

OFFSHORE OIL AND GAS ACTIVITY IMPACT

HEARING
BEFORE THE
COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
ONE HUNDRED SIXTH CONGRESS
FIRST SESSION
ON THE
IMPACTS OF COASTAL AREAS AND COMMUNITIES CAUSED BY
OFFSHORE OIL AND GAS EXPLORATION AND DEVELOPMENT

JANUARY 27, 1999



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OFFSHORE OIL AND GAS ACTIVITY IMPACT

WEDNESDAY, JANUARY 27, 1999

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 9:35 a.m., in room SH-216, Hart Senate Office Building, Hon. Frank H. Murkowski, chairman, presiding.

OPENING STATEMENT OF HON. FRANK H. MURKOWSKI, U.S. SENATOR FROM ALASKA

The CHAIRMAN. Good morning. We will call the hearing to order.

This is the Committee on Energy and Natural Resources, an oversight hearing on the impacts of offshore activities on coastal States and communities. And I might add, for the benefit of those of you, this is not our normal room. The Architect of the Capitol has designs on our space and, as a consequence, there is substantial construction going on. So, I suspect at some point in time we will be moving back.

But we also have a hearing tomorrow. And I believe it is in this room. And we will hear from witnesses on the state of our domestic oil industry from the standpoint of the impact of the mergers, consolidations, as well as the smaller producers, as well as the drilling contractors, and the general effect that lower oil prices are having on the economy and the continued increase in foreign production, particularly that which would be potentially brought about by the lifting of the sanctions on Iraq, from about 500,000 barrels a day to 2.5 million.

Let me welcome Senator Bingaman, as he takes over the role of the ranking member, from long-time member, Senator Bumpers. And we look forward to working with you, my Democratic colleagues on your side, as well as the very professional staff that we have on both sides. We have been graced, I think, in this committee with a good deal of bipartisanship, and we continue to look forward to having that kind of a relationship as we pursue the areas of responsibility under our jurisdiction.

So, welcome to the first Energy and Natural Resources Committee hearing of this new Congress.

I would also like to point out that we are pretty much on schedule with our hearings. We have not lost any significant time as a consequence of the other items that have taken up a good deal of our attention.

We are going to hear testimony today from those that are most affected by the offshore oil and gas production, the States and com-

munities who share their coast for the national interest of domestic energy production. There will be a number of future hearings to examine in depth the three titles of the bill that Senator Landrieu and I have introduced, to provide coastal impact assistance.

Further, I want to advise those that are interested in the States that have a moratoria that we will accommodate those States in future hearings relative to their concerns about any activity off their OCS areas, and also the dilemma of the revenue-sharing issue. But that is a commitment that I made to a number of members who have indicated a concern, and wanted to testify at this hearing.

The purpose of this hearing is simply to basically lay down the legislation. Currently, Federal OCS production is authorized to occur off the coast of six States. That is Texas, Alabama, Mississippi, Louisiana, a part of California, and parts of Alaska. Although, in Alaska, there is no significant production off of our coast at this time.

Our witnesses today represent three of the Gulf Coast States, as well as my State of Alaska. They know firsthand the mixed blessings of Federal OCS energy programs, and can add to our knowledge of how offshore oil and gas production impacts those closest to it.

If oil and gas are discovered on Federal lands in Wyoming, the revenues from that discovery would be split 50/50 with the State of Wyoming. However, as you know, those rules do not apply to the oil and gas discovered on Federal submerged lands on the outer continental shelf.

In fiscal year 1997, the Federal OCS leasing program generated \$4.1 billion in rents and royalties. None of these funds were shared with the State which hosts the development and of course underwrites and puts up with the impacts.

Well, all that money goes to the Federal Treasury. We do not think that is fair. It is also important to note the role of the Federal OCS production in meeting our energy demands. America imports more than 56 percent of our total domestic petroleum requirements. And, further, the Department of Energy predicts that in 10 years America will be at least 64 percent dependent on foreign oil.

I think that addressed the national energy security interests of the country. OCS development will play, and continues to play, an important role in offsetting even greater dependence on foreign energy. Currently, the OCS accounts for 14 percent of our oil production and 24 percent of our gas production.

Unlike foreign oil and foreign tankers, this energy is homegrown and contributes directly to the national wealth of the country, and produces good jobs in those industries, and contributes to the balance of payments. Technological advancements have and will continue to result in new OCS production, having an unparalleled record of excellence on environmental and safety issues. Hence, we need to maintain a healthy OCS leasing program.

Today's hearing occurs against the backdrop of the bill, S. 25. That was legislation introduced by a bipartisan group of 11 Senators.

Now, I would like to recognize Senator Landrieu's efforts. Senator Landrieu, from Louisiana, has done an extraordinary job in working on this legislation, cooperating with staffs and the cospon-

sors of Senator Landrieu, Senator Lott, Senator Sessions, Senator Breaux, and Senator Cleland, Senator Johnson, Senator Craig, Senator Mikulski, Senator Cochran. And I think there are others, as well.

The bill, as it stands in its current submitted form, would remedy the current inequity by redistributing 50 percent of the OCS revenue for three programs. The first would be coastal impact assistance. The second would be State and local park and recreation programs. And third, State wildlife programs. The other 50 percent, of course, is maintained in the Federal Treasury.

S. 25 allots 27 percent of the OCS revenues to coastal States and communities that shoulder the responsibility of offshore oil and gas development off their coastlines. Funds would be used for a variety of coastal, environmental and infrastructure purposes under the jurisdiction of the communities, not the Federal Government.

Our bill acknowledges that all coastal States have unique needs, and provides coastal impact assistance to 34 coastal States, even those States which currently prohibit by moratorium oil and gas activity off their coasts. The bill also takes a portion of the revenues and invests them in conservation and wildlife programs in all 50 States.

Sixteen percent of the revenue would go to fund the Land and Water Conservation Fund for State and local park recreation facilities. Seven percent of the revenues would be used for State fish and wildlife programs, including actual activities to enhance the expansion of the wildlife resource.

These programs recognize that a portion of the revenues earned from the depletion of a non-renewable resource should be reinvested in renewable resources—the park, recreation and conservation systems—which, of course, all Americans enjoy.

And, finally, importantly, the expenditures of this money throughout the bill rests with the local communities and not the Federal Government. Local communities are going to figure out what renewable resources need to be conserved and enhanced for the benefit of the residents, not the Federal Government.

One provision of concern is the protection of private property. The bill provides money for Federal land acquisition—approximately \$350 million—based on OCS revenue of \$4.1 billion in 1997. That would be shared with all 50 States. And the average is, I think, \$5 million to \$10 million per State.

Throughout the Western States, in Federal conservation units, there are private property holders being held in limbo, wanting to sell their land because their land use and access is curtailed by the Federal regulations, but no Federal money has been provided to make those owners whole. Well, that is an opportunity for those to seek relief.

At the same time, there are inholders who do not want to sell. And what we have tried to do is reach a balance among those competing interests. And again, I want to compliment the staff in negotiating this, because they have, I think, put reasonable parameters around this. Only Federal purchases would be those that are authorized within land management units, authorized by an act of Congress. None of the funds could be used to condemn property.

Two-thirds of the money would have to be spent east of the 100th meridian, which runs from Texas, north, through the Great Plains. And it is kind of the area that is east of the Mississippi, but not quite. Acquisitions greater than \$5 million would require House and Senate authorization in appropriating committees. And while we recognize that this is not a perfect bill by any means, we think it is a start.

We want to move it through the committee and through the hearing process through the appropriate method, which of course is to get witnesses to tell us the impacts of OCS and gas revenue in their schools, in their backyards, in their emergency response—all types of infrastructure services which the areas provide.

The representatives of State and local government hear first when something of course goes wrong, whether real or perceived. So, after having opening statements from our members, we would look forward to hearing from our distinguished roster of witnesses.

I will call on the ranking member, Senator Bingaman, at this time.

[The prepared statements of Senators Murkowski and Lott follow:]

PREPARED STATEMENT OF HON. FRANK H. MURKOWSKI, U.S. SENATOR FROM ALASKA

Welcome to the first Energy and Natural Resources Committee hearing of this new Congress. We will hear testimony today from those most affected by offshore oil and gas production—States and communities who share their coasts for the national interest of domestic energy production and jobs.

There will be a number of future hearings to examine, in depth, the three titles of the bill Senator Landrieu and I introduced to provide coastal impact assistance.

Further, we want to promptly hold a hearing to accommodate those States that currently have moratoria on OCS development. Federal OCS production is authorized to occur off the coast of 6 States: Texas, Alabama, Mississippi, Louisiana, a part of California and parts of Alaska though there is no significant protection off of Alaska at this time.

Our witnesses today represent three of the Gulf Coast States and Alaska. They know, first-hand, the mixed blessings of federal OCS energy programs and can add to our knowledge of how offshore oil and gas production impacts those closest to it. If oil and gas are discovered on Federal lands in Wyoming, the revenues from that discovery are split 50-50 with Wyoming.

Those rules do not apply if the oil and gas are discovered on Federal submerged lands on the Outer Continental Shelf. In Fiscal Year 1997, the Federal OCS leasing program generated \$4.1 billion in rents and royalties—none of these funds were shared with the States which host this development and underwrite the impacts. All of the money goes to the Federal treasury. This is not fair.

It also is important to note the role of Federal OCS production in meeting our energy demands. America imports more 56 percent of our domestic petroleum requirements. DOE predicts that, in the next 10 years, America will be at least 64 percent dependent on foreign oil.

OCS development will play an important role in offsetting even greater dependence on foreign energy. The OCS accounts for:

- 14% of oil production;
- 24% of our gas production.

Unlike foreign oil on foreign tankers, this energy is home-grown and contributes directly to our national wealth. Produces good jobs in these industries and contributes to the balance of payments.

Technological advancements have and will continue to result in new OCS production having an unparalleled record of excellence on environmental and safety issues. Hence, we need to maintain a healthy OCS leasing program.

Today's hearing occurs against the backdrop of S. 25 legislation introduced by a bipartisan group of eleven Senators. Other cosponsors include: Landrieu, Lott, Sessions, Breaux, Cleland, Lott, Johnson, Gregg, Mikulski, and Cochran.

Our bill would remedy the current inequity by redistributing 50% of the OCS revenues for three programs:

- coastal impact assistance;
- State and local park and recreation programs; and
- State wildlife programs.

The other 50% remains in the Federal treasury. S. 25 allocates 27% of the OCS revenues to coastal States and communities that shoulder the responsibility of off-shore oil and gas, development off their coastlines. Funds will be used for a variety of coastal, environmental and infrastructure purposes.

Our bill acknowledges that all coastal States have unique needs and provides coastal impact assistance to 34 coastal States—even those States which prohibit oil and gas activity off their coasts. The bill also takes a portion of the revenues and invests them in conservation and wildlife programs in all 50 States. 16% of the revenues would go to fund the Land and Water Conservation Fund for State and local park and recreation facilities; and 7% of the revenues would be used for State fish and wildlife programs.

These programs recognize that a portion of the revenues earned from the depletion of a non-renewable resource should be reinvested in renewable resources—the park, recreation and conservation systems which all Americans enjoy. Importantly, the expenditure of this money throughout the bill rests with local communities not with the Federal government. Local communities will figure out what renewable resources need to be conserved and enhanced for the benefit of their residents—not the Federal government. One provision of concern is the protection of private property.

The bill provides money for Federal land acquisition—approximately \$350 million based on OCS revenues of \$4.1 billion in 1997. Throughout the western States in Federal conservation units, there are private property holders being held in limbo—wanting to sell their land because their land use and access is curtailed by Federal regulations but no Federal money has been provided to make these owners whole. At the same time, there are other inholders who do not want to sell.

The bill tries to reach a balance between these competing interests:

- only Federal purchases would be those within land management units authorized by the Act of Congress;
- none of the funds could be used to condemn property;
- 2/3 of the money would have to be spent east of the 100th meridian which runs from Texas north through the Great Plains; and
- acquisitions greater than \$5 million would require House and Senate authorizing and appropriating committees.

No bill of this magnitude is perfect—it can, and will be, improved as it works its way through the Committee. Our witnesses can tell us the impacts of OCS oil and gas activity in their backyards of their communities, on their schools, on their emergency response teams and all types of infrastructure services. Representatives of State and local governments hear first when something goes wrong, whether real or perceived.

So, after hearing opening statements from our members, we will look forward to hearing from our distinguished roster of witnesses.

PREPARED STATEMENT OF HON. TRENT LOTT, U.S. SENATOR FROM MISSISSIPPI

Mr. Chairman, since the inception of the oil and gas program on the Outer Continental Shelf (OCS), States and coastal communities have understandably sought a greater share of the benefits from development. These communities provide the infrastructure, public services, manpower and support industries necessary to sustain this development, and some percentage of the revenues should be reinvested in the affected region.

Currently, the majority of OCS revenues are funneled into the Federal Treasury where they are used to pay for various federal programs and to reduce the deficit. The Conservation Reinvestment Act diverts one-half of the OCS revenues from the Federal Treasury to coastal States and communities for a multitude of programs. These States will effectively use the funds for local needs. This bill provides a framework within which these localities can make the right decisions for their citizens and their environment.

Mr. Chairman, I know that there is no way to totally eliminate this impact on coastal communities. I also know that, while the benefits of a healthy OCS program are felt nationally, the infrastructure, environmental and social costs are felt locally.

In addition to supporting up the States and coastal communities, our bill also provides funding for the Land and Water Conservation Fund (LWCF). More than 30 years ago, Congress set up this fund to address the American public's desire for more parks and recreational facilities. This bill makes the program self-sufficient,

providing a secure funding source from the OCS revenues. This is an investment in our future—our land, our natural resources and our recreational enjoyment.

The bill makes yet another investment with these OCS revenues—an investment in fish and wildlife programs. With the inclusion of OCS revenues, the amount of money available for State programs would nearly double. This is money that can be used to increase fish and wildlife populations and habitats. It could even be used for wildlife education programs.

This bill was carefully crafted to strike a balance between the needs and interests of the oil and gas industry, the States, and the environmental and conservation groups. It's a good package that will benefit all Americans, not just those who live and work in coastal areas.

I commend the Chairman for holding these hearings, and appreciate the hard work of my colleagues. I look forward to advancing this important legislation in the 106th Congress.

**STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR
FROM NEW MEXICO**

Senator BINGAMAN. Thank you very much, Mr. Chairman.

I congratulate you for getting started on hearings, considering the other preoccupations we have around this place.

Let me also congratulate Senator Landrieu and you for this legislation that you have introduced. I think it will give us the needed opportunity to analyze the pros and cons of the issues involved. I know this hearing is not focused directly on the legislation. I understand you are having additional hearings that will do that. But I think it does give us a chance to begin to understand the problem, or at least some of the problems, that the legislation is intended to address.

So, I am glad to be here, and I look forward to hearing from the witnesses. We do have a caucus this morning on this impeachment issue, which I will have to duck out for. But I hope to hear some witnesses before then.

Thank you.

The CHAIRMAN. Thank you very much, Senator Bingaman.

I might add that we too have a caucus. Ours starts at 11 o'clock.

Senator BINGAMAN. Ours starts at 10 o'clock.

The CHAIRMAN. All right. Well, it looks like you are going to be leaving before me.

It gives me a great deal of pleasure to welcome a new Senator to our committee, Senator Fitzgerald. It is a pleasure to have another banker around here. Bankers do not do very well in the election process, usually because they have a history of having to say "no" too often. Is that right?

Senator FITZGERALD. That is true.

The CHAIRMAN. Let me call on Senator Landrieu for an opening statement. Let me also recognize Senator Graham, who is with us this morning. He has been on the committee for many, many years, and he is from one of the States that is obviously affected, the State of Florida.

Senator Landrieu, please proceed.

**STATEMENT OF HON. MARY L. LANDRIEU, U.S. SENATOR
FROM LOUISIANA**

Senator LANDRIEU. Thank you.

Mr. Chairman, in light of the time, I have prepared a statement that I want to submit it for the record. Because I think it is important to lay down some important facts.

The CHAIRMAN. Without objection, so ordered.

Senator LANDRIEU. But I will speak just from my heart this morning about this bill. You and I have worked so closely in the last year about it. Or, I should say, this issue, not the bill. I want to thank you for your help and your leadership in getting this process started. And I want to thank the members on my side for their input, their advice and their counsel.

Because I think, frankly, there is no greater environmental issue in our country today than trying to focus our attention on the coastline of America. There are issues all over the country, but our coastlines really deserve some attention.

Now, Louisiana is an oil and gas producing State. We have been that way for more than 50 years. And our notable Secretary is here, who can talk more about the details. We have benefitted greatly from that industry. But there have also been some negative environmental impacts.

We are not the only oil and gas producing State. Each State in this Nation has chosen their own way to address that issue. But I am here this morning at this hearing to say that I firmly believe that the Federal Government needs to be a greater and more reliable partner in helping provide some revenues for States to manage better the great resources of our tremendous and valuable coastline in this Nation.

It is the West Coast, the East Coast, the Gulf Coast and the Great Lakes that represent a tremendous resource, in terms of tourism, fisheries, wildlife, our general environment, oil and gas. And that is what this hearing is about—to lay down a record for the great needs that are out there. And there are many. The panelists that are here this morning can talk from a variety of different experiences about it.

Our comments, of course, and mine, will be somewhat focused on the problems in Louisiana, but I would like to call to my colleagues' attention that the greatest and largest wetlands in the United States on the coast of course is in the Mississippi Delta, if you will, of one of the greatest rivers in the world and on our continent. And while the Everglades gets a tremendous amount of attention, and needs the attention, and I want to support my friend, Senator Bob Graham, I do believe that Louisiana does not quite get the attention that we deserve on this important topic.

We are losing, according to the latest figures that I have, or have lost, 630,000 acres—or the projection will be 630,000—coastal marshes, swamps and barrier islands by the year 2050 if nothing is done in terms of preserving that coastline.

Erosion is occurring along much of Texas's 3,667 miles of Gulf and Bay shoreline. But this represents, the coastline that we are speaking about, primarily in Louisiana, represents 80 percent of all the coastal wetland loss in the continental United States. So this is a serious environmental issue.

We are hoping that as this bill and this issue works its way through Congress that these monies that come from the outer continental shelf, which are significant—they have been \$120 billion

since 1955, \$120 billion, of which Louisiana has produced the lion's share off of our coast—and there is a graph, which I would like to submit for the record, of last year's figure. I want to show this, Mr. Chairman, because it is important. But the lion's share of that money has been produced offshore in Louisiana.

We are happy to contribute to the Federal Government in this way. And I just want the members and the audience to see this pie chart. The red is basically what Louisiana contributes to the Federal Treasury. Last year, it was \$2.5 billion. The closest other State was Texas, which is \$472 million. The next State is California, with \$64 million.

Now, I am going to wrap up in just a minute, but I have to express that we are happy with the oil and gas industry. We want it to be environmentally sensitive. Louisiana has produced this money for the Nation, as a domestic oil and gas source. We have produced this money for the Federal Treasury. But I have to say that it is about time that we got a portion of it back to help save the coastline that we are losing, which benefits the whole Nation, not just with oil and gas but with fisheries and everything else. And we are happy to share that money with the rest of the Nation as we try to shore up our coastlines.

So, Mr. Chairman, I have this statement for the record, but I look forward to working with you on this issue. I welcome Secretary Jack Caldwell and the other members of this distinguished panel that can give more specifics. But I really do not believe there is a more important environmental issue than this.

I want to thank the administration for their thoughts about this. We are not exactly on point yet, but I know that this administration is sensitive to these needs. I am hoping that this hearing will go a long way in laying out the record of how important it is to get money to our States and our cities and our coastline communities for things like beach erosion, wetlands loss, et cetera, and how important it is to do that now, and not wait. Every year, every week, every day that we wait, we lose additional wetlands and additional valuable resources of this Nation.

So I thank the chairman, and I particularly thank my colleagues and my ranking member for his advice and thoughts as we proceed.

Thank you.

[The prepared statement of Sen. Landrieu follows:]

PREPARED STATEMENT OF HON. MARY L. LANDRIEU, U.S. SENATOR FROM LOUISIANA

Mr. Chairman, thank you for convening this hearing today to discuss what I believe to be one of the most important environmental topics that this committee can examine—the impacts of offshore activity on the coastlines and communities of oil and gas producing States and the need for a permanent source of funds for the Land and Water Conservation Fund. As a Senator from Louisiana, a State with one of the more aggressive and intense production plans in place, I am particularly pleased to be able to assist in the development of a record on coastal impacts. In doing so, I would like to welcome the witnesses before us this morning. In particular, I would like to welcome Louisiana Department of Natural Resources Secretary Jack Caldwell. Secretary Caldwell is also a member of the Outer Continental Shelf Policy Committee, one of the four advisory committees of the Minerals Management Service. He, along with our other distinguished panelists, has worked long and hard to inform the public about environmental impacts being suffered in our coastal communities in the State, and has identified solutions to these problems.

Before I make a few remarks about the Gulf Coast area and impacts from offshore activity, I would like to point out that there is grave coastal degradation occurring

all over the country. Shoreline environmental problems are not unique to producing States. Coastal erosion poses serious difficulties for non-producing States whose economies are closely tied to maritime, fisheries and tourism industries. One need only pick up the newspapers to learn about the needs for beach replenishment in many States and cities across the country, or for assistance with invasive species in frequently used waterways. The Minerals Management Service currently engages in State cooperative activities to pump sand in Alabama, Florida, Louisiana, Maryland, Delaware, New Jersey, North Carolina, South Carolina and Virginia. These are important projects, but more is needed.

In my State of Louisiana, we value the importance of our natural resources, and the extent to which we rely on those resources. In 1947, Kerr McGee sank the first platform into shallow waters in the Gulf of Mexico. 1997 marked the 50th anniversary of the discovery of oil in the Gulf. Over the years, the United States has benefited from a source of domestic oil that has contributed greatly to our supply needs. In 1998, approximately 20 percent of U.S. consumption of oil was supplied domestically from the OCS, and 27 percent of our natural gas. Close to 90 percent of those domestic resources came from the Gulf of Mexico. I would like to submit for the record a chart showing the division of resources in the Gulf of Mexico according to State offshore production in 1998.

While we have welcomed this activity and the positive influence on the economy, there have also been some negative environmental consequences. For over 50 years, the Gulf Coast States have supported OCS activity with its influx of people and burdens on coastal infrastructure, including service bases, helicopter hubs, construction facilities, processing facilities including refineries and gas processing plants, terminals for barges and tanker ports, disposal and storage facilities for offshore operational wastes, landfills and coastal pipelines. Supplying the offshore has meant using infrastructure that was not designed to handle the volume of activity involved. As this is an industry that serves the nation's energy needs, some responsibility must be borne by the Federal government.

There is another complicating factor in Louisiana. We are dealing with an underestimated, under-researched, yet highly threatening phenomenon—coastal erosion. Current rates of land loss range from 25 to 35 square miles annually. This represents 80% of all the coastal wetlands loss in the continental United States. According to the Louisiana Department of Natural Resources, if there is no action, the State will lose 630,000 acres of coastal marshes, swamps and barrier islands by the year 2050. This is an area the size of Delaware. Erosion is occurring along much of Texas' 3,667 miles of Gulf and Bay shorelines as well. If we lose these wetlands—altogether, the effects on people living in these areas will be devastating. Wetlands serve as storm surge buffers, anchoring points for pipelines, habitat for migratory waterfowl and nurseries for coastal fisheries. Water diversion is partly to blame for losses, but they are also due to weighted surface compression from infrastructure or from development policies of the past. Once developed, these coastal lands subside and a formerly land-covered area becomes open water. This constitutes a threat to the communities that support oil and gas activity, and the oil and gas activities themselves. One major coastal initiative underway in Louisiana, a program called Coast 2050, aims to arrest those losses. It will take a great deal of effort, and an adequate funding stream to succeed.

Offshore activity, coupled with boom and bust cycles, has had a number of physical impacts on the land, and diminished the ability of the State to rely on a steady economy. Our institutions of higher learning evaluate these impacts on coastal environments. Recently, they have begun to evaluate the impacts on the residents of coastal communities that support offshore activities. The results sound a clear signal. A study at the University of New Orleans concluded that in communities that rely on extraction activities, such as in the coastal parishes of Louisiana, in the first year of an upturn in activity, average per capita income and high school completion rates rise, while college enrollment decreases. Incomes rise, sales tax collections increase, and people move into the areas to benefit from higher wages and a better living. In the second year after an upturn, the economic impacts reverse. Too many newcomers arrive and do not have enough jobs. Since college enrollment has decreased, people are less qualified to engage in other gainful employment and social problems result. This in turn burdens the local law enforcement authorities. A low oil price scenario, such as the one we are experiencing now, only aggravates the problem with layoffs and decreased profits. Onshore impacts from offshore activities are multi-dimensional.

To conclude, studies indicate that OCS activities affect the coastal States as well as the offshore marine environment, and in fact appear to affect the coastal zone to a greater degree than offshore. These impacts take the forms of physical change, cultural diversification and economic alteration. Without OCS activity there would

be fewer changes onshore and without onshore activities there would be reduced offshore activities. The relationship between the two areas is direct and irrefutable. We will hear testimony that will go far beyond my comments into specific examples of needs and suggested remedies. I look forward to hearing the remarks this morning. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, Senator Landrieu. And again I want to thank you for all your diligence, hard work and effort on this. I know how much it means to your State. I think it is your maiden legislation, if I can use that term that I might get in trouble for.

Senator LANDRIEU. That is okay.

The CHAIRMAN. But I do want to acknowledge your efforts and that of your staff.

We have a policy in the committee to take them as they come, as opposed to back and forth. And unless I am overruled, Senator Graham is the next one who came in.

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

Senator GRAHAM. Thank you very much, Mr. Chairman.

In recognizing the desire to move on to the witnesses who have travelled here today, I will submit my statement for the record.

I would like to congratulate you and Senator Landrieu for your leadership in presenting this important issue to us. I would like to ask consent to submit for the record comments that will be provided by our newly-inaugurated Governor Bush, who has taken a special interest in this issue.

[The information referred to follows:]

DEPARTMENT OF ENVIRONMENTAL PROTECTION,
Tallahassee, FL, January 26, 1999.

Hon. BOB GRAHAM,
U.S. Senate, Hart Senate Office Building, Washington, DC.

DEAR SENATOR GRAHAM: On behalf of Governor Jeb Bush, please accept the enclosed testimony into the record for the Senate Committee on Energy and Natural Resources' January 27 hearing regarding the effects of coastal oil and gas drilling.

The Governor remains concerned about the potential for environmental damages to our coastal and marine resources from outer continental shelf oil and gas activities. Because of these concerns, this testimony reiterates Governor Bush's strong opposition to oil and gas leasing, exploration and development offshore Florida. While we recognize the potential significance of S. 25 to effected States, this testimony pertains only to the Committee's interest toward understanding the impacts of oil and gas activities on coastal States.

I appreciate the opportunity to submit this testimony. We look forward to working with you and the committee on issues important to Florida.

Sincerely,

DAVID B. STRUHS,
Secretary.

On behalf of Governor Jeb Bush and the citizens of Florida, I appreciate the opportunity to submit this testimony regarding the Committee's interest in environmental damage caused by offshore oil and gas activity. We have not completed an analysis of S. 25 and therefore will not take a position on nor directly address the bill, even though we recognize its potential and significance to our State. The purpose of this testimony is to express Governor Bush's strong opposition to oil and gas leasing, exploration and development offshore Florida. Our Governor recognizes the potential for environmental damages to our coastal and marine resources—as has been felt by our neighboring Gulf States.

Our concerns about negative impacts of offshore oil and gas development cannot be overstated. These concerns are expressed by a wide range of people—from our elected officials to scientists to citizens and tourists enjoying the white sands and

clean waters of Florida's beaches and coastal regions. The potential for damage to our coastal and marine resources from these activities in the Eastern Gulf of Mexico off the northwest Florida Panhandle is high.

Over the last several years, with the support of former Governors and the Florida Cabinet, our Congressional Delegation has been successful in securing limited protection of our coastal and marine resources by implementing moratoria on new leasing off the west Florida coast. However, approximately 125 active leases remain in the eastern Gulf of Mexico. More alarming is the fact that production is being proposed by Chevron just 25 miles off Pensacola—some of the nation's most beautiful and popular beaches and coastal areas.

The Eastern Gulf of Mexico off Florida is ecologically and geologically quite different from the other Gulf States where natural oil seeps, high turbidity loads and the effects of continuous oil and gas activities occur. Accidental spills remain the most visible concern, however, physical disturbances caused by anchoring, pipeline placement and rig construction; the resuspension of bottom sediments; and the chronic pollution from discharges can be very destructive. Scientists believe that the marine and coastal communities off west Florida are not well adapted to withstand adverse impacts associated with oil and gas activities. The development of oil and gas resources off Florida's coast will cause long-term negative impacts to air, water and biota where none currently exist.

Florida's panhandle provides an array of marine and coastal habitats, including productive offshore fishing grounds, bountiful estuaries, sandy white beaches and barrier islands. The area's environmental and economic importance is reflected in the number of State and federal preservation, conservation, and recreation areas including the Gulf Islands National Seashore and more than 50 other sites along the panhandle coast. The seagrasses, marshes and other coastal areas provide habitats for a variety of wildlife, including many threatened and endangered species. Offshore marine habitats are critical to most life stages of marine species and would be directly impacted by these activities.

The economy of Florida's northwest coast, like the remainder of the State, is directly tied to our warm climate, clean waters and unspoiled natural resources. Environmentally clean industries, including recreation, tourism, retirement, commercial and recreational fishing are major economic activities of the panhandle that bring in billions of dollars annually to State and local economies. Florida ranks second only to California in tourism expenditures, generating over 90 million dollars a day. Visitors rank our parks, preserves and natural areas as the second major attraction bringing them to Florida. Recently, the five western counties of the Florida panhandle brought in more than eight million dollars from tourist development tax. Three cities in this area recorded more than 1.5 billion dollars in tourism and recreation taxable sales during the same period. The unique quality and character of the panhandle's beaches are reflected in their inclusion in the "Annual Ranking of America's Best Beaches" by the nation's foremost beach expert, Dr. Stephen Leatherman.

Our marine and coastal waters also support commercial fishing industries, worth nearly 6 billion dollars to Florida. Commercial fishery landings for Florida's west coast are valued at over 130 million dollars, with revenues from processed fishery products exceeding 350 million dollars.

Furthermore, the National Marine Fisheries Service reports that Florida led all coastal states in saltwater recreational fishing activity in 1997. During that year, there were over two million out-of-state anglers participating in more than 24 million trips to the state. Recent studies also show that the panhandle hosted over 200,000 saltwater fishermen who spent over 92 million dollars.

Florida's coastal and marine resources are the foundation of our economy and quality of life. In a healthy condition, these self-sustaining resources will continue to provide benefits to people who live in and visit Florida. Otherwise, the ecology and economy of the state will fail.

For these reasons, any proposal that deals with outer continental shelf oil and gas activities has our undivided attention. We look forward to working with the Committee on this and other legislation important to Florida. Thank you.

Senator GRAHAM. I thank you, Mr. Chairman, for your interest in holding, as part of this series of hearings, a hearing for States like Florida, which currently have a moratorium on oil and gas leasing, and would look forward to an opportunity to discuss our experience under those moratoriums.

Thank you, Mr. Chairman.

[The prepared statement of Senator Graham follows:]

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

Mr. Chairman, members of the Committee, I thank you for this opportunity to speak on an issue that is so important to the State of Florida.

As you are aware, Congress has been diligent in protecting Florida's fragile coastline from the impacts of offshore drilling. You have for many years supported Senator Mack and me in our efforts to adopt moratoria on leasing and preleasing activity off the coast of Florida. We appreciate and thank you for your continued support.

Today, we will hear from several distinguished representatives from the States of Alabama, Mississippi, Louisiana, and Alaska on the impacts that offshore drilling has had on their coastlines. In the next several days, I will be submitting written comments on behalf of Governor Bush, and I am looking forward to the hearing on S. 25 which will address issues pertaining to coastal states with moratoria on leasing and drilling. Today, I would like to take a few minutes to tell you how your protective actions have benefited Florida's coastlines and communities.

This coastline is home to some of the richest estuarine areas in the world. These habitats provide an irreplaceable link in the life cycle of both marine and terrestrial species. Florida's commercial fishing industry relies heavily on these estuaries as they support the nurseries for most commercially harvested fish. In addition, nearly 90% of the reef fish resources in the Gulf of Mexico are caught on the West Florida Shelf.

Our local communities also benefit from healthy coastlines. In 1997, over 47 million tourists visited Florida, spending \$41 billion. The five western counties of the Florida Panhandle brought in over \$8 million from tourist development tax in 1996. Three cities in this area—Panama City, Pensacola, and Fort Walton Beach—recorded over \$1.5 billion in tourism and recreation taxable sales during the same period.

Florida's coastline and beaches are not only our greatest economic asset, but they are a part of our identity. Newcomers to the State are drawn to our shores. Many Floridians remember childhood weekends along the endless white beaches of the Panhandle. All of us are struck by the tranquility of Tampa Bay or the beauty of Sanibel Island. Florida's coastlines are as integral to the state's identity as the Grand Canyon is to Arizona or the redwoods are to California. Their health directly affects our State's future.

I suspect that our witnesses today will tell us that their States share this relationship between land, water, and man. I look forward to hearing from them. Thank you.

The CHAIRMAN. Thank you very much, Senator Graham.

I want to assure you, in the fourth paragraph of my opening statement was a reference—and I will read it for you:

Further, we want to promptly hold hearings to accommodate those States that currently have moratoriums on OCS development.

And thank you very much.

Senator Fitzgerald, good morning. We look forward to your statement and your presence on the committee.

STATEMENT OF HON. PETER G. FITZGERALD, U.S. SENATOR FROM ILLINOIS

Senator FITZGERALD. Well, thank you, Chairman Murkowski. I am delighted to be on this committee. And I think, in addition to bringing the perspective of a banker, it will be good for balance on this committee to have somebody from Illinois, east of the Mississippi and a little bit north of Senator Landrieu and Senator Graham.

Illinois is very interested in the issues that this committee will work on, such as storage of nuclear waste, electric deregulation and even the outer continental shelf activity work here, because we are a Great Lake State. And we are worried about the degradation to our Great Lakes, as well.

So I look forward to the work on this committee. And I would ask for unanimous consent to submit my opening statement for the record.

The CHAIRMAN. Without objection.

Senator FITZGERALD. Thank you.

[The prepared statement of Senator Fitzgerald follows:]

PREPARED STATEMENT OF HON. PETER G. FITZGERALD, U.S. SENATOR FROM ILLINOIS

I would like to thank Chairman Murkowski for holding this hearing on the Impact of Outer Continental Shelf Activity on Coastal States and Communities. As a freshman Senator, I am very pleased to serve as a member of this important Committee. I look forward to working with the other members of the Energy and Natural Resources Committee on this and many other issues of national importance. The Committee faces many challenges on a full range of issues including the deregulation of the electric industry, the storage of nuclear waste, raising law reform, proposals on global emissions, and a host of other issues.

Today, our focus is on assessing the impact of outer continental shelf ("OCS") activity on States and communities. This issue is of enormous importance to coastal States, including Great Lakes States like my home State of Illinois, and their residents which are directly and indirectly affected by offshore activities.

As a Senator from Illinois, I am familiar with the environmental problems faced by coastal States. The Lake Michigan shoreline is also subject to environmental degradation and erosion. This is of real concern to me and the residents of my State who do not want to see their shoreline degraded regardless of the cause. It is my hope that legislation produced as a result of these hearings will serve to address problems which confront all coastal States.

There is some concern from private property groups that legislation addressing these issues may lead to an increase in the purchase of land by the federal and State governments. The Committee should address this concern in today's or future hearings on this topic.

It is my belief that the hearings we hold will assist us in sorting through these issues, help us to ascertain the nature and extent of OCS impact, and ultimately permit us to achieve the goal of assisting the States and local communities impacted by OCS activity. I look forward to these hearings and welcome the opportunity to consider these issues. Again, my thanks to the members of the Committee and to Chairman Murkowski.

The CHAIRMAN. We have been joined by Senator Sessions.

Good morning.

**STATEMENT OF HON. JEFF SESSIONS, U.S. SENATOR
FROM ALABAMA**

Senator SESSIONS. Mr. Chairman, thank you very much for two reasons and that you have allowed me to be with you. One is I am so much impressed with this legislation. I believe it could be one of the biggest steps we have made toward environmental improvement and good management of resources. Alabama does have a lot of involvement in offshore activities. It is a matter that is important to us in a lot of different ways.

I am also pleased to be invited to be here, because Mr. Don Oltz, from Alabama, is our State Geologist and will be testifying. He is Vice Chairman of the Mineral Management Services Outer Continental Shelf Policy Committee. He is a Supervisor of the State Oil and Gas Board, and a part-time magician, as I understand it.

[Laughter.]

The CHAIRMAN. Well, we need him to help us in our discussions and deliberations on impeachment, then, if he is available.

[Laughter.]

Senator SESSIONS. And oil and gas exploration, too. I understand that is a factor.

As Director of the Geological Survey, he is responsible for providing information on geology, biology and environmental impacts on oil and gas production. He is a tremendous resource to me, as we have researched this legislation in the State of Alabama. I am honored to have him and honored to be here. I also feel like this legislation has an opportunity to be a historic step toward environmental improvement and wise use of our resources.

And further, I would like to express my admiration for your leadership in being continually concerned about domestic production of oil and gas. Instead of having our wealth be transported around the world, we have tremendous resources offshore and onshore that we need to be producing wherever possible.

Thank you.

[The prepared statement of Senator Sessions follows:]

PREPARED STATEMENT OF HON. JEFF SESSIONS, U.S. SENATOR FROM ALABAMA

I would like to thank Senators Murkowski and Landrieu for allowing me the opportunity to attend the hearing today on the Conservation and Reinvestment Act. I commend you both for your tremendous leadership on this bipartisan bill and look forward to working with you as the bill develops.

The Conservation and Reinvestment Act offers a unique opportunity for the entire nation to enjoy the tangible benefits of Outer Continental Shelf oil and gas production. It redirects a portion of royalties from Outer Continental Shelf production directly back to States and local communities for environmental and conservation programs.

The effect of this bill will be to provide States and local communities funding to expand and maintain parks and to enhance hunting, fishing and other outdoor recreational activities.

In addition, this bill would redirect a portion of Outer Continental Shelf Royalties back to the States which have endured the risks of production through the bill's Coastal Impact Assistance program. This program will provide dedicated funding to coastal States for air quality, water quality and to mitigate the environmental effects of Outer Continental Shelf infrastructure developments.

Alabama might use these funds to help ensure water quality in Mobile Bay, part of the National Estuary Program, and for the preservation and restoration of oyster beds and other sensitive environments areas along our coast. States may choose to establish a protected "trust fund," as Alabama has with existing State royalties, in order to use the revenues in perpetuity for environmental and conservation purposes.

Alabama is one of only six States with active Outer Continental Shelf natural gas production off its shore and onshore infrastructure to refine and transport those resources. Alabama ranks ninth in the country for natural gas production and produced over 430 billion cubic feet of natural gas in 1994. There are four onshore refineries and numerous natural gas pipelines to process Outer Continental Shelf natural gas. The State has made a significant investment in providing the land and infrastructure to handle this production, yet has not been able to enjoy any direct royalty benefits from Outer Continental Shelf production.

This bill takes a step towards ensuring Alabama and the entire nation receive at least a part of the direct benefits of OCS production.

Mr. Chairman, thank you for permitting me this opportunity to appear before your Committee today. I look forward to working with you and Senator Landrieu to help craft a conservation bill which can continue to enjoy bi-partisan support.

The CHAIRMAN. Thank you very much, Senator Sessions.

I am going to call the witnesses up now: Mr. James I. Palmer, Jr., Executive Director of the Mississippi Department of Environmental Quality, from Jackson, Mississippi, please come to the witness table.

The Hon. Jim Whitaker, House of Representatives, State of Alaska, Juneau, Alaska. Jim, it is nice to welcome you. You do not have to shovel any snow down here today, do you. Well, you have a little snow around here. You just do not see it. It is a different kind.

Donald Oltz. Donald is the State Geologist and Supervisor, Geology Survey of Alabama, Tuscaloosa, Alabama. And you have already received, I think, an introduction.

Mr. Mark Van Putten, President of the National Wildlife Federation. Good morning.

And the Hon. Jack C. Caldwell, Secretary, Louisiana Department Natural Resources, of Baton Rouge, Louisiana.

Good morning, gentlemen.

I want to recognize Senator Burns. Senator Burns, you are recognized.

Senator BURNS. Yes, sir. Thank you very much. I was afraid of that.

The CHAIRMAN. That is fine.

[Laughter.]

The CHAIRMAN. We are talking about Montana's coastline here very briefly.

Senator BURNS. Keep fooling around. We have every Californian in the world up there. We might as well have a coast.

[Laughter.]

Senator BURNS. That name, by the way—I was called all kinds of names last night. And the one on that plaque ain't one of them.

[Laughter.]

Senator BURNS. Thank you and good morning.

The CHAIRMAN. Good morning.

With that, I would remind you that the Democratic members are going to have a caucus starting very soon. And I am going to end this probably before 11 o'clock. So we want to get your statements. I would encourage you to take 5 to 7 minutes. I get a little edgy beyond that. You can submit the balance for the record. Of course, we want to ask some questions as well. So, please proceed in the order I called you. I will accommodate anyone if they have to leave early. Does anyone?

[No response.]

The CHAIRMAN. All right, Mr. Palmer, it looks like you are on. James Palmer, Executive Director, Mississippi Department of Environmental Quality.

**STATEMENT OF JAMES I. PALMER, JR., EXECUTIVE DIRECTOR,
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

Mr. PALMER. Thank you, Mr. Chairman, and members of the committee, for the opportunity to participate in your first of what I know will be a series of hearings on the concepts that are framed in S. 25. We strongly support the legislation and how it is built.

What I will touch on in a few moments, Mr. Chairman, without reading my statement—I have submitted it for the record and would appreciate it being included there—I will touch on the significance of this legislation to Mississippi. My assignment is more so for a few moments to be the somewhat resident historian. Because we all know that those who do not learn from history are destined to repeat it.

There is a history here. And I have lived it and litigated it now for 19 years. And I would simply remind you, in our first moments of this discussion, about some key things.

First, let us start with what I would submit, Mr. Chairman, you are not here to do and you will not be doing throughout your series of hearings. You are not here to debate the fairness, the equity, the prudence of helping coastal States deal with, cope with impacts caused by offshore operations. You have been there and you have done that.

You made that national decision in 1976 when you amended the Coastal Zone Management Act to create a coastal energy impact program. The thesis of that program is exactly what we are again here today to talk about. Your idea was sound. Unfortunately, it was doomed from the beginning. It was doomed for two reasons.

One, it was framed around an annual appropriations concept. Bad move. Second, it was built around a process that was so cumbersome and complicated it collapsed, ultimately, of its own weight.

I litigated that situation, Senator Landrieu, between Mississippi and Louisiana, and wound up having to craft the agreement that the Governors signed to resolve those differences. Do not repeat that history. When you pass this legislation, do not sentence the recipient States to have to go then, make it work through court battles. Bad move.

Ultimately, the Congress realized that the program was not going to work. And so you killed it in 1990. But after, you then passed another stage of recognizing the correctness of the concept. In 1986, 10 years later, I came to this Congress with representatives of the other coastal States, and we went nose to nose with the Department of the Interior over what you now know as the Section 8(g) settlement. The States made a big gain in that settlement, because of the recognition that the program was right; and, second, it was keyed not to appropriations but to direct diversion of those revenues to the States. Good idea.

Limited, though. Because you will remember that the key issue that you grappled with was possible drainage of resources from adjacent State waters. So you limited the revenue stream to a 3-mile zone. Again, good idea. We made headway. But it was limited.

Now, after that happened, we have come back to this Congress time and time again, saying, you got a good start. You have stumbled several times. Let us regain our footing and put in place now—and you have a mechanism to do it—a concept that will distribute those revenues fairly, through a system that works, and life will go on.

In 1993, after a failed attempt—one of many—to persuade you to move to something like S. 25, the Outer Continental Shelf Policy Committee—and I have been a member since 1987—sent to you our key report, called “Moving Beyond Conflict to Consensus.” And we said to you again: Get it done.

Well, frankly, the Congress piddled around with it a year or so later, and nothing happened.

In 1994 and 1995, as I had the opportunity to be vice chair, and then chair, the policy committee, we have come back to you again to say: We are not going away. The issue is not going away. The impacts are getting worse. As you will hear from my colleagues in more graphic detail, it is time for us to get the job done.

We support this concept. Remember the history. You have the chance now to fix it.

In Mississippi, just a little bit of perspective. In the Majority Leader's hometown of Pascagoula, we have industries that build and work over rigs. We have Chevron's largest refinery east of the Mississippi River processing crude from the Shelf. We have a new Amoco gas processing plant to process the gas from Federal production. People, we are contributing our part to help the economy of the country and to meet the national energy needs of this country. We want you to help us back.

Remember, though, as you flesh out S. 25, it is not limited to the coastline. There are industries in all coastal States that you will find inland that make their contributions.

In Vicksburg, Mississippi, LeTourneau is building today the world's largest offshore jack-up rigs. Yes, the first one was sent to the North Sea. But the orders that have come to LeTourneau we know will lead to rigs being in U.S. waters.

Again, the concept of S. 25 would reach the impacts in the Vicksburg area, caused by these new industrial operations. And you will now hear the other folks talk about what those impacts are—from traffic, water, waste water, air emissions, and all those things that we are coping with.

Mr. Chairman, we thank you for the opportunity to be here. Pass the legislation. And do not wait forever in doing it.

Thank you.

[The prepared statement of Mr. Palmer follows:]

PREPARED STATEMENT OF JAMES I. PALMER, JR., EXECUTIVE DIRECTOR,
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Mr. Chairman, my name is James I. Palmer, Jr. I submit this statement to you and the members of the Committee in support of S. 25, the Conservation and Reinvestment Act of 1999, and I appreciate the opportunity to address you personally about this much needed, and long awaited, legislation.

Since 1980, I have been very much involved in the efforts of Mississippi and all other similarly situated States to obtain our fair share of revenues from offshore oil and gas operations in federal waters to help mitigate the onshore impacts of these activities. As a Special Assistant Attorney General, Staff Counsel to the Governor, Executive Director of the Mississippi Department of Environmental Quality (which has jurisdiction over leasing State-owned lands, both onshore and offshore, for oil and gas exploration and development), Mississippi's representative on the Outer Continental Shelf (OCS) Policy Committee since 1987, and both Vice-Chairman and then Chairman of this Committee over the last four years, I have long been a strong critic of the federal government for its failure to be fair with Mississippi and other coastal States that have to cope with onshore impacts from offshore operations, and a strong supporter of all legislative efforts to right this wrong.

The first, and one of the most important, points I want to make to you is that you are not plowing new ground here. Congressional recognition of the reality of—and the need to fully compensate effected coastal States for—onshore impacts attributable to offshore operations occurred some twenty-three years ago, when Congress amended the Coastal Zone Management Act (CZMA) by creating the Coastal Energy Impact Program (CEIP) which was grounded in, and had the same goals of, S. 25. The idea was sound, but the program, administered by the Department of Commerce, was doomed from the outset because of two fatal flaws. First, and foremost, the CEIP was not a true revenue-sharing program, because funds flowed to State and local governments only when Congress was in the mood to approve annual appropriations under the program. In short, the CEIP provided only periodic handouts, ignoring the fact that onshore impacts in coastal States can't be turned on and off according to the whim and caprice of the Congress regarding funding. These impacts are experienced in the real, everyday world of life in our coastal States, not the surreal world of politics in Washington.

The second fatal flaw in the CEIP was a labyrinthine formula for distributing the appropriated funds which was so convoluted in concept and complex in administration that it collapsed of its own weight. Administration of the program sparked liti-

gation among coastal States in which I was personally involved, having authored the document which was used by the governors of Mississippi and Louisiana in settlement of the terribly expensive and time consuming CEIP controversy between our two States.

As to the first flaw in the CEIP, S. 25 provides for direct distribution of funds to coastal States and local governments by the Secretary of the Interior, not an annual appropriation by the Congress. The States deserve a guaranteed, permanent distribution of these revenues based on facts—not political temperament. As to the second flaw in the CEIP, the S. 25 revenue distribution formula is both fair and workable. As this legislation moves forward to passage, the Congress should make every effort to avoid creating another situation like the CEIP in which recipient States have to go to court just to make the program work timely and fairly.

Ultimately, after haphazard treatment of the CEIP by both the Congress and the Executive Branch, the program failed and was repealed in the 1990 CZMA amendments.

Reinforcing its policy decision recognizing the reality of, and the need to compensate coastal States for, onshore impacts associated with offshore oil and gas exploration and development operations, Congress amended Section 8(g) of the Outer Continental Shelf Lands Act (OCSLA) in 1986 to distribute offshore revenues to coastal states to help offset impacts from federal OCS activities. While the main purpose of these amendments was to compensate States for possible drainage of oil and gas reserves from State lands, the funds may be used to mitigate other costs, as well. The concept is sound, but the relief to the States is limited because the Section 8(g) "zone" extends seaward only three miles from State waters. As Mississippi's representative in the multi-State effort to resolve the Section 8(g) dilemma through Congressional action, I can personally attest to the success of that initiative. As with S. 25 today, the Section 8(g) battle was fought over a single issue—equity. Congress did the right thing, but it was only a step in the right direction. S. 25 will complete the task of putting in place a revenue sharing concept that has been denied the States for as long as there has been oil and gas activity in federal waters on the OCS, and that is simply intolerable.

After the CEIP died, President Bush directed the Department of the Interior to develop a legislative proposal to, once again, establish a coastal impact assistance program. It was inserted into, and then removed from, the National Energy Policy Act of 1992. Utterly frustrated by yet another refusal by the Congress to be fair with coastal States, the OCS Policy Committee then stepped into the breach by formally endorsing a revenue sharing concept somewhat like S. 25 proposes today. Mr. Chairman, each member of this Committee should carefully review the OCS Policy Committee's 1993 recommendations, which were set forth in their report entitled, *"Moving Beyond Conflict to Consensus."*

The Energy and Natural Resources Committee took notice of the OCS Policy Committee's work, and considered a bill (S. 575) during the 104th Congress to create a coastal impact assistance program. Unfortunately, the Committee did nothing but "consider"—it did not act—because of wrangling over how to make an impact assistance program work in light of the constraints in the Congressional Budget Enforcement Act.

The OCS Policy Committee's most recent actions regarding coastal impact assistance began about four years ago. As Vice Chairman, I recommended to Chairman Paul Kelly that we make another effort to keep this issue before the Congress. Paul readily agreed, and he and I again worked this issue through the Committee, culminating in our report in October 1997, which became the launching pad for what is now S. 25. As Chairman of the OCS Policy Committee when our report was finalized and transmitted to both the Secretary of the Interior and Congressional leaders, I can state unequivocally that the overall concept of S. 25, taking into account the goals of each of the three titles, is unprecedented. A very large and diverse coalition of interests, including State and local governments and various private sector organizations, has come together to push this bill to passage. And yes, while there is no way to avoid the inevitable nit-picking and paranoia with which any major piece of legislation like this will meet, the foundation of S. 25 is rock solid.

All coastal States and our territories will share revenues from offshore operations in federal waters. For producing areas, these funds are sorely needed to mitigate very real impacts today. In areas now under moratoria, these funds may be utilized to conduct comprehensive environmental and economic studies, which will provide decision makers an informed basis for future decisions regarding possible offshore activities, consistent with the nation's energy needs. Most importantly, as I have already stated, the key feature of S. 25, beyond its geographic coverage and the revenue distribution formula, is that the funding mechanism will be conformed, gen-

erally, to that of the Section 8(g) program. Simply put, Congress will authorize the guaranteed, permanent revenue stream and then get out of the way.

Mr. Chairman, while my principal assignment here is to remind this Committee of the Congress' spotty history of dealing with coastal impact assistance, I must not miss this opportunity to comment on our situation in Mississippi in this regard. In recent years, major discoveries, principally deep gas, have resulted in on-line production from federal OCS waters adjacent Mississippi. Moreover, shipyards in Pascagoula, Mississippi, Senator Lott's hometown, are making a major contribution to these activities by providing rig construction and workovers, as well as crew boat construction. On the downstream side, Chevron's largest refinery east of the Mississippi River is also located in Pascagoula, and this facility processes large volumes of crude landed in Venice, Louisiana and transmitted to the refinery via a pipeline that crosses the OCS and State waters. Finally, Amoco has just completed a new gas processing plant in Pascagoula, further expanding Mississippi's contribution to our offshore industry. As you can imagine, while these activities have brought a much appreciated boost to our coastal economy, they have also brought growing concerns about water and wastewater infrastructure and air emissions, along with a growing need for oil spill contingency planning and preparedness.

As is the case with most producing States along our nation's coastline, the impact of offshore operations reaches inland more than meets the eye. Mississippi's best example of this is the LeTourneau facility on the Mississippi River at Vicksburg. Now a division of Rowan, LeTourneau is constructing the world's largest jack-up drilling rigs. The first of these mammoth, state-of-the-art units was launched last year, and work on additional rigs is in progress today. While the first rig was deployed to the North Sea, Rowan/LeTourneau will no doubt continue to be a major force in providing offshore drilling capabilities in the United States, as well. Again, this new industrial activity is a major economic asset of the Vicksburg area, but the growth issues, such as water supply and wastewater disposal, air emissions, transportation arteries, and the like have been serious, and the revenues Mississippi will receive when the program contemplated by S. 25 is in place will be a tremendous help to State and local officials, as well as planners and regulators, as offshore support industries like LeTourneau continue to grow in our State.

Because my invitation to appear before this Committee today gave me only a very short time to prepare, I was not able to obtain from appropriate Mississippi officials estimates on the economic impacts associated with the onshore activities in our State that I just described. We will continue to work with your staff to develop this information as consideration of S. 25 continues in this Committee and elsewhere in the Congress.

Mr. Chairman and members of the Committee, it has been my pleasure to appear before you today and to submit this statement in support of S. 25. This bill is good law. It rests on a history of clear—but as yet not fully implemented—policy of compensating coastal States for impacts attributable to oil and gas operations in federal waters, and it creates a rational, workable program to distribute OCS revenues to State and local governments for use in a variety of ways, all under a system of accountability to the Secretary of the Interior and the Congress. Finally, S. 25 couples with this long-needed coastal impact assistance program welcomed amendments to make the administration of the Land and Water Conservation Fund also more flexible and permanent. Mississippi strongly supports all three titles in S. 25, and we urge this Committee to move the bill to final passage as quickly as possible.

The CHAIRMAN. Thank you very much.

Senator LANDRIEU. Mr. Chairman, could I say a word? Because I may have to leave. If you do not mind.

The CHAIRMAN. I am going to accommodate your witness next.

Senator LANDRIEU. Okay. I do want to thank Jimmy, if I could, for his great advice and counsel he has been to us in the development of this concept, and how invaluable your long-time work has been. And I just wanted to thank you.

Mr. PALMER. Thank you, Senator.

Senator LANDRIEU. I think we are going to move, Mr. Chairman, to Jack. Can I introduce him?

The CHAIRMAN. Before you do, I want to make a couple of comments.

First of all, I want to recognize a new member of the committee that has just joined us. And in keeping with the long association

of the State of Arkansas on this committee, it is a pleasure to welcome Blanche Lincoln, from Arkansas.

**STATEMENT OF HON. BLANCHE L. LINCOLN, U.S. SENATOR
FROM ARKANSAS**

Senator LINCOLN. Thank you.

The CHAIRMAN. Senator Lincoln joins us for the first time, and at our first meeting, I might add. And we look forward to your contribution.

Do you have any brief statement?

Senator LINCOLN. Thank you, Mr. Chairman. I will submit my statement for the record for the sake of time.

I do want to thank you very much for your leadership. I am very excited to be on this committee. We do, as you have said, have a long record of Arkansas presence on this committee. But I also, in my own right, come from the Energy and Commerce Committee on the House side. So I have some good background and a good record there, as well.

I am looking forward to working with you. And I would also like to thank my colleague, Senator Landrieu, for her leadership on this issue, which I think is very important. I am looking forward to working with both of you on this.

The CHAIRMAN. Thank you very much.

Senator LINCOLN. Thank you for having me on the committee.

[The prepared statement of Senator Lincoln follows:]

PREPARED STATEMENT OF HON. BLANCHE L. LINCOLN, U.S. SENATOR
FROM ARKANSAS

Thank you, Mr. Chairman. And thank you to our distinguished ranking member, Senator Bingaman. As a freshman member of the Senate and the junior Senator from the State of Arkansas, it is a pleasure to have been appointed to the Energy and Natural Resources Committee. I am looking forward to serving with you and my other colleagues here on the committee.

As an Arkansan, and seventh generation farmer, I am pleased to represent the private and public entities in my State, for whom energy is so important. While serving in the House of Representatives and on the Commerce Committee, I was active in supporting the needs of rural Americans to have access to affordable electricity, protecting our natural resources, promoting U.S. oil exploration, finding a resolution to the problems of nuclear waste, and solving many other issues important to my State.

My predecessor, Senator Bumpers, has been an active voice on this committee for many years. His long and effective service on this committee is reflected in statute and public policy. He has been an advocate for protection of the natural resources of Arkansas and the United States, for caution when implementing legislative mandates, and for civility in guiding the interests of Arkansas and the country. Clearly, his is a tough act to follow, but I am committed to aggressively pursuing the interests of the State of Arkansas and fighting for the needs of rural America . . . to make sure that an acceptable resolution is found to the problems of nuclear waste disposal, that the needs of rural Arkansans are represented during the electricity restructuring debate, that our Nation's resources and national parks are protected for future generations, that we continue to pursue renewable energy options, and that the needs of industry are balanced with the requirements of the environment.

This hearing, to provide Senate oversight on the impact of outer continental shelf oil production on coastal States, has an indirect effect on the State of Arkansas. My State benefits from the oil produced in the outer continental shelf and does not have to bear any of the environmental impact it causes. As a committee, we cannot ignore this important issue or its effect on the communities along our coastline. We should give proper deference to the impact that they bear for the oil resources that we all enjoy. The panel before us today will help us take the first step along the path of exploring this issue. I look forward to the testimony to be presented here today and to the insight offered by the witnesses.

The CHAIRMAN. I am very happy that you are here.

Senator GRAHAM. Mr. Chairman.

The CHAIRMAN. Yes, Senator Graham.

Senator GRAHAM. Can I ask this? I am afraid I am going to have to leave for that caucus. I wonder if we would be permitted to submit questions in writing to the witnesses for subsequent-to-the-hearing response.

The CHAIRMAN. Sure, we will provide that opportunity.

Senator GRAHAM. Thank you very much.

Before I recognize Senator Landrieu, let me indicate how broad the interest in the issue and in the players are because LeTourneau is a very interesting subsidiary of the Rowan Company. And the Rowan Company has got activities in our State in the area of aviation and others. So we have a stretch across a broad breadth of America in the interests of those that are in the oil and gas exploration, development and so forth.

Senator Landrieu, I believe you wanted to introduce your witness, Mr. Caldwell. Please proceed.

Senator LANDRIEU. Jack Caldwell is our Secretary of Natural Resources, and has done just an outstanding job as he has spent days, weeks, months, years on this issue, travelling to almost every State in the Union, talking with any people who will gather to hear him. And I want to thank him for his leadership. He is on one of the advisory committees of the Mineral Management Service, and has just done an outstanding job, Mr. Chairman, helping us get to this point.

Jack, before you start, I also want to thank Mark for his leadership. Mark Van Putten and the National Wildlife Federation have been one of the great environmental groups that can speak specifically to this issue. So, thank you very much.

I am going to have to leave in a few minutes. I am going to try to stay as long as I can. But, Jack, thanks for coming.

The CHAIRMAN. Please proceed, Jack.

**STATEMENT OF JACK C. CALDWELL, SECRETARY, LOUISIANA
DEPARTMENT OF NATURAL RESOURCES**

Mr. CALDWELL. Thank you, Senator Landrieu.

Mr. Chairman and honorable members of the committee, as Senator Landrieu has just emphasized to you, Louisiana's coastal ecosystem is a unique national treasure and it is in a virtual state of collapse. In the last 50 years, we have lost 1,000 square miles of coastline. And in the next 50 years, we are going to lose another 1,000 square miles of coastline if we do not do anything about it. This is an area the size of the State of Delaware that is disappearing into the Gulf of Mexico.

I have here my digitized satellite map, which shows the losses, in red in the past, and the yellow is in the future, in just one part of the Louisiana coast. And you can see the catastrophic devastation that this coast is undergoing.

The economic, social and environmental costs are staggering. The current estimate is that in infrastructure alone, we are going to lose \$150 billion in value over the next 50 years. Whole towns and communities, oil fields, coastal industries, public facilities are going into the Gulf of Mexico if we do not do something about it.

Now, the causes of this loss are very complex and numerous. But, without a doubt, as always, the hand of man is a significant influence. And in this, offshore oil and gas operations have had a significant impact.

Let us take one example, the Houma Navigation Canal. This canal was dug in 1964, and it runs from the town of Houma, Louisiana, population about 100,000, 25 miles down to the Gulf. And it is one of Louisiana's major offshore oil and gas operations bases. In the 35 years that this canal has been there, as you can see from my satellite map, we have lost 10 square miles along that one canal in a 25-mile area.

This is due to boat wash in these fragile marshes, saltwater intrusion that comes up the canal and destroys the freshwater marsh, and the tidal energy that washes the soil in and out. Ten square miles in 35 years.

In addition, the Louisiana coast is criss-crossed by 14,000 miles of oil and gas pipelines, many of them from offshore coming onshore. The Mineral Management Service is presently doing a study to determine the impacts just of those pipelines. And we will have that and we will file that in the record when the MMS completes it.

In addition, we have Port Fourchon, which is presently being studied by the MMS. It is the major offshore oil base, located down on the coast. Port Fourchon is serviced by one two-lane road, running up Bayou LaFourche, that carries 1,000 trucks a day. And that poor road is crumbling into the Gulf as we speak. If we do not get some help, Port Fourchon will have to shut down.

Now, Louisiana supports strongly offshore oil and gas operations. We have always believed in it, as Senator Landrieu has told you. But Louisiana should not bear a disproportionate burden of the adverse environmental impacts of these operations. We have furnished 90 percent of the revenues that come from offshore Louisiana. And we have been returned about 1 percent of the royalties under the 8(g) funds.

But there is hope on the Louisiana coast. Under the Breaux Act, sponsored by Senator Breaux in 1990, Louisiana has been receiving about \$40 million in Federal funds. And this, together with State match, has gone into coastal restoration projects that my department is charged with implementing. And I want you to know that I am very pleased and very proud to report that we are currently meeting with modest success in coastal restoration.

But this is not enough. At the present rate, it is estimated we will only save about 22 percent of the losses that will otherwise occur. We believe that S. 25 can provide the resources to restore the coast.

A joint coalition of Federal and State agencies have just finished a comprehensive strategic plan for the Louisiana coast, known as Coast 2050. And we have furnished the committee with copies of this plan.

The Coast 2050 estimates that if we take the appropriate action, we can save 90 percent of the loss that will otherwise occur, and at a modest cost of \$14 billion over the 50-year period. And S. 25 we believe can provide those funds.

So, we submit that the Louisiana coast is a perfect model for reaching the lofty and worthy goals of S. 25, which is to reinvest a portion of these nonrenewable oil and gas revenues into renewable and sustaining resources. We believe that title I, as well as title II and title III embody the great American tradition of conserving and preserving our dwindling natural resources.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Caldwell follows:]

PREPARED STATEMENT OF JACK C. CALDWELL, SECRETARY, LOUISIANA DEPARTMENT OF NATURAL RESOURCES

Louisiana's story is compelling. It's about an irreplaceable part of America's coast that is disappearing at a catastrophic rate. If the loss is not stopped and reversed, the very industry we discuss today will be at risk, along with the economy, infrastructure, wildlife habitat, fisheries, communities and unique culture of south Louisiana.

Louisiana's coastal wetlands represent 40% of all the salt marshes in the contiguous United States. During the past 50 years more than one thousand square miles have disappeared. During this decade, our coastal wetlands are being lost at the rate of 25 to 35 square miles a year, or the equivalent of a football field every 15 minutes. Even with current restoration efforts, we expect to lose almost one thousand more square miles by the year 2050. This dramatic loss represents 80% of all coastal wetland loss in the entire continental U.S.

The effects of natural processes like subsidence and storms combined with human actions, including impacts from offshore oil and gas exploration and development, have led to an ecosystem on the verge of collapse.

America is losing much more than acreage. Louisiana's coastal wetlands contribute 28% to the total volume of U.S. fisheries, provide winter habitat for one-half to two-thirds of the Mississippi Flyway waterfowl population and for many threatened and endangered species, the nursery ground for fish and shellfish for much of the nation's seafood consumption, and 40% of the nation's fur harvest. They provide for 400 million tons each year of waterborne commerce, and support and protect the multi-billion dollar a year oil and gas industry. Our coastal wetlands are home to more than two million people and serve as their buffer from hurricanes and storms.

LOUISIANA OFFSHORE OIL AND GAS ACTIVITY

Eighteen percent of U.S. oil production originates in, is transported through, or is processed in Louisiana coastal wetlands with a value of \$6.3 billion a year. Almost 24% of U.S. natural gas production originates in or is processed in Louisiana's coastal wetlands with a value of \$10.3 billion a year.

Louisiana's OCS (outer continental shelf) territory is the most extensively developed and matured OCS territory in the United States. It has produced 88.8% of the crude oil and condensate and 83.2% of the natural gas extracted from all federal OCS territories from the beginning of oil and gas exploration and development in the U.S. through the end of 1996.

As of December 1998, Louisiana offshore leases totaled 5,363, with more than 27 million acres under lease, 130 active drilling rigs, 4,489 producing oil wells and 3,813 producing gas wells.

Our latest annual production data for 1997 shows that 353,846,995 barrels of oil and 3,881,352,353 MCF (thousand cubic feet) of natural gas was produced. Between January and July 1998, oil production was at 227,282,332 barrels, with gas at 2,281,832,468 MCF.

As of October 1998, there were 3,439 platforms in the Gulf off Louisiana's coast.

In 1997, oil and gas production was valued at a combined total of \$18.6 billion, with federal royalties totaling \$2.9 billion.

Louisiana projection estimates for offshore oil and gas production and federal royalties:

	1999	2000	2001	2002	2003	2004
OIL:						
Production (in millions of barrels)	413.0	493.9	524.8	541.2	556.7	572.2
Oil Royalties (in millions of \$\$)	1,177.5	1,392.0	1,471.4	1,523.9	1,537.2	1,450.4
GAS:						
Production (in million MCF)	3,700.8	3,527.3	3,308.5	3,318.3	3,373.4	3,428.4
Gas Royalties (in millions of \$\$)	1,360.9	1,292.2	1,175.5	1,082.2	993.5	911.6

Recently, the oil and gas industry has rebounded from a downturn in the 1980s. The main reasons are the discovery of oil and gas in deepwater fields of the central Gulf of Mexico, deepwater royalty tax relief, and new and improved technology used to extract oil from the deepwater Gulf.

Industry leaders are expressing a new optimism and the frantic pace of drilling is breaking old records. The deepwater Gulf of Mexico has emerged as the country's most significant oil and gas province and some estimates say within the next four to five years, as much as 30% of the country's total domestic output will originate from the Gulf of Mexico.

Market analysts predict this intense level of exploration could last 10 years. The success of Louisiana's oil and gas industry contributes billions to the State and national economies every year. Offshore companies paid about \$2.4 billion to vendors and contractors in 165 Louisiana communities in 1992 alone. Nearly 4,000 vendors serve offshore operations and employ 55,000 people and more than 30,000 are employed offshore.

Port Fourchon is the geographic and economic center of offshore drilling efforts along the Louisiana Gulf Coast. More than \$700 million in public and private investments have been made in the complex and the port will provide support to 75% of the deep water drilling prospects in the Gulf. It's tonnage has increased 275% in the last five years and it is anticipated to double again within two years. It handled more than 30 million tons of cargo in 1996.

More than 6,000 people currently depend on the port as an avenue to and from offshore facilities and more than 13,000 people depend on it for jobs, supplies, facilities and as a hurricane evacuation hub to safer locations north of the coast. Most of the major and independent oil and gas companies operating in the Gulf have a presence at Port Fourchon. On any given day, more than 1,000 trucks are unloaded and loaded there and pipe yards, shipyards, platform construction facilities, service bases and barge terminals within the immediate service area of the port are working at or near capacity.

Less than 20 miles southeast of Port Fourchon is the Louisiana Offshore Oil Port (LOOP), built by a group of major oil and pipeline companies. It serves as the central unloading and distribution port for all incoming supertankers to the Gulf region. The supertankers offload crude oil into LOOP's offshore pipeline continuously. The oil is then piped north to Lafourche Parish where it is stored and piped to markets all over the country.

THE OIL AND GAS INDUSTRY—IMPACTS COME FULL CIRCLE

The United States depends on the oil and gas shipped through and produced in Louisiana's coastal zone. Wetlands and barrier islands protect the billions of dollars worth of infrastructure that supports the industry from wave and storm damage and are an integral part of the nation's energy system. The industrial uses associated with offshore exploration and production, pipelines, and canal developments have directly and indirectly contributed to marsh destruction, putting the industry, itself, at risk.

Navigation channels and canals dredged for oil and gas extraction have dramatically altered the hydrology of the coastal area. North-south channels and canals have brought salt water into fresh marshes, killing vegetation and habitat. East-west canals have impeded sheetflow, ponding the water on the marsh and leading to stress and eventual loss. Canals have also increased tidal processes that impact the marsh by increasing erosion. Channel deepening has caused saltwater intrusion, endangering the potable water supply of much of the coastal region.

As of 1997, there were more than 20,000 miles of pipelines in federal offshore lands and thousands more inland. They all make landfall on Louisiana's barrier islands and wetland shorelines. The barriers are the first line of defense against combined wind and water forces of a hurricane and they serve as anchor points for pipelines originating offshore. These islands protect the wetland habitants from an offshore oil spill and are critical in protecting the state's wetland-oriented oil and gas facilities and thousands of jobs directly and indirectly tied to the industry.

If the barrier islands erode entirely, as expected in the next 50 years, platforms, pipelines and wells will be damaged in increasing numbers. More than 58% of the region's wells are located in coastal parishes. Most of them are more than 50 years old and were not designed to withstand the conditions of open water they could face in the next 50 years. More than 30,000 wells are at risk within the 20-parish coastal area. Wells that were on land only a few years ago are now surrounded by water, a situation hazardous to boat traffic and an environmental liability to habitat and fisheries.

Workers, equipment, supplies, and transportation facilities that accompany the rapid growth of the offshore oil and gas industry depend on land based facilities. Roads, housing, water, acreage for new business locations and expansions of existing businesses, waste disposal facilities and other infrastructure facilities will be needed in localized areas along the Louisiana coast. Existing land based infrastructure is already heavily overburdened and needs expansion and improvement, requiring extensive financial infusions from State and local governments. For example, Louisiana's only highway leading to Port Fourchon is on the verge of crumbling under the strain of the thousands of trucks that travel it each week. It will cost about \$266 million to make the highway safe and fully usable.

LOOP also depends on onshore infrastructure protected by wetlands. Without this protection, America will lose an essential trade and navigation center that would affect commerce throughout the world.

OTHER IMPACTS FROM COASTAL WETLAND LOSS

Louisiana ranks first in the nation in total shipping tonnage, handling more than 450 million tons of cargo a year through its deep-draft ports of New Orleans, Baton Rouge, Lake Charles, South Louisiana, Plaquemines Parish and St. Bernard. The ports between Baton Rouge and New Orleans are the largest by tonnage carried in the world and serve the entire eastern part of the country.

The state's wetlands and barrier islands protect this internationally important port system, as well as navigation channels, waterways and anchorages from winds and waves. At present land loss rates, more than 155 miles of waterways will be exposed to open water in 50 years, leaving this key port system at risk and businesses throughout the nation losing preferred links to European and Pacific Rim markets.

Because of our coastal marshes and barrier islands, Louisiana's commercial and recreational fisheries are among the most abundant in America, providing 25% to 35% of the nation's total catch. Louisiana is first in the annual harvest of oysters and crabs and menhaden, and is a top producer of shrimp. Some of the best recreational salt water fishing in North America exists off Louisiana's coast. The reason for this abundance is that our coastal marshes provide the nursery for young fish and shellfish.

The long-term impacts of wetland loss relates to many species of fish and shellfish that depend on these habitats, translating into economic losses that affect the entire region and the nation. Nearly all Louisiana commercial species use the marsh at some stage of their life cycle, and fisheries loss will be proportional to marsh loss. By the year 2050, the annual loss of commercial fisheries will be nearly \$550 million. For recreational fisheries, the total loss will be close to \$200 million a year.

Louisiana's coastal wetlands provide a diverse habitat for many wildlife communities. The wetlands provide life cycle needs for resident species and wintering habitat for migratory waterfowl and other birds. Land loss and habitat change by the year 2050 will affect the nation's wildlife population. Sea birds, wading birds and shore birds are expected to decrease, along with raptors and woodland birds. Alligators and furbearers will decrease in certain areas of the coast, as will the abundance of ducks and geese.

Louisiana's cities and coastal communities are at great risk as the wetlands and barrier islands disappear, leaving people with no buffer from storm surges and the force of high winds. Miles of hurricane protection levees will be exposed to open water conditions, forcing widespread relocation and abandonment of coastal communities.

Wetlands create friction and reduce high winds when hurricanes hit. They also absorb hurricane storm surges. Scientists estimate that every 2.7 miles of wetlands absorbs one foot of storm surge. The 3.5 million acres of wetlands that line Louisiana's coast today have storm protection values of \$728 million to \$3.1 billion.

The recent strike of Hurricane Georges, just a few miles east, brought home just how devastating a direct hit to New Orleans would be. The potential loss of life and property is incomprehensible and the threat of disaster was not lost on the city's residents. Bumper-to-bumper traffic snaked out of the city north and west for hours as more than one million people evacuated the crescent city. Hotel space was scarce as far north as Memphis.

With the loss of barrier islands and wetlands over the next 50 years, New Orleans will be a Gulf coast city and will lose its wetland buffer that now protects it from many effects of flooding. Hurricanes will pose the greatest threat, since New Orleans sits on a sloping continental shelf, which makes it extremely vulnerable to storm surges.

More than two million people in inland south Louisiana will be subject to more severe and frequent flooding than ever before. Coastal communities will become shorefront towns and the economic and cultural costs of relocation is estimated in the billions of dollars.

We expect an increase in homeowner and commercial insurance rates by 20% in some cases. Insurance coverage for wind damage may be discontinued, deductibles will increase by 20% by next year, and large insurance companies will stop issuing new policies in the coastal zone.

South Louisiana's unique culture is a national treasure and the very fabric of its distinct way of life is being eroded with the coast at great intangible cost to the nation and the world.

COAST 2050: A VISION OF THE FUTURE

Louisiana began work in earnest to restore its coast in 1989 with the passage of Act 6 and in 1990 with passage of the Breaux Act or CWPPRA (The Coastal Wetlands Planning Protection and Restoration Act). Since then, more than 80 restoration projects are presently underway or already completed. We have gained the technical know-how and, by working with our federal partners, we are cementing long-term partnerships as we build projects together.

During the past 18 months, the Coast 2050 Plan was developed in partnership with the public. It is a technically sound strategic plan to sustain Louisiana's coastal resources and to provide an integrated multiple-use approach to ecosystem management.

Coast 2050 has received unanimous approval from all 20 Louisiana coastal parishes, the federal Breaux Act Task Force, the State Wetlands Authority, and various environmental organizations, including the Coalition to Save Coastal Louisiana. This approval is unprecedented.

The main strategies of the plan are watershed structural repair, such as restoration of ridges and barrier islands, and watershed management, such as river diversions and improved drainage. In making recommendations, the process did not view the number of coastal wetlands acres saved as the only priority, but considered other resources as well, such as roads, levees, fish and wildlife resources, and public safety and navigation, in making recommendations.

The Breaux Act (CWPPRA) Task Force, the State Wetlands Authority and the Department of Natural Resources Coastal Zone Management Authority will establish it as a unifying strategic plan of action. It will become the CWPPRA restoration plan and Louisiana's overall strategic coastal plan. Proposed projects will be measured against the strategies in the Coast 2050 Plan before being approved.

In one way or another, everyone in the nation will feel the enormous loss of land along Louisiana's coast and current restoration efforts will only prevent 22% of the land loss projected to occur within the next 50 years. However, we know that a comprehensive restoration program using the Coast 2050 Plan as a guide, could restore and maintain more than 90% of the coastal land existing today.

The price tag is \$14 billion to construct more than 500 projects that would be needed, but the price of infrastructure alone that would be lost is more than \$150 billion.

For more than 50 years, Louisiana has shouldered the environmental and infrastructure impacts of supporting the OCS oil and gas industry. In 1997, royalties paid to the federal government from OCS revenues off the coast of Louisiana totaled \$2.9 billion. Louisiana realized only a fraction in direct financial benefit, while losing another 35 square miles of its coast. If Louisiana receives its fair share of OCS

revenues, we will be well on the way to restoring our coastline, justifying the \$14 billion investment.

Senate Bill 25 makes good sense. Investing income from a non-renewable capital asset into renewable resources that will provide economic stability and health to an entire region and the nation for decades to come, is good business.

Louisiana and America cannot afford to wait.

NOTE: Some of the information in this testimony was taken from: the preliminary final draft of *Coast 2050: Toward A Sustainable Coastal Louisiana*, the final draft of *No Time to Lose*, a report by the Coalition to Restore Coastal Louisiana, and reports written by Dr. Donald W. Davis, administrator, Louisiana Applied Oil Spill Research and Development Program.

The CHAIRMAN. Thank you very much, Mr. Caldwell. I appreciate your statement. And your entire statement will be entered into the record.

Senator Craig has joined us. Good morning.

Senator CRAIG. Good morning, Mr. Chairman.

Go right ahead.

The CHAIRMAN. The next witness will be the Hon. Jim Whitaker of the House of Representatives, State of Alaska.

**STATEMENT OF JIM WHITAKER, STATE REPRESENTATIVE
FROM ALASKA**

Mr. WHITAKER. Thank you, Mr. Chairman.

If I may jump right to it. I respectfully submit my statement for the record.

The CHAIRMAN. Without objection.

Mr. WHITAKER. Thank you.

And I will paraphrase parts of it. But before I do that, let me state simply—and if you remember nothing of what I say for the remainder of that which I speak, please remember this—this bill is a good idea, and we need good ideas. The people of Alaska support it. And, again, it is a good idea.

I am testifying here today on behalf of State Senate President Drue Pearce and the Alaska State Senate and on behalf of State House Speaker Brian Porter and the Alaska State House, and, most importantly, on behalf of the people of Alaska.

I serve as Chairman of the Oil and Gas Committee in the Alaska State House. I am here today to talk about the impacts of offshore oil and gas development activities on Alaska and its coastal communities. I want to begin, however, by expressing my appreciation to you, Chairman Murkowski, Senator Landrieu, and other cosponsors of S. 25, the Conservation and Reinvestment Act of 1999.

This legislation is a much-needed and appropriate step towards addressing the impacts, needs and inequities which have been discussed today and will continue to be discussed, I am sure.

For the last three decades, Alaska has been one of the primary sources of this country's domestic energy supply. And it is no secret that the oil and gas industry has brought many benefits to those of us in Alaska. At the same time, however, it has also created responsibilities and burdens which have economic costs throughout the State.

I can tell you that my own hometown of Fairbanks experiences many real economic, environmental and community impacts as a result of the oil and gas activities which takes place further north and also from the Trans-Alaska Pipeline. Fortunately, we have also

been able to benefit from them, as well, and rely upon those benefits, to some extent, to deal with such impacts and responsibilities.

Alaska is one of several States which has active Federal outer continental shelf oil and gas development taking place off its shores. More importantly, the level of production from Federal OCS oil and gas leases in Alaska is likely to increase significantly as new development is brought online. Hundreds of millions of dollars in revenues will be produced from Federal OCS development in Alaska. And I hope that billions becomes the byword, rather than millions, as the years go by.

Yet, unlike Federal onshore activities, Alaska and the individual communities which are most proximate to Federal OCS development will receive no direct benefits from it, even while we shoulder the burdens and responsibilities that arise from development.

Senator, in light of time constraints, I will stop my testimony at this point. Thank you very much, again, for giving me the opportunity.

[The prepared statement of Mr. Whitaker follows:]

PREPARED STATEMENT OF JIM WHITAKER, STATE REPRESENTATIVE FROM ALASKA

Good Morning, Mr. Chairman and members of the Committee. My name is Jim Whitaker and am here testifying today on behalf of State Senate President Drue Pearce and the Alaska State Senate and Alaska State House Speaker Brian Porter and the Alaska State House. I am a member of the Alaska State House from Fairbanks, Alaska and serve as Chairman of the Oil and Gas Committee.

I am here today to talk about the impacts of offshore oil and gas development activities on Alaska and its coastal communities. I want to begin, however, by expressing my appreciation to Chairman Murkowski, Senator Landrieu and the other cosponsors of S. 25, the Conservation and Reinvestment Act of 1999. This legislation is a much-needed and appropriate step towards addressing the impacts, needs and inequities we are discussing today.

For the last three decades, Alaska has been one of the primary sources of this country's domestic energy supply. It is no secret that the oil and gas industry has brought many benefits to Alaska. At the same time, however, it has also created responsibilities and burdens which have economic costs throughout the State. I can tell you that my own hometown of Fairbanks experiences many very real economic, environmental and community impacts as a result of the oil and gas activities which take place further north and from the Trans Alaska Pipeline System. Fortunately, we have also been able to benefit from them as well and to rely upon those benefits, to some extent, to deal with such impacts and responsibilities.

Alaska is also one of the several states which has active federal outer continental shelf (OCS) oil and gas development taking place off its shores. More importantly, the level of production from federal OCS oil and gas leases in Alaska is likely to increase significantly as new development is brought on line. Hundreds of millions of dollars in revenues will be produced from federal OCS development in Alaska. Yet, unlike federal onshore activities, Alaska and the individual communities which are most proximate to federal OCS development will receive no direct benefits from it even while we shoulder the burdens and responsibilities that arises from development.

As in the case of onshore development, federal OCS activities are major industrial undertakings which inevitably impact the State and particularly the communities nearest to them. Federal OCS oil and gas activities place increased demands on infrastructure, such as roads, ports, airports and not just those in the immediate area. Anchorage, our largest city, which is itself a coastal community, feels such affects from activities all over the State. In Alaska, much OCS-related equipment and facilities must come through the Port of Anchorage whether it is destined for the nearby waters of Cook Inlet or those much further north. The Anchorage and Fairbanks airports both experience significantly higher traffic, both cargo and passenger, as a direct result of onshore development and offshore activities will bring further increases. Federal OCS activities also place increased demands on local public services, such as fire protection, search and rescue, and law enforcement, as well as the utility systems of nearby communities, such as Barrow, Kaktovik, Kodiak and around Cook Inlet. Equally important are the increased environmental monitoring

and regulatory functions that must be performed by the State and local governments. All of these impacts have economic costs for the State and for our local communities. Under the current federal system, however, we derive no direct economic benefits from federal OCS oil and gas development to assist us in dealing with the impacts which these same activities create.

Not only is this unfair, it is also at odds with the historical practice and policy in the United States of allowing affected states and communities to share in the benefits of the development of federally-owned resources. The Alaska Statehood Act and, in other states, the Mineral Leasing Act, provide that we are entitled to receive a significant portion of the revenues derived from federal oil and gas leases on lands within our boundaries. This policy exists both as a matter of fairness and in recognition of the very real impacts which such activities create. Similarly, the federal payments in lieu of taxes or PILT program seeks to account for the economic impacts of federal lands on the local tax base. But the rules suddenly and inexplicably change when those very same federal activities occur right off our shores. That, I believe you'll agree, is simply not right and makes no sense.

Nevertheless, this is not simply a matter of sharing the wealth, but also about addressing very real needs. Many of the smaller coastal communities in Alaska are struggling under what can best be described as third world conditions. Most are still trying to address basic community needs like education and water and sewer service. Many of the residents in these villages exist below the poverty line and are forced to rely on subsistence activities for survival. I have included as an exhibit to my written testimony a chart with income and poverty information for some of our coastal communities. The social and cultural problems that accompany poverty are often rampant. Money will not solve all of these problems. But providing some form of OCS community impact assistance will help improve the quality of life for such communities and their residents.

Allowing Alaska and other coastal States to share in the economic benefits of federal OCS development will also assist us in addressing other important needs and functions. As a coastal State, Alaska has an extensive Coastal Zone Management Plan and Program Which is concerned not just with OCS oil and gas activities but all activities which impact the coastal environment. Federal OCS revenues would better enable Alaska and its communities to implement adequate monitoring and planning programs. The monitoring and collection of data regarding marine species and habitat could be significantly expanded. Local communities would be able to participate more fully and address their concerns in the extensive federal and State environmental planning process which precedes OCS development.

In closing, let me emphasize that the Legislature and the citizens of Alaska overwhelmingly support responsible OCS development. Alaska has been blessed with a wealth of natural resources and their development is a crucial element of our economy. At the same time, however, it is important that the United States recognize the necessity and equity of allowing Alaska and other coastal States to share directly in the benefits of the development OCS resources so as to better enable them to deal with the very real impacts and responsibilities which they create.

Thank you again, Mr. Chairman, for the opportunity to appear here and express the Legislature's concerns on this very important matter.

Community	Population	Median household income	Percent below poverty
Kipnuk	567	\$ 4,999	76.6%
Kokhanok	168	14,286	53.4%
Tyonek	151	11,591	37.1%
Wales	162	15,000	35.2%
Savoonga	622	11,339	50.9%
Quinhagak	567	17,500	37.2%
Chevak	721	17,222	27.0%
Edna Bay	70	12,250	63.7%
Gambell	653	15,938	46.4%
Hooper Bay	1,012	18,125	43.5%
Perryville	107	25,000	25.4%

SOURCE: 1990 U.S. Census

The CHAIRMAN. Thank you very much, Mr. Whitaker. I appreciate your statement. And the balance will be entered into the record.

Our next witness is Mr. Donald Oltz, State Geologist and Supervisor for the Geological Survey, State of Alabama.

Please proceed.

**STATEMENT OF DR. DONALD F. OLTZ, PH.D.,
STATE GEOLOGIST, ALABAMA**

Dr. OLTZ. Thank you, Mr. Chairman. I appreciate the invitation to be here.

I am the State Geologist of Alabama, and apparently I am lobbying for State magician also.

[Laughter.]

Dr. OLTZ. I want to thank Senator Sessions for his introduction.

The CHAIRMAN. In case some of our members missed it, this gentleman is also a magician. And I thought maybe we could use him in either the Democratic or the Republican caucus.

Senator CRAIG. More than he ever would realize.

[Laughter.]

The CHAIRMAN. So, if you are looking for something to do after you finish, we have got a place for you.

Dr. OLTZ. Okay.

Senator BURNS. I want to take the opposite position to that. I think we have got more than we need now.

[Laughter.]

The CHAIRMAN. Well, there is never an unspoken thought around here.

Please proceed.

[Laughter.]

Dr. OLTZ. Today, I would like to briefly touch on how Alabama currently handles OCS income and activities, and then discuss how offshore exploration and production activities for natural gas and oil impact the coastal part of Alabama.

I thought it would be informative just to briefly mention the Alabama model for revenues the State currently receives from oil and gas production. A 2 percent production tax and a 6 percent privilege tax are assessed on oil production. The counties from which the production is severed receive 25 to 30 percent of the privilege tax. The majority of severance tax goes into the general fund, which supports all non-educational programs in Alabama.

Two trust funds have been established that receive offshore revenues, the Alabama and the Heritage Trust Funds will be merged together in 2001. They currently have a combined corpus of \$1.61 billion. These funds include royalties and other revenues derived from State waters and all 8(g) revenues. Investment income last year approached \$122 million, which was deposited in the State's general fund.

Now, I would like to focus on Alabama, and discuss how offshore exploration and production activities for natural gas impact the coastal area. Natural gas was discovered in Alabama in 1979. Additional discoveries of natural gas in Alabama State waters led to natural gas discoveries in the OCS off Alabama, Mississippi and Florida. Offshore production platforms, pipelines, and onshore proc-

essing facilities were established to allow for production of these very large natural gas reserves.

Currently, gas production offshore of Alabama occurs within the 3-mile State coastal waters, in the State shared with Federal 8(g) area, and beyond the 6-mile 8(g) boundary. Over a billion and a half—and let me repeat that, because I am going to come back to some of these numbers—a billion and a half cubic feet a day are brought onshore in southern Mobile County, Alabama. This gas originates from Alabama, Mississippi and soon, possibly, Florida.

Alabama has over 100 industries that participate in the construction and operation of drilling rigs. New production drilling and production technology will expand exploration and production operations into very deep water.

Some specific Alabama infrastructure needs are roads. For instance, we have four gas processing plants in three locations in Mobile County, Alabama. These plants, as an example, send out 25 to 30 molten sulfur-laden semis, tanker trucks, every day, each day accumulating 400 to 500 long tons of molten sulfur. Sulfur is removed from the gas because a lot of the gas produced in offshore Alabama is sour.

Docks and port facilities are obvious. New pipelines—we are projecting increased exploration in the Gulf of Mexico. It is one of the hottest spots for exploration for the oil industry in the world right now. So we can look for expanded for pipelines in Alabama. Sometimes these have to cross coastal wetlands and other environmentally sensitive areas.

Accommodations to Federal production—in the interest of efficiency offshore, a lot of material will be combined with State production at an offshore platform and then piped into onshore facilities. We are going to be accommodating Federal production, and commingling it with the State production, which means a whole administrative nightmare, metering problems, and also accommodation for the increased volume.

We have viewshed issues. Residents of the coastal communities have complained about the viewshed issues offshore Alabama. We have boat and air traffic problems, competition for offshore space. You are probably aware that Alabama has a tremendous shrimping industry and a fishing industry, and the shrimp boats compete with crew boats and other traffic going back and forth in support of the offshore platforms.

Air quality is a problem in the south coastal air basin. Oil spills could potentially be a problem in offshore Alabama. Right now, we only have to handle gas. And there is no threat to the shoreline. As production increases and as new discoveries are made further offshore, we expect that oil will have to be something that infrastructure will be needed to handle, in terms of potential beach problems.

Of course labor is a problem.

My written comments address also title I provisions, but we go on record here in support of the title II and title III.

Alabama has produced over 1 trillion cubic feet of gas. And I go back to this idea about numbers, because the industry talks about a million cubic feet a day, or 5,000 barrels of oil per day. A trillion cubic feet of gas is about 20 percent of the total reserves that are

available offshore Alabama. One trillion cubic feet will take the area of a football field 2,800 miles high. That is how much gas and how much infrastructure impact there is in Alabama.

As I have described, Alabama is currently being impacted by offshore development in a variety of ways. And we are carrying more than our share of the burden. It would be appropriate for the State of Alabama and local governments to receive additional revenues that could be used to mitigate adverse environmental and public service impacts incurred due to OCS development.

I appreciate the opportunity to make these comments. Thank you.

[The prepared statement of Dr. Oltz follows:]

PREPARED STATEMENT OF DR. DONALD F. OLTZ, PH.D., STATE GEOLOGIST, ALABAMA

Mr. Chairman, thank you for the invitation to appear here today. I am Don Oltz, State Geologist of Alabama. In my position as Supervisor of the State Oil and Gas Board of Alabama, I have regulatory authority for oil and gas operations in Alabama. As Director of the Geological Survey of Alabama, I head an agency which provides current, competent, and complete information and research on Alabama energy, minerals, water, and biology. Also, I am the current vice chairman of Minerals Management Service (MMS) Outer Continental Shelf (OCS) Policy Committee and was one of the votes to move the assistance concept to the Department of the Interior. I also have many years' experience in the oil and gas industry. Today, I would like to provide a short summary of the OCS Policy Committee's report on coastal impact assistance, briefly touch on how Alabama handles current income from OCS activities, and then discuss how offshore exploration and production activities for natural gas and oil impact the coastal area of Alabama.

The OCS Policy Committee was established to provide advice to the Secretary of the Interior through the MMS on policy issues related to oil and natural gas activities on the OCS. Members represent the coastal States and constituencies impacted by federal OCS programs. At the Spring 1997 meeting, the OCS Policy Committee reiterated its support for impact assistance and revenue sharing to coastal States and communities directly affected by oil and gas development. The MMS asked the OCS Policy Committee to develop a proposal to implement an impact assistance program. The resulting report entitled, "Coastal Impact Assistance" was approved by the OCS Policy Committee and transmitted to the Secretary of the Interior.

The OCS Policy Committee report identified two fundamental justifications for a revenue sharing or impact assistance program: (1) mitigate the various impacts of OCS activities and (2) support sustainable development of nonrenewable resources. The committee report states that "OCS development can . . . affect community infrastructure, social services and the environment in ways that cause concerns among residents of coastal States and communities.' These effects cannot be entirely eliminated and they underscore the fact that, while the benefits of the OCS program are national, a disproportionate share of the infrastructure, environmental and social costs are local."

Impacts listed in the OCS Policy Committee report are:

- the need for infrastructure, such as ports, roads, water and sewer facilities, to support expanded economic activity accompanying OCS development;
- the need for public services, such as schools, recreation facilities, and other social services, to support the population growth accompanying OCS development;
- the need to mitigate the effects of occasional accidents (e.g., oil spills) or cumulative air, water, and solid waste discharges on coastal and marine resources and on the economic activities (e.g., tourism and fisheries) that depend on those resources;
- the need to mitigate the physical impact of OCS activities (e.g., pipelines, wake wash, road traffic, canal digging, and dredging) on sensitive coastal environments;
- the visual impact on residents and tourists from production platforms and facilities, waste disposal sites, pipeline rights of way, canals, etc.; and
- the costs to State and local governments of effective participation in OCS planning and decision-making processes and permitting, licensing, and monitoring onshore activities that support offshore development.

Mr. Chairman, I thought it might be informative to briefly mention revenues the State currently receives from oil and gas production including the offshore. In Ala-

bama, severance taxes are charged on natural gas production. A two percent production tax and a six percent privilege tax are assessed on all production. The counties from which the production is severed receive 25 to 30 percent of the privilege tax. The majority of severance tax revenues are deposited in the State General Fund which supports all non- educational State programs. Two trust funds have been established that receive offshore revenues. The Alabama and Heritage Trust Funds will be merged in 2001 and currently have a combined corpus of 1.61 billion dollars. These funds include royalties and other revenues derived from State waters and all 8(g) revenues. Investment income last year approached 122 million dollars which was transferred to the State's General Fund.

Now I would like to focus on Alabama and discuss how offshore exploration and production activities for natural gas and oil impact our coastal area. Our coastal area comprises two counties: Mobile and Baldwin. Mobile County is more populated and has a strong industrial base which includes: paper products, ship building, aviation, chemicals, lumber products, textiles, seafood processing, and oil and gas production. Baldwin County is less populated but has the fastest growing population in the State. Retail trade and real estate are the industries which support a strong and growing tourist industry.

Natural gas was discovered in Alabama State waters in 1979. Additional discoveries of natural gas in Alabama State waters led to natural gas discoveries in the OCS off Alabama, Mississippi, and Florida. Offshore production platforms, pipelines and onshore processing facilities were established to allow for production of these very large natural gas reserves. Production from Alabama State waters and the OCS off Mississippi and Alabama constitutes a significant contribution to U.S. energy production. We fully expect the infrastructure necessary to produce these energy resources will continue to expand offshore and onshore Alabama.

Currently, gas production offshore Alabama occurs within the 3-mile State coastal waters, in the Federal-State shared "8(g)" area and beyond the 6-mile "8(g)" boundary. Over a billion and a half (1.5 bcf) cubic feet of gas are brought onshore every day in south Mobile County, Alabama. This gas originates from offshore Alabama, Mississippi, and soon, possibly Florida. Alabama has over 100 industries that participate in the construction and operation of offshore drilling rigs. New drilling and production technology will expand exploration and production operations into very deep water. Geologic creativity continues to expand the number of "plays" so that more and more prospects are being drilled. New plays currently being developed in OCS waters include the oil-prone deep water flex play and the Cretaceous carbonate trend offshore Mississippi and Alabama.

Alabama infrastructure needs for maintaining current and future Gulf of Mexico drilling and production include:

1. Roads. Alabama has to widen a two-lane road south of I-10 toward the gulf to add lanes to handle increased industrial traffic. One source of some of that traffic is tankers carrying molten sulfur. We have four gas-processing plants in three locations in Alabama; these plants send out 25 to 30 trucks laden with 400 to 500 long tons of molten sulfur each day. (Sulfur is removed from the "sour" gas prior to entering sales lines.) Many of the 100+ industries supporting offshore oil and gas activities also deliver their products to facilities on the coast over Alabama roads.

2. Docks and Port Facilities. The Mobile area port facilities service much of the OCS exploration and production operations offshore Alabama, Mississippi, and Florida.

3. New Pipelines. As projected production increases occur, new pipelines will need to be brought onshore Alabama. In some areas they may cross coastal wetlands or other environmentally sensitive areas. The current plans to add natural gas liquids plants will also increase current daily throughput and the need for new pipelines.

4. Accumulations to Federal Production. In the interest of efficiency, some federal production may be commingled with State production prior to pipelining. Metering and allowables will become an additional administrative issue for the Alabama State Oil and Gas Board.

5. Viewshed Issues. Residents of coastal communities have complained about the visual impacts of offshore exploration and production facilities.

6. Boat and Air Traffic. Helicopters, crews and supply boats operate out of onshore of nearshore bases. Alabama has a tremendous offshore fishing and shrimping industry that compete in the flow of traffic.

7. Air Quality. The south-coastal air basin has air quality problems. Some contributions that impact air quality may be related to onshore processing, truck traffic, etc.

8. Oil Spills. All of Alabama's State and "8(g)" production is gas. Deep water production will introduce oil production into the infrastructure of coastal Alabama. Ala-

bama needs support for State coastal-based response teams because of increased exposure of risk not contemplated by current planning.

9. Labor and Associated Infrastructure. Increased jobs brings increased needs for schools, hospitals, water treatment plants, sewers, etc. Some socioeconomic studies are in progress to address these and other related issues.

In closing, Senate Bill 25 is designed to provide Coastal Impact Assistance to State and local governments in order to mitigate adverse environmental and public service impacts incurred due to OCS development. Alabama has produced over 1 tcf of gas. I think industry people throw numbers around that are sometimes hard to envision: 1 mmcf or 1.5 bcf/day or 5,000 bopd; 1 tcf of gas will cover the area of a football field vertically for 2,800 miles. As I have described, Alabama is currently being impacted by offshore development activities in a variety of ways and we are carrying more than our share of the burden. It would be appropriate for the State of Alabama and local governments to receive additional revenues that could be used to mitigate adverse environmental and public service impacts incurred due to OCS development. I appreciate the opportunity to provide these comments. Thank you.

The CHAIRMAN. Thank you very much, Mr. Oltz. The balance of your statement will be entered into the record.

I want to welcome Mr. Van Putten. Mark Van Putten, President of the National Wildlife Federation. We look forward to your statement and welcome you this morning.

**STATEMENT OF MARK VAN PUTTEN, PRESIDENT AND CEO,
NATIONAL WILDLIFE FEDERATION**

Mr. VAN PUTTEN. Thank you, Mr. Chairman. Good morning to you and to the members of the committee.

My name is Mark Van Putten. And I am here today to testify on behalf of the National Wildlife Federation, America's largest conservation advocacy and educational organization. I have submitted written testimony, which I would ask be included in the record of this hearing.

My testimony today outlines some of the threats that our invaluable coastal resources face as a result of offshore oil and gas drilling. Unfortunately, most of these adverse impacts are borne primarily by America's coastal zones, which are among the most biologically rich natural resource systems on this continent. They are also among our Nation's most important systems because of the crucial role they play in minimizing coastal flooding and erosion, providing important spawning habitat, and harboring rare and endangered wildlife.

Any analysis of this issue quickly reveals three fundamental facts. First, petroleum and petroleum byproducts are an integral part of our economy. Second, these products are toxic to nearly every type of living organism. And, third, these products are nearly impossible to contain once they have been released from the protective shelter of the Earth's crust.

While it is critical that we as a Nation wrestle with the impacts of drilling in the outer continental shelf, the battle over needed changes in our Nation's offshore oil and gas drilling practices will likely drag on long into the future. In the meantime, there are real opportunities for this Congress to begin to mitigate, protect and restore some of the coastal resources that have been degraded.

S. 25, recently introduced by Senators Murkowski, Landrieu and others, provides an important opportunity to redirect revenue from our offshore oil and gas drilling activities to address some of these impacts.

My written testimony provides a detailed accounting of these impacts, so I will only highlight a few of them here. Laying pipelines, anchoring rigs to the ocean bottom and other related construction activities generally result in significant mechanical damage to the sea floor, and can have devastating impacts on ecologically sensitive habitats.

The accompanying noise associated with construction and operation of these sites has been found to disturb critical marine species. Oil and gas development on the OCS also bears substantial responsibility for coastal subsidence, which was spoken to so eloquently by Mr. Caldwell.

Scientists have persuasively documented that the laying of pipelines and opening of navigation channels through Louisiana coastal wetlands have accelerated erosion and subsidence.

In addition, routine platform operations create several chronic pollution sources, the most deadly of these are the toxic chemicals routinely used to lubricate drill bits. These fluids and lubricants mix with the rock and mud to form a toxic sludge that is often found hundreds of meters away from the rigs. This sludge is left directly on the ocean floor, where it both suffocates and poisons species.

Toxic brine, or produced water as it is known, is generated in massive quantities by offshore oil wells, and contains a variety of pollutants.

Additionally, naturally occurring radioactive materials found deep in the Earth's crust leach into produced water and are then brought to the surface as a consequence of drilling.

The cumulative impacts of these various toxics have had serious consequences for important species like lobsters, oysters and fin fish that inhabit the areas under these rigs. In addition to this ongoing chronic pollution associated with OCS oil and gas drilling, accidental leaks, spills, blowouts, tanker barge collisions, and explosions all result in the release of oil and petroleum byproducts into the ocean and coastal systems.

Although relatively rare, when they happen, the impacts of these spills are often catastrophic and long lasting. More common are the smaller, chronic spills that occur as leaks. The incidence of these leaks in the future will likely grow as the pipelines laid in the 1960's and 1970's age and corrode.

As substantial and diverse as these impacts of OCS drilling are, one of the most significant long-term impacts of OCS production for the coastal zone is human-induced climate change and sea level rise. EPA has estimated that an increase in sea level of 50 centimeters would inundate more than 5,000 square miles of current uplands and 4,000 square miles of wetlands, an area six times larger than the State of Rhode Island.

Chronic pollution, catastrophic oil spills and other detrimental impacts of OCS oil and gas drilling are having a substantial impact on our invaluable coastal resources, including estuarine and coastal wetlands which provide vital protection from flooding and erosion; sea grass beds, which serve as nurseries for commercially important food fish and shellfish; barrier islands, which protect waterfront communities from the ravages of storms; coral reefs, whose biological richness is equal to that of tropical rain forests; and little

known deep-sea ecosystems whose treasures are yet to be discovered.

If properly crafted, S. 25 would help to mitigate the damage to the environment that is created by offshore oil and gas drilling. The National Wildlife Federation wholeheartedly endorses the idea of reinvesting revenues from the sale of nonrenewable resources in the conservation of renewable resources such as land, wildlife, habitat, air, and water.

At the same time, it is critical that any legislation intended to meet these needs does not, at the same time, negatively affect the environment by encouraging more oil and gas development. To prevent this perverse effect, the impact assistance funds for coastal governments should be dedicated to environmentally sound projects designed explicitly to mitigate the environmental damage, and shaped by public input.

Further, the allocation of these funds should be structured so that local communities are not encouraged to support inappropriate oil and gas development along their coasts.

NWF also commends the application of OCS dollars to other conservation areas that have historically been underfunded—the Land and Water Conservation Fund and State and wildlife programs. Attached to my testimony is a letter, signed by NWF and other leading conservation organizations that provide suggestions for ensuring that these funds are used for their intended conservation purposes and directed to the areas of greatest need.

I would also note the positive development of the President's Lands Legacy initiative as another important factor that could lead us to addressing this need.

In conclusion, our coastal zones contain invaluable natural resources that face substantial threats from OCS oil and gas drilling and other sources. The National Wildlife Federation encourages this committee to give serious consideration as you move forward to amending S. 25 to fulfill its potential as a tool for addressing some of America's most pressing conservation needs.

Thank you, Mr. Chairman. And we look forward to working with you and the members of this committee as S. 25 moves ahead.

[The prepared statement of Mr. Van Putten follows:]

PREPARED STATEMENT OF MARK VAN PUTTEN, PRESIDENT AND CEO, NATIONAL WILDLIFE FEDERATION

Mr. Chairman, Senators, thank you for this opportunity to testify before you. My name is Mark Van Putten. I am here today on behalf of the National Wildlife Federation, the Nation's largest conservation advocacy and education organization.

My testimony outlines some of the threats that our invaluable coastal resources face as a result of offshore oil and gas drilling—in particular, drilling on the Outer Continental Shelf (OCS). It is hard to overstate the devastating environmental impacts of OCS drilling—impacts that result from the initial exploration and development of the platforms; from the production, transportation, and refining of oil and gas; and ultimately, from our own consumption of OCS petroleum. Unfortunately, the lion's share of these impacts are borne by America's coastal zones, which rank among the most biologically rich and economically significant natural systems on the continent. These coastal zones are home to over half the Nation's population, play a critical role in absorbing flooding and blunting storms, provide important spawning habitat for commercially valuable fisheries, and harbor a disproportionate fraction of rare and endangered wildlife.

Thoughtful analysis of this issue quickly reveals three underlying facts: (1) petroleum and petroleum by-products are an integral part of our economy; (2) these products are toxic to nearly every type of living organism; and (3) once freed from the

earth's crust, these substances are virtually impossible to completely contain—in small and large quantities, they leak, spill, and evaporate, with environmental effects that are felt far from the rigs that bring them to the surface.

The impacts of OCS drilling are substantial and widespread. Some of these impacts are so severe that there is no hope for mitigation or restoration, however, many others can and should be addressed. Indeed, there are real opportunities to mitigate and restore some of the coastal resources that have been degraded and protect existing resources from future degradation. S. 25, the “Conservation and Reinvestment Act of 1999,” that was recently introduced by Senators Murkowski, Landrieu, and others, proposes to redirect revenue generated from offshore oil and gas drilling for conservation and other purposes. Amendments to S. 25 are necessary to ensure that it fulfills its potential for addressing the conservation impacts described in this testimony and that the bill in no way creates incentives for increasing OCS drilling.

OVERVIEW OF OCS DRILLING

Currently, there are approximately 3,800 oil and gas drilling platforms along the U.S. federal Outer Continental Shelf (National Research Council, 1996). Although drilling platforms are found on the coasts of 6 States (California, Alaska, Texas, Louisiana, Alabama, and Mississippi), they are most heavily concentrated in the waters off of Louisiana and Texas. Cumulatively, this drilling accounts for approximately 18% of domestic oil and 27% of domestic natural gas production (Quarterman, 1998).

Florida, California, Oregon and Washington have banned new leasing in State waters (and there are existing leases in Florida and California that have not yet been developed). With the exception of some areas off of Florida, Alabama, and Alaska, nearly all remaining coastal areas have been withdrawn by President Clinton from new oil and gas leasing through the year 2012. This moratoria also applies indefinitely to all areas designated as marine sanctuaries. To date, 12 sites have been designated marine sanctuaries, including one—the Flower Garden Banks—in the Gulf of Mexico.

The OCS moratoria does not affect existing leases and drilling on existing leases shows no signs of abating. In fact, the Minerals Management Service (MMS) notes that development of the OCS is expected to increase substantially over the next few years, in part due to growing interest and activity in the area of deepwater drilling (MMS, “Deepwater,” 1999; Year of the Oceans Report, 1998). Furthermore, over half the Nation's undiscovered oil and gas reserves are believed to occur on the OCS, and the pressure to drill in existing lease areas is likely to increase as oil resources become depleted (Year of the Oceans Report, 1998).

The OCS program generates bonuses, rent, and royalty payments to the Federal Treasury of nearly \$4.5 billion annually (with a cumulative historic total of \$120 billion, as of 1998) (Quarterman, 1998). A portion of these funds is distributed to coastal States that have OCS drilling sites off of their coasts (under section 8(g) of the OCS Lands Act—in 1998, \$65 million went to six coastal States). Some of these OCS receipts are also used to fund the Land and Water Conservation Fund (over \$19 billion to date) and the National Historic Preservation Fund (nearly \$3 billion to date) (Quarterman, 1998).

The following discussion of the destructive impacts of OCS oil and gas drilling argues strongly for mitigation and conservation practices that offset, where possible, the impacts of current OCS drilling.

THREATS POSED BY OCS DRILLING

If asked to reduce Outer Continental Shelf (OCS) drilling to a single visual image, most people would picture an oil rig, silhouetted against the sky, in the middle of open ocean. In fact, while oil rigs do have significant environmental impacts by themselves, the rigs are just one step in a long process of production, refining, distribution, and consumption. Impacts of OCS drilling on the coastal zone arise at all stages of this process, from pre-production exploration and rig construction, to refining, to transportation of oil and gas by pipeline and tanker, and ultimately to consumption patterns shaped by the availability of OCS petroleum.

Oil exploration and rig construction

From the outset, offshore exploration has significant environmental consequences. Seismic surveys used in oil and gas exploration generate sound waves that are known to disturb various marine mammals, as well as other marine species. For example, seismic waves are believed to interfere with gray whales' ability to commu-

nicate with one another and they demonstrate behavioral changes in response to seismic pulses.

Development of the rigs and related structures also has substantial environmental repercussions. Laying down pipelines, anchoring rigs to the ocean bottom, and other related construction activities generally result in mechanical damage to the underlying sea floor and can have devastating impacts on ecologically sensitive habitats such as coral reefs and sea grass beds (MMS, 1999; DOI, "Notice to Lessees and Operators 98-12," 1998). Newly discovered deep-sea benthic communities of unique chemosynthetic organisms (which include assemblages of tubeworms, clams, mussels, and other species) face significant threats from the rapid increase in deepwater ocean drilling (DOI, "Notice to Lessees and Operators 98-11," 1998).

The accompanying noise, increased boat and air traffic, and debris generated during the construction of these sites have also been found to disturb the surrounding marine ecosystem and marine species that inhabit the area. Sea otters, for example, have been observed avoiding areas where construction is ongoing and have reacted negatively to recorded playbacks of platform construction sounds (MMS, 1999).

Interestingly, scientists are beginning to discover that the deconstruction of these structures also presents serious environmental challenges. Approximately one-quarter of the existing offshore platforms are over 25 years old and many of them will have to be decommissioned over the next 10-15 years (National Research Council, 1996; MMS, 1999). To date, the vast majority of decommissioned rigs were broken into pieces—through the use of underwater explosives—so that the smaller pieces could be carried away. Unfortunately, these underwater explosives have significant detrimental impacts on endangered sea turtles and marine mammals. These explosions have also been found to cause substantial fish kills (National Research Council, 1996). As the large number of platforms built in the 1960's and 70's become ready for decommissioning, this issue will become a more serious problem.

Subsidence and coastal marsh destruction

Louisiana boasts 40 percent of the coastal and estuarine wetlands in the Lower 48 States, but accounts for 80 percent of estuarine wetlands loss (Boesch, et al, 1994; Louisiana Coastal Wetlands Conservation and Restoration Task Force, 1993). The State's marshes are sinking into the Gulf at a rate of 25-35 square miles per year (Louisiana Coastal Wetlands Conservation Task Force, 1998). In part, Louisiana's coasts are subsiding as a direct result of our efforts to control the Mississippi River. Levees built and maintained by the U.S. Army Corps have imprisoned the great river in its banks and defeated its natural delta-building efforts, forcing the Big Muddy instead to drop its sediments into the abyss off the continental shelf.

Oil and gas development on the OCS, however, also bears substantial responsibility for coastal subsidence. Studies by government and academic scientists have persuasively documented that laying of pipelines and opening of navigation channels through Louisiana's coastal wetlands has accelerated erosion and subsidence. As a 1987 biological report by the U.S. Fish and Wildlife Service noted, "[w]here canal density is high, land loss is high; where canal density is low, land loss is low; where canal density is nearly zero, land loss is nearly zero. . . . [C]oastal erosion rates are directly related to canal and spoil levee density." (USFWS, 1987, 28-29).

Many, if not most, of these channels were built to facilitate oil and gas exploration, placement of pipelines, or transport of rig components out into the Gulf. As the Louisiana Coastal Wetlands Conservation and Restoration Task Force explained in 1993:

The dredging of smaller channels for drilling rig access and pipeline installation proliferated in the coastal wetlands of Louisiana during the oil and gas exploration and development boom of the 1950's, 1960's, and 1970's. When onshore fields were developed, the marsh was broken up by dense canal networks. Offshore fields also caused destruction as pipeline canals were dredged through the marshes and barrier islands to connect with onshore processing facilities. By 1978, more than six percent of Louisiana's coastal wetlands had been directly converted to open water or spoil through canal dredging (Louisiana Coastal Wetlands Conservation and Restoration Task Force, 1993).

As the Coalition to Restore Coastal Louisiana notes, "coastal Louisiana is laced with about ten thousand miles of canals excavated to service the oil and gas industry." (Coalition to Restore Coastal Louisiana, 1989)

Ongoing pollution from drilling

In addition to the destruction caused in developing the infrastructure on and offshore for OCS drilling, routine platform operations create multiple chronic pollution

sources, including: drilling muds and cuttings, produced waters/toxic oil brine, deck drainage fluids, air emissions of hydrocarbons (from the rig machinery, helicopters, and support vessels), naturally occurring radioactive materials (NORMs), and a large amount of trash produced during general rig operations.

Toxic chemicals are routinely used to lubricate drill bits as they grind through the outer continental shelf. These fluids and lubricants mix with rock and mud to form a toxic sludge (or drilling waste) that is often found hundreds of meters from the rigs. This sludge is left directly on the ocean floor, where it both suffocates and poisons benthic species found in the area. It is estimated that up to 8,000 square feet per well may be covered by up to a meter thick of drilling wastes. The National Academy of Sciences estimates that drilling produces an average of 1,500-2,000 tons of drilling waste per well (National Research Council, 1983). The waste contains toxic pollutants such as lead, arsenic, copper, mercury, petroleum hydrocarbons, selenium, and other heavy metals.

Toxic brine or "produced water" is contaminated water brought up along with oil from the well. This "produced water" is generated in massive quantities by offshore oil wells and contains a variety of pollutants, including cadmium, benzene, naphthalene, lead, and other carcinogenic pollutants. Additionally, naturally occurring radioactive materials (NORMs) found deep in the earth's crust leach into produced water and are then brought to the surface as a result of the drilling.

"Workover fluids" containing oil and grease also include naphthalene, ethylbenzene, toluene and zinc. While there are restrictions about dumping these work materials into the ocean, the limitations are only applied to the oil and grease directly. Other toxic materials are dumped into the ocean. Deck drainage of oil, grease, drilling fluids, ethylene, lubricants, fuels, biocides, surfactants, detergents, solvents, dispersants, coagulants and other substances are also believed to cause harmful environmental impacts when they leak or are disposed of in the ocean.

Once in the ocean, toxics can remain suspended as solids in the water column where they lead to fish kills and interfere in the development of fish eggs and larvae. In fact, this waste can remain in the ecosystem for decades causing negative impacts to marine water quality and marine species (often by disrupting the ecosystem's balance through changes in species abundance and richness). For instance, a recent study found that increased levels of sediment contamination resulted in reduced genetic diversity of small copepod species found near the offshore platforms (Street and Montagna, 1996). MMS has noted that gray whales and other imperiled marine species may be vulnerable to adverse impacts from these drilling wastes—in particular, it is believed that it can cause eye irritation to gray whales migrating through the area. Filter feeders and bottom-feeders like corals, clams, oysters, and lobsters have been found to be particularly vulnerable to the effect of these toxics. This waste material strips surrounding water of its oxygen leading to reduced dissolved oxygen concentrations that interfere with fish egg development and cause other problems in the ecosystem (Holing, 1990). Toxics prove immediately lethal to some marine organisms, however they also are threatening when they accumulate in concentrated levels in the tissues of species at the top of the food chain—including species consumed by humans.

Trash and debris, generated as a result of daily ongoing human activities has proven to be a significant problem on the sea floor and washed up as detritus on beaches in the Gulf. Remnants of construction-related debris (e.g. pipes, tubing, hard hats, lumber) and non-biodegradable environmentally persistent materials (e.g. plastic and glass) accumulate on the sea floor around rigs. The U.S. Department of the Interior recently issued a notice to lessees and operators of offshore rigs noting that "marine trash and debris pose a threat to fish and wildlife . . . oil and gas operations in the Gulf of Mexico contribute to this chronic problem" (DOI, "Notice to Lessees and Operators 98-27," 1998). This trash can be fatal for species if it is ingested or results in entanglement, whether in open waters or along coastal beaches and wetlands.

The production of these rigs also, at times, leads to the emission of toxic air pollutants such as hydrogen sulfide, nitrogen oxides, carbon dioxide, and sulphur dioxide. These air toxics are known to be harmful to humans and are probably harmful to wildlife species (DOI, "Notice to Lessees and Operators 98-16," 1998).

Accidents and disasters

Accidents and human error lead to leaks, spills, blowouts, tanker/barge collisions, burst pipelines, and explosions. Large spills caused by catastrophes such as tanker collisions, or platform blowouts are relatively rare; MMS statistics show that approximately 61,500 barrels have been spilled since 1980 (Year of the Ocean Report, 1998). When these larger spills do happen, however, their impacts are often catastrophic and long-lasting. Despite some improvements in cleanup technologies, often

only a limited amount of the spilled material can be captured before it enters the ecosystem. For example, in a recent spill in Texas involving 2,950 barrels of oil, over 1,150 barrels were never recovered (Tunnell 1995). In drilling, pockets of oil are often punched through before the actual well is tapped, leading to leakage. Blowouts occur when a drill head pierces a pressurized pocket of natural gas, and the pressure forces the drill back out of the opening, in turn blowing the contents up to the surface and sometimes destroying the rig.

More common are the smaller, chronic spills that occur as leaks. Approximately 16,000 miles of pipelines serve as the primary mechanism for conveying oil and gas from OCS platforms to the shore (Alvarado, Anderson, and Schneider, 1992). In the early 1990's it was estimated that spills from pipelines accounted for the release of approximately 4,170 barrels of oil annually, usually as the result of pipeline corrosion or pipeline disruption by ship anchors (Alvarado, Anderson, and Schneider, 1992). These types of spills can go unnoticed for days (e.g. in January 1990, 14,423 barrels of oil leaked from a pipeline for 13 days before the slick was noticed) (Alvarado, Anderson, and Schneider, 1992). It is expected that these types of pipeline leaks will increase as the pipelines in the Gulf of Mexico and elsewhere age and become more vulnerable to corrosion.

A fair amount of spillage also occurs regularly during the process of "lightering" where crude oil is transferred from huge tankers to smaller ships. Off the coast of Texas, lightering operations have increased by 200% since 1986, raising the possibility of a big spill and ensuring chronic leakage.

Cumulatively, the common and uncommon accidental spills affect water quality, coastal and benthic habitats, and wildlife. MMS has noted that oil spills pose a number of risks to cetaceans, and studies have shown that contact, inhalation, and ingestion of oil-related compounds produces behavioral changes and physiological damage (MMS, 1999). In particular, it is believed that the toxic, highly volatile components of fresh crude is damaging to the soft tissues and mucous membranes in the eyes and airways of cetaceans, resulting possibly even in death (MMS, 1999). A study of the effects of oil on baleen, the plates that certain whales use to filter their food, found that it contaminated their plates and hindered feeding (MMS, 1999). Studies and analyses have indicated that when endangered sea turtles are exposed to oil they suffer from carcinogenesis, increased parasitism, decreased lung capacity, digestive problems, and disruptions to their sensory organs (MMS, 1986).

Sea otters, sea birds and other marine species are particularly vulnerable to the devastating impacts that oil contamination has on their fur and feathers. Otters must maintain a layer of warm dry air in their dense underfur to insulate them from the cold water; even partial oiling of their fur leaves them essentially exposed to the elements. In the Exxon Valdez oil spill, well over 1,000 otters were killed as a result of pulmonary emphysema caused by inhalation of toxic fumes, hypothermia from decreased insulation (as a result of fur contamination), hypoglycemia caused by poor gastrointestinal function (from ingestion of oil), and lesions on other organs (from ingestion of oil and/or stress). Oil spills often also kill animals by driving away or killing crucial organisms lower on the food chain (e.g. krill, kelp.) that constitute their prey base.

Some of these chemicals have longer-term, more insidious effects. Polycyclic Aromatic Hydrocarbons (or PAHs) are a group of chemicals that are released into the marine environment as a result of oil spills, discharges from ships, and other methods. PAHs have received a great deal of attention recently because they have been found to have carcinogenic and mutagenic potential in finfish, shellfish, and marine mammals. They are also considered a priority pollutant by the World Health Organization, the U.S. Environmental Protection Agency and others because of their potential impacts on human health (Hellou, 1996). PAHs and other toxic pollutants can remain in an ecosystem for decades after their initial release.

Although some of the oil released in spills eventually settles into the bottom sediments, much of it is carried up to the coastal margin where it can cause numerous problems. Field studies have found that successive oilings of salt marshes, resulted in considerable changes to species distribution and balance, leading to slow recovery, even years later (Baker, 1973). A more recent study estimated that full recovery of a marsh habitat in San Patricio County Texas would take 8-10 years (Tunnell, 1995) despite fairly dramatic cleanup methods. Other studies found that after 3 years, marsh grass was still unable to re-establish itself and sediments continued to show high levels of hydrocarbons (Hampson, 1978).

The biggest externality: climate change and rising sea levels

As substantial and diverse a set of direct impacts as OCS drilling has, surely the most significant long-term effect of OCS production for the coastal zone is its contribution to anthropogenic climate change and sea-level rise. At present, though cli-

mate scientists remain unsure how quickly to expect temperatures to increase, a strong consensus has emerged within the scientific community that human-induced climate change is real, is in progress, and will almost certainly lead to accelerated sea-level rise. The Intergovernmental Panel of Climate Change suggests that sea-level may increase by between 20 and 86 cm over the next century. EPA has calculated a range of estimates, suggesting that there a 50% probability that sea-levels will rise, at least 23 cm (one foot) by 2050 and 55 cm. (two feet) by 2100 (Titus, 1998).

Since the 1950s, humans have contributed to an 8% increase in the concentration of carbon dioxide in the Earth's atmosphere. Today, the U.S. is the world's leading emitter of carbon dioxide, contributing about 23% of "global energy-related carbon emissions"—98.5% of which is attributed to the combustion of fossil fuels (U.S. Department of Transportation, 1998). To be sure, OCS production accounts for only a fraction of the fossil fuel consumed by Americans. Nonetheless, the marginal contribution of OCS oil and gas to climate change and sea-level rise comprises an economic externality that effects the coastal zone disproportionately, and for which impact-reduction funds have never been made available. In particular, EPA has estimated that an increase in sea level of 50 cm could inundate more than 5,000 square miles of current "uplands" and 4,000 square miles of wetlands (Gardiner, D., 1996). For a point of comparison, that is six times larger than the State of Rhode Island—an area six times the acreage that Louisiana has already lost to accelerated coastal subsidence since the 1950s (approximately 1,500 square miles) (Boesch, 1994).

THE COASTAL RESOURCES AT STAKE

Unquestionably, our Nation's important coastal resources face a variety of threats from sources other than offshore oil and gas drilling, however, the pollution and environmental degradation just described contribute significantly to the problem. OCS drilling degrades open water habitats—seagrass beds, coral reefs, and deep sea communities—through pollution and physical destruction that occurs during platform/pipeline construction and gas production. Additionally, OCS drilling and related activities harm coastal and estuarine wetlands, as well as barrier islands, through excavation for navigation and pipelines. These resources are also impacted directly by oil spills and trash that washes up along the shore.

The section below describes five categories of distinct and valuable coastal resources, each of which is substantially impacted by OCS drilling. The purpose of describing these resources in some detail is to highlight their unique characters and values and to articulate the oft-overlooked ecological services that they provide.

Estuarine and coastal wetlands

Coastal wetlands absorb and temper the impact of storm surges and protect economically significant coastlines. For example, according to one estimate, the elimination of one mile of wetlands along Louisiana's 250 mile coastline would cause approximately \$63,676 in increased hurricane damage annually (1980 dollars) (Farber, 1987). The low gradient of many shorelines and the capacity of wetlands vegetation to absorb and dissipate wave energy combine to counteract storm surges and prevent shoreline erosion.

When Hurricane Andrew buffeted the shores of Florida and Louisiana in 1992, the Nation was reminded of the tremendous buffer coastal wetlands can provide. The storm hit both States with approximately the same strength, yet Florida, which has lost 9.3 million acres of its original wetlands (the largest acreage loss of any State), sustained between \$15 to \$30 billion in damage compared to the \$1 billion sustained by Louisiana, with its large coastal wetlands buffer. The flood insurance claims that were paid in the wake of the hurricane came to \$115 million in Florida, as compared to \$30 million in Louisiana (Kusler and Larson, 1993). While other factors also played a role, the value of coastal and estuarine wetlands as buffers is evident.

Estuarine and coastal wetlands provide important water quality benefits as well. Wetlands act as "nature's kidneys," (Kusler, 1994), filtering polluted waters, removing and retaining nutrients, processing organic wastes, and reducing sediment loads to receiving waters. Water entering estuarine wetlands is slowed by aquatic vegetation growing in and around the wetland. Wetland plants and micro-organisms then go to work on wastes in the water, absorbing them into plant tissue or simply converting them into harmless forms. Compounds containing nitrogen are broken down into products useable by plants, and bacteria convert much of the nitrogen gas that escapes into the atmosphere.

Finally, coastal and estuarine wetlands provide vital habitat for wildlife. The "coastal fringe" in fact provides habitat to a surprisingly large number of threatened and endangered species—as of 1991, 20 federally listed species lived under the 10

foot contour (that is, no higher than 10 feet above sea level) and nowhere else, with another 33 species on the waiting list for listing as candidate species. As many as 122 listed threatened and endangered species relied on coastal and estuarine habitats (Reid and Trexler, 1991).

Coastal and estuarine wetlands sustain the abundant creatures as well as the rare. Wetlands are the cradle of the Nation's seafood industry. Fish and shellfish depend on estuaries for spawning and nursery grounds, food production, and migration. Depending on the region of the country, the percentage of wetland-dependent fish species varies. For example, 98% of all species in the commercial seafood harvest in the Gulf of Mexico spend part of their lives in wetlands and marshes. In the southeastern U.S. this percentage is slightly lower—94%. The connection between wetlands and seafood is most simply illustrated by a bumper sticker frequently seen in coastal North Carolina, which succinctly states the importance of wetlands to the fishing industry—"No Wetlands, No Seafood."

The annual economic value of estuarine habitats is presently well over \$14 billion. In the late 1980's, commercial landings of estuarine-dependent species contributed some \$5 billion to the economy. In California alone, the value of commercial fish landings exceeds \$126 million per year, and the industry contributes \$111 million per year in value-added products. The Great South Bay, a shallow tidal estuary in New York, has extensive naturally productive habitat that has contributed approximately 92% of New York's commercial hard clam landings with a reported dockside value in excess of \$16.7 million (Fox, 1981). The marshes of Louisiana produce an annual commercial catch worth over \$680 million (Boesch, 1994). Despite the tremendous contribution wetlands make to our economy, over half of the wetlands that historically supported America's fisheries have been destroyed.

The economic and natural values of Louisiana's coastal wetlands—which number among the American marshes hardest hit by OCS drilling—are particularly striking. Louisiana marshes sustain nearly one-third of the nation's commercial fish catch, "second only to Alaska in terms of total biomass of fisheries landings, and third in terms of economic value." The State's wetland-dependent furbearers (nutria and muskrat) account for 40% of the annual national fur harvest. Recreational hunting, fishing, and outdoor activities in the marshes contribute \$338 million to the State's economy annually; about 4 million ducks, or 20% of the North American population, spend their winters in Louisiana's marshes (Boesch, 1994).

Seagrass beds

Seagrass beds are underwater "meadows" that occur in isolated pockets offshore, where they provide vital foraging and spawning habitat for commercially important finfish and shellfish, and also sustain wintering and migrating waterfowl. Historically, seagrass beds flourished, as salinity and wave energies permitted, in sites along the full arch of the Gulf Coast, from the southern tip of Florida (Florida Bay) through the U.S.-Mexican border. Nonetheless, most estuaries in the Gulf have suffered a loss of between 20 and 100 percent of their seagrass beds, primarily as a consequence of declining water quality (Handley, 1995, 273).

For over two decades, we have known that seagrass beds play a role in coastal ecosystems that their low profile on the landscape makes it easy to overlook:

Documentation now exists which shows that seagrass meadows are not only important locally, but also on a much larger scale. For example, they are used as nursery grounds for commercial shrimp in Florida; as a food source for migratory waterfowl, particularly the black brant, along the Pacific flyway; and [for] green sea turtles in the Caribbean; as a habitat for the larval development and commercial bay scallops along the Atlantic coast of the United States and fishes along all coasts where the grass is present, and as a buffer from hurricanes along the Florida coast (Thayer and Phillips, 1977).

Seagrass beds are similarly important for softshell and razor clams, lobsters, and mud crabs along the Atlantic coast and for virtually the entire commercial fishery of Puget Sound (Thayer and Phillips, 1977). Off Florida, seagrass beds are key feeding grounds for the federally-listed endangered manatee, as well as the endangered Kemp's ridley sea turtle and the threatened green sea turtle (Weber, et al, 1992).

Though seagrass beds have been in decline along much of America's coastline, Louisiana has experienced particularly extensive losses of its historic seagrass beds. Today, seagrass beds survive off the Louisiana coast at only one cluster of sites, Chandeleur Sound. Perdido Bay in the panhandle of Florida has also suffered substantial loss of seagrass beds, attributed to dredging, polluted runoff from agriculture, and residential, commercial, and industrial development (Handley, 1995, 274).

Barrier islands

Coastal barrier islands are complexes of beaches, dunes, and wetlands that lie offshore of the main coastline. Their chief characteristic is change: currents deposit and carry away sand and so the islands are constantly shifting shape or even migrating along the coast. Some barrier islands are quite large, with complex and unique biological communities—the maritime forests of North Carolina’s barrier islands are one example, other barrier islands are quite small sandbars submerged at the highest tides. All barrier islands help to protect waterfront communities; the larger islands also provide essential habitat for a variety of wildlife, including sea turtles, birds, and small mammals. Coastal barriers act as natural buffers against storms, erosion, wind and waves.

Coastal development presents a severe threat to barrier islands (Pilkey and Dixon, 1996). On large islands, development includes residential, commercial, and public works construction, often heavily supported by federal subsidies. Indeed, much of this development would not be economically viable if left to the market alone. Both large and small islands, however, have been severely destabilized by human efforts to “freeze” the barrier islands with breakwaters, beach renourishment, and navigational dredging. While these techniques have managed to halt or disrupt natural processes along much of America’s coasts, they have generally failed to conserve the barrier islands themselves: approximately 80% of America’s barrier islands are eroding, at rates varying from 1 meter (3 feet) to 20 meters (65 feet) per year (Williams and Johnston, 1995).

Coral reefs

Among the most diverse ecosystems on Earth, coral reefs community are often likened to tropical rainforests. In U.S. waters, coral reefs are concentrated around the Florida Keys in warm waters (averaging 70 degrees Fahrenheit) that are also clear and shallow (under 200 feet deep), allowing sunlight to reach the living polyps that build the reef (Weber, et al, 1992). Reefs are rare in the areas of the Gulf open to OCS drilling, with an important exception: the Flower Garden Banks, the northernmost living coral reef on the North American continent. Sitting atop a salt dome in the middle of the Gulf, the Flower Garden Banks are isolated from smothering sediments coming of the mainland (Deslarzes, 1992). The Flower Garden Banks is home to at least 330 species, some of which have never been found anywhere else.

Chemosynthetic ecosystems

Within just the last few years, oceanographers and marine biologists have discovered an entirely new and unexpected set of natural communities under the sea. The so-called “chemosynthetic ecosystems” are, like land-based ecosystems, complex and elegant energy and food webs of micro- and macro-organisms. But, bizarrely, the bacteria at the base of these ecosystems, in the dark, piercingly cold depths of the ocean, apparently survive by consuming methane and hydrogen sulfide from frozen sea-floor deposits (MacDonald and Joye, 1997). Specially-evolved “ice worms” and mussels live there too, fed upon by eels and more familiar sea creatures. Scientists have barely begun to research these rare ecosystems, spread out in isolated but richly diverse patches on the continental shelf, and no estimate has yet been offered to suggest how human activities are affecting these systems. Most of the chemosynthetic ecosystems discovered to date, however, are in the sections of the Gulf in which OCS operations are being conducted, and are vulnerable to physical destruction during platform and pipeline construction and smothering by drill wastes.

THE NEED FOR CONSERVATION

Coastal conservation efforts have been underway for decades, however, they have failed to address the significance of the threats in a systematic or comprehensive way. If properly crafted, S. 25, the “Conservation and Reinvestment Act of 1999,” could help mitigate the damage to the environment that is created by offshore oil and gas development. It is entirely appropriate to reinvest revenues from the sale of non-renewable resources in the conservation of renewable resources such as land, wildlife, habitat, air and water. At the same time, it is critical that any legislation that is intended to meet these needs does not simultaneously create negative environmental impacts by encouraging more oil and gas development. “Impact assistance funds” for coastal governments should be explicitly dedicated to environmentally sound projects and programs that include public input. Further, allocation of these funds should be structured so that local communities are not encouraged to support inappropriate oil and gas development along their coasts.

NWF recommends that coastal impact assistance funds distributed under Title I of S. 25 be designated for use by State and local governments to mitigate the envi-

ronmental damage created by offshore development. The types of projects that we consider appropriate would include:

- amelioration of any adverse environmental impacts resulting from the siting, construction, expansion, or operation of OCS facilities;
- projects and activities, including habitat acquisition, that protect or enhance air quality, water quality, fish and wildlife, or wetlands in the coastal zone;
- administrative costs the State or local government incurs in approving or disapproving or permitting OCS development/production activities under any applicable law including the Coastal Zone Management Act and the OCS Lands Act; and/or
- the repurchase of OCS leases.

Because revenues for all three titles of the bill would come from existing and new leases, and the allocation formula in Title I ties 50% of a State or local government's allocation directly to proximity to OCS production, States and local governments are likely to support new leasing as well as development on existing leases to increase the amount of money available to them. The legislation should be amended to exclude new leasing revenues or revenues received from production in areas that are currently subject to leasing moratoria. In addition, if the allocation formula to States and local governments is based on proximity to OCS activity then it should include a flat, static percentage allocation based on past leasing and/or production. This would acknowledge States that have suffered OCS impacts to date without providing an incentive for new leasing exploration or production.

Oversight and accountability are critical to the success of an impact assistance program. Control and distribution of impact aid funds should reside with NOAA and/or EPA—not the Interior Department. NOAA and/or EPA should have the authority to review and approve in advance the annual plans proposed by each State and local government to ensure that the money will be used for the previously mentioned purposes, will not be inconsistent with the CZMA, CWA or other environmental statutes, will benefit the coastal environment of the State and are well-justified in terms of demonstrated need, design and proposed manner, and cost of implementation. NOAA and/or EPA should also be required to monitor implementation of the plans.

In addition, NWF commends the application of OCS dollars to two other conservation areas that have historically been underfunded—the Land and Water Conservation Fund and State fish and wildlife programs. Just as NWF recommends that the coastal impact title of the bill be tightened to ensure that the dollars are directed to the greatest conservation need, we also recommend tightening the language regarding wildlife funding to ensure that it emphasizes non-game wildlife protection. Attached is a letter signed by NWF and other leading conservation organizations that outlines some of these suggestions and concerns in greater detail.

Conclusion

Our coastal and marine resources are critically important and severely threatened. As outlined by this testimony, NWF believes that offshore oil and gas drilling has, and will continue to be, a major source of environmental degradation to these resources. Legislation that takes dollars generated from these activities and pours it into something positive would result in much-needed conservation actions for coastal and other natural resources.

If amended to address the concerns that we have outlined, S. 25 would constitute a lasting, historic contribution to the conservation cause.

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The CHAIRMAN. Thank you very much, Mr. Van Putten.

I am going to be very brief on questions. First of all, are you satisfied that this percentage, the 7 percent, which we are using in the terminology of the bill, to be used for State fish and wildlife

programs is adequate and, in effect, is that an offset for the momentum that was behind the teaming with wildlife proposal?

And the difficulty with that is where we found the revenue. Because there are those who objected to a tax on backpacks because the kids take them to school, or a four-wheel-drive vehicle because it was a necessity for the family. And so we never could come to grips with a revenue source. Of course, what we have attempted to do in this legislation is find that revenue source. While we have changed the terminology from "teaming with wildlife," clearly it fits in for State fish and wildlife programs.

I want to make sure everybody understands the intention of the chairman. It is not to have these funds directed for extensive administration, but more out in the field to do real things relative to the renewability of this type of resource.

Any comments?

Mr. VAN PUTTEN. Mr. Chairman, the National Wildlife Federation was a founding member of the Teaming with Wildlife Coalition. And we have been a member of the steering committee since its inception.

We support the approach that you have identified here for funding those underfunded wildlife needs. We would urge you to look at moving that to 10 percent, which is the amount that was in the House bill that was introduced last year by Representatives Young and Dingell. And we would also encourage you, as this process moves ahead, to emphasize the needs of the historically unfunded needs of State fish and wildlife agencies, especially for non-game wildlife.

The CHAIRMAN. The other point I want to make very clear is you cannot bite the hand that feeds you. Some of the environmental groups are very sensitive because, on the one hand, they are opposed to OCS development, but they are happy to get some revenue. Unless we have a healthy OCS program, there are not going to be any revenues for what we want to accomplish here. And that is, of course, not only the issue of funding for wildlife, but for State land and water conservation funds.

You cannot have it both ways. We have got to use the technology and the American can-do spirit to overcome and reduce the environmental risks. But, make no mistake about it, if this program is going to work, it is going to work because we have a healthy OCS program off our coastal States.

Now, that does not mean that the States that do not want this activity should not have a right to prevail. The issue of equity comes in. And it will come in in future hearings. Then, as a consequence, have we directed the right kind of a formula for those States that clearly have the impact and are entitled to a greater share, and the others just get a free ride because they happen to have a coastline?

Well, I am going to leave those questions up to future hearings and future input. But I do want to make the point very clear to the environmental community that this provides us with a funding mechanism that otherwise we would have to stand in line for, through an appropriations process. And that gets very, very foggy. It attempts to try and directly address the funds down to the local level, where the people have the capability, as well as the desire,

to identify their priorities as opposed to a dictate from Washington, D.C., that suggests one size fits all.

Mr. VAN PUTTEN. Mr. Chairman, may I respond to that?

The CHAIRMAN. As long as you do it quickly.

Mr. VAN PUTTEN. I will do my best.

I think you are very astute to observe that the dispute over offshore oil and gas drilling has been long. It has been complicated. And it could sink this bill.

As I alluded to in my testimony, I think you have an opportunity to navigate those treacherous waters here, as you have done in your recital of intent in this particular bill—and we commend you for that—to tighten the language with respect to where the money comes from and what it is used for in the coastal impact assistance to remove any argument that this is in fact an inducement to additional offshore oil and gas drilling. And we have suggested specific ways, in my written testimony, that you might do that.

The CHAIRMAN. Thank you.

Mr. Palmer, you talk about a now-abandoned program under the Coastal Zone Management Act that provided for coastal impact assistance. What did you learn from that experience, for our benefit?

Mr. PALMER. I learned how difficult it obviously is, Mr. Chairman, for a body like this to write a formula out of the air that then works on the ground. Again, you are going toward the correct goal to help States like Mississippi and Alaska. You fell way short of the mark because of the mechanism that you crafted to get to that goal. And I will not go back through the difficulties that the States had in making it work.

The other big problem, which you have just alluded to moments ago, about the fogginess of the appropriations process, that is really what killed CEIP. The implementation troubles could have been worked through. They were tortured and torturous. But it is not going to work if you hang your hat on that appropriations process.

Where you are going—and see, you cured that somewhat in the 8(g) resolution. Continue pursuing that track of distributing those revenues directly.

The CHAIRMAN. Thank you very much, Mr. Palmer.

Mr. Van Putten commented on the environmental damage caused by offshore activities. Are there offsets to that that add to the contribution? I am told that the fishing is better around a sunken rig or where there are some platforms or whatever. And I recognize that we can go down a lot of rabbit trails with this line of questioning. But, in fairness, I am wondering if either Mr. Palmer or Mr. Oltz—Mr. Oltz, can you identify any contribution that the offshore activity has relative to the environment, in the marine estuarine environment?

Dr. OLTZ. First of all, some of the commentary indicated that there were chronic problems with discharges from these platforms that are out there, and drilling rigs. In Alabama, we have a zero discharge rule, so there is no impact on the bottom or from any discharge on those rigs.

The CHAIRMAN. So, simply have a zero discharge?

Mr. PALMER. Yes, sir. We would not allow discharges from these operations.

The CHAIRMAN. Louisiana?

Mr. CALDWELL. We have what is called a rigs-to-reefs program, in which old platforms are cut down and laid on the bottom for the very purpose of providing fish habitat. And they work fine.

The CHAIRMAN. Do you have any discharge?

Mr. CALDWELL. But in the overall picture, this is such a small plus compared with the enormous losses, that while we see it as a benefit, it certainly cannot be characterized as an offset.

The CHAIRMAN. Do you allow discharge on your rigs?

Mr. CALDWELL. No. No, sir.

The CHAIRMAN. Mr. Whitaker, discharge off the rigs?

Mr. WHITAKER. No.

The CHAIRMAN. So that can be addressed, then, through technology. Are there other areas, Mr. Oltz, that you would identify that need to be examined from the standpoint of either the environment or, more particularly, contributions that have been made to the environment because of the offshore activity?

Dr. OLTZ. You mentioned, Mr. Chairman, offshore fishing. We have a large charter boat business, obviously, offshore Alabama. And one of the most popular places to go is near the platforms. Because the fish school in very large numbers around the rigs.

The CHAIRMAN. I think it is awfully easy to criticize OCS activity. And I think it is important that we try and balance it with whatever contribution is made, and recognizing that there is a bit of a give and take in the process.

Mr. Whitaker, you are Chairman of the Oil and Gas Committee in the legislature. You are familiar with the impacts of the activities on our coastlines and our residents. Do you have any idea what the legislature would recommend that the State of Alaska do with funds from the coastline impact assistance monies, assuming this bill passes? Where are your priorities?

Mr. WHITAKER. Mr. Chairman, our first priority would be impact to the community. Certainly, the bill requires mandated set-asides for environmental concerns. But our biggest concern is our people, and their needs to be put first.

The CHAIRMAN. Speaking of people, I understand British Petroleum announced the other day 600 layoffs in Alaska because of falling oil prices. And I anticipate that there might be, recognizing that the forecast for increased oil prices are pretty remote at this time. Could coastline impact assistance funds alleviate any of these budget strains?

Mr. WHITAKER. Unquestionably, yes.

The CHAIRMAN. Mr. Oltz, your two coastline counties receive a portion of tax that is imposed on natural gas production. In your experience, what do the counties spend the money on? What is their current priority? Is it to offset the impact of offshore activities, or is it to fund infrastructure, or both?

Dr. OLTZ. Mr. Chairman, I would have to check on that. I do not follow how they distribute their money. But I can get that information to you.

The CHAIRMAN. What about the viewshed associated with offshore oil and gas production? Viewshed means different things to different people. We had occasions in our State where the terminology was integral vistas, which was the creation, I think, of the Department of the Interior at some point in time, to suggest that you

might be able to see a plume of steam if you were on the top of Mount McKinley at 20-some-odd-thousand feet on a clear day, which few people get to. But, in any event, I am curious to know what your viewshed issue is. Is this the issue of the offshore platforms?

Dr. OLTZ. We have two different sizes of platforms off of Alabama. We have a smaller platform and a very large platform, depending on where they are producing the gas from.

There is a group of coastal people, usually represented by chambers of commerce and realty associations, who feel that the platforms that are offshore detract from the viewshed and the beauty of the area, and therefore have an impact on tourism, which they are worried about. They have gone to the State to request a 15-mile buffer from the coastline out, and not have any development in there.

The CHAIRMAN. Mr. Caldwell, I am curious to know, as the erosion occurs, does it add to your State anywhere? I mean is the Delta area filling up? Pardon my lack of knowledgeable geography, although I have travelled your State a little bit and have been looking for some ducks and so forth.

Mr. CALDWELL. That is an excellent question.

The CHAIRMAN. But your shores are going away somewhere and coming ashore somewhere. Is it a net plus to your State or is it indeed a substantial decrease in your State's land mass?

Mr. CALDWELL. Yes, sir. It just so happens I can give you a quick, short, accurate answer by showing you on the map.

The CHAIRMAN. That is fair enough. All right.

Mr. CALDWELL. The answer to your question is yes and no at the same time.

The CHAIRMAN. We have those answers around here, too.

Mr. CALDWELL. The yes is in the Atchafalaya Delta, which takes 30 percent of the Mississippi waters coming down. There is a build-up, and we just finished a large project that we think is going to add about 5 square miles fairly quickly. So the answer is yes.

Unfortunately, over at the mouth of the Mississippi, which used to provide sediment to the whole area, the Delta has extended to the point where the sediment is now going off the outer continental shelf. And I am presently working on a planned project to divert some of that, so it will flow along the coast and help rebuild.

The CHAIRMAN. Why has it changed? Has the Corps of Engineers done anything to change the flow, that would result in less buildup of the Delta?

Mr. CALDWELL. That is what we are working on a plan for now. It is very, very expensive. The problem is money. S. 25 will give us the money to do these large-scale projects that we cannot do with \$40 million.

The CHAIRMAN. Why did it use to build up and not build up anymore?

Mr. CALDWELL. Well, primarily from the levees. That is the principal cause of the coastal loss. There are many causes—navigation canals, offshore operations, sea level rise, natural compaction. But the principal cause is the fact that we built levees along the Mississippi and deprived the marshes of fresh water nutrients and sediment.

The CHAIRMAN. Senator Sessions has been observing here, and I would be pleased to extend him a question or two if he would care to. Because I am about through. I have got a couple more questions, but I will submit them to you in writing. I want to end this at 11 o'clock, because we go into a caucus.

Senator Sessions, please proceed as you see fit.

Senator SESSIONS. I think it is accurate, is it not, Mr. Van Putten, that gas that we are discovering offshore does burn cleaner than gasoline and diesel fuel and that sort of thing? And, in fact, some of our powerplants are converting now to natural gas because it has much less polluting impact. So, I guess from an environmental point of view, if we could bring online more natural gas, that would be a positive thing, would it not?

Mr. VAN PUTTEN. Well, Senator, we certainly are supportive of, for example, dealing with dirty coal-fired powerplants in the Midwest that are contributing to so much pollution. And conversion to natural gas is one of the alternative sources of energy.

Senator SESSIONS. Well, we need to do that. And there appear to be substantial reservoirs offshore. And our technology has gotten so good that we are seeing very few, I believe, spills of any kind.

Also, Dr. Oltz, Alabama has a trust fund that it has set aside for the income of oil and gas production offshore. And the theory was, some 20 or so years ago I guess—I know Congressman Sonny Calahan, and Governor James, who was in his first term, made that happen. And it avoids the boom and bust oil and gas thing.

Would you share with us how that works and if you would recommend that other States consider that?

Dr. OLTZ. Senator, we did talk briefly about that in the presentation, but let me recount the model, which is probably something other people might like to use. All the revenue that comes off the 8(g), which is the combined State/Federal sharing area, and all of the revenues that are acquired from lease sales and rents and bonuses and royalties, all of that is deposited in an inviolate trust fund that was set up by then Attorney General Sessions, as I recall.

Did you have something to do with that?

Senator SESSIONS. I did not, but I have admired it over the years.

Dr. OLTZ. We make attempts to make sure that that remains inviolate in the State. It is now at \$1.61 billion. And the interest and investment income off of that fund is deposited into the general fund for the operation of the State.

Senator SESSIONS. Mr. Palmer, from Louisiana, do you wish that at least some portion of your monies had gone into a fund like that?

Mr. PALMER. Well, I am sure Jack and the folks in Louisiana do so. In Mississippi, now, we do have a trust fund that, in the 1980's, was embedded in the Constitution, moved from statute. It is dedicated to funding education programs. That is one of the issues that we will have to deal with here as you move along with S. 25, and that is the character of these monies as they would come to Mississippi.

Because there are so many other worthy things to deal with, as Mr. Van Putten has talked about, and others, that are beyond edu-

cation. We certainly are not going to violate the principle of supporting public education. But there are these other needs—environmental and infrastructure and otherwise—that we believe these monies should be dedicated to.

Senator SESSIONS. I understand that an amendment or a suggestion I made to the bill—and I believe it does this—it says if a State desires it can set aside a trust fund for these monies that come to it as a result of this legislation. And it has to be dedicated, the interest on it, to the same goals that this legislation provides, and not some other goal.

So, to me, it would preserve the environmental character of the Act, but also it would guarantee a perpetual fund for environmental needs that would be perhaps better than just going up and down with the market and the production of oil and gas.

Mr. Chairman, thank you.

The CHAIRMAN. I would like to just interrupt, because I am going to have to leave.

Senator SESSIONS. That is all I have.

The CHAIRMAN. All right. Do any of you gentlemen want to make any concluding 30-second statements?

Mr. VAN PUTTEN. Mr. Chairman, I cannot resist the opportunity to again say that obviously there is a lot of dispute about the environmental impacts of OCS drilling and expanding it. We would like to work with you on S. 25 to navigate those waters, so that it does not provide perverse incentives for additional drilling, so this bill does not get laden down and caught up in that larger and unnecessary development. And we look forward to working with you on that.

The CHAIRMAN. Well, I concur with that. And we do welcome your input. I have had members come up to me and say, well, I am from a State that has got a moratorium, and we want to maintain that moratorium, but we want your money.

Now, I do not think we have to resolve that here because this bill is clearly designed to provide a sharing mechanism on a disproportionate basis, depending on whether there is an impact or not. This seems to be at least a fair way to get started with the process.

So I assure you on that. But I do not think we ought to have any misunderstanding—this is oil money, this is gas money. And it is doing something positive for the environment and for the environmental movement.

Now, if they say it is tainted and want to use that as rhetoric, so be it. But I think we have to be basic and understand the reality that we need energy, we consume energy. We are either going to import it or we are going to have a reasonable domestic segment in the United States. And with it, we can use the proceeds to offset concerns that we have and would have to pursue in the appropriations process, which is a lot tougher.

Now, make no mistake about it, this is about a \$4 billion pot. And this has been going to the Federal Treasury. And we are proposing to take half of it and distribute it under a formula. And there are a bunch of tiers that are not going to be very happy with that, because where do we come up with the other \$2 billion?

Well, that is not necessarily an obligation of this committee at this time.

[Laughter.]

The CHAIRMAN. But I pass that out for your consideration.

I want to thank the panelists for, I think, a meaningful contribution to a significant effort that could dramatically change the way in which the impacted communities have an offset, if you will, to meet their own priorities, and also to fund a very worthwhile effort. I am very, very disappointed that, in spite of the base of support from the Council of Mayors and all the others, the Land and Water Conservation Fund has not seen fit to be funded by this administration. This would take care of that. And it would certainly take care of the concerns over the wildlife, fish and wildlife, within the States.

So it is an effort to try and do something that I think has more pluses than minuses, but we will have to add those up as we go along.

I want to thank you, gentlemen. And I want to thank the audience. I want to assure the States that are affected by a moratorium that it is not in our interest to set up a funding decoy out there for you. This is just the first shot at a formula. And we will have plenty of opportunity to kick it around and discuss the equity of it from here on out.

So, with that profound observation, I wish you a good day. And thank you for coming.

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

[Subsequent to the hearing, the following statement was received for the record:]

STATEMENT OF MIKE NAVARRE, MAYOR, KENAI PENINSULA BOROUGH, AK

My name is Mike Navarre and I am the mayor of the Kenai Peninsula Borough in Alaska. I am also the current President of Alaska Conference of Mayors. I want to thank Chairman Murkowski and the Committee for the opportunity to present this testimony on an issue of great import to my community and to the entire State of Alaska. I also want to express my support for S. 25, the Conservation and Reinvestment Act of 1999. I agree with Chairman Murkowski that while this bill, in its current form, is not perfect it is a worthy first step in the effort to finally resolve the inequity of the current federal leasing program. I also applaud its provisions to direct a portion of OCS revenues to State and local government land conservation programs.

The Kenai Peninsula encompasses approximately 10,000,000 acres in south-central Alaska. It is surrounded by the waters of the Cook Inlet and the Gulf of Alaska on the east. It includes the communities of Homer, Soldotna, Kenai and Seward, among others. It is home to the 1,970,000 acre Kenai National Wildlife Refuge and the 567,000 acre Kenai Fjords National Park as well as portions of Katmai National Monument, and Lake Clark National Park. The Kenai River, one of the premiere sportfishing rivers in Alaska and the world flows through the Peninsula.

The Kenai Peninsula Borough, of which I am Mayor, is the primary municipal government for the area and has a permanent population of approximately 49,000 people. However, during the summer tourist season, we see as many as one million visitors to our area. Many of our residents depend upon the attractions of the Kenai River and its resources for their livelihood as fishing guides, outfitters and campground operators. Still others support themselves through commercial fishing and salmon hatcheries. Seward is the disembarkation point for many of the thousands of cruise ship passengers who visit Alaska each year.

As you know, Alaska is one of six States with active oil and gas exploration and development of the outer continental shelf (OCS). While there is currently only a relatively small amount of offshore production activity in Alaska much of what there is occurs in the waters of Cook Inlet just west of the Kenai Peninsula. In fact, one

of the largest private employers in the Borough is the Phillips/Marathon LNG facility which exports Cook Inlet natural gas to Japan. The Borough, in short, is not just a coastal community, it is many coastal communities, all of whom are affected by the development activities which occur in nearby waters. Moreover, current exploration and development activities are expected to result in more OCS oil and gas production in Alaska in the near future.

The vast majority of the residents of Alaska and of the Borough are in favor of OCS oil and gas development. We recognize the many benefits that onshore development has brought to our State and, particularly now, want to continue to develop our natural resources in a responsible manner. However, as in the case of onshore development, OCS activities also have other impacts on the State and nearby coastal communities such as ours. Such impacts have economic costs and the burden and responsibility for dealing them falls disproportionately on the nearby communities. For one thing, OCS oil and gas development activities place increased demands on our roads and coastal infrastructure. Federal OCS activities also increase the demands on our local public services, including schools, police, fire protection, search and rescue, and utilities. It also increases the nature and extent of environmental monitoring and regulatory functions that must be performed by the State and local governments. Under the current federal system, however, we derive no direct economic benefits from federal OCS oil and gas development to assist in dealing with the very real impacts which such activities create. That unfairly places the burdens, and the risks, of such development on our communities while denying us a share in its benefits and rewards.

Allowing coastal States and communities to share directly in the economic benefits of federal OCS development will also assist in addressing a variety of important needs and functions regarding our coastal resources. The State of Alaska and the Borough have an extensive Coastal Zone Management Plan designed to protect our resources by, among other things, allowing only responsible use and development. We regulate any and all activities which impact the coastal environment. Unfortunately, the costs of such regulatory activities make it more difficult to engage in an adequate and comprehensive monitoring and planning program. If we were to receive a portion of the Federal OCS revenues which are produced from nearby we would be better able to do so. In addition, local communities like mine would be better able to participate fully and protect their interests in the extensive federal and State environmental planning process which precedes OCS development.

In conclusion, let me reiterate my support for responsible development of our rich OCS oil and gas resources. Doing so is vital to the long-term economic health of our communities, our State and our Nation. At the same time we should not be made to bear so much of the responsibilities of such development while receiving none of the rewards.

APPENDIX
RESPONSES TO ADDITIONAL QUESTIONS

NATIONAL WILDLIFE FEDERATION,
Vienna, VA, April 1, 1999.

Hon. FRANK MURKOWSKI,
Chairman, Energy and Natural Resources Committee, U.S. Senate, Washington, DC.

DEAR CHAIRMAN MURKOWSKI: I deeply appreciated the opportunity to testify before the Senate Energy and Natural Resources Committee on January 27, 1999. Attached is my response to the questions posed by various members of the Committee. Please let me know if I can provide any additional information to you or other Committee members.

Sincerely,

MARK VAN PUTTEN,
President and CEO.

RESPONSES TO QUESTIONS FROM SENATOR LANDRIEU

Question 1. First, I want to thank you for testifying before the Committee today. We have met before to talk about this subject, and I appreciate your input and the input of others in the environmental community. In your testimony, you make a very thorough accounting of the effects offshore operations have on coastal areas: on wildlife, fisheries, habitat and communities, particularly in Louisiana where activity is greatest. Would you agree that the Louisiana Delta area is of national importance and deserves national attention to its conservation needs?

Answer. The National Wildlife Federation recognizes that the Louisiana Delta (Delta) is an area of tremendous ecological importance with conservation needs that warrant national attention. The Delta is part of a complex network of saltwater marshes, coastal wetlands, estuaries, and barrier islands. These ecosystems serve as nurseries for fish and shellfish species that are ecologically and economically vital to the Gulf of Mexico and the rest of the nation. Gulf fisheries constitute nearly 40 percent of the country's commercial fishing industry. This area also provides essential habitat for millions of migratory waterfowl, including many endangered species.

Unfortunately, this biologically rich region is being destroyed at an alarming rate. Louisiana contains 40 percent of the coastal and estuarine wetlands found in the Lower 48 states, but accounts for 80 percent of the nation's estuarine wetlands loss. In some cases, wetlands are being drained or filled in order to promote coastal development. Elsewhere, levees, navigation channels, and pipeline construction lead to accelerated erosion and subsidence that literally causes the region's wetlands to sink into the Gulf. With over 20,000 wells off its shores, Louisiana has also been hit hard by the negative environmental impacts of offshore oil and gas drilling. The direct effects of offshore drilling, as well as the impacts associated with the transport and refinement of petroleum products have been devastating to the Delta's natural resources. Sea level rise caused by climate change and a variety of other threats promises to cause additional losses to these resources unless conservation measures are used to intervene.

The coastal impact assistance portion of S. 25 (Title I) directs a substantial amount of federal funding to Louisiana and specifically, to the Delta. The current bill language does not ensure that these precious conservation dollars will be spent on improving and protecting Louisiana's vital natural resources. Instead, the bill allows these dollars to be directed for other purposes, including infrastructure development that might actually promote environmental degradation. The National Wildlife Federation strongly recommends that the bill be amended so that coastal impact assistance funds are directed toward projects that ameliorate the environmental impacts of offshore oil and gas drilling and related development activities. Rather than subsidizing unwise development, the bill should require a demonstration that each

impact assistance project will benefit the natural environment and is consistent with federal environmental laws like the Clean Water Act and Coastal Zone Management Act. The bill should require that priority be given to efforts that directly offset the impacts of offshore drilling, protect and enhance fish and wildlife habitat, and support the repurchase of Outer Continental Shelf leases. These changes to the bill would ensure that the Louisiana Delta would receive funding for the environmental protection and restoration that it desperately needs.

Question 2. We have spoken today about the Gulf Coast area and impacts from activity there. There are also coastal environmental needs that deserve federal assistance in other parts of the country. In the Northwest there are habitat and fisheries, along the eastern seaboard shorelines are disintegrating. Do you believe that these areas of the country should benefit from impact assistance?

Answer. The National Wildlife Federation supports the use of coastal impact assistance funds to address the significant coastal and marine conservation needs that exist around the country. In general, coastal states that have oil and gas drilling off their shores suffer from the most chronic and direct impacts of this industry. The recent oil spill from a grounded tanker in Coos Bay, Oregon, however, clearly illustrates the hazards that oil and gas related activities pose to all of the nation's important marine and coastal resources. Fragile coastal ecosystems around the country face threats from development and other types of human disturbances. Our coasts are now home to half the populace, which places incredible pressures on these ecosystems. As our population continues to expand, it will become more difficult to maintain intact, functioning coastal ecosystems. If we do not protect these coastal resources, we will lose economically valuable fisheries, irreplaceable outdoor recreational opportunities, and unique assemblages of species. Our nation's marine resources face similar pressures. Increased pollution, climate change, over harvesting of fisheries, and other factors are threatening the survival of many marine species—including endangered marine mammals like the gray whale and Hawaiian monk seal, and commercially valuable fish species like red snapper and bluefin tuna. These are resources we cannot afford to lose. As a result, the use of coastal impact assistance dollars to support coastal and marine conservation work in areas with, and without, offshore drilling is both appropriate and necessary.

RESPONSES TO QUESTIONS FROM SENATOR WYDEN

Question 1. S. 25 provides that Outer Continental Shelf (OCS) impact assistance money can be spent by States and political subdivisions on a broad variety of programs, as long as those programs are consistent with State coastal zone management plans. On the West Coast, and perhaps in other areas of the country as well, one of our biggest problems is the lack of basic scientific research on marine fish species. Obviously, OCS development could have an impact on those species and on the coastal communities and industries that rely on those species. Does the phrase "fish and wildlife" in section 704(a)(1) of S. 25 include marine fish research? If not, how would you suggest modifying the provision so it clearly covers marine fish research?

Answer. The National Wildlife Federation supports the use of offshore oil and gas revenues to address the conservation needs, including research, of marine fisheries in the Northwest and elsewhere. Like our coasts, marine fisheries around the country face substantial threats from a variety of sources and many have declined dramatically. Inadequate data regarding the status of marine fisheries has hindered our ability to protect these species. The collapse of the Georges Bank fisheries, which was once one of the richest fishing grounds in the world, is a sobering indicator of how quickly these resources can disappear and how serious the economic losses are when an entire fishing fleet is forced to shut down.

The negative effects of offshore oil and gas drilling have, in some cases, contributed to these declines. The *Exxon Valdez* oil spill, for instance, caused a complete shutdown of the region's salmon fisheries. Fish are also negatively affected by chronic exposure to toxic pollutants that are released as a result of the drilling process. Furthermore, drilling platforms and their cable anchors occupy a great deal of space that can prevent commercial fishing in areas up to 20 square miles. The harmful impacts that offshore drilling have on fish, the need for increased understanding of the threats to marine fisheries, and the importance of the resource at stake are strong justifications for using S. 25's coastal impact assistance funding for marine fisheries conservation work.

Title I of S. 25 is currently broad enough to allow states to use these funds for marine fisheries conservation. States, however, have a limited role in the protection of marine resources. If these funds were to be used for things like marine mammal conservation, or deep sea fisheries conservation, then a federal program would ei-

ther need to be created or an existing federal marine conservation program identified as the recipient of these funds.

Whether or not a federal marine provision is added to the bill, the National Wildlife Federation recommends against the addition of bill language that specifically directs funds towards marine fisheries. If marine fisheries were mentioned without highlighting other distinct categories of fish and wildlife species that face comparable conservation challenges, it would place an undo emphasis on marine fishery needs that is not biologically justified. Coastal impact assistance funds should be directed to those coastal and marine species and/or ecosystems where there is the greatest conservation need; and these needs will vary greatly from region to region.

Question 2. As you know, during the consideration of the Endangered Species Act reauthorization in the Committee on Environment and Public Works last year, I worked with the unlikely alliance of the Farm Bureau and the Environmental Defense Fund to find a source of permanent funding for the landowner incentive provisions of the Kempthorne-Baucus legislation.

I continue to believe that our lack of serious, dedicated funding for the purpose of working with private landowners on the conservation of endangered species habitat remains a major flaw in our approach to the conservation and recovery of endangered species.

Legislation introduced by Senator Landrieu—S. 25—proposes to earmark a substantial portion of the nation's outer continental shelf oil drilling receipts and dedicate those to funding of state fish and wildlife programs. What are the Federation's views about this as a priority for federal spending on wildlife? Should Congress consider making a portion of these funds available for the direct conservation of endangered species habitat? And if so, how much?

Answer. The National Wildlife Federation considers the funding needs of state fish and wildlife agencies for nongame wildlife protection to be of the highest priority, and wholeheartedly endorses the use of Outer Continental Shelf revenues for these purposes. State fish and wildlife agencies are responsible for the management and protection of the majority of fish and wildlife species that inhabit their borders. Yet, the amount of funding available to these agencies typically does not reflect their broad mandate; and, all too often, important programs are limited due to inadequate funding. Substantial new funding would provide a shot in the arm to state fish and wildlife agencies for improvements in on-the-ground management of wildlife species. Title III of S. 25 provides desperately needed funding for state fish and wildlife conservation efforts; however, it should be amended to ensure that the funds go to those species that have the greatest conservation needs.

Roughly 90 percent of wildlife species are "nongame," which means that they are neither hunted or fished, nor federally listed as threatened or endangered. Early intervention when a nongame species begins to decline is the best way to keep the species from plummeting to the point that it must be listed as threatened or endangered. Proactive protection is more cost effective than waiting for the species to reach a crisis situation when recovery measures become more extreme and more expensive. Nevertheless, protection for these nongame species has historically received minimal amounts of funding. Instead, the vast majority of state wildlife dollars are spent on the protection of game species. Annual funding for all state nongame programs amounts to less than \$100 million compared to more than \$1 billion spent for state game programs. This is not surprising given that hunters and anglers pour millions of dollars annually into the state agencies through excise taxes that they pay on hunting and fishing equipment and sporting licenses. The time has come to remedy this funding imbalance. To accomplish this, the National Wildlife Federation recommends strongly that Title III of S. 25 be changed to clearly indicate that priority should be given to the historically underfunded nongame species protection programs.

The National Wildlife Federation has consistently identified nongame species as the area of greatest wildlife conservation need and would oppose any effort to reduce current funding provided for these purposes under Title III of S. 25. The National Wildlife Federation recommends that the Committee amend S. 25 to increase the percentage of Outer Continental Shelf revenues for state fish and wildlife programs under Title III—from 7% to 10%—to match the levels provided under H.R. 701, the companion bill in the House. Beyond this increase, additional Outer Continental Shelf revenues set aside under S. 25 should be directed towards the protection of threatened and endangered species. A long history of inadequate funding for the federal Endangered Species Act has made it extremely difficult to recover threatened and endangered species.

For years, the National Wildlife Federation has called for a dedicated funding source that could provide reliable dollars for endangered species habitat protection. The use of Outer Continental Shelf revenues for private landowner incentives pro-

grams—programs that get landowners more engaged in endangered species protection efforts—would be a particularly sensible and beneficial application of these dollars. Many threatened and endangered species depend heavily on private lands for their habitat, yet the Endangered Species Act has been relatively ineffective at improving conditions for species on these lands. Moreover, current implementation of the Act has left many private landowners antagonistic toward endangered species. Positive outreach efforts could help minimize their hostility toward the Act.

If it can be done without jeopardizing funding for the existing Title III state wildlife programs, the Committee should amend S. 25 to include an endangered species provision similar to that found in S. 446, a bill introduced by Senator Barbara Boxer. This provision allocates \$100 million annually to fund landowner management actions that promote the recovery of endangered species. The funds would be used only for management actions that go above and beyond the existing requirements of the federal Endangered Species Act. This ensures that the federal government is not paying landowners to comply with the law. This type of program would make an important contribution to our national effort to protect threatened and endangered species.

Question 3. Should Congress decide to move forward on legislation to utilize a share of Outer Continental Shelf (OCS) revenues to fund Land Water Conservation Fund, coastal impact assistance and wildlife conservation. What safeguards do you believe are necessary to protect the current moratoria on OCS leasing and to prevent incentives for states to advocate for increased oil and gas development?

Answer. Some essential safeguards should be added to S. 25 to ensure that it does not create financial or political incentives for coastal states to accept inappropriate offshore oil and gas development. Under S. 25, the allocation of Outer Continental Shelf leasing revenues to coastal states and their local governments is based on a formula that rewards increased production and closer proximity to production. To ensure that this bill will not create incentives for drilling, the allocation of funds under all three titles of the bill should be de-linked from new leasing, exploration, production, or geographic proximity to such activities. Representatives Don Young and John Dingell have taken some significant steps towards addressing this issue in H.R. 701, the House companion bill to S. 25. Specifically, H.R. 701 excludes from its coastal impact assistance funding stream any new revenues generated from areas currently covered by drilling moratoria. S. 25 should be amended to exclude funds from all areas (not just those covered by moratoria) where drilling is not currently occurring. In addition, the exclusion of these funds from the bill's revenue stream should apply to all three titles of the bill.

Funds generated from future exploratory efforts and/or drilling that occurs in areas excluded from the funding revenue stream (i.e., areas where these activities are not occurring at the time the bill is enacted) should be set aside in a "catastrophic response account" to be used for emergency costs associated with oil and gas accidents.

Additionally, the share of coastal impact assistance provided to each state and locality should be set at the time the bill is passed (i.e., fixed at the rate of current production levels) or based on an average production level over the last 20 years.

Question 4. With the increasing number of listed species in the Northwest and around the nation, it would seem to be smart to use revenues provided by S. 25 for accomplishing preventive wildlife conservation. States and local governments could employ increased resources in an effort to get out ahead of future endangered species listings. How would you view the use of these resources to enhance conservation of those species which are candidates for Endangered Species Act listing as either threatened or endangered?

Answer. Funding provided under Title III of S. 25 can and should be used to address the conservation needs of species (including "candidate" species) that have declined, but have not yet been federally listed as threatened or endangered. Candidate species, in particular, deserve conservation attention because they are generally in dire condition. These are species that have already declined to the point that they should be listed, but have been precluded from listing for a variety of reasons, including insufficient funding and a lack of political will to add them to the list. As candidates, these species receive no protection under the Endangered Species Act, and several candidate species have gone extinct while waiting to be listed.

A number of states have begun to develop plans that address the conservation needs of candidate species. Some of these state plans will prove beneficial to the species; however, many are based on voluntary conservation measures and unproven conservation strategies that are unlikely to achieve recovery of the species in question. State plans that provide meaningful conservation measures—including clear biological goals, monitoring programs, funding for implementation, and enforcement provisions—are the types of efforts that will benefit candidate species and

should be funded under Title III of S. 25. In some instances, states have generated these plans with the express intent of avoiding a listing. State plans that will not contribute significantly to the recovery of a candidate species or that are merely an excuse to avoid a listing that is warranted and necessary, should not be eligible for funding under S. 25.

Question 5. Currently, money collected from offshore development under the Mineral Leasing Act is supposed to be used for land and water conservation. However, only a portion of the funding collected actually gets appropriated to the Land and Water Conservation Fund. Is this legislation going to ensure that all of the funds collected from development of lands currently covered by the Mineral Leasing Act that are supposed to be used for conservation are actually used for conservation? If not, should Congress, as a "truth in budgeting" issue, also address the existing funding problem with the Land and Water Conservation program?

Answer. S. 25 is designed to ensure that a portion of offshore oil and gas revenues are permanently and automatically appropriated for coastal impact assistance, the Land and Water Conservation Fund (LWCF), and state fish and wildlife programs. Titles I and III of S. 25 need to be amended to ensure that all of these funds go for conservation purposes. The most significant portion of these Outer Continental Shelf revenues are directed to the coastal impact assistance program in Title I. As currently written, the bill would allow these funds to be used for infrastructure projects that may promote environmental degradation. Title I should be amended to ensure that coastal impact assistance dollars are used to fund projects that ameliorate environmental impacts of Outer Continental Shelf oil and gas development and related onshore activities. Rather than subsidizing unwise development, the bill should require a demonstration that each impact assistance project will benefit the natural environment and is consistent with federal environmental laws like the Clean Water Act and Coastal Zone Management Act. The National Oceanic and Atmospheric Administration and/or the Environmental Protection Agency should be given the authority to review and approve state plans for spending these coastal impact assistance funds to ensure that the proposed actions are consistent with these laws. The bill should require that priority be given to efforts that directly offset the impacts of offshore drilling or associated development activities, protect and enhance fish and wildlife habitat, improve air or water quality, protect and restore coastal wetlands, and support the repurchase of Outer Continental Shelf leases.

Title II of S. 25, which addresses funding for the Land and Water Conservation Fund (LWCF), also poses some substantial problems that may preclude all of the funds from being used for conservation purposes. S. 25 includes a provision that requires any federal LWCF land acquisition exceeding \$5 million to be authorized by Congress. This requirement will force many LWCF projects to get Congressional approval; and, in turn, subject them to the political process that has always hindered the LWCF program. Currently, LWCF is authorized to receive \$900 million annually, but the average appropriation that Congress has provided over the last thirty-four years is only one-third of that amount. Although S. 25 provides LWCF permanent and automatic funding, the requirement that projects receive Congressional approval creates a substantial hurdle that will hinder land acquisitions and may prevent those funds from actually being spent.

Additionally, Title III of S. 25 requires that 2/3 of the LWCF funds be spent on lands east of the 100th meridian. The requirement that 2/3 of the funds be spent in the East is an arbitrary restriction that will limit the ability to prioritize land acquisition based on conservation needs. The National Wildlife Federation strongly recommends that these restrictions be eliminated from the bill to ensure that LWCF dollars are spent for land acquisitions that respond to the most serious impending conservation threats.

RESPONSES TO QUESTIONS FROM SENATOR GRAHAM

Question 1. Can you provide an example of the coastal impacts that offshore drilling can cause on a day-to-day basis?

Are the effects the same for oil and natural gas? If not, what are the differences?

Answer. On a day-to-day basis, offshore drilling results in the regular release of toxic compounds used in the drilling process, air emissions that violate Clean Air Act standards, and the chronic seepage of petroleum from pipelines into the surrounding coastal marshes and sea bottom. These impacts are not always immediately visible and may seem less significant than the dramatic impacts of a catastrophic oil spill, yet the cumulative effect over time is a buildup of pollutants that have corrosive effects on the region's ecosystem, resident species, and species that migrate through the region.

Offshore drilling for natural gas produces many of the same effects that result from oil drilling on the Outer Continental Shelf. Platform placement, which disturbs the seabed; drilling discharges, which release toxic materials into the area around the drill site; noise disturbances created by platform construction and ongoing activities; and trash produced during daily activities on the platform are negative impacts common to both oil and gas drilling. The effects of a natural gas spill, however, are less detrimental than that of an oil spill because natural gas is less toxic to the environment and dissipates more rapidly from the ecosystem.

Question 2. Can you provide an example of the coastal impacts that an unanticipated event (for example, an unanticipated discharge of fluids, a tanker collision) could have on fragile coastlines such as those in the state of Florida?

Answer. Unanticipated, catastrophic events like the recent tanker spill in Coos Bay, Oregon can have immediate and devastating impacts on marine and coastal ecosystems. Despite some improvements in cleanup technologies, often only a limited amount of the spilled material can be captured before it enters the ecosystem. Frequently, these spills cause the closure of important commercial fisheries. Shellfish and other sedentary organism are particularly vulnerable to the impacts of an oil spill and can be killed outright or rendered unfit for human consumption. A spill off the coast of Florida, for instance, would wreak havoc with the area's coral reefs; which, in turn, would threaten all of the resident fish and marine species that rely upon those reefs. Oil slicks have proven deadly for sea otters, seabirds, and other marine species. Migratory species like whales often avoid areas where major spills have occurred, sometimes for years after the event. After a major spill, oil, tar and other petroleum byproducts can wash up on beaches for years leaving them inhospitable to people and wildlife. Furthermore, the oil and its associated compounds will persist in the ecosystem for years. Ten years after the *Exxon Valdez* oil spill, the region's coastlines and marine species are still suffering from the impacts of oil residue that remains in the ecosystem.

STATE OF LOUISIANA,
DEPARTMENT OF NATURAL RESOURCES,
Baton Rouge, LA, February 17, 1999.

KELLY JOHNSON,
U.S. Senate, Committee on Energy and Natural Resources, Washington, DC.

DEAR MS. JOHNSON: I have enclosed my responses to written questions from Senators Landrieu and Wyden. If I can be of further assistance to the committee in any way, please do not hesitate to call me at 225-342-4503.

Again, thank you for the opportunity to be heard on such pressing issues.

Very truly yours,

JACK C. CALDWELL,
Secretary.

RESPONSES TO QUESTIONS FROM SENATOR LANDRIEU

Question 1. We have heard a great deal this morning about the importance of Louisiana's wetlands to the state and to the nation. In your dealings with other states, have you encountered similar expressions of concern regarding coastlines and coastal economies?

Answer. Yes. I speak to groups on coastal issues in different parts of the country. Most recently, I addressed coastal conferences in Williamsburg, Virginia, Washington, D.C., Galveston, Texas and Monterey, California. In these and other places, the concerns raised most often are about preserving marshes, sustaining fisheries and stopping beach erosion.

Question 2. Louisiana depends heavily on the oil and gas industry as an integral part of its job base—fully 50% of the economy is based on petroleum. In light of this dependence and historical boom and bust cycles, has the state contemplated taking any steps to diversify the economy? What are the factors, in your view, that have affected efforts to diversify the economy?

Answer. Governor Mike Foster's Louisiana Economic Development Council is putting together "Vision 2020", a strategic economic development plan that sets aside six clusters to be targeted in the state's efforts to diversify its economic. The clusters include: Medical and Biomedical; Micro-manufacturing; Software, Auto-regulation, Internet, and Telecommunications; Environmental Technologies; Food Technologies; and Materials (catalysts, composites, electronic materials and bio-compatible materials). Public input from the scientific community, higher education, business and industry have all played roles in the plan and the development of these targeted clusters.

In the past, in my opinion, economic diversification efforts have been hampered by the lack of an educated workforce. Education is a main component of Vision 2020, and the issue is addressed throughout the plan.

Question 3. As mentioned in the testimony of several witnesses today, the OCS Policy Committee, which is one of four advisory committees of the Minerals Management Service, made recommendations to the Department of the Interior in 1993 and again in 1997, asking for consideration by the agency of a coastal impact assistance package. To date, have you had any response to your request?

Answer. No. However, the MMS has been working with President Clinton on his Lands Legacy legislation. Together with the Department of the Interior, they have worked to incorporate portions of certain aspects of the legislation.

RESPONSE TO QUESTION FROM SENATOR WYDEN

Question 1. S. 25 provides that Outer Continental Shelf (OCS) impact assistance money can be spent by states and political subdivisions on a broad variety of programs, as long as those programs are consistent with State coastal zone management plans. On the West Coast, and perhaps in other areas of the country as well, one of our biggest problems is the lack of basic scientific research areas of the country as well, one of our biggest problems is the lack of basic scientific research on marine fish species. Obviously, OCS development could have an impact on those species and on the coastal communities and industries that rely on those species. Does the phrase "fish and wildlife" in section 704(a)(1) of S. 25 include marine fish research? If not, how would you suggest modifying the provision so it clearly covers marine fish research?

Answer. In my view, the phrase does include marine fish research and would certainly be permissible if a state's governor includes it as part of the plan to be funded.

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY,
Jackson, MS, April 6, 1999.

Hon. FRANK H. MURKOWSKI,
Chairman, Committee on Energy and Natural Resources, Washington, DC.

DEAR SENATOR MURKOWSKI: With humble apologies for being so late in responding to your February 1, 1999 letter which poses additional questions from the Committee regarding my testimony on Wednesday, January 27, 1999, I am pleased to submit for the record the answers set forth below.

While I hope that my responses to these questions can be made part of the official record of our January 27, 1999 Committee oversight hearing, I certainly understand if my tardiness prevents that. Nevertheless, we are vitally interested in passage of S. 25, and stand ready to assist you and your staff in any way possible to that end.

Sincerely,

JAMES I. PALMER, JR.,
Executive Director.

RESPONSE TO QUESTION FROM SENATOR GRAHAM

Question. In your testimony, you discuss the fact that the growth of industrial activity in the Vicksburg area due to the construction of new, state-of-the-art drilling rigs has led to growth issues with infrastructure development for water supply and wastewater disposal, control of air emissions, and transportation arteries. In distributing funds under S. 25, do you plan to identify the growth needs that were generated by OCS development and those that were generated by other sources of growth in your state?

Answer. Because the principal purpose of the Coastal Impact Assistance title in S. 25 is to compensate coastal states for costs associated with infrastructure and other burdens attributable to operations in federal waters within the specified proximity of their states, I believe there must be some rational effort to identify and quantify these pressures, separate and apart from other, and very similar, pressures in the economy, in general. In some states, including Mississippi, where we have realized substantial economic growth in recent years, this will be a complicated exercise in which great precision is likely not possible. However, to deny assistance because the nexus between offshore operations and coastal impacts is real but not subject of minute precision would be a gross insult to the entire concept. By way of example, that would be tantamount to saying that both "direct" and "circumstantial" evidence may be utilized in the courts of our nation, but the latter will be disallowed in the administration of federal revenue sharing programs.

RESPONSE TO QUESTION FROM SENATOR WYDEN

Question. S. 25 provides that the Outer Continental Shelf (OCS) impact assistance money can be spent by States and political subdivisions on a broad variety of programs, as long as those programs are consistent with State coastal zone management plans. On the West Coast, and perhaps in other areas of the country as well, one of our biggest problems is the lack of basic scientific research on marine fish species. Obviously, OCS development could have an impact on those species and on the coastal communities and industries that rely on those species. Does the phrase "fish and wildlife" in Section 704(a)(1) S. 25 include marine fish research? If not, how would you suggest modifying the provision so it clearly covers marine fish research?

Answer. The Coastal Impact Assistance title in S. 25 was generated by the OCS Policy Committee, which has been advising the Secretary of the Interior on OCS matters for many years. The national fisheries industry has been prominently represented on the OCS Policy Committee for a very long time, and, because the Coastal Impact Assistance recommendations to the Secretary of the Interior were generated by the OCS Policy Committee during my term as chairman, I can say without hesitation or reservation that the phrase "fish and wildlife" in Section 704(a)(1) of S. 25 is intended to cover marine fish research. The most important modifier in the phrase "air quality, water quality, fish and wildlife, wetlands, outdoor recreation programs, or other coastal resources. . . . is the word "coastal". Necessarily, that includes both freshwater and marine fish species. As you properly note, extensive marine fisheries research associated with offshore operations along the West Coast has been ongoing in recent years, and hopefully will continue. Similar programs for the Gulf of Mexico and adjacent state coastal waters should receive similar attention. We have outstanding scientists at the Gulf Coast Research Laboratory and other facilities in our Institutions of Higher Learning in Mississippi who eagerly await opportunities to participate in this much-needed marine fisheries research.

STATE OIL AND GAS BOARD OF ALABAMA,
Tuscaloosa, AL, February 12, 1999.

Ms. KELLY JOHNSON,
Counsel, Senate Committee on Energy and Natural Resources, Washington, DC.

DEAR MS. JOHNSON: The following are answers to the questions submitted by Senators Bob Graham and Ron Wyden as follow up to the Wednesday, January 27, 1999 Committee hearing on Coastal Impacts of Offshore Drilling.

I would be pleased to provide any other information the committee may require.
Very truly yours,

DONALD F. OLTZ,
State Geologist.

RESPONSES TO QUESTIONS FROM SENATOR GRAHAM

Question 1. In your verbal testimony, you indicated that the state of Alabama has a zero discharge policy for all drilling rigs in your coastal waters. Have you ever issued a violation for that zero discharge policy? If so, how many violations have you issued in the last year? Which companies received those violations? Did you complete an analysis of the environmental impact of the discharges involved in those violations?

Answer. Alabama's zero discharge policy was violated twice, early in our program. Mobil Oil Exploration and Producing Southeast, Inc. was sued by the Alabama Attorney General in 1982, fined ca. \$2 million plus clean up costs. In 1983, Superior Oil Company was fined ca. \$80,000 plus clean up costs which were estimated to exceed \$2 million. There were no violations last year. The lead state agency for environmental impact assessment is the Alabama Department of Environmental Management (ADEM).

Question 2. In your written testimony, you indicate that currently natural gas produced in the Gulf of Mexico that is brought to Alabama originates from offshore Alabama, Mississippi, and, to quote, "soon, possibly Florida." Have you received any indication from the federal government that there has been a decision on the Chevron appeal to the Department of Commerce?

Answer. I have not received nor asked about Chevron's appeal to the Department of Commerce. The Destin Dome discovery is rated at or near 1 trillion cubic feet of gas. Because it is close to an existing pipeline infrastructure, it is highly probable that the gas will come onshore Alabama "if possibly" it is produced. My comment

was to point out that federal gas, Mississippi gas, Alabama gas, all come ashore in Alabama and that Florida gas, if produced, could add to the Alabama mix.

Question 3. You go on to state that, to quote, "Alabama infrastructure needs for maintaining current and future Gulf of Mexico drilling and production include: New Pipelines. As projected production increases occur, new pipelines will need to be brought onshore Alabama. In some areas, they may cross coastal wetlands or other environmentally sensitive areas. The current plans to add natural gas liquids plants will also increase current daily throughput and the need for new pipelines." What is the source of your projections for production increases?

Answer. Exploration in the central and eastern Gulf continues to expand. Lease sales conducted over the past couple of years by MMS have been impressive in terms of industry interest and bids on leases. There will be discoveries and thereby increased production. The fact that each of the two new NGL plants being constructed in Alabama will process 300mcf initially but are being built at a 600mcf capacity also adds to the argument. Overall, in the U.S., NGL production will increase at 1.9%/year. The demand for ethylene is increasing at about 3.8%/year. (cf the Oil and Gas Journal, (OGJ) June 8, 1998, p.50 ff)

Question 4. Given these projected increases in production, what is your estimate of the increased motor vehicle traffic that will result? What route do these vehicles normally take away from the Alabama coastline? What is your estimate of the change in ozone and particulate matter that will result from this increased traffic? Has Alabama performed a plume analysis to identify the path that these pollutants will take? If so, what are the results?

Answer. ADEM is the agency that conducts analyses of the air quality in Alabama. Mobile County could be in non-attainment as early as this summer. According to ADEM, the addition of the NGL plants is not a significant element in modifying the air quality in the area. We have not studied potential increase in traffic.

Question 5. Has the state of Alabama begun planning and budgeting in anticipation of development of natural gas leases off the coast of Florida? If so, what types of activities have you already undertaken? Were these projects conducted independently or have you partnered with private firms or other organizations?

Answer. No.

Question 6. How many additional natural gas liquids plants (referenced in your written testimony) are you anticipating will be constructed in Alabama? Who do you anticipate will be constructing these plants? How much of an increase in daily throughput would you anticipate? What is the source of that estimate?

Answer. We only know of the two under construction in Alabama, and one in Mississippi. In addition to the statistics in my answer to question 3, LPG consumption has expanded at nearly twice the rate of world petroleum demand (OGJ op cit, p. 50). It comes down to supply and demand. If the U.S. population requires more MTBE for gasoline, for example, plants will need to meet the demand.

Question 7. Would you anticipate that potential funds from S. 25 would be used for pipeline construction costs or for restoration of coastal wetlands that are destroyed in the process?

Answer. Restoration.