.

Answer. Some of both. There is most definitely progress through restoration projects. It will, naturally, take time for the full benefits to be realized. S. 835 would make it possible for us to ensure that we indeed keep moving forward more steps than we slip back. I know that my colleagues in the other major national estuaries

feel the same. Most of the continuing losses in Galveston Bay are a result of past abuses (e.g. increases in erosion as a consequence of subsidence) or due to inadequate application/implementation of wetlands regulations.

STATEMENT OF RICHARD RIBB, DIRECTOR, NARRAGANSETT BAY NATIONAL ESTUARY PROGRAM

Mr. Chairman, on behalf of the members of the Association of National Estuary Programs (ANEP), I appreciate the opportunity to submit to the Environment and Public Works Committee our views on the protection and restoration of the Nation's estuaries. I am Richard Ribb, Director of the Narragansett Bay National Estuary Program and a member of the Board of Directors of ANEP. The Association of National Estuary Programs is a non-profit organization dedicated to promoting stewardship and a common vision for the preservation of the nation's bays and estuaries. Our members include representatives of industry, agriculture, fisheries, tourism, and the greater business community, who volunteer their time to develop and implement comprehensive management plans for a network of nationally significant estuaries.

It is well established that estuaries are the biologically essential, economically priceless, but fragile connections between the continent and the oceans. The entire nation is served by coastal estuaries in numerous ways, such as commercial and recreational fishing, transportation, defense, boating, research and learning, and providing irreplaceable wildlife and fisheries habitat. Over half of the U.S. population lives in our coastal counties and that percentage is increasing. This morning you have heard from many of the witnesses of the many and varied problems facing our estuaries.

The National Estuary Program represents a successful approach to defining and addressing the problems in our estuaries. Citizens, municipalities, environmental groups and interested business and industry organizations come together with State and Federal Governments to reach agreement on long-term management plans that seek to guarantee the economic and biological productivity of the nation's estuaries into the future. Forty-two percent of the continental United States shoreline is within the watersheds of the NEP's 28 estuaries. Economically, these estuaries of national significance produce over $7 billion in revenue from commercial and recreational fishing and related marine industries; tourism and recreation in these NEPs are valued at over $16 billion annually. These programs are clearly an important factor in at least a quarter of the nation's inland and coastal watersheds. The management plan for each of these 28 NEPs is unique, but they share many characteristics in that they are all based on sound science, all written by local stakeholder groups in partnership with the relevant regulatory agencies, and all approved by the local and State governments that will be principal partners in implementation. Local citizens guide the development and implementation of their plans, and, using the abilities of their local NEPs, work to leverage Federal and State dollars with contributions from local governments and the private sector. Each of these NEPs serves as the primary technical and coordination support structure (and frequently the initiator) for a wide web of partnerships and actions to conserve and restore the estuary.

THE ANEP POSITION

We are pleased that this committee is turning its attention toward the plight of the Nation's estuaries. Our testimony today focuses on two of the bills under consideration today. S. 835, the Estuary Habitat Restoration Partnership Act of 1999, introduced by Mr. Chafee of Rhode Island and co-sponsored by members from all regions of the country, clearly recognizes the critical importance of estuarine habitat to the ecological and economic health of our nation and to the quality of life of our citizens. This bill creates a national program to fund estuary habitat restoration efforts in partnership with the States, non-governmental organizations and local communities. A sub-section of the bill deals with reauthorization of the National Estuary Program, created under the Clean Water Act and administered by the U.S. Environmental Protection Agency in close partnership with State and local governments, interested citizens and the business community. A key strength of the bill is the collaborative approach outlined which mirrors the NEP framework and, based on the success this approach has brought to the NEPs, we feel that the process created by this legislation will prove successful in restoring the nation's estuarine habitats. On the whole, this bill demonstrates Sen. Chafee's continuing dedication to and leadership on the protection and enhancement of the nation's coastal resources and estuaries.

S. 878, which amends the Federal Water Pollution Control Act and is introduced by Mr. Torricelli of New Jersey, offers a simple reauthorization of the National Estuary Program. As does S. 835, it allows Federal Clean Water Act funds to be used not only for development of the Comprehensive Conservation and Management Plans (CCMPs) required under Section 320, but also for implementation of these community-based plans which target local needs. Both bills also increase the levels of Federal funding for the program—S. 835 at $25 million annually over 2000–2001; S. 878 at $50 million annually over 2000–2004.

The Association of National Estuary Programs strongly supports S. 835. Those of us who work everyday with citizens' groups and municipalities on habitat restoration projects believe that the Federal funding and support provided by this measure will prove a critical resource in achieving restoration goals for our estuaries. In setting goals, developing a national habitat restoration strategy and committing funding, Congress would make the Federal Government a real partner with the States in restoring the nation's estuarine resources.

We would like to provide three specific comments on the bill. First, we endorse the provision pertaining to Clean Water Act Section 320 that allows funding to be used for both the development and implementation of the Comprehensive Conservation and Management Plans (CCMPs) that are produced for each estuary in the program. Second, we support the development of a mechanism for the bill that would increase the level of regional and local input in the development of a national habitat restoration strategy and into setting criteria for the grant decisionmaking process. Third, in the Definitions section of the bill, ANEP supports an expanded definition of "Federal estuary management plans" that specifically includes CCMPs developed under Section 320 of the Clean Water Act.

ANEP endorses the funding level of $50 million annually over 4 years in S. 878 in order to continue this successful Federal partnership with State and local efforts. The basis for supporting this funding level is described in the sections below.

A FEDERAL INVESTMENT IN PROGRESS AND RESULTS

Through its 10 years of experience, the National Estuary Program has become an excellent model for developing solutions to complex environmental problems. The NEP has been the laboratory and testing ground for the watershed management techniques now being applied across the country. Characterizing and systematically monitoring conditions, ensuring that management decisions are based on sound science, coordinating watershed actions, creatively finding project funding, promoting citizen involvement in managing public resources, bringing local people and Federal and State partners together to build solutions to estuary problems the NEP can claim a good deal of responsibility for the success and popularity of these techniques. The 28 NEP programs have developed and used these techniques to implement their management plans, designed to improve water quality, habitat and estuarine resources. Strong Federal support is critical in maintaining the success of this popular program. By maximizing the Federal investment in the management plans and local partnerships that have been created, the National Estuary Program provides real benefits to the health of the nation's estuaries and the people who live there.

ANEP believes that the increased authorization for this national program will truly be a sound investment in the future of the nation's estuaries. In years past, there were just a dozen NEPs receiving approximately $12 million to develop CCMPs—about $1.0 million per NEP. However, due to recognition of the value of these programs and the resulting demand, today there are 18 NEPs implementing CCMPs with another 10 in the development stage—that same $12 million has been increasingly stretched to attempt to support the additional Estuary Programs created at the request of Governors and citizens across the Nation. An increase in authorized funding is necessary because there are now 28 National Estuary Programs and solid Federal support is needed to fully advance the mission and goals of each NEP as determined by local interests.

A recent report from the Estuary Programs shows that, based on a conservative analysis, the EPA contribution under Section 320 to implement the NEP estuary management plans was, on average, only 32 percent of the total dollars that these community-based programs directed to actions in the estuaries. In fact, for a quarter of the programs it was less than 20 percent. In general, this means that for every dollar in direct Section 320 funding invested, the NEPs leverage 2 dollars from State, local and other funding sources and services. There are few Federal programs that can show this kind of return on investment. This also reflects the level of State and local commitment to the NEPs as well as recognition that these programs are an effective catalyst for action in our nation's estuaries.

In a program that has a strong history of leveraging funds, enhanced Federal funding will allow the NEPs to bring in additional State, local and other funds to protect our estuaries. With stable support for the local NEP staff, more staff resources can be devoted to seeking out these additional funding sources and directing them toward creating solutions for estuary problems. Also, the NEPs will have the capacity to accommodate the increased demand for actions in our estuaries as coastal population increases and resources are increasingly stressed. These programs are already being called upon to deal with emerging issues such as invasive species, harmful algal blooms and sea level rise. With enhanced funding, the NEPs could meet the growing demand for action while continuing to effectively build local solutions that satisfy identified scientific and economic needs as well as the interests of the many stakeholders in their estuaries.

LINKING ESTUARY HABITAT RESTORATION AND NEP REAUTHORIZATION: A FORMULA FOR SUCCESS

The National Estuary Program is a broad-based program, taking a comprehensive approach to addressing the wide range of problems facing the Nation's estuaries: preventing habitat degradation and loss of recreational and commercial fisheries; protecting and improving water quality; pioneering watershed management techniques; controlling sewage outfalls and septic system impacts; mitigating impacts from increasing land development; developing strategies to deal with invasive species and harmful algal blooms—the list goes on and reflects the inter-related nature of these problems and the community-based nature of the NEP approach. In contrast, the Estuary Habitat Restoration Partnership Act takes a targeted approach toward a specific problem: loss and degradation of estuarine habitat. The NEP program, while currently deeply involved in habitat restoration planning and projects, does not have sufficient resources to adequately address habitat restoration in addition to addressing the broad range of other problems included under our mandate. This is why a Federal funding program for this purpose is so necessary. At the same time, S. 835's mission is urgently needed but not broad enough to address the entire spectrum of pressures on our estuaries including those environmental factors that significantly affect the success of restoration projects. These two pathways join within the National Estuary Program. Because the NEPs are an on-the-ground, in-place mechanism for effecting estuary habitat restoration within the larger watershed perspective that is the foundation of the NEP's success, we believe that NEP reauthorization and habitat restoration legislation must be considered together. They form a web of action and resources that will result in the kind of measurable environmental progress that we are all working to achieve.

THE NATIONAL ESTUARY PROGRAM: SECURING A SOUND FUTURE FOR THE NATION'S ESTUARIES

The National Estuary Program has evolved into a leader in coastal protection and action over the last decade and a half (refer to the attached success stories list, Results from the National Estuary Program). Starting with four pilot programs in 1985, the success of and need for the program has led to the current status—28 estuaries in the national program of which 10 are in the developmental stage and 18 are in the implementation stage of their individual Comprehensive Conservation and Management Plans. The implementing programs have been tackling the many pressures and problems in our estuaries and the remaining programs will soon be fully in the implementation phase. The funding level authorized under Section 320 of the Clean Water Act has not kept up with the growth of and demand for the program. The cost of implementing the 28 CCMPs far outweighs the cost of developing them. Current funding levels ($17.321 million appropriated in fiscal year 1999 for all 28 NEPs) have barely been sufficient to allow the programs to finish development of these critical estuary management plans. Now faced with implementing these publicly and federally approved management plans, the need for Federal funding support is greater than ever. The level of funding authorization presented in S.878 is the level realistically necessary to allow for implementation of the 28 CCMPs., as mandated by Congress.

The National Estuary Program is clearly not the "command-and-control" type of EPA program. Rather, it is a program where local governments, citizens and the private sector come together and agree on how to manage the Nation's estuaries and on how to craft local solutions to common coastal problems. Only with the full support of the local sector is the proposed CCMP submitted to the State Governors and the EPA Administrator for approval. Thus, it is the States, in close coordination with the local stakeholders and the Federal Government, that create and implement

new, non-adversarial and cost-effective estuary management plans, in contrast to the "command-and-control", top-down approach to environmental protection.

The NEP has a history of valuing community involvement and building support for initiatives.

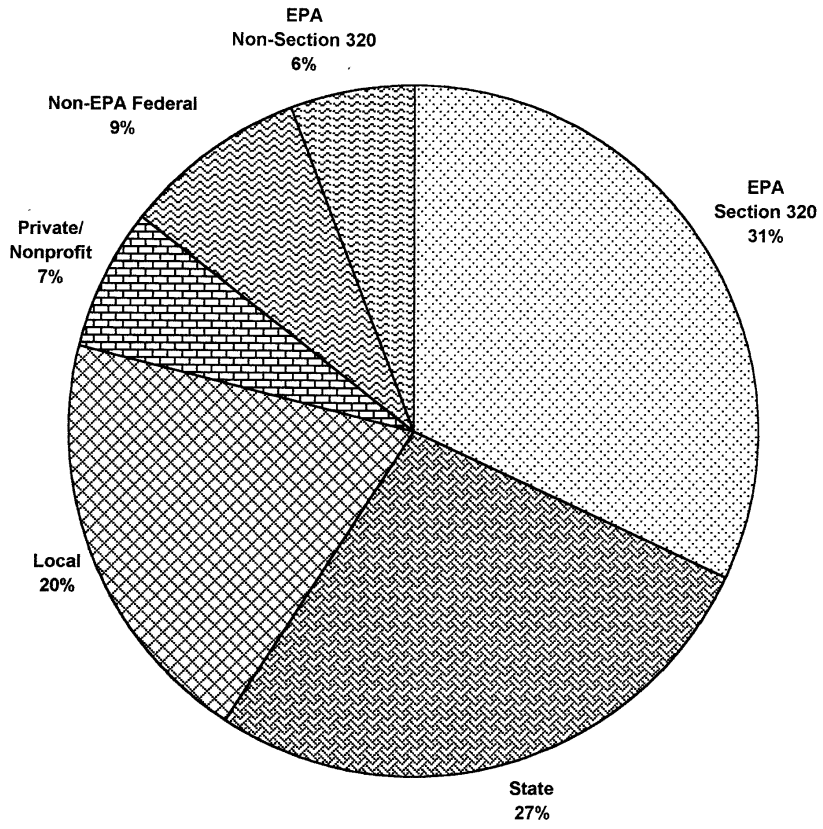
Citizens see these programs (and their staffs) as a part of a governmental structure that uses resources efficiently, is responsive to their needs, and is effective in solving problems and raising issues and awareness. NEPs have been particularly effective in identifying and funneling relevant resources (grants, technical assistance, etc.) to States, communities and citizens' groups. Sandra Wyatt, a member of a citizens' group in Barrington, R.I., the Allins Cove Neighborhood Association, seeking to restore a nearby cove's coastal wetlands, recently said this of her local NEP:

> "We have been trying to deal with Federal and State agencies to get our cove restored and we felt that there was a lot of talk but very little action. But recently, with Estuary Program coordination, technical assistance and persistence, things are starting to happen. The Estuary Program's coastal habitat restoration initiative has some steam behind it and they have really brought the issue to the public's attention and, equally important, have helped focus Federal and State agency resources on our local habitat restoration needs."

The National Estuary Program is one of a handful of Federal nonregulatory programs that truly attempt to address local concerns. This effective national network of programs shares its experiences and lessons learned with each other and with other watershed and governmental organizations. It has been and, with your help, will continue to be a national resource for the protection and improvement of the nation's estuaries.

We thank the Committee for providing us the opportunity to share our views with you. The Association of National Estuary Programs stands ready to assist the Committee as it works to pass this vital legislation.

For Every Federal Section 320 Dollar Invested, the NEPs Bring In 2 Dollars of Other Funding to CCMP Implementation



RESULTS FROM THE NATIONAL ESTUARY PROGRAM

Through the National Estuary Program, many environmental problems are being solved. A few examples of NEP success stories include:

- The Massachusetts Bays Program led an interagency approach to shellfish bed restoration that will restore and protect 13 shellfish beds along Massachusetts and Cape Cod Bays. As part of this effort, the program has linked up with business interests to promote innovative technologies for pollution prevention and remediation.
- Through the work of the Barnegat Bay NEP, more than 32,000 acres of critical habitat area have been preserved in Barnegat Bay, New Jersey.
- Over 40,000 acres of impounded marsh and mangrove wetlands have been reconnected to the Indian River Lagoon on Florida's eastern coast, one of the most productive ecosystems in the United States, located in an area with high population growth and human pressures.
- On the Florida's Gulf Coast, the Sarasota Bay NEP has helped achieve a 28–38 percent reduction in nitrogen loadings to the Bay, spurring a 7 percent increase in seagrass production.

• Two NEPs, in Corpus Christi Bay, Texas and Tampa Bay, Florida, are developing long-term dredged material management plans to provide environmental protection and to maximize beneficial uses of dredged materials.
• The San Juan National Estuary Program is reducing the number of unauthorized raw sewage discharges from boater pumpout stations while the Narragansett Bay Estuary Program played a seminal role in having the entire bay and the State's coastal waters designated a "No Discharge Zone" (the first large estuary to achieve such designation).
• Maine's Casco Bay Estuary Program teamed up with local lobstermen to study habitat in Portland Harbor, discovering that the harbor supported a thriving lobster community, larger than anyone had thought. This partnership then relocated thousands of lobsters to other areas while the harbor was dredged, thereby protecting an important natural resource while supporting the increased economic development that the dredging allowed.
• The New York/New Jersey Harbor NEP, through its Habitat Workgroup, has prioritized and produced GIS coverages of habitat sites targeted for restoration and acquisition by the two States. This process has already resulted in the funding several millions of dollars worth of restoration projects. The data are being used to identify not just potential sites, but also other factors that can impair restoration such as erosion problems and incompatible land uses.
• The San Francisco Estuary Project has partnered with local land commissions to provide 25 educational workshops for 1400 developers, contractors and local officials. This training and information has resulted in improved compliance with erosion and sediment control requirements in the Bay area increasing from 30–40 percent in the early 1990's to 90 percent in 1998.
• The Long Island Sound NEP has been instrumental in developing the scientific data that has resulted in the ongoing and planned upgrades of sewage treatment plants (with bi-State bond funding totaling several billion dollars) to reduce nitrogen loading to the Sound, leading to improved levels of dissolved oxygen that better support marine life.
• In Mobile Bay, AL, the local Estuary Program responded to community concern over introduced species from ship ballast water by creating a cooperative project with the U.S. Coast Guard to check ship logs for compliance with voluntary maritime ballast exchange policies.
• 700 acres of Florida upland habitat were restored through the removal of exotic plant species and restoration of natural hydrology in a partnership effort led by the Charlotte Harbor NEP.
• In 1998, the Seabrook Middle Ground clam flat in coastal New Hampshire was reopened to clamming for the first time in nearly 10 years due largely to improvements in water quality coordinated by the New Hampshire Estuaries NEP.

STATEMENT OF JOSEPH E. COSTA, PH.D., EXECUTIVE DIRECTOR, BUZZARDS BAY PROJECT NATIONAL ESTUARY PROGRAM

INTRODUCTION

In September of 1998, a funding information request was sent by Tiffany Lutterman, Director of the Charlotte Harbor National Estuary Program of Florida, to all 28 National Estuary Programs (NEPs). The purpose of this information request was to better understand the relative importance of EPA funding of NEPs through Section 320 of the Clean Water Act, in comparison to other sources, both public and private. This report summarizes the responses forwarded to the Buzzards Bay Project and subsequent follow-up questions

METHODS

Each NEP was asked to provide an estimate of expenditures in each of the following funding categories:
1. EPA funding through Section 320,
2. EPA funding through non Section 320 funding (e.g., grants in 319, 104b3, 604 programs),
3. State funding,
4. Local funding (municipal, county, and regional entities),
5. Non-governmental.

The request for information was meant to cover amounts in both Fiscal Year 1998, and projections for Fiscal Year 1999. Because of differences in state and federal fiscal years, and the start of the state fiscal year varies from state to state, we left it up to the discretion of each contact with the NEP to report in either state

or federal fiscal year totals, since the purpose of this exercise was to approximate relative contributions of various funding sources. Because fiscal year 1999 expenditures were difficult for many NEPs to project, they were considered less reliable than fiscal year 1998 values, so only the fiscal year 1998 data are presented in this report.

In many instances, it was difficult or impossible to quantify CCMP implementation expenditures because the NEP was not directly involved with managing or directing these expenditures. Expenditures by local government and nonprofits were an especially difficult category for most NEPs to quantify. Out of necessity, $0 dollars were included for NEPs when no response was given so that averages of funding calculations could be calculated. Therefore, the totals in these categories should be considered underestimates.

There were also differences in how comprehensive this evaluation should be. In some instances it appeared that the respondent only quantified funding directly received by or administered by the NEP. In other cases the respondent took a broader view of CCMP implementation related expenditures by other agencies. We made no attempt separate these different kinds of responses, and all responses were included in this draft report. A draft report was provided to each NEP for review which generated only a modest response.

RESULTS

Twenty-three out of twenty-eight NEPs responded to the requests for information. A summary of fiscal year 1998 for each NEP is included in Table 1 below. Actual amounts of each funding category were also converted to percent contributions in Table 2.

Table 1.—Total Funding Reported By Each NEP for Each Funding Category Related to NEP and CCMP Implementation Funding for Fiscal Year 1998.

Estuary Program FY 98	Priv/Non-Profit	Local		State		Non-EPA Federal		EPA-non 320		EPA-320		Total
Albermarle-Pamlico	.....	.....	....	$81,259	....	.....	....	$0	....	$325,000	....	$406,250
Barataria-Terrebonne	621,100	.....	....	5,616,669	....	61,110,657	....	0	....	260,000	....	67,608,426
Barnegat Bay	214,100	28,200	....	862,250	....	617,000	....	80,000	....	401,000	....	2,202,550
Buzzards Bay	86,000	165,000	....	72,500	....	60,000	....	454,500	....	199,500	....	1,037,500
Casco Bay	75,993	21,000	....	209,277	....	5,000	....	98,740	....	199,500	....	609,510
Charlotte Harbor	48,851	134,292	....	200,638	....	24,750	....	0	....	485,000	....	893,531
Corpus Christi	165,472	53,000	....	264,667	....	369,667	....	0	....	860,000	....	1,712,806
Delaware	.....	.....	....	.....	....	.....	....	.....	....	.....	....	0
Delaware Inland Bay	50,000	5,000	....	67,500	....	0	....	279,950	....	234,500	....	636,950
Galvaston Bay	.....	.....	....	750,000	....	.....	....	.....	....	260,000	....	1,010,000
Indian River Lagoon	403,700	15,465,000	....	4,856,000	....	0	....	320,000	....	260,000	....	21,304,700
Long Island Sound	.....	.....	....	.....	....	.....	....	.....	....	.....	....	0
Lower Columbia River	.....	.....	....	300,000	A	.....	....	.....	....	585,000	....	885,000
Maryland Coastal Bay	5,000	310,935	....	2,648,980	....	175,000	....	75,000	....	410,000	....	3,624,915
Massachusetts Bay	A	B	....	89,000	C	.....	....	.....	....	267,000	....	356,000
Mobile Bay	38,680	127,200	....	146,500	....	150,000	1	0	....	775,000	....	1,237,380
Morro Bay	.....	.....	....	.....	....	.....	....	.....	....	.....	....	0
Narragansett Bay	.....	15,080,000	....	19,775,000	....	0	....	0	....	1,500,000	....	36,355,000
New Hampshire	.....	.....	....	.....	....	.....	....	.....	....	.....	....	0
New York/New Jersey	.....	.....	....	.....	....	.....	....	.....	....	.....	....	0
Peconic Bay	***	150,000	**	12,000	....	10,000	....	0	*	446,500	*	618,500
Puget Sound	*	*	....	13,668,677	....	*	....	195,490	....	346,500	....	14,210,667
San Francisco	2,750,000	147,000	....	470,000	....	75,000	....	0	....	308,150	....	3,750,150
San Juan Bay	.....	.....	....	.....	....	.....	....	.....	....	.....	....	0
Santa Monica Bay	310,000	9,200,000	....	379,000	....	0	....	0	....	250,000	....	10,139,000
Sarasota Bay	750,000	39,997,166	**	2,692,536	....	6,040,000	....	115,000	....	874,645	*	50,469,347
Tampa Bay	.....	333,873	1	.....	....	0	2	70,000	2	346,500	....	750,373
Tillamook Bay	.....	.....	....	.....	....	.....	....	.....	....	.....	....	0
Totals	$5,518,896	$81,217,666	....	$53,162,444	....	$68,637,074	....	$1,688,680	....	$9,593,795	....	$219,818,555

Funding Notes:

Indian River Lagoon: Note: Table does not include the estimated >$27,500,000 expended on land acquisition initiatives from state, local and private sources since 1995.

Lower Columbia River: (A) $150,000 from Oregon, $150,000 from Washington.

Mass Bays: (A) Implementation costs are so large that we depend on lots of sources, obviously. EPA funds are used just to support the core program. (B) MBP gets additional support that we don't really count in that the regional planning agencies that house our regional staff also pay part of their salaries. Essentially they are out doing MBP tasks all the time anyway. (C). Same as for (B). There are many things that agencies are doing that we nudge along that we don't take financial credit for.

Mobile Bay: Note: $290,000 carried over from previous year, 1 = Gulf of Mexico Program.

Peconic:

*Does not include implementation funding sources which are administered by entities other than the Peconic Estuary Program's Program Office. These include NYS Clean Water/Clean Air Bond Act Funding ($1.3 million in 1998. Approx $2. 5 million in 1999) and Land Preservation partnership ($15 million Town, $15 million County of 3 years); **Minimum commitment is shown. Actual contributions will be substantially higher. ***Value of services are substantial but unquantified.

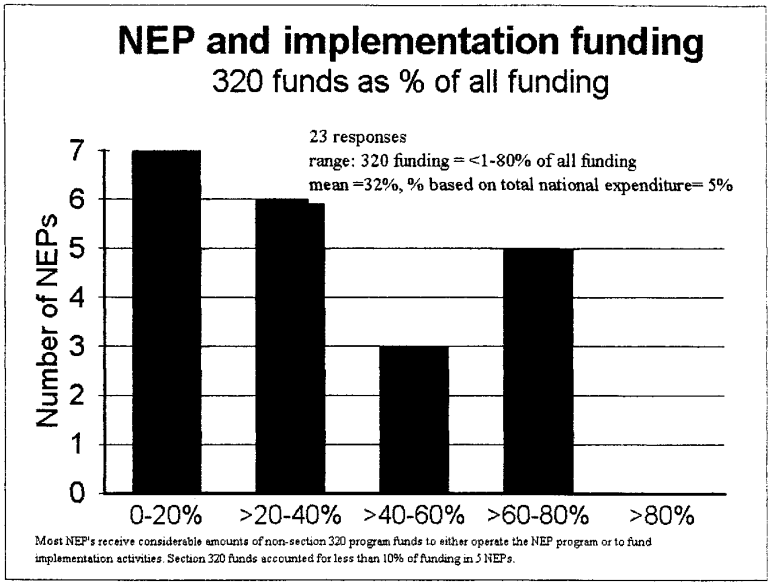
Puget Sound: *Puget Sound Estuary Program does not track private non-profit, local or non-EPA Federal spending for implementation of the estuary program. However, we know that local and tribal governments are spending considerable sums to carry out actions called for in the CCMP. For example, about half of the local governments in the basin have established utilities to fund stormwater management programs; other local governments are upgrading combined sewer overflows and sewage treatment plants, implementing watershed plans, acquiring and restoring habitat, inspecting on-site sewage systems, enforcing environmental laws, educating the public, etc.—all of these activities would easily add up to $50 to 100 million (and that is probably a very conservative estimate). State and federal agencies are providing additional funding from SRF, 319, transportation programs, and the state cigarette tax to local governments, tribes, ports, sewer and water districts, and conservation districts to help them fund the activities listed above and others which protect the Sound. In addition, there are a minimum of 200 private, nonprofit groups working to protect the Sound.

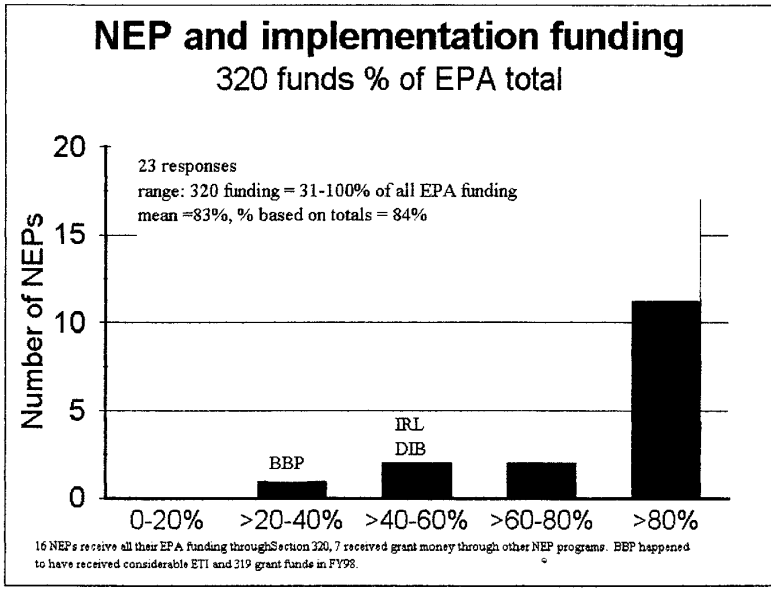
Sarasota Bay: *Estimates $274,645 carryover into FY 98, $300k allocations for FY 98–9; **Assumes $28 million wastewater re-use system is constructed on Manatee County, funds committed in FY 97; estimates for proposed reuse system expansions in Sarasota County not available; includes $10 million for the completion of Phillippi Creek $40 million stormwater retrofit project.

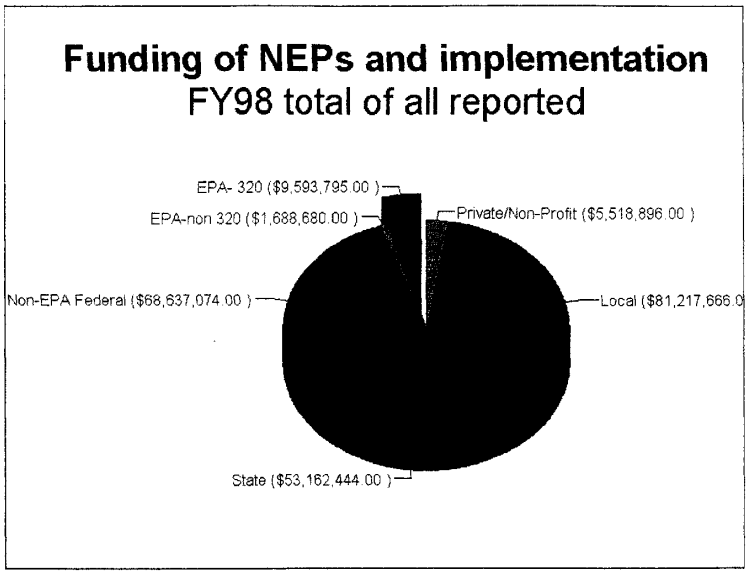
Tampa Bay: (1) Includes cash contributions for operation of TBEP. Does not include expenditures by local governments and nonfederal agencies for project contributing to implementation of CCMP. (2) Does not include potential federal grants to TBEP partners for projects contributing to implementation of CCMP.

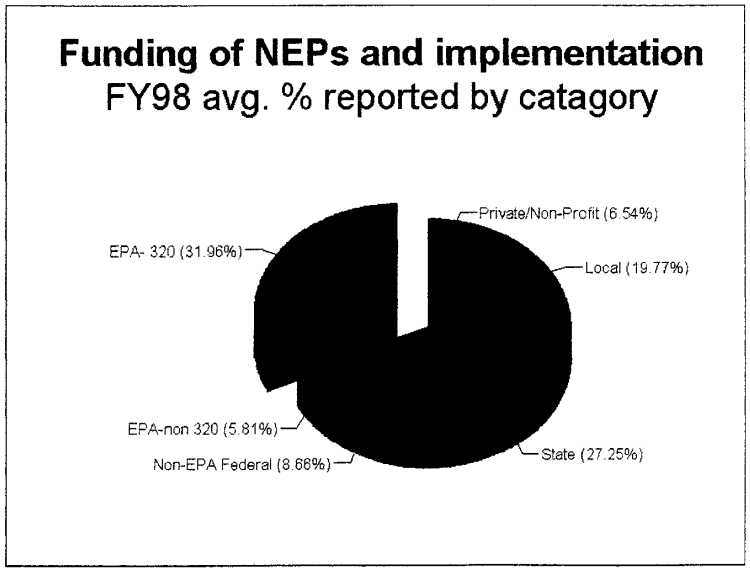
Table 2.—Total Funding as Percent (%) by Category Reported by Each NEP Related to NEP and CCMP Implementation Funding for Fiscal Year 1998

Estuary Program FY 98	Private/ Non-Profit	Local [In percent]	State [In percent]	Non-EPA Federal [In percent]	EPA-non 320 [In percent]	EPA-320 [In percent]	EPA-% 320 [In percent]
Albemarle-Pamlico	0%	0%	20%	0%	0%	80%	100%
Barataria-Terrebonne	1	9	8	90	0	0	100
Bamegat Bay	10	1	39	28	4	18	83
Buzzards Bay	8	16	7	6	44	19	31
Casco Bay	12	3	34	1	16	33	67
Charlotte Harbor	5	15	22	3	0	54	100
Corpus Christi	10	3	15	22	0	50	100
Delaware	.....	.....	.....	.....	.....	.....	.....
Delaware Inland Bay	8	1	11	0	44	37	46
Galveston Bay	0	0	74	0	0	26	100
Indian River Lagoon	2	73	23	0	2	1	45
Long Island Sound	.....	.....	.....	.....	.....	.....	.....
Lower Columbia River	0	0	34	0	0	66	100
Maryland Coastal Bay	0	9	73	5	2	11	85
Massachusetts Bay	0	0	25	0	0	75	100
Mobile Bay	3	10	12	12	0	63	100
Morro Bay	.....	.....	.....	.....	.....	.....	.....
Narragansett Bay	0	41	54	0	0	4	100
New Hampshire	.....	.....	.....	.....	.....	.....	.....
New York/New Jersey	.....	.....	.....	.....	.....	.....	.....
Peconic Bay	0	24	2	2	0	72	100
Puget Sound	0	0	96	0	1	2	64
San Francisco	73	4	13	2	0	8	100
San Juan Bay	.....	.....	.....	.....	.....	.....	.....
Santa Monica Bay	3	91	4	0	0	2	100
Sarasota Bay	1	79	5	12	0	2	88
Tampa Bay	0	44	0	0	9	46	83
Tillamook Bay	.....	.....	.....	.....	.....	.....	.....
Average	7	20	27	9	6	32	85
% based on national expenditure	3	37	24	31	1	4	85


NEP and implementation funding
320 funds as % of all funding
23 responses
range: 320 funding = <1-80% of all funding
mean =32%, % based on total national expenditure= 5%
Number of NEPs
0
1
2
3
4
5
6
7
0-20%
>20-40%
>40-60%
>60-80%
>80%
Most NEP's receive considerable amounts of non-section 320 program funds to either operate the NEP program or to fund implementation activities. Section 320 funds accounted for less than 10% of funding in 5 NEPs.


NEP and implementation funding
320 funds % of EPA total
23 responses
range: 320 funding = 31-100% of all EPA funding
mean =83%, % based on totals = 84%
Number of NEPs
0
5
10
15
20
BBP
IRL
DIB
0-20%
>20-40%
>40-60%
>60-80%
>80%
16 NEPs receive all their EPA funding through Section 320, 7 received grant money through other NEP programs. BBP happened to have received considerable ETI and 319 grant funds in FY98.





Conclusions

Total expenditures in fiscal year 1998 toward CCMP implementation activities were more than $212 million for the 23 reporting NEPs (Table 1). On a National

level, the US EPA Section 320 funding represented only 5 percent of this total (Figure 1). This contribution of Section 320 funds is in fact an overestimate since NEPs were unable to adequately characterize funding in some funding categories.

Figure 1, however, is somewhat misleading in characterizing typical expenditures for individual NEPs since expenditures by partnering agencies in certain NEPs was sometimes quite large. For example, more than $60 million of non-EPA Federal dollars were reported by the Barrataria-Terrebone NEP for fiscal year 1998, which alone represented more than 25 percent of the $212 million national expenditure total.

To better characterize funding pat- terns, the average percent contribution of Section 320 funds and other funding categories are shown in Figure 2.

This figure shows the averages of all category funding percentages calculated from individual NEP program funding breakdowns as shown in Table 2. This representation of the data eliminates the skewing effect of large dollar expenditures in any one NEP.

As shown by Figure 2, US EPA Section 320 funds represented a minority of total implementation funding as a percent of all funding, accounting for an average of 32 percent within each NEP for CCMP-related expenditures for fiscal year 1998.

Although 32 percent may represent a national average of the contribution of Section 320 funds in relation to all fiscal year 1998 expenditures, Figure 3 demonstrates that there is a great variation in the relative importance of Section 320 funds among individual estuary programs. For example, for 7 of the 23 respondents, Section 320 funds represented 20 percent or less of the total expenditures. As noted previously, because some sources of funding such as local and state expenditures may have been underestimated, section 320 contributions may also be overestimated in this figure.

Also of interest to some NEPs is the amount of EPA funding provided to the NEPs through other EPA programs other than Section 320 (e.g., 319, 104b3, 604, etc.), since these programs are viewed as important mechanisms for funding NEPs and CCMP implementation activities.

As shown in Figure 4, there is also a considerable amount of variation in the amount of non-section 320 EPA funding that each NEP program receives, with Section 320 funds ranging from 31 percent to 100 percent of all EPA funds received, with the mean being 83 percent.

APPENDIX A. TABLE 1 FUNDING NOTES

INDIAN RIVER LAGOON: NOTE: Table does not include the estimated >$27,500,000 expended on land acquisition initiatives from state, local and private sources since 1995.

LOWER COLUMBIA: A: $150,000 from Oregon, $150,000 from Washington

MASS BAYS: A. Implementation costs are so large that we depend on lots of sources, obviously. EPA funds are used just to support the core program.

B. MBP gets additional support that we don't really count in that the regional planning agencies that house our regional staff also pay part of their salaries. Essentially they are out doing MBP tasks all the time anyway.

C. Same as for B There are many things that agencies are doing that we nudge along that we don't take financial credit for.

MOBILE BAY: Note: $290,000 carried over from previous year, 1= Gulf of Mexico Program

PECONIC:

* Does not include implementation funding sources which are administered by entities other than the Peconic Estuary Programs Program Office. These include NYS Clean Water/Clean Air Bond Act Funding ($1.3 million in 1998. Approx. $2.5 million in 1999) and Land Preservation partnership ($ 15 million Town, $ 15 million County of 3 years).

** Minimum commitment is shown. Actual contributions will be substantially higher.

*** Value of services are substantial but unquantified.

PUGET SOUND:

* Puget Sound Estuary Program does not track private non-profit, local or non-EPA Federal spending for implementation of the estuary program. However, we know that local and tribal governments are spending considerable sums to carry out actions called for in the CCMP. For example, about half of the local governments in the basin have established utilities to fund stormwater management programs; other local governments are upgrading combined sewer overflows and sewage treatment plants, implementing watershed plans, acquiring and restoring habitat, in-

specting onsite sewage systems, enforcing environmental laws, educating the public, etc.—all of these activities would easily add up to $50 to 100 million (and that is probably a very conservative estimate). State and Federal agencies are providing additional funding from SRF, 319, transportation programs, and the state cigarette tax to local governments, tribes, ports, sewer and water districts, and conservation districts to help them fund the activities listed above and others which protect the Sound. In addition, there are a minimum of 200 private, nonprofit groups working to protect the Sound.

SARASOTA BAY:

* Estimates $274,645 carryover into fiscal year 1998, $300K allocations for fiscal years 1998–1999

** Assumes $28 million wastewater re-use system is constructed in Manatee County, funds committed in fiscal year 97; estimates for proposed reuse system expansions in Sarasota County not available; includes $10 million for the completion of Phillippi Creek $40 million stormwater retrofit project.

TAMPA BAY:

1 Includes cash contributions for operation of TBEP. Does not include expenditures by local governments and non-Federal agencies for project contributing to implementation of CCMP.

2 Does not include potential Federal grants to TBEP partners for projects contributing to implementation of CCMP.

STATEMENT OF MICHAEL F. HIRSHFIELD, SENIOR VICE PRESIDENT, CHESAPEAKE BAY FOUNDATION

Good afternoon. On behalf of the Chesapeake Bay Foundation (CBF) I would like Committee Chairman (John) Chafee and Ranking Member (Max) Baucus, Senator (John) Warner and the other members of the Committee for this opportunity to present testimony in strong support of S. 492, the Chesapeake Bay Restoration Act of 1999. We would also like to thank Senator (Paul) Sarbanes, as well as his colleagues from the Chesapeake Bay region, for their consistent and long-standing support for the Bay, exemplified by the legislation that is the subject of this hearing. I am privileged to be before you today.

Before I speak to the vital importance to the Nation of working to pass S. 492 this session, let me introduce myself. My name is Michael Hirshfield. I am the Senior Vice President of CBF, which has its headquarters in Annapolis, Maryland and offices in Virginia and Pennsylvania. CBF is a member-supported, non-profit environmental education and advocacy organization with over 80,000 members throughout the Bay watershed and nationwide. Our mission is to Save the Bay—to restore and protect the Chesapeake Bay and its watershed.

Mr. Chairman, I have good news and bad news concerning the health of the Chesapeake Bay. A year ago, the Chesapeake Bay Foundation released its first annual State of the Bay Report. We assessed the health of 12 factors that go into making a healthy Bay—including, for example, oysters, crabs, striped bass, underwater grasses, and wetlands in order to produce a sort of Dow Jones for the Bay. We compared the health of each of these factors against what they would have been over 300 years ago, before the beginning of European settlement. If the Bay of Captain John Smith's time was considered 100 percent, we calculated that the Bay of 1998 was only 27 percent. Bad news indeed, a Chesapeake Bay only a small fraction of what it once was and what it could be. As Will Baker, President of CBF, said when we released the report: "The Bay will never again reach the pristine levels of the past. But we think a Bay with a value of 70 percent is achievable. The State of the Bay Report provides a reference point for how far we have fallen and how far we have to go to reach a reasonable level of health for this marvelous body of water."

But there is good news. Mr. Baker also concluded the following: "The work of public agencies and private groups and individuals is beginning to show small signs of success. The Bay experienced a steady downward trend in health, but it has stabilized and begun slowly improving. On balance, the Bay is in somewhat better shape than it was 15 years ago." Mr. Chairman, for the Bay to be even slightly better off than it was 15 years ago, in the face of the pressures of population growth during that period, is nothing short of remarkable. And it owes that improvement, in no small measure, to the hard work of the dedicated individuals from both the public and private sector led by the Chesapeake Bay Program. We believe that we have stopped the decline, and can now truly talk about restoring the Bay.

The Chesapeake Bay Program has been described as a national and international model of a cooperative ecosystem restoration program. It brings together Federal, State, and local government officials under a cooperative management umbrella in

unique fashion. The relatively modest amount of Federal dollars devoted directly to the Chesapeake Bay Program through the EPA are leveraged many times over other Federal, State, local, and private dollars. We at the Chesapeake Bay Foundation have been critical of the Bay Program in the past, and I am quite confident we will be critical of it in the future. I'm sure you would be surprised and disappointed if we weren't. It is too slow, too cumbersome, too bureaucratic. CBF is impatient, and it is our job to push as hard and as fast as we can. Yet our impatience with the Bay Program is also a measure of our respect—we expect nothing less than the best from it. It has never been "just another government program," and we intend to make sure that it continues to strive for the highest goals, not the lowest common denominator.

The Bay Program has done a lot for the Bay since the 80's. At the present time, it is in the process of challenging itself once more to develop goals and objectives for the next decade and beyond. We will be urging the Program to set lofty goals, and we will be working hard to help achieve them. But to do the work of Saving the Bay, we need a solid framework for the Bay Program. S. 492, the Chesapeake Bay Restoration Act of 1999 provides such a framework. It reauthorizes the Chesapeake Bay Program, providing it with the institutional resources necessary to carry out such an enormous task. We are pleased to see that it includes mechanisms to ensure good public accounting of its actions and expenditures. CBF believes that such public accounting mechanisms are essential to ensure public confidence in its government leaders.

We are also excited to see the new section on small watershed grants, that will enable local government and community groups to help engage in active restoration. Such on the ground activities have two major benefits: first, they produce tangible results that benefit the Bay. Second, they produce expanded constituencies for Bay restoration. It is for this reason that the Chesapeake Bay Foundation has committed itself to spending $10 million in privately raised dollars to restore oysters, wetlands, streamside buffers, and underwater grasses, leveraging the dollars and efforts of government agencies and private agencies throughout the watershed. However, CBF is only one of the many organizations spending time and resources on Bay restoration under the umbrella of the Bay Program. On behalf of all of those individuals and groups who are not here today, I urge you to move rapidly to approve S. 492, so that the effort to Save the Bay can continue with renewed energy and momentum on into the next century.

I would also like to take a few minutes to comment on some of the other legislation before you today. In particular, we would like to thank Senator Chafee for introducing and working for passage of S. 835, the Estuary Habitat Restoration Partnership Act of 1999. CBF is part of Restore America's Estuaries (RAE), a coalition of 11 regional environmental organizations that all have estuary protection and restoration at the core of their missions. Will Baker currently serves as chairman of RAE, and testified last week on behalf of a similar piece of legislation introduced by Congressman Wayne Gilchrest, a tireless worker on behalf of the Chesapeake. We would like to thank the members of both bodies, from both parties, who recognize that restoring the nation's bays and sounds is of critical importance to the health of the nation's environment and economy. Others are testifying about S. 835 today; let me just add my voice to urge you all to move swiftly to pass it.

Finally, I would like to join my colleagues on this panel in urging you to support passage of a B.E.A.C.H. Bill in this Congress, as well as legislation that would strengthen the implementation of plans developed by estuaries as part of the National Estuary Program.

The common thread through all the legislation before you today is clear. It has to do with the places we call home. The Chesapeake Bay is our home. Even if we live miles from its shore, it is part of what makes this whole region special. The Bay is our lifeline. It nourishes our environment, strengthens our economy, enhances our leisure time, protects our children's futures. We need to care for the Bay and invest today in its health and very survival. We need to do the same in all of the nation's estuaries and coastal areas. I urge you to help us by passing the important legislation before you today. Thank you for holding this hearing on these important issues, and for providing me the opportunity to speak to you today.

RESPONSES BY MICHAEL HIRSHFIELD TO QUESTIONS FROM SENATOR CHAFEE

Question 1a. The State of the Bay report gave the Bay a rating of 27 out of 100 points for health, and your testimony indicated that a score of 70 out of 100 was achievable. At our current progress, how long will it take us to reach 70?

Answer. At our current progress, we are not confident that we will ever reach a goal of 70. CBF believes we can only reach a level of 70 if we dramatically change how we deal with pollution, habitat, and fisheries management issues in the Bay watershed. However, we believe that reaching a goal of 70 by 2050 is possible if we make the necessary changes.

Question 1b. One of the important components of the Bay Program was the establishment of numerical goals to measure progress and improvement. Is the Program on track to meet those goals in the specified time frame?

Answer. The most important goal-reducing nutrients by 40% by the year 2000-will not be met on schedule, although the Program will come close. However, this is only an interim goal, and is not the amount necessary to truly restore the Bay.

Question 2a. One of the most serious threats to the Bay is the change in land use. Between 1985 and 1997, the Chesapeake Basin lost 263, 000 acres of forests and wetlands while urban and suburban land increased by 413, 000 acres. In addition, the number of vehicle miles traveled was four times the rate of population growth, indicating that people are moving farther away from the cities. In the face of population growth and expansion, will the measures contemplated by the Bay program result in an environmental improvement in Bay conditions, or simply lessen the impact of population growth and expansion?

Answer. The measures currently contemplated by the Bay Program will ultimately only slow the rate of decline in the face of population growth unless major changes are made.

Question 2b. What additional measures does the Chesapeake Bay Foundation suggest the Bay Program implement to further improve Bay restoration and protection efforts?

Answer. The Chesapeake Bay Foundation is in the process of developing a plan of action for the year 2010 that we believe would take the Bay to a value of roughly 50% by that date. We believe that, if the actions recommended in this plan are taken, the framework will be set in place for restoring the Bay to 70 by mid century. We will be happy to provide the committee with a copy of this action plan when it is finalized.

STATEMENT OF LEN BAHR, EXECUTIVE ASSISTANT TO THE GOVERNOR, STATE OF LOUISIANA

On behalf of Governor Mike Foster and the State of Louisiana I would like to express our thanks to the Committee and the Chairman for inviting us to appear today to share our thoughts on several matters of vital interest to the State of Louisiana and the Nation. My name is Len Bahr and I am Executive Assistant to the Governor. Governor Foster could not be here today and he has asked me to appear in his stead.

The first matter I would like to address today is of paramount importance to us and that is the reauthorization of a truly landmark piece of legislation, the Coastal Wetlands Planning, Protection, and Restoration Act, or the Breaux Act, as we call it in Louisiana.

To understand the importance of the Breaux Act and its reauthorization, it is vital to understand the problem it was intended to address and that was the calamitous loss of coastal wetlands and barrier shorelines that are so vital to our national interest. The Breaux Act recognized two indisputable facts. First that these lands are essential to our ecological, cultural, and economic well being, and second, that regulatory and education programs alone are not sufficient to ensure their sustainability. In short, it recognized that an active coastal restoration campaign was essential. We strongly agree. Louisiana has 25 percent of the nation's coastal wetlands, 40 percent of its salt marshes, and has experienced 80 percent of this nation's coastal wetland loss.

The Breaux Act benefits all coastal States but I will focus my comments on its role in the survival and stewardship of the lower Mississippi River Delta Complex and the Chenier Plain. This includes all of coastal Louisiana south of Interstate 10.

Prior to the passage of the Breaux Act in 1990, coastal Louisiana was in a state of collapse. Worse, there was no realistic prospect of saving it. The legacy of decades of leveeing, dredging, and draining—often incident to Federal policies and programs—was a coast in which the hydrology had been so altered that land was disappearing at a rate of nearly 40 square miles per year.

In 1989 the State of Louisiana took the unprecedented step of creating a multiagency coastal wetlands restoration authority within the Governor's office and creating a dedicated trust fund to support its work. But the complexity and enormity of

the challenge demanded a true national effort—State and Federal—if the tide of land loss was to be stemmed.

With the enactment of the Breaux Act all of that changed. This Act forged a working partnership, not only between the State and the Federal Government, but also among Federal agencies that had a long history of working at cross purposes. In its 9-year history, the Breaux Act has been responsible for unprecedented partnering, comprehensive planning—most notably the recently completed Coast 2050 Plan—and the development and implementation of a generation of restoration and protection projects that have significantly reduced the rate of land loss.

This view is borne out by the following facts:

(1) During the first 8 years following enactment of the Breaux Act, the Federal/State restoration task force has approved about 85 projects. Approximately 60 percent of these projects have been completed or are under construction. The remainder of approved projects are in various stages of planning and design. These projects are expected to result in a 15 percent reduction in coastal land loss over the next 20 years.

(2) The Breaux Act has created a working partnership between and among five Federal agencies, the State of Louisiana, local governments, landowners, business, and interest groups.

(3) It has garnered an extraordinary level of public support, as shown by the passage of two constitutional amendments facilitating coastal restoration.

(4) It has spurred the development and dissemination of scientific and technical information about the nature of the land loss problem and its potential solution.

(5) It is responsible for the development of "Coast 2050," a blueprint for recreating a sustainable coast in 50 years that has had extraordinary success at achieving consensus at Federal, State and local levels. A copy of the executive summary of this plan has been submitted for the record.

(6) It has spawned a recently completed major feasibility study of restoring the system of barrier shorelines along the most threatened part of our coast.

(7) The Breaux Act plans and partnership have been the bases for the State of Louisiana's recent commitment of significant additional funds to the restoration effort, to ensure the State's ability to be a true and effective partner with the Federal Government.

(8) This partnership has produced benefits that go far beyond simply developing coastal restoration projects. It has, for example, increased the effectiveness of all agency regulatory and resource management programs by focusing the agencies on a common set of goals and objectives for the coastal area.

(9) Our initial small-scale river diversion projects are proving to be especially effective. We are currently awaiting the completion of a major feasibility study of diverting flow from the Mississippi River at a number of different sites into coastal marshes that are desperately in need of nourishment.

This history of success warrants extension. But as impressive as is its history, the true measure of the Breaux Act is much more than a list of milestones. The Breaux Act is best measured by the hope it has given and the foundation it has created. The Breaux Act has provided a true sense of collective responsibility for the stewardship of a vital national treasure. It is the foundation upon which all future work will build. It has worked well but it has much more work to do. The State of Louisiana and Governor Foster strongly urge you to allow this work to continue. It is vital to us ally Simply put, there is no substitute for reauthorizing this seminal piece of legislation.

In addition to the reauthorization of the Breaux Act, we would like to urge your support of the Estuary Habitat Restoration Partnership Act. This bill would authorize a program that would complement the Breaux Act and the National Estuary Program. It would authorize a nonregulatory competitive grant program that would broaden the partnering circle to include local governments, land owners and interest groups, as well as focusing on estuarine habitats of all types—wetlands, submerged grass beds, reefs and others. It is well conceived, implementable, cost effective and much needed.

Again, we thank you for inviting us to share our experience with the Committee and we would be pleased to offer any further assistance as you consider these and other matters.

RESPONSES BY LEN BAHR TO QUESTIONS FROM SENATOR CHAFEE

Question 1. According to your testimony, the hydrology in Louisiana has been altered so much that land was disappearing at a rate of 40-square miles per year. Under the Breaux Act, Louisiana has developed a conservation plan. The goal of the

plan is no net wetlands loss. You also indicated that the 85 restoration projects approved under the Breaux Act should reduce coastal land loss by 15 percent over the next 20 years.

Answer. Since the turn of the century Louisiana has lost about 1,500 square miles of prime coastal wetlands and, as shown in *Coast 2050*, we are projected to lose approximately another 1,000 square miles within the next fifty years unless we take effective action. During the 1960's the coast of Louisiana was disappearing at the rate of from 40- to 50-square miles per year but the rate has slowed to about 30 square miles per year, according to the most recent estimate (see answer 1b). This decline in the rate of loss is related to the fact that the most easily eroded land disappeared first. It also reflects a much more protective coastal management program, which has been particularly effective in reducing wetland losses from oil and gas production activities, both onshore and offshore in Federal waters.

It is important to note that the conservation plan developed under the Breaux Act involves Louisiana's commitment to a condition of no-net-loss of coastal wetland values due to permitted actions. In recent times, unavoidable permitted loss of Louisiana coastal wetland area has closely tracked changes in oil and gas production activity. This loss in wetland area declined significantly from 1986 to 1995, and currently averages about 400 acres lost per year, mostly the impact of large pipelines recently constructed across the coast from offshore production facilities on the outer continental shelf. This permitted loss of 400 acres per year (0.6 square mile), is only one fiftieth of the 30 square miles of annual losses from "natural" causes, such as subsidence and increasing salinity. In addition, under the Conservation Plan, this unavoidable loss of coastal wetland area is currently being mitigated one-for-one in terms of its wetland value.

Question 1a. What type of land is being lost?

Answer. The landforms that are being lost consist primarily of low lying coastal wetlands but also include ridges, natural levees of former river distributaries and barrier islands and shorelines. The wetlands include swamp forest, freshwater marsh, brackish marsh and salt marsh, with all the values and functions documented for prime wetlands, including critical habitat and nursery zones for fish and wildlife. Most of these wetlands stay wet year 'round and would never be described as developable. In addition to their habitat value, these disappearing landforms serve as the vital first line of defense against hurricane surges for people and infrastructure.

Question 1b. What is the current rate of loss in coastal Louisiana? How much land do you expect to lose over the next 20 years?

Answer. The most recent calculations carried out under the auspices of the Breaux Act and reported in *Coast 2050* indicate that coastal landforms in Louisiana are currently being lost at an average rate of about 30 square miles per year. In the absence of offsetting action, this rate would be expected to continue for the next 20 years, resulting in a projected loss of another 500 square miles by the year 2020.

Question 1c. What kind of resources would you need to actually begin gaining land?

Answer. The *Coast 2050* plan, the executive summary of which was distributed to the Committee, includes an estimated "price tag" of $14 billion to be expended over the next thirty years. Although this number is imprecise, it reflects the best current estimate of the cost of approaching an overall no-net-loss of coastal wetlands situation, which would be sustainable into the future.

Question 2. Under the Breaux Act, funding for wetlands restoration projects is divided among 3 different programs: the Louisiana Wetlands Program, the Coastal Wetlands Restoration Grants and the North American Wetlands Program. The funding is allocated so that 70 percent goes to Louisiana, 15 percent goes to the Coastal Wetlands Restoration Grants and 15 percent goes to the North American Wetlands Programs. In 1998, Louisiana received $44 million for wetlands restoration projects.

Question 2a. Why should Louisiana receive such a large share of Federal wetlands funding?

Answer. Of all the coastal wetlands in the lower forty-eight States, 40 percent are located in south Louisiana. Unfortunately, 80 percent of the loss of the Nation's coastal wetlands is occurring within Louisiana. This problem is clearly national in scope. For example: (1) about 90 percent of the fisheries harvested in the entire Gulf of Mexico spend part of their life cycle in Louisiana estuaries; (2) the major waterfowl migration flyways of North America depend on Louisiana's coastal marshes; (3) about 90 percent of the oil and gas produced in the Gulf of Mexico flows through coastal Louisiana—and as the coast retreats the pipelines and transfer equipment become increasingly at risk of rupture with devastating spills reminiscent of the Exxon Valdes incident; (4) Louisiana's ports, which lead the Nation in tonnage

shipped (450 million tons per year), are also at risk from a deteriorating coast; and (5) a unique culture, $100 billion worth of infrastructure and the entire city of New Orleans are becoming increasingly vulnerable to hurricane damage—and subject to Federal disaster claims.

Question 2b. How much funding has the State of Louisiana contributed to wetlands restoration programs over the last 9 years?

Answer. As shown in the following table, Louisiana has invested $193.6 million directly for coastal restoration (wetlands and barrier shorelines) during the past decade,[1] compared to about $319.1 million in Federal dollars ($232 million from the Breaux Act and $87.1 from the Water Resources Development Act). This means that our State has so far invested 38 percent of the total contribution to coastal restoration in Louisiana. The State contribution is especially noteworthy when one considers that Louisiana is not a wealthy State. Our average annual State investment of $19.4 million represents what could be called a significant ''citizens' fiscal burden,'' over a tenth of a percent of our relatively modest total State budget of about $14 billion. This provides solid evidence of the State's willingness to do our fair share to reverse a problem that is partly the result of Federal initiatives.

These itemized direct costs for coastal restoration in Louisiana during the past decade do not reflect the very high indirect costs to the State from increased flooding from the Gulf of Mexico due to coastal deterioration. Typical examples totaling over $28 million within the past 2 years include: (1) $5 million spent to repair State highways 1 and 308, critical north-south hurricane evacuation routes; (2) $5.9 million spent to raise State highway 47 in Chalmette; (3) $7.5 million earmarked to raise State highway 90 between Raceland and des Allemands, which submerges during strong south winds; (it should be noted that both highway raising projects were necessitated by the loss of buffer marshes, resulting in higher storm surges); (4) $3–$4 million is allocated to shore up State highway 82, the last bulwark on a retreating shoreline at Holly Beach; and (5) $6.3 million has been spent for critical projects at Grand Isle, the only inhabited barrier island in Louisiana and the site of one of our very few public beaches.

Financing Coastal Restoration in Louisiana

[July 1, 1989 through June 30, 1999]

	[Dollars in millions]
State Financial Contribution to Coastal Restoration:	
Total Louisiana Coastal Wetlands Restoration Fund Income (July 1, 1989 through present; funded from oil and gas severance taxes and fees)	203.4
Minus Projected Balance at 6/30/99	−9.8
Total State Investment From July 1, 1989 through June 30, 1999	193.6
Federal Financial Contribution to Coastal Restoration:	
Breaux Act Priority Projects (Lists 1–7)	232.0
Caernarvon Freshwater Diversion Project (WRDA)	8.4
Davis pond Freshwater Diversion Project (WRDA)	78.7
Total Federal Investment	319.1

• Attached is the fund status report from the State Treasurer. The sum of the 3 numbers underlined, $203.4 million, represents the total income to the Louisiana Coastal Wetland Restoration Fund during this period. The amount of $9.8 million is the balance in the fund on June 30, 1999.

• Also attached is the project summary report by priority project list prepared by the Corps of Engineers. The amount of $232.0 million represents the Federal construction funds available for Breaux Act priority project lists 1 through 7.

• The amount of Federal support for the Caernarvon Freshwater Diversion Project (WRDA), $8.4 million, is that portion of the project paid for from the Louisiana Coastal Wetlands Restoration Fund during the period of this analysis.

• The amount of Federal support for the Davis Pond Freshwater Diversion Project (WRDA), $78.7 million, is predicated on a total project cost of $105 million.

[1] Data shown are for the past 10 years, rather than the 9 years since the Breaux Act was signed into law by President Bush. This represents the entire life of Louisiana's dedicated coastal restoration fund since 1989, when the State adopted its own coastal restoration program.

- In summary, the State of Louisiana has contributed $193.6 million of the $512.7 million total direct costs of coastal restoration, or 38 percent of the 10 year investment in coastal restoration.

Coastal Wetlands Planning, Protection and Restoration Act

[Project Summary Report by Priority List]

P/L	No. of projects	Acres	CSA executed	Under const.	Const. completed	Federal construction Funds available	Non/Fed. construction funds available	Baseline estimate	Current estimate	Obligations to date	Expenditures to date
1	14	19,249	13	2	14	$28,084,900	$8,491,653	$39,933,317	$47,397,140	$22,351,369	$19,124,014
2	15	13,373	15	1	10	28,173,110	10,019,903	40,644,134	56,819,161	34,438,410	38,033,515
3	13	12,937	13	3	7	29,939,100	8,258,759	35,050,606	47,556,243	28,994,233	21,407,051
4	8	2,387	7	2	1	29,957,533	2,663,379	13,924,366	17,870,123	9,847,867	2,219,950
5	9	5,063	7	1	2	33,371,625	4,719,891	60,962,963	47,188,907	22,740,609	5,719,271
6	11	10,538	7	3	0	39,134,000	5,631,169	54,614,991	56,257,068	14,025,982	774,172
7	4	1,855	3	1	0	42,540,715	2,111,048	21,090,051	21,245,982	3,367,075	35,952
8	6	2,324	0	0	0	41,864,079	3,541,176	16,435,508	16,435,508	1,561,725	10,447
Active projects	80	67,726	65	13	31	273,065,062	45,436,978	282,655,936	310,770,132	137,327,269	87,324,373
Deauthorized projects	11	312	5	0	2			21,789,087	552,848	1,033,216	920,240
Total projects	91	68,038	70	13	33	273,065,062	45,436,978	304,445,023	311,322,980	138,360,486	88,244,618
Conservation plan	1	0	1	0	1			238,871	238,871	179,153	143,855
Total construction program	92	68,038	71	13	34	273,065,062	45,436,978	304,683,894	311,561,851	138,539,639	88,388,468
						318,502,040					

Wetlands Conservation Fund

[049–00071]

For Fiscal Years	Deposits	Interest	Donations	Other	Total fiscal year revenue	Expenditures	Accumulated balance
FY89–90:	5,000,000.00	165,187.00			5,165,187.00		5,165,187.00
FY90–91:							
Initial	5,000,000.00	744,304.00	4,000.00				
90–91	10,000,000.00				15,737,304.00	8,244,083.84	12,658,407.16
FY91–92:							
Initial	5,000,000.00						
90–91	20,000,000.00						

Wetlands Conservation Fund

[049–00071]

For Fiscal Years	Deposits	Interest	Donations	Other	Total fiscal year revenue	Expenditures	Accumulated balance
91–92	10,000,000.00	1,399,382.00	163,250.00	66,386.55	36,629,018.55	11,388,183.09	
Per Year Exp Adj						(423.64)	37,899,666.26
FY92–93:							
Initial	5,000,000.00						
91–92	10,000,000.00						
92–93	10,000,000.00	1,399,726.00	61,520.00	184,891.00	26,586,137.00	8,905,605.68	
Per Year Exp Adj						(52,571.83)	55,632,769.41
FY93–94:							
Initial	5,000,000.00						
92–93	10,000,000.00						
93–94	10,000,000.00	1,763,680.00	20,251.46	1,009.62	26,784,941.08	18,439,551.36	
Per Year Exp Adj						(110,177.07)	64,088,336.20
FY94–95:							
Initial	5,000,000.00						
93–94	10,000,000.00						
94–95		3,597,149.00	100,216.58	17,264.34	18,714,629.92	10,903,482.52	
Per Year Rev Adj				190,483.24	190,483.24		72,089,966.84
FY95–96:							
Initial	5,000,000.00						
94–95	0.00						
95–96		3,739,561.00	12,318.85	15,956.13	8,767,835.98	16,106,489.61	
Per Year Adj				230,032.85	230,032.85		64,981,346.06
FY96–97:							
Initial	5,000,000.00						
95–96	10,000,000.00						
96–97		3,744,752.00	104,785.28	11,773.47			
Tran from SGF Act 11				7,800,000.00	26,661,310.75	13,074,944.57	
Per Year Adj				954,720.32	954,720.32		79,522,432.56
FY97–98:							
Initial	5,000,000.00						
96–97	20,000,000.00						
97–98		5,062,754.21	873,113.08	12,921.18	30,948,788.47	32,199,794.50	88,020,804.33
Per Year Adj				9,749,377.80	9,749,377.80		
FY98–99:							

Initial	5,000,000.00						
97–98							
98–99		4,141,257.00	744,167.88	9,594.80	9,895,019.68	16,580,174.40	81,928,096.70
Per Year Adj				592,447.09	592,447.09		
Total—Inception to date	170,000,000.00	25,686,752.21	2,083,623.13	19,836,858.39	217,607,233.73	135,679,137.03	81,928,096.70
Deposits						170,000,000.00	
Less expenditures						(135,679,137.03)	
Encumbrances						??	
Net mineral revenue						34,320,862.97	
Adjusted Fund Balance							81,928,096.70

STATEMENT OF SALLY YOZELL, DEPUTY ASSISTANT SECRETARY FOR OCEANS AND ATMOSPHERE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

INTRODUCTION

Mr. Chairman, thank you for this opportunity to submit a statement for the record on S. 835, your Coastal Estuary Habitat Restoration Partnership Act of 1999, and S. 1119, to continue funding of the Coastal Wetlands Planning, Protection, and Restoration Act.

NOAA AND ESTUARY HABITAT RESTORATION

I appreciate the Committee's leadership in focusing on the needs to protect of the Nation's estuarine and coastal resources. Estuaries are an important part of our Nation's economic and environmental well-being. These special coastal places provide habitat for many important species, act as nature's water treatment system, provide flood control and protection against storm damage, and are wonderful recreational areas. Estuaries and coastal wetlands also provide essential habitat for 80–90 percent of the recreational fish catch and 75 percent of the commercial harvest. Despite their importance, these natural systems are in trouble. Estuaries are suffering from water quality problems, declining habitat quality, and, in some areas, total habit loss. We desperately need to restore these areas to help replace habitat that fish, marine mammals and endangered species need to survive.

National Estuarine Research Reserves

Realizing the importance of our Nation's estuaries, Congress established the National Estuarine Research Reserve System in 1972 to improve the health of estuaries and coastal habitats. This Federal/State partnership has proven successful at managing some of our Nation's most pristine estuaries.

Today, there are 24 Reserves, with a 25th to be designated later this year in Florida and two more will be added in 2000, one in California, the other in upstate New York. Reserves are operated by 20 States and one territory, stretching along the East Coast from Wells, Maine, to Jobos Bay in Puerto Rico, and along the West Coast to the Tijuana River in California to Kachemak Bay, Alaska. Through the work of expert staff, monitoring and education programs, and onsite labs, NOAA has developed an innovative partnership with the coastal States that has resulted in improved management of nearly one million acres of estuarine waters and lands.

Earlier this year, the President announced his $1 billion Lands Legacy Initiative to expand Federal efforts to save America's natural treasures. The initiative includes a $14.7 million increase to improve the Reserve System. This increase would enhance the protection of critical estuaries by providing funds to States and communities for the acquisition of lands in and around the existing Reserves. Funds will also be used to improve management capabilities and upgrade facilities at these sites.

Although the Reserves represent some of the Nation's most valuable and least disturbed estuaries, restoration in both the Reserves System and estuaries around the Nation is essential in order to protect these biologically diverse resources. To date many of the Reserves, have undertaken innovative restoration science projects. For example, the Chesapeake Bay Reserve in Maryland is working to address erosion and habitat loss. Areas of the Chesapeake Bay region are severely eroding due to the impacts of sea level rise. In an effort to deter erosion the Reserve is currently evaluating Maryland's policies concerning the removal of invasive marsh grasses, a traditional restoration practice. Research has shown that these grasses may prevent erosion. The Reserve will conduct a workshop and the resulting recommendations may be used to evaluate and revise current State policies relating to salt marsh grass management in certain regions around the Chesapeake Bay.

In addition, the South Slough Reserve near Coos Bay, Oregon, has conducted restoration activities at two sites that were experiencing significant subsidence and erosion. By redistributing organic material over the surface of the marsh, the Reserve was able to re-establish the sites' original elevations, tidal flushing, and tidal and freshwater channels utilized by salmon and other fish populations. Indicators of healthy marsh ecosystems, such as water quality, abundance of marsh grasses and fish species, and sedimentation and erosion rates were monitored at all the restored sites. Experimental plots are being designed to examine different techniques for developing habitat for salmon and other fish.

To further improve our Nation's estuaries, NOAA and the University of New Hampshire established the Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET). CICEET serves as a national center for the develop-

ment and application of innovative technology to restore and improve estuaries and provides NOAA with a mechanism to work with State and local communities as well as academia. CICEET uses the Reserves as living laboratories and is currently supporting several projects that apply innovative technologies to coastal habitat restoration.

Fishery Habitat Restoration

The President's Lands Legacy Initiative also includes $22.7 million in new money for Fishery Habitat Restoration. This important initiative is designed to increase the restoration of marine and fish habitat, including estuary restoration. NOAA has experience in both small and largescale restoration at the community level through our Community Based Restoration Program and at the regional level. The Fishery Habitat Restoration initiative represents both small and large scales of restoration implementation with Federal Agencies working with States, local governments, private organizations and landowners to accomplish voluntary restoration of our nation's valuable marine habitats. NOAA urges any legislative initiative to recognize the benefits of both large and small scale restoration and strongly points to the need for full partnership with local communities, State and Federal Governments and other stakeholders.

Restoring Estuaries Through Trusteeship

As a primary trustee for coastal and marine resources, NOAA is responsible for protecting and restoring trust resources injured by releases of oil or other hazardous substances. Under the Comprehensive Environmental Response, Compensation and Liability Act (Superfund), the Oil Pollution Act, and the Clean Water Act, NOAA has recovered funds from responsible parties for restoring damaged estuaries.

NOAA works at hazardous waste sites with the Environmental Protection Agency (EPA) under Superfund and with other lead cleanup agencies to develop remedies that protect coastal resources, and support habitats and human health. NOAA's Coastal Resource Coordination program works at approximately 260 hazardous waste sites a year, about 75 percent of which affect estuaries. Several on-going protection and restoration efforts in estuarine environments include the Tulalip Landfill in Puget Sound in Washington, the Army Creek site in the Delaware Estuary, the Bailey Waste Landfill in Texas, and the Conoco site in the Calcasieu Estuary in Louisiana.

NOAA's Damage Assessment and Restoration Program (DARP) restores coastal and marine resources injured by releases of oil and other hazardous materials. Since its inception, DARP and its partners have generated more than $230 million for the restoration of coastal resources from those responsible for the damage. NOAA's unique interdisciplinary approach to natural resource damage assessment and restoration was shaped by more than 10 years of assessing injured coastal and marine resources, including those affected by the *Exxon Valdez* oil spill in March 1989.

DARP is currently working on a number of natural resource damage assessments in estuarine environments, including the Calcasieu Estuary, Commencement Bay in Washington, Narragansett Bay in Rhode Island, and Lavaca Bay in Texas. Funds recovered through the damage assessment process are used to restore injured coastal and marine resources. Most of these restoration projects are completed in our Nation's estuaries through cooperation with both Federal and State resource agencies. This experience has reiterated the importance of partnerships and the absolute need to document restoration success for the benefit of further restoration efforts.

These natural resource trustee activities ensure that coastal resources are protected and restored following releases of oil and other hazardous materials, resulting in more productive and diverse estuarine habitat for fish and wildlife, cleaner waters, and healthier ecosystems.

Coastal Wetlands Planning, Protection and Restoration Act

Another program, the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Program provides critical funding and support for the restoration, protection, conservation and enhancement of threatened wetlands in the Louisiana coastal zone. NOAA and other participating Federal and State agencies have the opportunity to plan and implement large scale coastal wetlands restoration projects that are significant on a local and national level. Forging partnerships with State agencies such as the Louisiana Department of Natural Resources and local parish governments has proven critical to the success of restoration projects and has resulted in the award of funding for 17 restoration projects totaling over $65 million designed to address the rapid loss of Louisiana's wetlands. CWPPRA provides the hope of sustaining a resource that is important to the economic, recreational and cultural base of the State and region.

As required by CWPPRA, the U. S. Army Corps of Engineers established a Task Force composed of EPA, the Department of Commerce, the Department of the Interior, the Department of Agriculture, and the State of Louisiana. The Task Force annually prepares and submits to Congress a project priority list of wetland restoration projects in Louisiana. The site selection process is based on the proposed project's technical (scientific) merit, cost effectiveness, and predicted wetland quantity and quality. The Task Force was responsible for the preparation of a comprehensive coastal Restoration Plan for the State of Louisiana which was completed at the end of 1993. The Plan provides much of the basis for selecting future restoration projects.

Each CWPPRA project requires the sponsorship of a Federal agency Task Force member for implementation. the Act uses a trust fund, which is supported by revenues from tax receipts on small engines and other equipment. Of the amount appropriated from this fund, 70 percent (an amount not to exceed $70 million annually) is available for wetland restoration projects and associated activities in Louisiana. While some 70 percent of the funds available under CWPPRA are dedicated to restoring Louisiana wetlands, it is important to note that project selection is still based on merit criteria. CWPPRA mandates a cost-share of 85 percent Federal funds to 15 percent State funds for all Louisiana projects. To provide a special incentive for comprehensive planning, CWPPRA permits a lower cost for the State after the Task force approves a coastal plan for restoration. The State complies with this mandate by using the money in the State Coastal Restoration Trust Fund created in 1989.

Our experience with CWPPRA has been excellent both in terms of its operational principles and resulting restoration success. Any new estuarine restoration legislation that emulates the planning, organizational and implementation of CWPPRA in the State of Louisiana would establish an excellent framework for duplicating the success of the CWPPRA in other coastal environments.

In wetland restoration, is it is not necessarily the number of acres of habitat restored that indicates success. Rather, the true goal of any estuarine restoration program is to ensure the quality and long-term viability of the restored estuary.

S. 835 COASTAL ESTUARY HABITAT RESTORATION PARTNERSHIP ACT OF 1999

National estuary habitat restoration legislation represents an excellent opportunity to further progress in promoting estuarine habitat restoration. NOAA has much to add to a National Estuary habitat restoration program particularly in the areas of research and monitoring. NOAA supports a number of provisions found in S. 835, the Estuary Habitat Restoration Partnership Act of 1999.

- Area Restoration Plans—NOAA supports the priority given to restoration in areas that have restoration plans currently in place. These plans, which identify restoration goals, sites and priorities within a region, need to be based on sound science; scientists would be able to determine which efforts will most benefit the ecosystem, and fit best within the socioeconomic trends of the area and concerns of its citizens.
- Achieving the goal of Estuarine Health—NOAA also supports the priority given to estuarine areas and watersheds that already have strong and effective programs to manage point and nonpoint pollution sources and other activities that can significantly impact estuarine areas. These programs will help ensure the long-term success of the restoration activities.
- Collaborative Decision-Making—NOAA supports a collaborative approach to decisionmaking for funding restoration projects as established by the Council, and believes the Council will improve cooperation among Federal agencies. NOAA strongly supports the provision of appointing a Council member to have lead responsibility for overseeing and assisting others in implementing restoration projects. This technique has been used under CWPPRA with a result of enhanced collaborative efforts and joint responsibility between Federal Agencies and the local project sponsors for restoration success. NOAA would like to request a clarification that Collaborative Council members can enter into Memoranda of Understanding (MOUs) with project applicants. NOAA believes it is very important that Federal agencies, not just the Collaborative Council, be able to enter into these MOUs.
- Balanced Approach to Funding—Funding, as proposed in S. 835, ensures an appropriate blend of restoration projects. NOAA would suggest, however, that the Great Lake States and the island territories and commonwealths (American Samoa, Commonwealth of Northern Marianas Islands, Guam, Puerto Rico, and the U.S. Virgin Islands) also be eligible for the grants as they have important estuarine habitats that need restoration.

• Monitoring—NOAA also is pleased by the bill's strong commitment to monitoring the success of restoration projects. We need to ensure consistent and comparable monitoring at various sites to measure the success of the program as a whole. NOAA supports the development of standard data formats while allowing for site-specific flexibility. Such protocols should recommend a suitable long-term monitoring period that may extend for periods of 20 years or more.

• Data Collection and Management—NOAA's experience in restoration science has repeatedly highlighted the need for detailed regional restoration planning and follow-up monitoring and data management. NOAA believes data management is an important aspect of any National Program and we are pleased to see its inclusion in S. 835.

While NOAA is supportive of S. 835 overall, I would like to recommend some areas where the bill could be strengthened.

• Research—Vital estuarine ecological research needs to be supported to promote adaptive management in the field. We recommend funding for innovative projects that combine restoration with research and development. Such projects promote the development of new, state-of-the art restoration techniques and technologies. One mechanism to ensure that such projects are funded is the establishment of a set aside of funds for this purpose by the Council.

• Regional advisory members for the Collaborative Council—NOAA recommends that the Collaborative Council be expanded to include regional representatives of States and private organizations with a strong interest in estuaries restoration to help ensure that the projects selected will meet local priorities. These persons, one representing each region, would be advisory members of the Collaborative Council. NOAA has made the same recommendation with regard to H.R. 1775, the Estuary Habitat Restoration Partnership Act, and the involved Federal agencies are providing drafting assistance on this point. The agencies would like to offer the same assistance to the drafters of S. 835.

• Consultation with State Coastal Zone Management programs—Consultation with State Coastal Zone Management programs should be mandatory to ensure consistency with State CZM policies, especially during development of State or local restoration strategies and during reviews of locally or privately sponsored project proposals. Consultation with State CZM programs will result in a more streamlined process.

S. 1119, COASTAL WETLAND PLANNING, PROTECTION, AND RESTORATION ACT

NOAA strongly supports the re-authorization of funding for CWPPRA, as stated in S. 1119, to continue the important estuarine restoration efforts described earlier in this testimony. Continued funding for this important program is needed if we are to slow down the coastal wetland losses in the highly productive Louisiana coastal zone.

CONCLUSION

In conclusion, NOAA has expertise and scientific capability to assist in making sound decisions about estuarine habitat restoration. The primary lesson we have learned from our restoration activities is the importance of partnerships, strong science and long-term monitoring to achieve successful estuarine restoration.

S. 835 and S. 1119 provide a strong basis for coastal habitat restoration. NOAA's expertise in estuarine restoration implementation, science and monitoring can help achieve the goals of S. 835 as it is now achieving the goals of the CWPPRA program. We look forward to working with the Committee to improve this important legislation.

I believe the Committee has taken an important step forward in addressing these important issues by holding this hearing today. I applaud the Committee's leadership and commitment to protecting our Nation's estuarine and coastal resources. We look forward to working with you to restore the Nation's estuaries.

STATEMENT OF HOWARD MARLOWE, PRESIDENT, AMERICAN COASTAL COALITION

American Coastal Coalition is delighted that the Senate Committee on Environment and Public Works is holding this hearing on H.R. 999, Beaches Environmental Awareness, Cleanup, and Health Act of 1999. This bill unanimously passed the House of Representatives two months ago. We are hopeful that it will be approved by this Committee and swiftly brought to the floor so that its benefits will be felt by the public no later than the beach season in 2000.

Beaches are the top vacation destination for both Americans and foreign tourists. They are part of the nation's coastal infrastructure, which is visited each year by over 180 million people who enjoy its recreational opportunities. Coastal tourism is an economic engine that supports over 28 million jobs and leads to investments of over $50 billion in goods and services. To a significant extent, this tourism would not exist were it not for the lure of America's coastal environment. Beaches, water, plants, and fish are a portion of that environmental infrastructure. To the extent that public confidence in that infrastructure declines, so does coastal tourism. They are directly linked.

The American Coastal Coalition believes that many states and local government agencies have taken steps to monitor beach water quality. Their efforts deserve to be commended and supported so they are using the most current standards and testing equipment. Unfortunately, not all States monitor their coastal recreation waters to ensure compliance with water quality standards for pathogens.

The BEACHES Bill (H.R. 999) requires States to incorporate water quality criteria for pathogens in coastal recreation waters into their water quality standards within 3½ years so that the State standards are consistent with the requirements of the Clean Water Act. States and local governments would be able to get grant money to develop and implement programs to monitor for pathogens in coastal recreation waters and to notify the public, local government officials, and EPA, of when those criteria are exceeded.

We are, of course, deeply concerned about the numerous reports of beach closings due to water contamination. The American Coastal Coalition believes that congressional passage of H.R. 999 will help to reduce the number of these closings while also increasing public awareness of waters that may not be safe to enter.

It is appropriate, however, that we make it clear to Congress and the public that better testing and monitoring alone will not solve the problem. As more and more people come to live and vacation along the coast, the local infrastructure required to handle the waste they create is being stretched beyond its capacity. Until there is more money available at the federal and state level to expand and modernize sewage systems, we will see a disturbing increase in beach closures. A July 16th report in the San Diego Union-Tribune that bacterial pollution closed county beaches 877 times in 1998, "a huge jump over the 173 closures in 1997. This is an upward trend that will be repeated in many areas of the country until government at all levels makes the commitment to fund the necessary infrastructure and policies that will either reduce the quantity of pollutants that can harm the coastal environment or increase the capacity of treatment systems to handle these pollutants.

The American Coastal Coalition is beginning to look into some sort of Coastal Water Trust Fund that will provide an assured level of federal funding for all aspects of beach management, including restoring eroded beaches and expanding local sewage treatment facilities. It will take some time to refine and gain support for this concept. In the meantime, H.R. 999 will produce benefits that are tangible. We urge this Committee to support it.

STATEMENT OF THE COASTAL STATES ORGANIZATION, INC.

These comments are submitted for the hearing record on behalf of the Coastal States Organization (CSO), representing the collective interests of the coastal states, commonwealths and territories along the Atlantic, Pacific, Gulf coasts and Great Lakes in furthering and sustaining the use and protection of our nation's coastal resources.

CSO's testimony focuses on Sen. Lautenberg's *Beaches Environmental Assessment, Closure, and Health Act*, S. 522; Rep. Bilbray's bathing water quality legislation, H.R. 999; the *Estuary Habitat Restoration Partnership Act*, S. 835; and Sen. Torricelli's bill to implement plans developed under the National Estuary Program, S. 878.

THE BEACH BILLS (S. 522 AND H.R. 999)

States and communities already regularly monitor recreational waters to protect public health, and are aware of the location of many problem areas and some of the sources of those problems. However, monitoring efforts can and should be improved upon.

There is a pressing need for timely and cost-effective sampling techniques, predictive models, effective monitoring strategies, trained personnel, and public education on the risks associated with bathing waters. The discovery of the association between neurological impairments in humans and outbreaks of *Pfiesteria piscicida*, which cannot be detected by ordinary water quality sampling, highlights the need

to improve the science and methodology of water quality monitoring. Much is still unknown about the pathogens responsible for swimming related illnesses and the adequacy of current indicators of associated health risks.

One of the basic problems with monitoring programs, which the research supported by this legislation will hopefully help solve, is the lack of real time information on water quality health risks. There is frequently a time lag between water quality sampling, testing and communicating health risks to the public. The delay between sampling and testing may be as much as 72 hours, during which time the quality of a water body can change dramatically. In fact, such changes can occur within minutes of taking a sample if a significant rainfall event occurs.

S. 522 requires states to adopt water quality criteria consistent with federal water quality criteria for coastal recreational water quality, and for the Environmental Protection Agency (EPA) to adopt regulations for the monitoring of coastal recreational waters by states. The legislation should contain a clear directive to EPA to accommodate the variability in coastal waters and their use. The legislation should also provide states with flexibility in structuring monitoring.and notification programs. While the objective of the legislation is to obtain a consistent standard for protection, there is a need for flexibility in how that standard is obtained.

The criteria and sampling requirements for a beach with a summer water temperature of 57 degrees in Maine, will not be appropriate for the tropical waters of the Florida Keys. The need for and means of monitoring waters along Maryland's crowded ocean beaches may not be the most appropriate for Maryland's sluggish tidal creeks. Variances in salinity, water temperature and flow rate may require the use of different indicators for pathogens and sampling techniques. Because water quality impairments are often associated with rainfall, regional differences in rainfall patterns should also be taken into account.

States do not support uniform monitoring and notification requirements. Such requirements would not anticipate the great diversity in bathing waters among and within states, and would likely lead to requirements for monitoring in situations where there is little or any benefit to protecting public health. In establishing a national coastal recreation water quality monitoring program, Congress needs to make it clear to EPA that the program shall not require monitoring for the sake of monitoring. The purpose of the monitoring program is to protect human health, and the only monitoring that should be required is that known to be effective for that purpose. The effectiveness of state programs in protecting public health is the basis upon which they should be measured. How states achieve this objective will vary.

In order to be effective, a monitoring program needs to be both practical and affordable. The legislation should emphasize EPA's role in minimizing, the costs associated with developing criteria and monitoring so that states and communities can afford to implement the programs. The objectives of the legislation need to be balanced with a recognition that states and communities do not and will not have the resources to monitor every entry point into coastal waters. H.R. 999 recognizes that states must be allowed to prioritize areas for monitoring based on available resources and other factors. CSO supports these provisions. The geographic scope of application for monitoring requirements should be further limited to designated bathing areas beaches that are publicly owned and maintained.

While H.R. 999 does not require EPA to specify monitoring and notification requirements by regulation, there is still not a clear delineation of who has the primary responsibility for the design of monitoring programs. This concern arises from the provision which requires EPA to develop "performance criteria" for assessing state monitoring and notification programs. The term is too vague to ascertain the degree of uniformity EPA will require of state programs for approval.

The evaluation of the adequacy of state monitoring programs should be based on the likelihood of the state's program meeting the objective of protecting public health. CSO proposes that EPA's role be to facilitate the attainment of that objective with guidance on the means of attainment. State programs which have equivalent standards of protection should meet EPA approval regardless of their conformity with the EPA guidance.

States should be able to satisfy the public notification objectives of the bills with whatever means are most practical. A uniform requirement to post signs to notify the public of current water quality conditions would be impractical in many situations. Acceptable means of notification should include permanent signs, 1–800 phone numbers, web sites, radio announcements, newspaper alerts and other means of notification through which members of the public can readily obtain the latest information available on water quality conditions.

Rather than a strict open/closed rule for waters, Congress should allow the use grading systems for health risks, combined with public education campaigns to inform the public about the varying degrees of water quality. Risk can vary by age

group and individual. We also note that, to a certain extent, risk is a matter of personal choice with some persons more willing to assume a certain level of risk than others.

The bills require EPA to develop a database on bathing water quality. States should have a role in the design of the proposed EPA database on bathing water quality to assure that it is compatible with state systems and contains valid data, and does not result in misleading and contradictory information on local water quality conditions.

If funded at or near the proposed authorization level of $30 million annually, H.R. 999's proposed financial assistance to states could greatly further the progress being made by states in improving the monitoring of bathing waters but only if funding provided for this program is not at the expense of other environmental programs. With states already burdened with under-funded and unfunded mandates for water quality programs, there is concern that new programs will only increase the burden and diminish the allocation of resources among programs. Members are urged to give careful consideration to costs and likelihood of funding for new programs.

The legislation should also include an authorization for a well-funded technical assistance program to enable states to develop appropriate criteria, identify monitoring sites, develop predictive models and devise effective monitoring strategies.

In discussing these bills, a final point needs to be emphasized, i.e., fixing the problem. Monitoring is only one element of an effective water quality program. It is both the first and last step in the loop of water quality assessment, improvement and protection. A great deal more effort and federal funding are needed to support state and local efforts to address the causes of coastal water pollution—polluted runoff, storm water discharges, and combined sewer overflows.

THE ESTUARY HABITAT RESTORATION PARTNERSHIP ACT (S. 835)

The comparatively narrow band which the coast comprises is home to 53 percent of the Nation's population. It is not surprising, therefore, that the greatest historical losses and projected future pressure on sensitive coastal ecosystems are along our nation's coasts.

In trying to restore resources, there is much still to learn as to what makes for successful restoration. We learn by doing and sharing. The effort to achieve environmental restoration goals needs to be collective, collaborative, cooperative and sustained.

We commend Sen. Chafee for his efforts to develop a strategic approach to estuary habitat restoration. In addition to providing increased funding and technical support to implement coastal resource protection and restoration plans, the legislation before the Committee will foster greater coordination among federal agencies to achieve a more effective, and overall less expensive, strategic approach to resource protection and restoration.

S. 835 would:

- Establish a measurable objective of restoring one million acres of estuarine habitat by 2010. One million acres may seem like a lot, and it is; however, ambitious estuary habitat restoration plans are already underway. For example, the State of Maryland has established an objective of restoring 57,000 acres of submerged aquatic vegetation by the year 2005; 60,000 acres of wetlands; and 600 miles of stream buffers by 2010;
- Bring together the Corps, EPA, NOAA, Fish & Wildlife Service to develop of a strategy for habitat restoration. We will not achieve our restoration objectives without a comprehensive and coordinated strategy for restoration projects;
- Recognize the importance of the private sector and non-governmental organizations in achieving restoration objectives. One of the most significant changes over the past 10 years in coastal environmental protection and restoration is the increased involvement and financial commitment of non-governmental organizations and the private sector in designing and implementing restoration projects; and
- Establish a program to monitor and report on the effectiveness of restoration projects. There is still much to be learned about how to do restoration. The restoration strategy needs to be regularly reviewed and revised to take into account feedback on the success of projects, new information of species and ecosystems, and new techniques and methodologies for restoration.

We suggest that the objectives of S. 835 and project eligibility be expanded and funding increased to include the Great Lakes and Insular Territories which are also part of the ecological complex many estuarine species rely on at some point during their life cycle. In addition, we suggest that the Committee take a look at H.R. 1775 which has been introduced in the House by Rep. Wayne Gilchrest. H.R. 1775 provides states with an active voice on the federal interagency Estuary Habitat Res-

toration Council in the development of the national strategy. H.R. 1775 would also establish regional restoration councils comprised of states to maximize the coordination between State and Federal activities. To the extent possible, project priorities should be selected at the state and regional level.

The task of restoring habitat is not as simple as just putting things back to the way they were before. Remember the movie "Field of Dreams" and the voice from nowhere which spoke to Kevin Costner saying "If you build it, they will come." While habitat restoration projects-may be building fields of dreams, just reconstructing a landscape will not ensure that "they," i.e., fish and wildlife, will come. Habitats are livhlg communities where species are as dependent on each other as they are on the physical attributes of the site. Putting the pieces back together requires a longterm commitment, including monitoring and maintenance. With the need for long-term commitments to habitat restoration projects, the key to success of restoration is local citizen involvement and support. Despite our best intentions, we are not going to achieve our restoration objectives without a concerted and strategic effort by states, communities, the federal agencies and private citizens.

MOVING THE NEP FORWARD—S. 878

CSO supports the objectives of the Torricelli bill, S. 878, to provide funding to implement plans developed to restore and protect water quality and habitat in estuaries within the National Estuary Program (NEP). The lack of a Federal commitment to the implementation of these nationally significant estuaries is a substantial shortcoming of the program.

One of the greatest strengths of the National Estuary Program is that it brings together a broad range of stakeholders to develop comprehensive plans. Most of those plans have been completed. These plans usually contain hundreds of action items at the state and local level. While parts of the plans are being implemented, many actions remain to be undertaken. For example, while many funding commitments have been secured to implement many of the Action items in the Comprehensive Conservation Management Plan (CCMP) recently submitted for Maryland's Coastal Bays NEP, there is still $1.1 million in unmet needs for the coming year and approximately $5.2 million is needed for the balance of its 15-year implementation plan. The shortfall in implementation funding is also a problem at the other 27 NEP sites. Federal assistance for implementation will be necessary if the investment in the NEP is to mature to fruition and to fully realize the benefits of protecting and restoring our nation's most significant estuaries.

CONCLUSION

CSO thanks the Committee for its attention to coastal issues and consideration of the views of the states. CSO will work with the Committee to address the concerns raised in our testimony to ensure that the intent of the legislation is fulfilled by the most practical and effective achievable means.

U.S. DEPARTMENT OF THE INTERIOR,
Washington, DC., September 28, 1999.

Hon. JOHN H. CHAFEE, *Chairman,*
Committee on Environment and Public Works,
U.S. Senate,
Washington, DC.

DEAR MR. CHAIRMAN: The Department of the Interior supports S. 835, the Estuary Habitat Restoration Partnership Act of 1999 and recognizes its importance in restoring our Nation's critical estuarine habitats. We do have a suggestion to further strengthen the legislation. We request that the Committee enter this letter into the official hearing record. An identical letter has been sent to the Honorable Max Baucus, Ranking Member.

Estuaries are the site of some of the most ecologically and economically important habitats in the United States. The U.S. Fish and Wildlife Service has long recognized their value and maintains at least 178 National Wildlife Refuges in coastal areas. Estuaries host an extensive variety of migratory songbirds, fishery resources, threatened and endangered species, and wintering waterfowl. Even so, these essential habitats and the ecosystems they represent are being severely threatened by habitat alteration, eutrophication, toxic contamination, declines in fish habitat, sea level rise, and invasive species.

The grants program created by S. 835 will complement many of the Service's current programs. The Service's Coastal Program works to conserve healthy coastal habitats for the benefit of fish, wildlife, and people. It does this by forming coopera-

tive partnerships to protect and restore coastal habitats and providing technical and financial assistance to Federal and State agencies, local and tribal governments, businesses, private landowners, and conservation organizations, such as local land trusts and watershed councils. The Service's Coastal Program has worked since 1991 to develop a solid network of partnerships with local organizations in 11 priority watersheds throughout the Nation. These connections, combined with program expertise in priority habitat identification and coastal restoration techniques, facilitate the efficient transfer of funds to on-the-ground projects with tangible results.

Over the past 5 years, the Service's Coastal Program partnerships have protected over 97,000 acres through conservation easements, reopened 1,955 miles of coastal streams for anadromous fish passage, restored 28,700 acres of coastal wetlands, restored 15,852 acres of coastal upland habitat, and restored 235 miles of riparian coastal habitat. The Estuary Habitat Restoration Partnership Act of 1999 and the Service's Coastal Program are sure to augment one another and further their mutual goals of estuary restoration and protection.

The Service also administers two grants programs pursuant to the Coastal Wetlands Planning, Protection, and Restoration Act of 1990: the National Coastal Wetlands Conservation Grant Program for coastal State agencies, and the Coastal Grants portion of the North American Wetlands Conservation Fund, established by the North American Wetlands Conservation Act (NAWCA).

Under the National Coastal Wetlands Conservation Grant Program, the Service provides matching grants to State conservation agencies for acquisition, restoration, management and enhancement of coastal wetlands. Currently, close to $10 million in grants are awarded annually through a nationwide competitive process. To date, $62.6 million in funding has been awarded to 24 coastal States and one U.S. Territory, and more than 87,000 acres of coastal wetlands have, or will be acquired, protected, or restored.

Under the NAWCA, the coastal grant portion of the Fund is provided to support projects in coastal States but can be awarded to any person, organization, or agency providing a 1:1 match and fulfilling both the criteria of NAWCA and its nine-member Council. These funds are closely linked to fulfilling the purposes of the North American Waterfowl Management Plan, which is served by 10 Joint Venture partnerships located in critical habitat regions throughout the country. We encourage you to recognize the opportunity that exists for the council established under S. 835 to work with the Joint Ventures and the NAWCA Council on estuary restoration projects. NAWCA is an excellent model for a partnership-driven approach to a Federal grants program. In fiscal year 1999, $10 million in grants were awarded through the competitive grants program for coastal and estuary restoration projects. Since its inception in 1990, the program has awarded over $65 million in funding in 26 coastal States and the U.S. Virgin Islands, representing over 308,000 acres of protected or restored habitat.

The Service believes that the legislation would be strengthened if it included State and regional representation in an advisory capacity on the council to ensure that a bottom-up approach to estuary restoration is achieved.

The Service would like to thank the co-sponsors of S. 835, the Estuary Habitat Restoration Partnership Act of 1999, for their vision and leadership in introducing this important legislation, and the full Committee for having an informative hearing on the bill. We look forward to working with you and your staff to enact legislation to restore our Nation's estuaries this year.

The Office of Management and Budget advises that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincer

Assistant Secretary for Fish and Wildlife and Parks.