National Commission on the

BP DEEPWATER HORIZON OIL SPILL AND OFFSHORE DRILLING

Attachment 1

Agenda

National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling

AGENDA

3rd Meeting

Monday, September 27, 2010 and Tuesday, September 28, 2010
Washington Marriott Wardman Park
2660 Woodley Road, NW, Washington, DC 20008

Day 1

8:00 am — On-Site Registration

9:00 am — **Call to Order**
Elena Melchert, U.S. Department of Energy, Designated Federal Officer (DFO)

Opening Remarks by Commissioner Co-Chairs
Senator Bob Graham and William K. Reilly

9:10am — **Panel I (a): Decision-Making Within the Unified Command**

Admiral (ret.) Thad Allen, National Incident Commander for the Unified Command

9:45 am — **Panel I (b): Decision-Making Within the Unified Command**

Captain Edwin Stanton, Sector Commander, New Orleans, U.S. Coast Guard

Doug Suttles, Chief Operating Officer for Exploration and Production, BP

Richard Harrell, Mississippi Department of Environmental Quality

William "Billy" Nungesser, President of Plaquemines Parish, Louisiana

11:05 am — Break

11:15 am — **Panel II: The Amount and Fate of the Oil**

Dr. Bill Lehr, Senior Scientist, Office of Response and Restoration, NOAA

Mark K. Sogge, Chief of Staff, U.S. Geological Survey, Western Region, Director's Office

Dr. Ian MacDonald, Professor of Oceanography, Department of Earth, Ocean and Atmospheric Science, Florida State University

Dr. Richard Camilli, Assistant Scientist, Department of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution

Dr. Terry Hazen, Senior Scientist, Head of the Ecology Department and DOE Distinguished Scientist, Earth Sciences Division, Lawrence Berkeley National Laboratory

National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling

AGENDA

3rd Meeting

12:30 pm Lunch Break

1:30 pm **Panel III (a): The Use of Dispersants**

The Honorable Lisa Jackson, EPA Administrator

2:00 pm **Panel III (b): The Use of Dispersants**

Rear Admiral Mary Landry, Commander, Eighth Coast Guard District, U.S. Coast Guard

Dr. Nancy Kinner, University of New Hampshire Co-Director, Coastal Response Research Center

2:35 pm **Panel IV: The Future of Offshore Drilling**

The Honorable Ken Salazar, Secretary of the Interior

The Honorable David J. Hayes, Deputy Secretary of the Interior

Michael R. Bromwich, Director, Bureau of Ocean Energy Management, Regulation, and Enforcement

3.35 pm **Panel V (a): Response in the Arctic**

The Honorable Mark Begich, U.S. Senator, Alaska

4:00 pm **Panel V (b): Response in the Arctic**

Pete Slaiby, Vice President for Exploration & Production, Shell Alaska

Captain John Caplis, Chief, Office of Incident Management and Preparedness, U.S. Coast Guard

Edward Itta, Mayor of North Slope Borough, Alaska

Dr. Dennis Takahashi-Kelso, Executive Vice President, Ocean Conservancy

4:50 pm Break

5:00 pm **Public Comment**

5:30 pm Adjourn

National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling

AGENDA

3rd Meeting

Tuesday, September 28, 2010
Washington Marriott Wardman Park
2660 Woodley Road, NW, Washington, DC 20008

Day 2

8:00 am	On-Site Registration
9:00 am	**Call to Order** Christopher A. Smith, U.S. Department of Energy, Designated Federal Officer (DFO)
	Opening Remarks by Commissioner Co-Chairs Senator Bob Graham and William K. Reilly
9:10 am	**Panel I: The Spill, Recovery and the Legacy of Mississippi Delta Management**
	Chris Johns, Editor in Chief, *National Geographic*
	John Barry, Author, *Rising Tide*, member of the Louisiana Coastal Protection and Restoration Authority
9:40 am	**Panel II: Impacts: Environmental and Economic**
	Dr. John Farrington, Interim Dean, School of Marine Science and Technology, University of Massachusetts, Dartmouth
	Jane Lyder, Deputy Assistant Secretary, Fish and Wildlife and Parks, Department of the Interior
	Lt. Governor Scott Angelle, Louisiana
10:20 am	Break
10:30 am	**Panel III: Elected Officials: The View from the Region**
	The Honorable Mary Landrieu, U.S. Senator, Louisiana
	The Honorable Haley Barbour, Governor of Mississippi
11:30 am	**Panel IV: Impacts: The Gulf and Seafood Safety**
	Dr. Steven Murawski, Director of Scientific Programs and Chief Science Advisor, National Marine Fisheries Service, NOAA
	Dr. Bill Walker, Director of the Mississippi Department of Marine Resources
	Timothy Fitzgerald, Marine Scientist, Oceans Program, Environmental Defense Fund

National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling

AGENDA

3rd Meeting

12:30 pm	Lunch Break
1:30 pm	**Panel V: Legal Authorities for Funding and Restoration Management**
	Richard Stewart, Professor of Law, New York University
	James Tripp, Senior Counsel, Environmental Defense Fund
	Stan Senner, Director of Conservation Science, Ocean Conservancy
2:45 pm	Break
3:00 pm	**Panel VI: The States & The Federal Government: Defining a Shared Path for Gulf Restoration**
	Garret Graves, Director, Louisiana Office of Coastal Activities
	Terrence "Rock" Salt, Principal Deputy Assistant Secretary of the Army for Civil Works
	The Honorable Tom Strickland, Assistant Secretary for Fish and Wildlife and Parks, Department of the Interior
	Brian McPeek, North American Regional Director, The Nature Conservancy \
4:15 pm	Break
4:30 pm	Public Comment
5:30 pm	Adjourn

APPROVED: _____ 9/28/10

Christopher A. Smith, Designated Federal Officer Date

National Commission on the

BP DEEPWATER HORIZON OIL SPILL AND OFFSHORE DRILLING

Attachment 2

Meeting Transcript

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NATIONAL COMMISSION ON THE
BP DEEPWATER HORIZON OIL SPILL
AND OFFSHORE DRILLING
- - - - - - - - - - - - - - x
THIRD MEETING, DAY ONE :
Transcript of Proceedings :
- - - - - - - - - - - - - - x

Monday, September 27, 2010
Washington Marriott Wardman Park
2660 Woodley Road, NW
Washington, DC 20008
(202) 328-2000
9:21 a.m.

Job No.: 5371
Pages: 1 - 415
Reported by: Debra A. Whitehead

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National oil spill commission meeting held before:

SENATOR BOB GRAHAM, CO-CHAIR
WILLIAM K. REILLY, CO-CHAIR
FRANCES G. BEINECKE, MEMBER
DONALD BOESCH, MEMBER
TERRY D. GARCIA, MEMBER
CHERRY A. MURRAY, MEMBER
FRANCES ULMER, MEMBER

Pursuant to Notice, before Debra A. Whitehead, Notary Public in and for the District of Columbia.

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CONTENTS CONTINUED

COMMENTS FROM THE PUBLIC

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PROCEEDINGS

MS. MELCHERT: Good morning. I'm Elena Melchert. I'm a program manager for oil and gas production research at the Department of Energy. I'm also the committee manager for this commission.

I've been appointed by the designated federal officer, Deputy Assistant Secretary Christopher A. Smith, to serve as the designated federal officer for today's proceedings. Deputy Assistant Secretary will continue as a designated federal officer for tomorrow's proceedings. Therefore, I hereby call to order this third meeting of the National Commission on the BP Deep Water Horizon Oil Spill and Offshore Drilling.

The President established this bipartisan commission to examine the root causes of the BP Deep Water Horizon oil disaster to provide recommendations on how a future accident can be prevented and recommendations on how to mitigate the impact if an accident should happen again. The President appointed two co-chairs to lead this commission; the former Senator Bob Graham of Florida, and The Honorable

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William Reilly, who led the Environmental Protection Agency under President George H.W. Bush.

The commission is rounded out by five other distinguished Americans who were selected based on their extensive scientific, legal, engineering, and environmental expertise, and their knowledge of issues pertaining to offshore operations.

They are Frances Beinecke, president of the Natural Resources Defense Council; Dr. Don Boesch, President of the University of Maryland Center for Environmental Science; Terry Garcia, Executive Vice-President, National Geographic Society; Dr. Cherry Murray, Dean of the Harvard School of Engineering and Applied Sciences; and Fran Ulmer, Chancellor of the University of Alaska Anchorage.

This commission is conducting its work consistent with the Federal Advisory Committee Act, which sets a high standard for openness and transparency. As such, today's hearing is being held in this public forum and is being broadcast live via video feed.

Before I hand control of the meeting to our

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two distinguished co-chairs, I will review's today's agenda. Our first panel will begin focusing on decision-making within the unified command, and we will have five panelists.

After a short break, at 11:15, Panel Number 2 will focus on the amount and fate of the oil, with five panelists. We'll take a short break for lunch and at 1:30 reconvene with Panel 3, on the use of dispersants, with three panelists. At 2:35, Panel 4 will focus on the future of offshore drilling, and we will have three panelists there.

At 3:35, Panel 5 will focus on the response in the Arctic. We'll have five panelists. After a short break we will reconvene at 5 p.m. to begin the public comment period, and at 5:30 adjourn for the day.

Any member of the public who would like to submit a written comment on this commission may do so via the website at www.oilspillcommission.gov. Again, www.oilspillcommission.gov.

We have a full agenda, and we very much respect everyone's time. So we ask all the panelists

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to please stay within the time limits in order to allow ample time for the commissioners to ask questions.

There is a timekeeper right here in front who will monitor the time. We ask the panelists to please begin to summarize their remarks when they reach the timekeeper's first one-minute mark.

With that, I give control of the meeting to our two co-chairs, Senator Bob Graham and the Honorable William Reilly.

CO-CHAIR GRAHAM: Thank you, Ms. Melchert. I appreciate your presence and the leadership which we have received from the Department of Energy throughout this commission's work.

Winston Churchill described a signal event in World War II as being not the end, not the beginning of the end, but perhaps the end of the beginning.

Today I would describe the commission as ending the first phase of our work. We have been in an information-gathering mode, hearing from people of the Gulf, government officials, scholars, and experts

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from industry, nonprofit organizations, and academia. Next we will turn to presenting our findings and beginning our deliberations.

In early November our chief counsel, Fred Bartlett, will give a detailed presentation about what happened on the Deepwater Horizon rig and provide us what we trust will be the most comprehensive, clear, and impartial accounting that the American people have received.

But for today and tomorrow, the end of the beginning. We will be learning about very crucial issues that will inform future offshore drilling efforts, the response to spills, and the restoration of damaged ecosystems.

In the course of our investigation we have learned about the tremendous transformation in how we exploit our domestic energy resources. The growth of drilling in the deep water off our coast has been rapid and with profound implications for our energy supply and the integrity of the fragile environments in which that exploitation occurs.

In our meetings last month it was clear

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that our regulatory approach did not adapt to the new reality. I remain concerned that science still does not have an appropriate place at the table.

We live in a world of rapidly changing technology. Not just in terms of energy, but in many other areas; in finance, in cybersecurity, in food production, in weapons of mass destruction, and many others. If we are not vigilant, our laws and response capabilities will not keep pace with changes in technology. We ignore science and what it can tell us about how to manage risk and respond to it, at our peril.

Just five years ago, just five years after the Gulf suffered the devastation of Hurricane Katrina, many have the same question about whether the government moved quickly enough and was effective enough in its activities, its communication, and its partnership with state and local governments.

We need to look at this response in the broader context of how our federal, state, and local government mobilize against disasters.

Much was done well in responding to this

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spill. Other things, not so. I look forward to hearing from our panelists today, getting their thoughts on what they have learned and where we go from here, the end of the beginning to the end.

Thank you.

CO-CHAIR REILLY: Thank you, Bob.

Good morning. Since our inception, this commission has been very intensely engaged in examining the causes, including the root cause, of the catastrophe of the Macondo well and blowout.

We have interviewed experts, we have met with government officials at the highest levels, we have had extensive interviews and briefings from industry. We have completed one phase of information-gathering, though we will continue to gather information in the weeks ahead.

We have, as many of you know, a very abbreviated schedule. It's probably the shortest of any commission that has had the mission of investigating a disaster. And in this case we suffered the peculiar consequence of investigating a disaster that was ongoing even as we researched it.

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We spent a good deal of time at the last hearings examining the role of industry, and particularly reflecting on the way in which the experience and the research that we had developed suggested a profound need for reform of the culture of industry, and for better attention to process safety, particularly as industry explores in what is the most promising area for the future of offshore oil and gas development, the very deep water. That, of course, poses more risks, more challenges, than previous drilling in shallow water ever did. But we have considered industry culture and attention to process safety.

And so today we turn to the government itself, to its priorities and processes, the quality of its primary regulatory entity for overseeing safety, enforcement of environmental laws in the offshore environment, which is the Department of the Interior.

The effectiveness of the response to the spill affects more than the interior department; that involves many agencies of the government, several of

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which will be represented in the presentations this morning, and many of whose officials we have talked to already.

I have to say that as someone intimately familiar with the experience in Prince William Sound after Exxon Valdez, that I continue to be amazed and disappointed at the failure of the technology of response to evolve more than it has, particularly in view of the tremendous advances made in the technology of drilling itself.

The skimmers we are informed by NOAA of -- I saw a flotilla of them when I flew out to the rig -- succeeded in gathering up 3 percent of the total amount of the spill. Burning accounted for 5 percent more, and I think dispersants got that up to about 13.

Given the enormous effort, it seems to me a very disappointing result, frankly. It's the consequence of a lot of things; one of which is the failure of technology, the skimmers, the booms, the dispersants themselves, I think, to evolve and to be developed. We will raise some of those questions today.

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We will also consider the use of dispersants. And we will discuss how and why they were employed in the Gulf and in such quantities and at such depths, both of which represent novel uses of dispersants and suggest that there was enormous confidence placed in dispersants, more confidence than certainly I allowed in Prince William Sound when the dispersants arguably were more troublesome and possibly more toxic than they are today. We will learn more about that.

I guess looking at the quality of specific decisions, while I think it is very important, misses what I think is a fundamental question: How did we get here? How did we get into a situation where the need to improvise was so great?

In many cases the response demonstrated a tremendous dedication and ingenuity that is a credit to the many thousands, the tens of thousands of people who participated in this cleanup. But from where I sit, it's very, very difficult to make the case that we were well-prepared.

Oil exploration continues in frontier

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environments, and these areas offer enormous promise for returns, as well as the risk of catastrophe. How would we respond if a similar disaster occurred under the sea ice in the Arctic today or tomorrow?

The Macondo blowout and its consequences created a situation where the party responsible for the spill had by necessity to play an important, even a central role, in responding to it. And we should be happy that they did and have and are.

This uneasy partnership between the government and the responsible party raises important questions about decision-making power, about the flow of information, and about proper oversight. And in our political system there is also partnership, sometimes uneasy, between the federal government and the states and communities.

We are all aware of the issues that arose in the aftermath of the spill, concerns about the speed of the response and about some efforts that were not pursued. While overall looking back I think -- I think we need to learn from this spill. And that's part of what this commission is about.

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We learned from the Exxon Valdez disaster, too. Tanker operations are much safer than they were 20 years ago. But the Oil Pollution Act of 1990 has been criticized for having us really respond to the last war. And it's my hope that the lessons we learn from the response this time did not just fix what went wrong in the past, but created culture that eliminates complacency in industry and also in government.

Thank you.

CO-CHAIR GRAHAM: Thank you. I will be chairing the morning sessions, Mr. Reilly the afternoon.

We commence with Panel 1, Decision-Making Within the Unified Command. And we are very pleased to have as our first witness today Admiral Thad Allen, the National Incident Commander for the Unified Command.

When Mr. Allen completes his introductory statement, our lead questioner will be Commissioner Fran Ulmer.

Admiral.

PANEL I(a)

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DECISION-MAKING WITHIN THE UNIFIED COMMAND

ADMIRAL ALLEN: Good morning, Senator. It's good to see you again.

Chairman Reilly, let me start off by saying that your remarks are spot-on. I think you're zeroing in on exactly the issues you should be talking about this morning. It's my pleasure to be here and have this discussion with you.

CO-CHAIR REILLY: Thank you, sir.

ADMIRAL ALLEN: I did not submit a statement for the record. There has been a lot of information provided to you already. I would make this offer: In early part of June we started developing a strategy implementation plan for the doctrinal changes that were being made as we improvise, as you said, and adapted to the spill.

What I directed my staff to do was collect that information and then update it every several weeks into a new version.

That will be the seminal record of the decisions that were made and the doctrinal adjustments that were made to the National Contingency Plan. I

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have Version 4.0 here with me this morning. You can see it's become a voluminous document. 5.0 will be about 500 pages. And I would ask that we be able to submit that for the commission to use for the record. And we will do that when the next version is published.

I'd like to talk about four things this morning in the opening statement, and then I'll be glad to take any questions you have for me.

First of all, I would like to just go over the rationale by which the National Incident Command was established, to talk about some of the challenges that you've already noted, some of the successes that we did enjoy, and I think the implications for the future as we take a look at current oil spill doctrine and what we need to do to position for the next war, if you will.

And I would wholly subscribe to your concept that the OPA-90 implementation was tanker-centric. It achieved the goal of tanker safety. I think we would all agree to that. But as we were dealing with things like developing protocols

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for in situ burning and dispersant use at the aerial level, deepwater drilling moved offshore. We stopped funding research and development. Interagency processes to do that move forward pretty much became very, very benign. And by the time the middle of the 1990s came around, what was anticipated to be a very, very robust research and development interagency process basically was shepherding some very meager amounts of money among the agencies and doing the best they can.

So I think moving forward we really, really need to take a look at R&D and what we're trying to do in relation to the technology that's going to be employed in energy in the future.

When I was designated as the National Incident Commander, I sat down with a small group of folks who became my cadre and my senior staff. And what I told them was I wanted to focus on what needed to be done above the Unified Area Command level which had already been established in the region under Rear Admiral Mary Landry.

I wanted to focus on those things that were

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distracting the Unified Area Command from doing their job, work interagency issues in Washington, deal with the government, governmental structures, Congress and so forth, and not duplicate or try and assume tactical control of any of the operations from Washington.

As a 39-year veteran of the Coast Guard, the last thing anybody wants is what we would call the 3,000-mile screwdriver making adjustments and changes. So one of the first principles was that we would leave tactical control as close to the problem as we could, and that we would try and develop awareness in Washington.

And then the staff and myself would travel back and forth, which we did, weekly, to not only see what was going on on-scene downrange, but also to take care of the extraordinary amounts of data required to brief up to the various levels of government and to deal with the media as well.

With that in mind, I would like to characterize the National Incident Command as a thin client, if you use a software term, necessary to bring everything together and integrate, but no more than

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what is necessary, and without adding layers of bureaucracy.

The Incident Command system that was established in Robert and ultimately in New Orleans that was the basis for the coordination of the Unified Area Command is a time-proven response structure in this country, dating back decades to the fire service and their response to firefighting.

That is a sound system. Incident command is the way to approach one of these spills. I would say as we start to take a look at what transpired, we need to look at what the basic doctrine on incident command says versus the reality that we found on the ground down there, which was not a large, monolithic oil spill that we experienced with the Exxon Valdez, but oil that came to the surface under different conditions each day, different wind and current. And we did not have a large model of the spill, as I said on many occasions. What we had were hundreds of thousands of patches of oil that moved in different directions over different periods of time, that moved significantly beyond the geographical area that was

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contemplated in any response plan, and basically put the entire Gulf Coast at risk.

That drove resource requirements far and above those that were identified in the response plans. It required a coordination across state boundaries, across federal regional boundaries for the regional response team.

Those are the types of issues I think that were generated in this spill that start to set it apart from the spills we've dealt with since the Oil Pollution Act of 1990 was passed.

And as you all know, the Oil Pollution Act of 1990 and the changes in the National Contingency Plan have served us well for 20 years. We have worked on smaller spills with state and local governments, with responsible parties.

I think some of the anomalies associated with this spill that started to challenge the doctrine need to be really looked at in detail as we move forward for constructive changes to the National Contingency Plan, which in my view should remain in place, and how we need to manage large anomalous

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events in the future that start to defy the traditional parameters of the Incident Command system.

And if I can go over just a couple of those in terms of challenges, I think it would be useful.

First of all, I think we need greater clarity moving forward on what the responsible party is, who they are, what they do, and how they interact with the Incident Command System and the National Contingency Plan.

We have worked with responsible parties for over 20 years very effectively managing oil spills. But with the enormity of this spill, the uncertainty, the omnidirectional nature of it, and indeterminate nature of it, really challenged the nation's ability to understand what an RP is.

And without a clear understanding of the National Contingency Plan and what was intended by the legislation in advance of the event, trying to explain that to the American public, local government leaders, and even national leaders, became very, very challenging.

And there were two basic issues that were

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not well-understood by most of the people in the United States and political leaders. Number 1, that there could be a constructive role for the entity that was attributed to causing the event itself. That created a significant amount of concern that could not be explained away, even though we have for 20 years worked effectively in that construct in responding to oil spills.

The second is necessarily the fiduciary link between the representative of the responsible party and the Unified Command and their shareholders. There are legal requirements for documenting costs which you have to carry on the balance sheet, SEC filings and so forth, that they cannot sever.

So the second notion that was very difficult for the people in this country to understand and our political leaders, was the fact that ultimately there was a fiduciary link between the responsible party and the shareholders, which would bring into question whether or not every decision could, should, or would have been made based on what was best for the environment and the response itself.

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Now, as is stated in the National Contingency Plan and by statute, the responsible party is to resource the response, and the federal government is to oversee that response.

And in creating the Oil Pollution Act of 1990, we created an entire industry of oil spill response organization. And the presumption was that the responsible party would bring contracted resources to respond to the spill under the supervision of the federal government.

That is, indeed, what occurred. But as you start to look at the enormity of this response and the local implication, the very isolated geographical areas where access is an issue, where just logistical support for this type of response is an issue, a lot of the details that are carried out by those contractors that are brought to scene are done in a contractual obligation basis, with the responsible party under the general supervision of the federal government. And part way through this spill we deployed additional Coast Guard personnel down to the state and local level, provided more supervision to

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make decision-making closer to where the oil was at and what was going on, in response to feedback that too much of that was being made locally by subcontractors.

I think there's an arguable discussion to be had about what constitutes authority to take the action, then -- the action, the day-to-day supervision of workers, and how that gets interpreted in terms of feedback and the effects you're trying to achieve.

Moving forward, I think there's a couple things we need to do. We need to take a look at the National Contingency Plan, and we need to really think about what we really mean by the concept of responsible party and how we want that to actually look in the future.

Something we might want to consider is a creation of a qualified individual that would represent the industry, oversee the response, have access to the resources, but basically would be fire-walled from any fiduciary link back to the shareholders; almost putting the resources in trust and have them executed by an industry expert.

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I think moving forward the issue of R&D has to be addressed. We can't be doing R&D in the middle of a spill response, which we tried to do this time. Those things have to be proven, on the shelf, and ready when we need them.

And I also believe that a certain number of delegations could be made in the law that would allow us to have greater access to the Oil Spill Liability Trust Fund, to replenish that fund when we need to, and have that automatically kick in when a spill of national significance is declared.

I see my time is up, and I would be glad to take any questions you may have for me.

CO-CHAIR GRAHAM: Thank you, Admiral.

Ms. Ulmer.

QUESTIONS FROM THE COMMISSIONERS:

COMMISSIONER ULMER: Thank you, Mr. Chairman.

First of all, Admiral Allen, I would like to thank you for serving as the National Incident Commander and the many, many hours that you have put in to doing your very best. And through you I would

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like to thank the men and women of the United States Coast Guard, who do an amazing job in many different ways.

In Alaska, from fisheries management to emergency response, the Coast Guard is a very, very important way in which we stay safe and manage our resources. So thank you for your service.

ADMIRAL ALLEN: Thank you on behalf of the men and women of the Coast Guard.

COMMISSIONER ULMER: I am very concerned about two things, and I'll pose both of them and ask you to address them.

One is the resources of the United States Coast Guard. Not only all of the things that have been for many, many years the responsibility of the Coast Guard, but after 9/11 the additional national security issues, and in emergencies like the Gulf of Mexico oil spill, the need to staff up very quickly and deploy resources, in some cases resources that you don't have.

I'm very concerned about the implications of that for Alaska, and whether or not you have the

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kind of assets that will be necessary moving forward in the future. So that's one concern.

The second concern that I have, you addressed the relationship between the National Incident Command and the responsible party. I'd like you to address the relationship between the federal, state, and local participants.

There seemed to be a fair amount of anxiety, misunderstanding, conflict in those relationships. To a certain extent perhaps because of the scale of this incident and its duration, but perhaps also because of the system we use. And I'm wondering if you could recommend any changes that might reduce that kind of lack of coordination and cooperation that probably got in the way.

ADMIRAL ALLEN: Thank you very much for the questions.

First of all, let me provide one caveat. I am the commandant of the Coast Guard emeritus here this morning.

COMMISSIONER ULMER: I understand.

ADMIRAL ALLEN: Admiral Bob Papp is the

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commandant and is charged with the current management of the service and resources. So any views expressed here are those of Thad Allen, U.S. Coast Guard, Retired.

The genius of the Coast Guard has always been that we are a multimission service, our platforms are multimission, and so are our people. That means that you don't have to have five vessels or five people to do a mission, because they are capable of doing different things.

That inherently brings us into a risk management structure, because you can't do all five things at once with one vessel. So there's a resource allocation process by which the Coast Guard allocates resources to mission. And it always has been both the value proposition for the country, but the challenge we deal with every day on resource allocation.

So we will always allocate whatever resources we have to the highest need. The more resources we have, the more contingencies and activities we can cover with greater capacity to a greater extent.

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So you can make the legitimate conclusion from that that we could never have enough resources. But if we had all the resources we need, we wouldn't have the value proposition that we present to the United States.

Do we need more than we have right now? I would say yes. Especially when we start talking about oversight in an oil spill like this, where there's a presumption that you need to have Coast Guard personnel at lower levels in the response linked to contractors and subcontractors, that in a normal spill would be operating independently out there because of the unique circumstances of this spill.

We don't have people that are sitting, quote, in garrison, ready to surge to do that. And if the anticipated role of government in the future is to have a more active role in oversight down to the subcontractor level, then there's going to be a serious resource issue related to the Coast Guard. In fact, all federal agencies are going to be involved in this.

In regard to your second question, it's a

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very, very legitimate question that goes right to the heart of this response. Let me start out by comparing and contrasting what the states are used to seeing and working with and what happened in this spill.

Usually in an oil spill the responsible party brings in contracted oil spill response organizations, Coast Guard oversees this, and generally it's very effectively run.

When you start to get to a large-scale spill that involves multiple municipalities, states, and across an entire region, it starts to become somewhat confusing for the state and local governments, because there is a presumption in the oil Oil Pollution Act of 1990, the National Contingency Plan, of federal preeminence and jurisdiction and authority.

I would compare and contrast that to the Stafford Act, which is the means by which we support state and local governments pursuant to an emergency declaration issued by the President after a natural disaster.

In that case the presumption is the

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responders are the state and local governments, and the resources are provided to them to execute their mission and achieve what it is they're trying to do. Because of the uniqueness of oil and chemical spills, multi-jurisdictions, the fact that they go beyond state waters, there is a presumption in the Oil Pollution Act of 1990 that the federal government will coordinate this.

That is not what the cities and counties and locales in the Gulf have been used to for a large spill. They're used to the Stafford Act structure, where the resources are provided to them and they execute them.

There was a reconciliation that had to be carried out between the assumption of the role of the state and local governments as far as executing spill response and the responsibilities that we have under the law to execute the National Contingency Plan, and our fiduciary responsibility to the Oil Spill Liability Trust Fund.

I don't think that was ever anticipated when the National Contingency Plan was constructed,

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but we do know now that when you have a very large spill, there are going to be governance issues related to what is the federal role, what is the state and local role, and what we can do legally and what we can't do legally.

I had a meeting with the parish presidents not long ago, and we had a very frank conversation about this. And I said there are some things that we can do to partner. And that's what we want to do. We want to optimize our performance and our effectiveness in this spill. But I can't delegate federal authority to you, and I can't ignore my responsibility in a fiduciary manner to the Oil Spill Liability Trust Fund. And that is something that is a matter of law, it's a matter of policy that's embedded in the legislation.

If we think that is an issue, then we need to talk about that moving forward. Because the real nub of the problem, at least down at the local government -- and you're going to hear from the parish presidents here in a little bit -- is the fact that you need to be flexible, agile, and responsive.

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And we can press decision-making authority down, but if the presumption is that we are doing this through subcontractors to the responsible party, then we're going to have to figure out a way to rationalize that process. And over the course of this spill, we did that. We shifted authority and resources down to a lower level. We established liaison offices with the parish presidents in Louisiana. We established liaisons in Mississippi, Alabama, and Florida. And we learned that because of the size of this spill and the differences between that and the Stafford Act response, that it was going to take more hands-on interaction and partnering to achieve those effects we needed to achieve.

Was that responsive?

COMMISSIONER ULMER: Very much so. Thank you very much. Thank you.

CO-CHAIR REILLY: Any other questions?

CO-CHAIR GRAHAM: I'd like to ask a question.

CO-CHAIR REILLY: Go ahead, Mr. Chairman.

CO-CHAIR GRAHAM: My question is, there was

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a requirement of various levels of government having response plans ready to be brought into use when the emergency occurred. What was your evaluation of the adequacy of those response plans, and do you have any suggestions as to how they can be improved?

ADMIRAL ALLEN: Thank you, Senator. Another excellent question.

Let me take you back to the spring of 2002, when I was the National Incident Commander for a spill-of-national-significance drill.

We actually held it in the Super Dome in New Orleans. And it simulated a well blowout about 80 miles to the west of where this event actually occurred. So you would think in the national exercise program, that that would have prepared us for an event like this. And to some extent it did. It certainly helps --

CO-CHAIR GRAHAM: Excuse me. When did that exercise program take place?

ADMIRAL ALLEN: April of 2002, Senator. I was the Atlantic Area Commander, and I was the designated National Incident Commander for that

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exercise. And I thought it went pretty well.

But looking back on it, there was some artificiality built into that exercise that we could not anticipate that led directly for me to believe we have to fundamentally change area contingency planning. That entire exercise was conducted with a State of Louisiana representative, and there were no parishes present.

We know now that if you're going to interact with state and local responders at a local level -- and it can be in a county in Mississippi or a parish in Louisiana -- that as part of the contingency planning process, the designation of sensitive areas, the negotiation of protocols for dispersant use, in situ burning, and so forth, that has to be taken down to the local government level where the responders are going to be interacting with on an actual spill. We can't always rely on the fact that this will be integrated at the state level and that the state will speak with one voice for all the political interests of the state.

Therefore, moving forward, I think for area

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contingency plans we need to look at, for instance in Louisiana, parish annexes, the layout how you interact with a parish during a response. And Mississippi it would be at the county level. Again, a county level in Alabama and Florida as well. And we need to understand how we're going to designate sensitive areas.

The sensitive areas that are currently identified in Area Contingency Plans have been developed over the last 20 years focus on natural resources. Sensitive marsh areas, look at areas where juvenile species are born, raised, and how the seafood industry is supported.

I will tell you now, after this spill, that -- and, Senator, you know this well -- the economic impact of beach closures is significant. But there is a presumption in response doctrine that you will push oil to a beach because it can be recovered there. I will tell you that's not universally agreed with in the Gulf.

So I think moving forward, as far as area contingency plans, we need to do a couple of things.

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Number 1, they've got to have granularity that takes it down to the local governmental entity that will be responsible for coordinating with our first responders. They have to have a say in how we identify and come up with protection strategies for critical resources, and what our critical resources needs to be taken a look at in terms of economic impact of the loss of access to those certain areas, in this cases beaches.

Those are some of the areas where I think we would benefit by taking a look at in the future.

CO-CHAIR GRAHAM: Thank you, Admiral.

Jerry. Commissioner Garcia.

COMMISSIONER GARCIA: Admiral, could you tell us how the low flow estimates impacted the response? For example, if instead of being told that there were 1,000 barrels a day or 5,000 barrels a day, early on you had been told that, no, there are 20,000, or 26,000 or 30,000 barrels a day, would you have done anything different?

ADMIRAL ALLEN: The answer is no. And the reason is, we assumed at the outset this could be a

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catastrophic event. I was the Commandant of the Coast Guard at the time. I was called in the middle of the night when the explosion occurred.

We started moving very quickly to put folks that have knowledge of marine salvage operations, as far as stability of the rig. We knew we had 700,000 gallons of diesel fuel, which in and of itself was a large amount, given the fact it's been dwarfed by the spill to date.

We started moving every piece of equipment that was identified in the response plan for the rig itself. As those estimates came out, I noted them. But they weren't consequential in any decision-making I did or I think the interagency and the response, because we knew this thing had the potential to be much larger than it was.

We never at any point relied on the 1,000 to 5,000 barrels a day. And in fact, when that became an issue of what the flow was, as you know, I established a separate government -- a flow rate technical group to look at this from an independent standpoint.

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We brought in Marcia McNutt, head of the U.S. Geological Survey, and brought in academicians and other folks in government to be able to assess that ourselves.

Part of the problem with flow rate was the lack of access to the spill site, the fact that everything we know or knew about that site we either learned from remotely operated vehicles or remote sensing. And it took a while for the event to actually reveal itself and what was available in terms of information.

And then it took a while to understand that if we were really going to deal with flow rate in a meaningful way, we had to get high-resolution video, not the stuff that was being beamed back, and do some actual scientific analysis of that to try and develop volumetric parameters of oil, gas, water, sediment and so forth. So, no, that did not impact my decision-making early on.

COMMISSIONER GARCIA: Who was operating the ROVs?

ADMIRAL ALLEN: A variety of different

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companies. I can get you the list.

COMMISSIONER GARCIA: Was it the responsible party or --

ADMIRAL ALLEN: They were subcontractors to BP or Transocean, yes.

COMMISSIONER GARCIA: Okay. You made an interesting suggestion a moment ago about the responsible party. So I gather that you view the -- one of the challenges as being more than just that of appearance or of the ability of the government to articulate the role, the appropriate role, of responsible party, but there's a substantive problem here that needs to be addressed in all instances or just in those cases where you have a spill of national significance?

ADMIRAL ALLEN: I think the public's tolerance for a responsible party is inversely proportional to the size of the spill. I think procedures that worked terrific for the last 20 years became dysfunctional because of the perception of what was being done, not necessarily the reality. And I think it may be more perception than reality. But it

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doesn't matter.

Once the perception is so great that it starts to intrude in the response, then you need to deal with it. And for that reason, I've been trying to come up with alternative notions of how you can accomplish the same effect but do away with some of those perception problems.

And when you have what I would call the social and the political nullification of the National Contingency Plan based on the perception of the RP, then you have to deal with perception.

COMMISSIONER GARCIA: And one final question: Do you feel that you had adequate resources and expertise to evaluate the information that was being provided to you by the responsible party?

ADMIRAL ALLEN: I think resources in the spill are an issue that we really need to look at closely. I never lacked funding. It was converting funding into equipment, into data that you needed, and getting it there in a timely manner.

For instance, the notion of supply of boom and skimmers and so forth was not an issue of funding.

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Between BP and the United States Government, there was enough money. It was actually producing it, shipping it, and getting it where it needed to be once the resource requirements exceeded those in the plans or extant at the time.

There are a significant number of issues that have been raised in this spill that did not exist in 1990. One is data, knowledge management, access to data, being able to analyze that data by technical teams that were established by the federal government that I don't think were ever presaged in the Oil Pollution Act in 1990. I think those are issues.

COMMISSIONER GARCIA: Okay. Thank you.

CO-CHAIR REILLY: This --

CO-CHAIR GRAHAM: Mr. Reilly.

CO-CHAIR REILLY: First of all, the question, or the phrase that you used, the social nullification of the National Contingency Plan, seems to me -- I'm uncertain whether the cause was primarily a public perception issue. And you suggested that was part of it. Was it also a consequence of the involvement by various very high-level officials in

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the administration who had differentiated responsibilities never identified in the National Contingency Plan but assumed under the pressure of the catastrophe?

ADMIRAL ALLEN: That's a good point. I don't want to attribute motives on how people act. I think they ought to be consulted in that regard.

I do believe two things happened. Number 1, there was not an overall sufficient knowledge of the National Contingency Plan, how it was structured, and the basis for the organizational response, including the relationship between the RP and the federal on-scene coordinator.

The worst time to explain doctrine and make somebody smart on organizational structure is during an event.

And, frankly, there was a spill-of-national-significance exercise done in March. But because of the unavailability of principals, the people that would have learned most from that spill were not able to participate in it. And we lost a significant opportunity to let everybody understand

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what their roles would be, what the role of the responsible party would be.

Absent that, you get a visceral reaction to the sight of the entity that's responsible for the event being involved in command center decisions, being there on briefings, and being actively involved in the response.

That creates cognitive dissonance, quite frankly. And as I said, at some point becomes a barrier to the response. And being able to understand that ahead of time and clearly understand the roles of the responsible party and the government would have been enormously helpful in this response.

CO-CHAIR REILLY: Did the involvement of high-level officials complicate your response then or the efficiency of the Unified Command?

ADMIRAL ALLEN: Well, I believe that everybody had different goals and effects they were trying to achieve, and some of those exceeded the statutory authority we had as far as oil spill response.

I believe that the country and the

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political leaders expect a whole of government response. You can't always achieve that by executing the provisions of the Oil Pollution Act of 1990 and the regulations that were issued pursuant to it. There are things that don't fall within your authorized ability to carry out actions or to fund them through the Oil Spill Liability Trust Fund.

Things like seafood sampling, behavioral health issues in society, some of the social economical issues out there that were very important to the American public and to political leaders were almost unaddressable in terms of the statutes and the money, about how you could actually use the appropriated funds.

To that end, the National Incident Command actually created several entities that have never existed before. One was called an interagency solutions group, which took some of these problems on, including dealing with the states and the claims-processing with BP, issues about whether or not the National Guard could be used.

A number of expectations either in our

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political leaders or the public are not covered in current law or doctrine. And those are the things that had to be developed as we moved through the spill. And there were a number of those, and I've just mentioned a few.

CO-CHAIR REILLY: Your recommendation that a fiduciary responsible party be created in the event of a very significant spill in the future who has the authority to overrule or disregard the usual fiduciary responsibilities to shareholders, is that an implicit conclusion that BP was too slow to lay out funds, do supporting activities, get involved adequately in response in a way that involved serious money, or that you actually directed them to do?

ADMIRAL ALLEN: I think any delay in carrying out response activities was not related to what would be perceived to be the fiduciary responsibility of BP to its shareholders. I attribute it more to the enormity of this response and the fact that we had a Unified Area Command in the region.

We were dealing with incident commanders in Houma, in Houston, and in Mobile. The enormity of

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this response challenged the incident command system from a process standpoint on how quickly you move requests through procurement and get the things moving. It was more of a logistical organizational efficiency issue I think than any intention related to minimizing costs or their fiduciary link back.

The reason I believe we may want to consider an independent qualified individual is largely due to the perception of the American people and our political leaders that this is not working. And if the perception is that strong, we should try and do something about it.

CO-CHAIR REILLY: One of your fellow officers of the Coast Guard characterized to me the nature of the BP response as highly successful wholesale, not so successful retail, by which he seemed to mean that the organization of people to do beach cleanups, the skimmers and all the rest of that, was much more challenging, as one might expect.

Is that your perception? How would you characterize BP's overall response?

ADMIRAL ALLEN: Sir, that was my quote. I

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can explain.

CO-CHAIR REILLY: I don't think Admiral Neffinger attributed it to you when he told me.

ADMIRAL ALLEN: We'll have to have a discussion about that.

Actually, I've had this discussion with Tony Hayward, Bob Dudley, Lamar McKay, and others. And I've been pretty open, because I think you need to be frank about the issues you're dealing with.

BP is a global oil exploration and production company, and they do wholesale very well; one of the four or five large firms in the country that are capable of taking this technology and extracting these hydrocarbons.

That said, when you deal with point transactions with individuals, whether it's a claim, whether you're dealing with a vessel of opportunity operator, local folks that are involved in subcontracting for catering services or whatever, it is very, very difficult to write a specification and outsource corporate values, compassion, and empathy to a second and third party.

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And a lot of the issues down there relate to the events that have taken place in the Gulf, the stress these folks have been put under, and trying to understand, and do that while you're trying to accomplish these contractual actions out there doesn't translate into good bedside manner all the time, and I think that is an issue.

We dealt with that by putting more Coast Guard people in lower parts of the organization, trying to flatten the organization and move decision-making down.

But I do believe that it is very, very hard to translate corporate intent through second- and third-tier contractors if you're trying to create the face of the response for the organization, because the lens by which the people in the Gulf see this response is in those individual transactions.

CO-CHAIR REILLY: Would the problem be better addressed if FEMA were the responsible on-the-ground organizer?

ADMIRAL ALLEN: I think any discussion of FEMA involvement has to start with a basic discussion

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of the difference between the Stafford Act and the Oil Pollution Act regarding federal preeminence, how the money flows, and the degrees of freedom on how those resources are applied to achieve effects.

Functionally, FEMA acts through contractors as well. Or through mission assignments to other federal agencies. So --

CO-CHAIR REILLY: But they have a habit of working with the local government. And the relationship --

ADMIRAL ALLEN: Correct. They provide the resources to local government. And the local government has degrees of freedom and autonomy and discretion on how the resources are applied through their local command-and-control structures. That is absolutely true.

If we believe that is the way we want to go, that would require a fundamental rethinking of the public policy decisions that were embedded in the Oil Pollution Act of 1990.

CO-CHAIR REILLY: Thank you, sir. And thank you for all that you have done to lead this

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effort.

ADMIRAL ALLEN: Thank you.

CO-CHAIR GRAHAM: Thank you very much, Admiral. And thank you for your long career of service to America.

PANEL I(b)

DECISION-MAKING WITHIN THE UNIFIED COMMAND

CO-CHAIR GRAHAM: Panel 2 will be decision-making within the Unified Command. We have four participants. I will introduce them all, and if they would speak as introduced.

First Captain Edward Stanton, sector commander, New Orleans Coast Guard. Second Doug Suttles, chief operation officer for exploration and production, BP. Third, Richard Harrell, Mississippi Department of Environmental Quality. And four, William Billy Nungesser, president of the Plaquemines Parish, Louisiana.

Captain Stanton, good morning.

CAPTAIN STANTON: Ladies and gentlemen, it's a pleasure. Shall I commence?

CO-CHAIR GRAHAM: Sir, would you pull your

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microphone a little closer?

CAPTAIN STANTON: Yes, sir.

Shall I commence?

CO-CHAIR GRAHAM: That is fine. Thank you.

CAPTAIN STANTON: Good morning, Chairman Reilly, Senator Graham, distinguished members of the Commission. I appreciate very much the opportunity to appear before you today to discuss my role as the commander of Sector New Orleans and as the incident commander of Houma Incident Command Post during the Deepwater Horizon oil spill response.

I have 35 years of service in the Coast Guard, mostly in the field of emergency response. I'm also a New Orleans native, and I've spent most of my career in the Gulf, and I have a very strong personal and familial attachment to and interest in protecting these waters and this coast. So I'm glad to have the opportunity to discuss my role in the Deepwater Horizon response with you today.

I served as incident commander in Houma from April 25th to May 26th, during the critical first month of the response. Upon assuming this role, I

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established several top priorities to ensure that our response activities in Louisiana would be successful.

The first priority, which is the first priority of the National Contingency Plan, by the way, was the safety of life, particularly of responders.

Our Unified Command post carried out numerous actions towards this goal, including rapidly establishing an aircraft coordination system to ensure that air assets operating in congested air space over the spill were coordinated.

We also focused on methods for reducing heat stress by rotating personnel and in ensuring that air quality was carefully monitored to protect workers and the public.

We did not have a fatality or serious injury related directly to response operations, in part because of our focus on safety.

A second objective of the response was to ensure that ports in Louisiana would not close. Given the severe economic impacts that would have followed if our commercial maritime infrastructure were impacted, I directed BP to monitor oil concentrations

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at the Louisiana offshore oil port, establish vessel cleaning stations at key port locations, and instituted measures to keep all ports, the ports of the lower Mississippi River, including Baton Rouge to New Orleans, the port of Port Fourchon and the LOOP, running productively throughout the discharge. No vessels diverted from any of those ports. And by the way, the Port of New Orleans and the lower Mississippi was worth about $250 million a day in economic impact. We were also successful in this objective.

The key objective from the outset was to work closely with parish presidents to ensure unity of effort, while also working to address concerns or questions raised by local leadership and officials.

The National Contingency Plan provides doctrine for spill response led by federal, state, and responsible party unified command that ensures all stakeholders' needs are represented and acted upon.

Throughout the response I worked very closely with the 11 coastal parish presidents and mayors, most notably in Grand Isle, Plaquemines Parish, Saint Bernard Parish, and Jefferson Parish.

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As a requirement of the National Contingency Plan, the Coast Guard, in conjunction with our federal, state, local, and nongovernmental partners, must craft area contingency plans which become the basis for how we collectively respond to pollution incidents.

These plans, which are developed prior to an event, are done so in concert with state and local officials, all part of area planning committees; and are exercised with the specific agencies and state and local entities that would normally respond to a spill.

When the incident occurred we activated the plan for Louisiana, as well as other potentially impacted states, and, working with the local partners, constructed incident action plans which enabled us to execute the strategies described in the plan.

Given the unprecedented scale and geographic extent of this response, we invited all the potential impacted parishes to provide us with updated plans to incorporate into the unified response effort.

They each came to the incident command post at Houma, where they met with experts and the staff.

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We went over the parish plans, and early in the response we came up with an updated blueprint, informed by the jointly developed area contingency plan, for boom installations in response to this event.

In contending with logistical and supply constraints as part of this massive response, we worked closely with local officials to both incorporate suggestions and heed advice that they may have provided.

These efforts led the response strategies, such as using a vessel of opportunity fleet to install boom and skim oil. Throughout the response, the Coast Guard, through the ICP, has made it a priority to communicate with local officials.

In the case of ICP Houma, this meant close coordination with the State of Louisiana, as well as parishes directly. In Houma we had a telephone conference with the parishes every day, and we established parish president liaison officers and the liaison officer at the governor's office to serve as a direct conduit to incident command.

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At its height the program had 80 officers and senior enlisted personnel covering 11 parishes and approximately 13 counties across the Gulf Coast.

To constantly adapt to on-scene conditions and respond to parish concerns, we established branches at parish emergency management agency offices to bring the organization closer to the front lines. These were supported by large staging areas at several key locations along the coast.

Our response efforts included the Louisiana National Guard, the Louisiana Oil Spill Coordinator's office, the Louisiana State Police, the Louisiana Wildlife and Fisheries Department, the Louisiana Department of Environmental Quality, the Governor's Office of Homeland Security and Preparedness.

We did encounter many challenges with this unprecedented response. But --

CO-CHAIR GRAHAM: Excuse me, Captain, but would you please summarize.

CAPTAIN STANTON: I would say congratulations, Mr. Reilly. In my opinion, OPA-90 worked pretty well, with all the bumps and grinds and

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ugglies at times. The people who study it and know it knew pretty much what they were doing. The robust system of contractors. I'm very thankful for them and for the special teams that were created by the NCP International response system, Navy SUPSALV, the National Strike Force, EPA.

All in all, I would call it a good -- a good, if somewhat at times ugly, response.

CO-CHAIR GRAHAM: Thank you, Captain. Now Mr. Doug Suttles.

MR. SUTTLES: Thank you, Commissioner Graham.

Good morning. My name is Doug Suttles. I'm the chief operating officer for BP's exploration and production business. I was also BP's incident commander in the Unified Area Command through the majority of the spill.

The Deepwater Horizon accident is a tragic event from so many dimensions, whether it's the tragic loss of 11 men and the impact on their families and friends, or the spill's impact right across the people of the Gulf Coast. It is because of this that BP

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feels a deep sense of responsibility to capture and share all of the lessons that have been learned during the response.

As part of this, we have prepared the document, Deepwater Horizon Containment and Response, Harnessing the Capabilities and Lessons Learned. We have already shared this document widely with governments and industry, both here in the United States and internationally. The items all addressed are also covered in this report.

I want to thank the commission for the opportunity to join you today. I will share my thoughts of some of the key lessons from my perspective as part of the Unified Area Command, and the areas I would like to highlight are the structure and processes, technology and innovation, and communications and information.

A spill of this significance will necessarily involve many stakeholders that must be integrated into the decision processes and the response. As I understand it, that is the intent behind the Unified Command. This one team, one

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process, unity of effort concept, is critical, given the number of stakeholders and responders involved in a major spill.

Given that this was I believe the first time Unified Area Command has been used in a spill, overall I believe it worked well. But as was clear throughout the response, all oil spill response is local; and this is one area where the processes can be improved. In particular, incorporating local government.

In addition, it is critical all responders are trained and familiar with Unified Command and the ICS structure. Working with the Coast Guard, we implemented a branch structure which proved to be a good improvement, in involving local government and speeding up response time.

Innovation and technology played a very important role in fighting this spill. Whether it is represented by the open and closed containment systems developed and applied in 5,000 feet of water, the use of the very latest in sensing technologies to locate and characterize oil on the water, or the development

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of purpose spill beach cleaning machines, new equipment processes developed during the spill made a significant difference to the response.

We learned that it was crucial to provide space and support to the front-line responders so that they can innovate and work successful to scale rapidly. In addition, experts from across government and industry combined their knowledge and expertise to fight this spill. I do not believe that any single one entity could have responded alone.

Looking forward, we need to encourage continued investment in spill response technology and develop this technology through a partnership between industry and government.

Finally, this spill occurred in an era of amazing information technology, the Internet, 24-hour news, and social media. The very latest in information technology has proved critical to enabling a response involving almost 48,000 people and over 7,000 vessels to work off a common operating picture.

In addition, we now live in a time where instant access to information is an expectation.

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Collecting and disseminating this information created a challenge across many fronts. Future responses should anticipate this demand and take advantage of the technologies and processes that were established.

Today we have capabilities that were not in place on the 20th of April. These include immediately deployable containment systems, technologies that can effectively locate and characterize oil in water, improved cleanup equipment, and an enormous amount of experience.

We are determined to capture and share this capability with industry and government around the world and to extend this capability into the future.

Thank you.

CO-CHAIR GRAHAM: Thank you, Mr. Suttles.

Mr. Richard Harrell.

MR. HARRELL: Commissioner, thank you for this opportunity. I'm from Mississippi, and we served Sector Mobile. I see a little bit different dynamic than Houma.

I appreciate the opportunity to speak here, and I want to say I think Sector Mobile worked fairly

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effectively. Captain Poulin there was the federal OSC. John Putnam, Keith Sahan were the ICs from BP. Bill Kozinski, Florida. Phil Woods, Alabama; and myself as the state OSC. Chris Russell, EPA, and John Darvis, DOI. I think we had a pretty effective team there, communication was well.

Frustration with timely plans out of the UC area was one of our issues. There were duplicative layers of review. Rotating staff with the contractors caused us some grief in having to re-educate, in several cases restart the process because of lack of situational awareness was one of our issues.

Second point I have was brought up several times already, but it was unified command versus decision-makers on the ground. That became an issue throughout the process. Unified command did a good job of managing overall logistics and operations, but could have done better disseminating information in providing decision-makers in the affected areas.

As you've heard before, all disasters are local. OPA worked pretty effectively here, but it was a big challenge explaining the differences between OPA

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and Stafford Act. And you've heard that before, but I can't reiterate that enough. I don't know if it needs to be changed or if more education might be a solution as well to locals on the differences between the laws.

Again, BP learned from this, and assigned a Mississippi person, high-level person to Mississippi. When that happened, I believe in June, the flow of information and the turnaround time on decisions significantly improved.

The Coast Guard learned from this and did the same thing very shortly thereafter, with a deputy IC assigned to Mississippi, and again further improved communication between the state and Unified Command.

The third point I have is, of course, incorporating lessons learned. I hope these adjustments, like above and others, that did not strictly fit the Area Contingency Plan or the ICS model, but were effective, can be incorporated into the ACP or NCP in future events.

Coordination with state assets, local assets, is a big issue. Our National Guard came in, Mississippi Guard came in, and showed to be effective

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in helping control operations and technical control, especially with BP. I will talk about that more later.

Admiral Allen made a point. 2002 was the last big exercise for the Gulf region. You look at the amount of production in the Gulf, and is that an effective time frame, eight years ago.

I think there need to be more shared joint exercises, like we have in the Gulf region with hurricanes and terrorism. Billy can probably say, but we have a major hurricane exercise every year in Mississippi. We have a Gulf-wide one generally every year, of hurricane disaster preparedness. I think there needs to be something along those lines for oil spills, if you look at all the production we have in the Gulf, which is a great asset for our country; it just needs to be weighed against the risk to local assets.

The next point I have is the National Contingency Plan I think needs to be a little more flexible when releasing assets, skimmers in particular, to an affected area. Holding back in case

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there's a spill somewhere else when you know they're needed to a particular area was a problem to me. I think they could have gotten there faster, could have been released sooner to the area.

I think you need to reevaluate the needs for the Gulf and the local area contingency plans with the current production in the Gulf, more flexibility for state and local input in the National Contingency Plan and Area Contingency Plan; more involvement of the states in responses and key decisions. And the last one you've heard before, of course, is improved technologies for oil spill response.

Provide some funding, continued funding for the Gulf states for oil spill readiness through sharing of the mineral lease profits or some other mechanism.

Down to 30 seconds. What went well? I think in Sector Mobile, shoreline response and cleanup operations went well. We responded to the oil that got on the beaches I think effectively, timely, quickly. What needs improvement? Near shore operations; the skimming, surveillance, and a clear

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plan for tactical control.

Thank you, Commissioner.

CO-CHAIR GRAHAM: Thank you very much, Mr. Harrell.

Mr. Nungesser.

MR. NUNGESSER: Yes, sir. Thank you very much. If you'll allow me, I'm going to skip and pull a bunch of things out of my speech to pull it out. I did provide you all with a booklet with everything in there.

First of all, there's a group, MSRC, Emergency Response Corporation, that was set up after the Exxon oil spill. In Lake Charles they had miles, they used to brag they had enough boom to go to California and back. They were set up. I was there when they responded to an oil spill in the Sabine River. Got 95 percent of the oil before it hit open water.

They were ineffective, not prepared, had no boom, no equipment for this response. The stuff they brought to my parish sat on trailers for months. Why? Did Congress let them off the hook, did the oil

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companies drop the ball? I don't know. But we must look into why that cooperation that was so effective at having oil spill drills monthly, yearly, quarterly, that I was involved in -- I was in the oil field before I ran for public office. But we must look into why that failure, why they were allowed not to keep up their assets, their training, the things that were in place before this tragedy.

On my first flight with Captain Stanton to view the area after the oil spill, I was very disturbed to learn that there was no plan to keep it out of the marsh. Captain Stanton, and I quote, said, Don't worry, President Nungesser, we're going to be here to help you clean up your marsh. I asked him to land the chopper. I said, We're not going to clean it up out of the marsh, we must keep it out of the marsh.

There was no plan then, and there is no plan now. Had it not been for President Obama's visit to Plaquemines Parish, we would not have gotten approval for the jack-up boats that were on the front line and to this day are still picking up more oil than anybody else. Last week they picked up 8,000

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gallons of oil. I'm not sure everyone wants to know what's going on right now. They don't want us bringing the oil in. They don't want us identifying it.

I'm passionate here today because sitting before you today, and I know we've come to the table and sat at the table, I've stayed off TV, but sitting here today, I still can't tell you who's in charge. When we talk about putting Coast Guard people -- and I applaud the men and women of the Coast Guard. But this was a disaster from the way it was handled from Day 1.

We had Coast Guard people sitting in my office that couldn't make a decision, has never made a decision, and to this day Plaquemines Parish, which has more coastline, more oil in the marsh than any other parish or any other area, has yet to receive its first foot of ocean boom. We laid out a plan with pilings and ocean boom to keep it out of the marsh, to keep it out of the oyster beds, out of the shrimp breeding grounds. The first foot has never been deployed.

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So although I've stayed off TV, I am still angry that we're talking about the successful things that have happened. The berms were decided not to be done by a group of Washington staffers. I took a boat to Grand Isle -- I wasn't invited, and got in to see the President. And he sent a group back down to have a roundtable discussion, the way it should have been from Day 1. We should have had a seat at the table. Then the berms were approved. And they are picking up oil. Just this week we got oil off the -- and it is a lot easier to clean it off the beaches than as you've seen in the marsh.

But here, this late in the game, I still can't tell you who's in charge. The men and women of the Coast Guard do a great job. They're the firemen. They go out and put out the fire and rescue. Here we're asking them to gut the house and rebuild it. That system doesn't work. Just like the Corps of Engineers in the levy, they come down and tell us what they're going to do with our levies, yet we keep having problems.

We've got to change the system in America

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to where we spend our money the best way it can be spent. Out of the 5,000 men and women that responded with the Coast Guard, not one of them has oil on his shirt.

Did we really do anything there to help prevent the wildlife from dying, the marshes from being destroyed? I haven't seen it. I haven't seen anything with a benefit of the response of this disaster. So we've got to relook at the whole system if we're ever going to respond in a fair way, in a way that will clean up the marsh and keep the thousands of animals from dying, and affecting our way of life.

Look. Plaquemines Parish is the Number 1 producer of oil and gas for Louisiana. We're also Number 1 in crab, shrimp, and oysters. We want our oil field. And there's a way to work together. But the passion is because early on, had the President not come down and demanded the Coast Guard put in jack-up boats that are still out there picking up oil, this disaster would have had a far greater impact. And I will tell you today, the men and women out on those jack-up boats, local fisherman go out at night and

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pick up oil, in my opinion have done more to prevent oil and continue to pick up oil, than all of the subcontractors that are in my parish with skimmers on trailers and booms sitting on trailers.

So we need to retool this whole thing.

Thank you very much.

CO-CHAIR GRAHAM: Thank you. And thank you to each of the members of this panel.

Commissioner Ulmer.

QUESTIONS BY THE COMMISSIONERS

COMMISSIONER ULMER: Thank you. I have one question for President Nungesser and one question for Doug Suttles.

President, as a former mayor myself, I can really relate to the importance of local people having a seat at the table, and the frustration that people have if they don't see their local elected officials actually get engaged.

But clearly for an incident of this scale, it wouldn't be possible for everybody, at the moment of the incident, at all of the local levels, to really be in charge. So it seems to me you have to back up

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and do the planning process in a way that prepares people ahead of time. And I know you do that for hurricanes.

So here's my question: How could we, for the future, not so much for the current or for the past, more effectively involve local, state, federal people in the process of preparing for incidents, both from the standpoint of the plan, but also from the standpoint of the practicing? And I'll just give you one incident from Alaska.

This summer we had 1200 fishermen in Alaska once again attend a training program for how they could use their fishing vessels for an incident in Alaska. It's ongoing. I don't think that kind of thing has been happening, I could be wrong, in the Gulf. But I'd really like to hear about that more effective engagement at the front end, so that people are ready and know each other and can communicate effectively.

MR. NUNGESSER: Absolutely. I think some regional meetings and response. And we've had great lengths with Doug and BP about doing this going

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forward. And I think all around America on the coast where anything could happen, we need to have that working-together attitude.

And you're exactly right. But on the ground, early on, a seat at the table instead of the finger-pointing. And we could have done so much more, so much quicker. And that's the frustrating thing, is I didn't have all the answers. But no one had a plan. And so when we put a plan in front of them, and as the President said, if you don't have a better plan, put at least the jack-up boats until you get a better plan.

So the sense of urgency has to be on the ground with someone in charge, fully in charge, on the ground there. Not in Washington. You've got to be there, feel it, touch it, see what it's doing, and be able to make a decision. And that didn't happen.

COMMISSIONER ULMER: Doug, you've served both in Alaska and in the Gulf of Mexico now. And I wonder if you could just think through the differences that might give us some guidance about how to do things better in the future. Everything from the

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regional citizens advisory councils, the RCACs that work in Alaska on an ongoing basis to kind of hold your feet to the fire in the planning process, in the preparation process; the extent to which the -- the industry actually helps pay for citizen involvement in a way that seems to be much more effective in Prince William Sound than from what I gather has been happening in the Gulf. And I wonder if you could just comment on that a little bit, and also address the question of how the industry and the federal government can actually do the kind of R&D work on spill response that you referenced.

Because, you know, after the Exxon Valdez there was a little bit of that investment at first when people had it in their minds, but then both the industry and the federal government stopped spending the money because it didn't seem like it was ever going to happen again. So how do we ensure that? I mean, does it require some sort of a -- I hate to use the word "tax," but some sort of a tax so you have the funding mechanism to ensure that kind of R&D? I don't think we can just assume people will do it out of the

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goodness of their hearts.

MR. SUTTLES: Well, Commissioner Ulmer, first on the local issues and the comparison between Alaska and the Gulf with this spill, I think that first we should say that the local communities and the local citizens were a critical element to the response. I'll give you a small example of this is is that the local fishermen know the currents, they know the waters, they know where the flotsam on the water will wash up on the shore, and they knew that that's probably where the oil would arrive. So embedding them in the response was crucial.

And as we went through the response, moving to this branch structure where you could put more local control in yet still make sure you were appropriately allocating the resources across the entire spill, I think proved it worked. And I personally believe that should be embedded in the structure going forward. Because it was a way to better connect locally, and it was a way to speed up the timeliness of the response, and it was a way to make sure that the local ideas that can improve the

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plan and improve the response could be embedded.

A particular area ended up being the vessels of opportunity. I think at the peak we had over 5,800 vessels of opportunity here.

This is something that has been practiced in Alaska for a very long time. I think as you're aware, they participate in the drills. I think you referenced that earlier. I believe this is an important part of the response. I think some people viewed it initially as a way to try to offset some of the economic impact of the spill. I believe, though, they were a critical part of the response. Early on they were performing logistics functions, moving equipment around, maybe collecting wildlife that had been impacted by the spill. But by the end they were laying boom, they were actually skimming oil, they were directly involved in the front line of the response, and I think it proved to be effective. That should be embedded in the future responses, and it should be a part of future drills, including training and mobilizing these people as part of the drills.

If I move to R&D for a moment, one of the

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things we learned during this spill, when we needed the very best equipment -- the very, very best equipment in spill response, we went to Norway. Consistently through the response we went to Norway. Norway has consistently invested in R&D and spill response technology. I think there is a clear connection. I agree entirely with you that industry and government need to work together to advance this.

As we're working with others in industry in both containment capability and in spill response capability, we've been talking about we need to create a framework and a structure which will ensure that R&D happens and, I think as you can see through the response and the involvement of the government particularly on the containment side, it's important to partner with national labs in that process. Because I think we did see where the government brought many things to the table technically. But their lack of familiarity with much of what's happening in the deep water today did create limitations as well. So by partnering with things like national laboratories in developing this

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technology will be a way to breach that gap.

COMMISSIONER BOESCH: Any thoughts about how to fund it?

MR. SUTTLES: I don't have direct thoughts on that. I believe that we need to find obviously efficient mechanisms to do it. I think the discussions in the industry right now around containment involve commitment from the industry to fund technology around containment. The vehicles, yet, though, I'm not clear on.

COMMISSIONER ULMER: Thanks, Mr. Chairman.

CO-CHAIR GRAHAM: Thank you. Any other questions?

COMMISSIONER BEINECKE: I have a question.

Mr. Suttles, I have two questions following up on the comment and R&D. I think one thing that surprised the public was that the response technologies hadn't advanced really literally at all since the Exxon Valdez spill. So, you're a large, sophisticated company, operating worldwide. Explain to us why it wouldn't be the company's responsibility as well as the government's to have ongoing investment

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in developing these technologies. I mean, obviously because of the scale of this spill we're going to do that going forward. But what has happened over the last 20 years that your company hasn't felt that it's within their responsibility to be developing those technologies?

MR. SUTTLES: Well, Commissioner, it's difficult for me to look back and fully understand that. I think I agree with the comments made by Admiral Allen earlier that there hasn't been a tremendous amount of investment at least widely in this space over the last several decades.

It's hard for me to understand exactly why that is. I actually believe, though, going forward it's critical that it occur. And as I said, in places where it has occurred it has advanced the technology and capability. But I think as also were made in some of the opening comments, it was frustrating at times with the sheer scale of the effort here and that it couldn't have even more impact than it had. I mean, we had 48,000 people deployed at the peak. And just an unprecedented response. But some of the tools and

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techniques available to us were the same ones available 20 years ago, and I think that should change for the future.

COMMISSIONER BEINECKE: Thank you. One additional question. Admiral Allen spoke specifically to the role of the responsible party and the public's perception that BP was very much in charge, even though there is this whole command structure, and he recommended consideration of changes and how that be structured. What's your response to that and your reaction, having been on the scene as the responsible party over the last many months?

MR. SUTTLES: Well, from being an integral part of this since the beginning, it was always clear to me that the Coast Guard was in charge. The federal on-scene coordinator was in charge and running the spill and directing the activities. But as the Admiral also pointed out, that the framework that's laid out by the National Contingency Plan and OPA-90 has us play a critical role inside of that.

And I think as I said earlier, the scale of this was so large I don't believe any one entity could

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have led the response. But I also clearly felt the concern, the frustration, and the sense of doubt that was in the public about were we doing the right things and were we doing it for the right reasons. But I can assure you that at all times the Coast Guard was in charge.

CO-CHAIR GRAHAM: Commissioner Murray.

COMMISSIONER MURRAY: So I have a question for Mr. Harrell, and any of the others, if you want to answer. And this is about how the National Incident Command actually worked in this case, which was way larger than previous exercises.

And during this event, all of the states declared a state of emergency. This was outside the National Incident Command. How did that work? They were kind of trying to figure out who was in control, and it seemed like there was a lot of confusion. How could this be better in the future, and what happened in, for example, Mississippi?

MR. HARRELL: Okay. Thank you. I think Admiral Allen said it, the National Incident Command did try to manage tactical resources, did try to

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alleviate political pressures. They did not try to micromanage it, it appeared to me, from Mobile ICP. They let operations run as they did, effectively, for the most part.

The State of Mississippi declared an emergency mainly I think to facilitate communications and be able to bring certain state assets into place, such as the National Guard, our Mississippi Emergency Management Agency, the county EOCs, to assure that they had some funding early on so they could staff up and be able to have their regular meetings, just like they do, and gather information and disseminate information.

More information is better. That could have been improved.

I think one of the biggest issues that also could have been improved was managing expectations. Whether that's through education of OPA-90. But, I mean, for instance, we had volunteers sign up. We had 3,000 volunteers sign up and could not use them effectively because of the HAZWOPER laws and some of the other laws that come into play with materials and

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those type of issues. So I think managing expectations all around was a huge issue with us. Managing it to the local, our county board of supervisors, similar to the parishes in Louisiana, about what was going on, what was their role, how could they contribute, and those factors I think was a huge issue for us, and that was the main reason, I think, for the state of emergency. There was uncertainty about what was going on, and tried to alleviate that through communication.

COMMISSIONER MURRAY: Mr. Nungesser.

MR. NUNGESSER: The answer to the command center and Houma, everything had to go through there. And just like when we asked for this ocean boom that we never got, we never got a yes or a no. We just kept waiting and waiting. And in our neighboring parish, Jefferson Parish, where ocean boom was being made and shipped to other states, we called them and said, Have you gotten an order yet for Plaquemines Parish, because we couldn't get an answer. BP would say it was the Coast Guard, the Coast Guard would say it's BP, and it became a joke in our EOC that the

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Houma command, it was the Wizard of Oz, some guy behind the curtain. Because we never got a name, we never got a person in charge that we could call and say, Hey, are we going to get it or not? And it just never came.

And the frustrating thing was not knowing. If you're not going to do it, say no, and let's go in another direction, or tell us why.

And that continued to happen. I've got a stack of 213s for a response, skimmers that actually worked, most of the skimmers in my parish stayed on the trailer because they were not capable of picking up oil. They didn't work, the drum skimmers. A lot of the equipment never went in the water.

So when we looked at the number of equipment that responded, that's kind of a false number, because they never actually went in the water to pick up oil. And that's a false sense of security for everybody, that we have these 700 skimmers available, because they never went to Plaquemines Parish.

CO-CHAIR GRAHAM: Commissioner Boesch?

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COMMISSIONER BOESCH: Yes.

Mr. Suttles, I'll direct the question to you first, then I'll ask the other members to comment on it.

At one point, I mean, I think we've just discussed the frustration, concern about local engagement. You know, Admiral Allen mentioned it, everyone on this panel mentioned it as well. And early in process in early May, BP made the decision to actually provide some funding directly to the local governments to deal with the oil spill response. And at one point of view, this was dealing with a need that has been expressed.

It's also been alleged, though, that it actually led to the impression that BP was in charge of the response rather than the government. And -- Number 1. And then secondly, it's also been alleged that it's caused some duplication of efforts, some confusion on how to coordinate this. I wonder if you could tell us what your basis of that decision and your analysis of how successful it was, and what role in the future a responsible party you might want to

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help local response could do to be effective.

MR. SUTTLES: Yes, Commissioner. I mean, from the very outset in the spill, as we hit the ground, one of the things we ran into was Katrina. Everywhere we went it was Katrina and a concern about the response to Katrina and would this response be the same.

In state and local government the concern was raised to us that they were already beginning to incur costs. Some of these very simple things like standing up EOCs, emergency operations centers, and police officers providing traffic control, to more sophisticated items. And they believed that maybe in the past they had never been compensated for this, and they were expressing concern to us that their response may be inhibited by a concern about funding and actually being reimbursed for the cost.

So we asked, what could we do about that? And through those discussions came this concept we'll give you the money up front. We were paying for the cost of this spill right from the beginning. So we said, why don't we alleviate that concern from the

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very beginning, and we'll give you these grants in place.

And these grants actually have a simple contract between ourselves. And the emergency grants were with the states, not with the local government but with the states. And they stipulate very simply that they would be used for response costs, they need to keep records, and at some point we could come look at those records if we so chose. It was never intended to do anything but that, but to ensure that we mounted the best response possible.

Later on we heard from some parish governments that they were having the same issues that they were having, incurring costs as well. And some of these governments do not have large budgets. So once again, we made grants at those levels. These were modest grants. These were between half a million and a million dollars, where the ones to the states were for 25 million.

COMMISSIONER BOESCH: Captain Stanton or Mr. Nungesser or Mr. Harrell, do you have any views on the effectiveness of this?

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MR. HARRELL: It was a great effort on BP's part because it helped us cover overtime expense for our emergency people. It put extra lighting on the highway. We purchased limestone to redo some roads to give BP better access to the waterways, and we sprayed for mosquitoes, which is a big problem.

COMMISSIONER BOESCH: So you weren't buying your own boom and --

MR. NUNGESSER: Right. We put out extra manpower out there to accommodate the 5,000-plus personnel in our parish. And BP stepped up to the plate and funded that so we could help better have our parish employees and some extra assets to respond directly to help them do their job.

COMMISSIONER BOESCH: Mr. Nungesser, you, in the brief time you had, you mentioned the feelings you had about protection of the marsh and your proposals and ideas developed about the berm construction. And I'd like to give you a little bit more time to talk about that, but also to think about it from the standpoint of not what went on in the past, but what is going on now and into the future.

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You're aware that there were lots of controversies over it, about the effectiveness and the side effects of the berm constructions, within scientists, within federal agencies, and the like. But now we are at a point where there's still oil out there, as you know, it's in your parish, but it seems to be remobilized from local sources rather than coming out, you know, in large quantity from the ocean.

So the point is is that as we sit now, what's the rationale for completing or continuing the authorized berms, and how does it help you in the long run?

MR. NUNGESSER: Well, we continue to pick up tar balls on those berms. And on the long run, it's going to, in my opinion, be the beginning of the largest coastal restoration project in the history. And Plaquemines Parish three-and-a-half years ago spent several million dollars partnering with the Corps of Engineers to develop a three-part plan. The third part of that plan is restoring the islands where the berm is now. But it was 18 feet high, 3,000 feet

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wide. What was out there a hundred years ago. We scaled that back to give us a fighting chance to get some minimal size storm this year that could keep oil out of people's back yards. And BP and the president stepped up and got that project going.

When I handed the package to the president of Grand Isle, we deployed dredge that we could get in America. The foreign dredges could have done it in about half the time. The six toughest regions were approved. And BP has agreed to fund the rest of the project.

But this is something that long-term, we all talk about protecting wetlands. And there's always going to be negative consequences for anything we do. But putting back something that was there a hundred years can't be all bad. Because if we let the naysayers, it might, could, maybe. And for the EPA to weigh in and said it might cause negative effects, we hired a scientist, we spent our own local money, because we know without those berms, without the coastal plans, we can't build levies and flood walls high enough. And to throw rocks from Washington D.C.

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at a plan that our federal government -- local government invested millions of dollars in and hired scientists, is not fair.

Show me the data and the negative effects, let's sit at the table and work out those things, but for people to keep making comments destroys the morale of the local people that have worked their life. We know without that we're finished. We're finished. If we don't start getting serious about coastal restoration, we won't have to worry about drilling, the pipelines coming to shores won't be protected, the refineries in my parish won't be able to survive.

So we need to get on the same page and quit making comments, might, should, maybe. Show me the data. There are going to be tidal changes. There were a hundred years ago. But what is the alternative to that? The salt water destroying the marsh up through the City of New Orleans? Let's get on the same team and not make those comments without having the data.

We hire our own scientists that fully support our three-point plan, which as a matter of

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fact, we will lease a dredge in January to start our plan behind our back levies and move out to these berms, which is the third phase.

COMMISSIONER BOESCH: So from the points you made, they seem to be all related to long-term coastal restoration objectives. And so is it time to integrate the issues of berms into the comprehensive restoration effort, rather than seeing them as a guard against the oil spill?

MR. NUNGESSER: Well, I think they still are picking up some oil. It's going to be for BP and someone out of my pay grade to decide whether they stop or not. I don't think so. I think we started the project, we finish it. 6 foot, 120 feet wide to me is not the end of building the barrier islands. We're going to use local money, state money, whatever it takes, to armor these islands and go back and permit to armor them and add to them. Because they were there a hundred years ago, it can't be all that bad. So my vote would be to continue them, finish the project we started.

If you remember, we talked about emergency

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permit, that the Corps of Engineers always takes a lifetime to decide anything? Delay for over 30 days? So we would have had a lot more done, caught a lot more oil, saved a lot more wildlife had we listened to that word "emergency" early on.

COMMISSIONER BOESCH: Thank you.

CO-CHAIR GRAHAM: Commissioner Garcia?

COMMISSIONER GARCIA: I think Captain Stanton --

CO-CHAIR GRAHAM: Oh, I'm sorry.

CAPTAIN STANTON: Oh, that's all right.

I just wanted to respond to Commissioner Beinecke's question and to a question Mr. Reilly had asked of Admiral Allen earlier concerning -- I think your question was should FEMA have been in charge. And we keep talking about Stafford Act versus National Contingency Plan, and I just wanted to make one technical observation.

When Stafford Act is invoked and if there is an oil or hazardous chemical spill which FEMA directs to be handled at the request of the state and local governments, the National Contingency Plan

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actually becomes the operating mechanism for Emergency Support Function 10, which is oil and hazardous materials response, and EPA -- usually EPA, sometimes the Coast Guard, become the lead mission coordinators for that mission.

So when you have a Stafford Act declaration involves oil and hazardous chemicals, like Katrina, as we say, the NCP becomes part of that family of plans and supports that Stafford Act.

So just because you have Stafford Act and FEMA, NCP doesn't go away. Thank you.

CO-CHAIR GRAHAM: Commissioner Garcia?

COMMISSIONER GARCIA: Captain Stanton. Actually, Captain Stanton and Mr. Suttles, I'll ask you the same question I asked Admiral Allen a moment ago.

Did the low flow rate estimates and the changing flow rate estimates impact in any way the response actions that were taken. Captain?

CAPTAIN STANTON: In my opinion, no. My own personal strategy towards spills, even at a thousand barrels a day, that's -- that's a medium oil

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spill into the Gulf every single day and then a major oil spill every three days.

So -- and my personal philosophy is it is like a war, and you have to respond with everything you have, overwhelmingly. And then -- and I call this the Kime directive, after Admiral Kime, who was our commandant, bring all -- everything you have. If you find you don't need it, you can always demobilize it.

In my observation, that's exactly what was done here. On my part, I ordered in every single federal response resource in the continental United States, and even some from Alaska. And when we didn't have enough, I asked BP to look elsewhere. They probably already were. And Mr. Suttles has already referred to going to Norway for the NOFI boom, some of the best stuff available.

When we asked to do burning, they brought in the best people in the business. We did have a lack of fire boom, and in my opinion I share President Nungesser's frustration. There really was not enough ocean boom in the inventory nationally.

But, no. The fact that that estimate was a

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thousand barrels a day, no, sir. Didn't impact what I was doing or my sense of urgency.

COMMISSIONER GARCIA: Timing, anything down the line?

CAPTAIN STANTON: No, sir.

COMMISSIONER GARCIA: Mr. Suttles?

MR. SUTTLES: Yeah, Commissioner Garcia, you know, like the Coast Guard and others, we all drill in emergency response. And one of the concepts you're taught quite early on is overreact. And Captain Stanton just mentioned this. So you throw everything at it; you can always pull back. The last thing you want to do is not do enough early.

And that was the approach from this spill from the outset. We literally threw everything at it and kept getting it. In fact, one of the things I would hope we don't lose that we learned how to do in this spill is we had a new spill every day, and a significant new spill every day. And that happened for 85 straight days. And early on we tapped into all the resources that were in stockpiles not only in the United States but around the world. We flew fire boom

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in from Algeria, hard boom in from China, from Alaska, from all over the world. But we then built supply chains which could manufacture this stuff continually. And by the late days of the spill we had these chains running where they could essentially run indefinitely. We could continue to feed supplies and equipment into this indefinitely. And I think we shouldn't lose that, because it was not a normal part of a spill response.

COMMISSIONER GARCIA: I gather that there were some disagreements between the federal responders and the State of Louisiana, just reading between the lines of what Mr. Nungesser was saying. I'd like to pursue the boom issue for a minute.

Mr. Nungesser made the statement that Captain Stanton told him that there was no plan to keep oil out of the marshes. Is that correct?

MR. NUNGESSER: What he told me on the flight was that he was going to help us clean it up after it got in. And I said, We've got to keep it out, you won't clean up the marsh. And in your booklet you'll see it's nearly impossible to get the

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oil out of that marsh.

So that was his statement. And then I assumed if he's going to help me clean it up after it gets in the marsh, there is no plan to keep it out. And that's when we went to work with our pilings and our ocean boom plan that we presented to numerous Coast Guard people, numerous BP people, and it fell on deaf ears.

COMMISSIONER GARCIA: Is that a fair assumption?

CAPTAIN STANTON: Which assumption is that, sir?

COMMISSIONER GARCIA: That you were not going to keep the oil out of the marshes?

CAPTAIN STANTON: No, sir. In oil spill response doctrine, the Number 1 thing you do is -- the Number 1 priority is secure the source. We couldn't do that immediately, obviously. So the second priority is to remove oil from the -- free-floating oil from the surface of the water, to prevent it from going into the marsh.

And we used many strategies and tactics to

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do that, chiefly among them mechanical recovery, dispersants, and in situ burning. However, as Commissioner Reilly points out, that's minimally effective. And when you have a spill, a discharge of this rate and this size, the impacts are potentially enormous.

We did meet with the parish presidents or their representatives at the incident command post, and did solicit their input for boom strategies. I remember distinctly meeting with President Nungesser and discussing putting some cascading boom along the eastern side of -- western side of Southwest Pass, and discussing various other strategies.

The extent to which we were able to successfully carry out those plans, I think, was, you know -- I was dissatisfied with.

I remember on May 25th taking a flight with the Governor and being somewhat upset at the fact that much of what we had discussed had not been implemented. I believe I had a rather heated discussion on a teleconference that evening.

Mr. Suttles, you may remember it. I think

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the Secretary of Interior was there.

I remember distinctly coming back from the meeting with Mr. Nungesser and the President on May 2nd and meeting with the incident command -- Unified Command at the incident command post and Houma, and directing that we triple our efforts to obtain boom. I mentioned lift boats, directed the creation of forward operating bases using lift boats. I directed BP to obtain at least 30 of them and to position them at various strategic locations so that they could be utilized in the boom and shoreline protection strategies.

I directed my experts in booming to lay 58,000 feet of boom along the Breton Sound side of the Biloxi Marsh. And that, indeed, those pilings were set. That booming when I left was underway. That was all federal national strike force boom.

I do agree with the President once again that one of my frustrations was the lack of large ocean boom, and the difficulty of protecting those big passes, Caminada Pass, the passes into the bays which are the access points into a lot of the interior

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marsh. Very difficult, because at the tidal change the currents are very severe. So it's a challenging job.

At the Rigolets -- I'm familiar with most of the coastline at least east of the river, having fished a lot of it myself. And at the Rigolets, for instance, the entrance into Lake Pontchartrain, I understood full well the sensitivity of getting oil into Lake Pontchartrain. And eventually we put barges there.

The strategy developed by St. Tammany Parish was to put an 18-inch boom perpendicular to the current across the Highway 90 bridge at the Lake Pontchartrain end of the Rigolets. And I discussed that strategy with the President or his representative, his operations officer from St. Tammany Parish.

And I suggested why don't we send some folks down there to help you out. Because clearly that strategy would have been completely -- you know, it would have failed completely.

We -- you know, so I was highly sensitive,

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too, and determined to protect the marshes.

I understand how significant and sensitive they are. If you look at the coast of Louisiana, there's almost 7,000 miles of shoreline, counting all the crenellations and islands.

We, at the direction of the state DNR as well as the federal trustees, of which I had significant members in my -- I had the acting director of the Fish and Wildlife Service in my command post, as well as many experts. And we encircled many islands which were identified to us as significant bird rookeries. So things like Raccoon Island and some of the Breton islands, very, very early on.

So to say that we did not attempt to protect the marsh is -- I realize it's a tempting thing to say. We certainly didn't protect it completely, but it's not because of lack of effort.

COMMISSIONER GARCIA: Thanks.

Mr. Nungesser, just tell us again, was the parish, your parish, ever asked to participate in response planning activities associated with the spill?

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MR. NUNGESSER: Not planning. We -- we attended every meeting we were invited to. We tried to exercise and get more participation out on the water.

I spent every day out on the water early on. If you remember those pictures from Passaloutra, when we begged for help, that oil sat there for over three weeks. Even after the Governor went out twice. And the third trip, with Anderson Cooper and the Governor, the oil was still there. And that's when we started taking shop-vacs out of people's garage and going out and sucking up oil.

So --

COMMISSIONER GARCIA: But did --

MR. NUNGESSER: No, we were not.

COMMISSIONER GARCIA: You were not invited to any planning exercises prior to this spill.

MR. NUNGESSER: No. We were told the Coast Guard guy in our office, in our OC, could make decisions. And he even grew frustrated in saying, order, Mr. Nungesser, the boom, and it never got delivered. It never got ordered. So, no.

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COMMISSIONER GARCIA: Okay. Let me make sure I understood that, though.

The planning exercises that were conducted by the Coast Guard and the other agencies, your parish was never invited, prior to this spill, to participate in planning exercises. Is that what you're saying?

MR. NUNGESSER: Not as long as I've been parish president, no.

COMMISSIONER GARCIA: Thank you.

CO-CHAIR GRAHAM: Just for the record, you became parish president on what date?

MR. NUNGESSER: About four years ago.

CO-CHAIR GRAHAM: Okay. Mr. Reilly.

CO-CHAIR REILLY: Captain Stanton, Governor Jindal has been very critical of the federal response, and I would be interested in your characterization of the relationship with the Governor's Office in Louisiana and your recommendations, if you care to make any, on how to improve federal/state relations and avert a situation like that in the future.

CAPTAIN STANTON: I had always thought our relationship with the Governor's Office was fairly

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good. In fact, the Coast Guard and I in particular have worked with the Governor's Office of Oil Spill Coordination in the name of the person of Mr. Roland Gentry and his staff for many, many years.

I served as the co-chair of Federal Regional Response Team 6 for several years when I was stationed at Eighth District, and came to know the states and their oil-spill-response organizations fairly well.

It disturbed me that in the middle of this spill the Governor relieved the people with whom we had always worked, literally for decades, of their duties as oil spill coordinator.

I met with the Governor a couple of times. We communicated well. I understand full well his frustration at the fact that there was, in his perception -- and I think it's a true perception -- perhaps not as much response resource available. The logistics of mounting a shoreline protection and response strategy for the amount of shoreline, and literally the Louisiana coast, if you want to look at it, is all sensitive shoreline. We have environmental

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sensitivity index atlases that we use to choose our limited resources to the best purpose.

But I understand the Governor's frustration, and I would feel the same way. I would be just as passionate about my people and my coastline as the Governor and President Nungesser. And if I were in their position, I would feel just as passionate about it.

CO-CHAIR REILLY: But you didn't feel you were in any way implicated or responsible for some of the decisions not being made in a time frame that he expected?

CAPTAIN STANTON: I feel very responsible for my time period there. And I feel very responsible for doing the very best. Everybody in the federal response system and everybody in the responsible party community, and everybody in the -- had, you know, to making sure that they do the very best they can and that every effort went into this response.

CO-CHAIR REILLY: When you say you understood his anger or distress, is there a recommended reform that you would suggest with regard

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to averting that kind of disappointment on the part of the Governor in the future? Do you need more structured relationships? Is it a failure simply that there was inadequate equipment available and neither you nor he could do anything about it?

CAPTAIN STANTON: That's one part of it.

We have the unfortunate luxury in Louisiana of responding quite often to oil spills. In fact, a month before -- it's just the nature of the beast. It's not a criticism of Louisiana. There's a lot of oil production and exploration activity there, and there's a lot of pipelines, and sometimes we have leaks from them.

A month before this response, we had an 18,000-gallon crude oil spill from a pipeline in the middle of the Delta National Wildlife Refuge. And we and the state responded to that with the responsible party, cleaned it up well, and went on about our business without any commentary from the Governor or the parish.

Earlier in the year we had had a 65,000-gallon spill from a pipeline offshore, and were

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able to clean that up with the RP. The same function. So we work almost on a daily basis, at least a monthly basis, with the oil spill response entities in Louisiana, and over the years because of that we have developed a close and very effective working relationship.

However, we had never dealt with a spill this size before. And it's quite natural that the leadership of the state and the leadership of the nation would want to get involved in this. This, you know -- the scope, the size, the magnitude of this was enormous.

So the Governor exercising a more direct presence is something that seemed quite natural to me. And at every turn I attempted to give the Governor what he wanted.

CO-CHAIR REILLY: Thank you.

Mr. Suttles, a number of us have commented on the inadequacy of the technology response here and the fact that it has not evolved over the years. And when we first got involved a few months ago, I had expectations that we would see significant advances in

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the design of some of those response technologies.

I get the impression that there has been a great deal of attention on the part of BP and the four other companies that have now joined in this containment enterprise toward a whole range of responses, but that a lot of attention thus far has really gone into prevention, containment, remote sensing, some of the things you have mentioned. And I've not been given so much encouragement to believe we're really going to get a breakthrough on skimmer design, for example; that people just don't seem to have the ideas, or in open ocean with high waves, it's just an insurmountable problem.

Could you shed some light on that and make some suggestions about where money might be deployed to actually really get us the kind of breakthroughs it seems to me we need?

MR. SUTTLES: Yell, I would. I mean, the -- when we look at response technologies, so the ability, once oil is on the water, to clean it up and clean it up effectively, I think one of the things we learned in this spill -- and Admiral Allen spoke to it

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as well -- is we didn't have a continuous sea of oil out there. We had blotches of oil right across the Gulf of Mexico; in fact, at the peak, it was something like 17,000 square miles at the outer extent. And one of the biggest challenges was actually putting the resources where the oil was and knowing what kind of oil we had.

So the sensing technology piece is very important, and it's something we need to advance. Because you can have a great many skimmers, but if you can't put them where the oil is, they can't be effective.

So that should continue. We did do some work quite late in the spill with combining the very latest boom technology with the very latest skimming technology on the very latest vessels in the industry, in the oil and gas industry, to see if we could develop a more effective skimmer.

Unfortunately, those systems were developed at the very end of the spill. In fact, they sailed right at the time we were able to contain the flow from the well. So I think more work needs to go into

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see if that can be effective.

Burning is another area. Very effective tool. Requires very calm sea states. I mean, the scale done here was unprecedented. We learned how to do it very effectively with the current technologies. But it would be important to see if that could be extended into more significant weather.

So I think in each of these areas we should -- and as I said earlier, I think this is an area where the Norwegians have continued to put effort in, and it has resulted in better equipment, and we should continue to do that.

CO-CHAIR REILLY: Do you see better equipment in the North Sea?

MR. SUTTLES: Well, what we found, some of the boom and some of the skimmer technology that's already been referred to is actually work that's been done in Norway and developed in Norway. And I think it shows that with investment and putting some of the brightest people on it, it can be very effective.

I would also point you to the other side. I mean, we had a case, the Mayor of Gulf Shores,

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Alabama, is an individual by the name of Robert Craft. And when oil struck his shore, he was very frustrated with the response. We had three -- I think somewhere near 3,000 responders on the beach, but his beach is used by tourists. And quite simply, the conflict created by the responders and the tourists was a problem. And he said, We use beach-cleaning machines all the time. Every night we clean the beach, we clean the bottles caps and the cigarette butts and all these things off the beach. We know how to do it. You need to use our machines and clean at night.

And we did that, and it proved very effective. And, actually, we now have purpose-built cleaning machines to clean oil off beaches.

So we need to be open to where these ideas can come from. And when we find them, we need to test them. And when they work, we need to scale them rapidly.

CO-CHAIR REILLY: You mentioned the Norwegians. We continue to hear that the regulatory system in Norway is superior. Is that your sense, chief safety officer, and the whole -- the whole

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series of controls that they have with respect to certifications and advanced agreements on process?

MR. SUTTLES: I'm not sure it's easy to pick out one system in its entirety and say which one is best, but I do think the offshore industry has been regulated and developed differently in different regions of the world. And I think we should study that and determine what we think is working best and how to apply it as we look at how do we make sure an event like this can't happen again.

CO-CHAIR REILLY: In your experience, is getting approvals in Norway more rigorous than it has been in the Gulf?

MR. SUTTLES: I don't think so, actually. I think that -- you know, I think there are different frameworks you work in in these places. So the regulators ask for different things. They typically are in the same areas of interest, but they perform those duties differently. But I don't sense that at all.

CO-CHAIR REILLY: Thank you.

CO-CHAIR GRAHAM: I have three areas of

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questions. One follows up on Mr. Garcia's questions about did the oil flow rates affect any decisions. You have indicated no, but we've heard from some other sources that, for instance, the early efforts at containment, such as -- I think it was called top hat, was designed for the oil flow that had been stated, which was roughly a thousand to 5,000, as opposed to the 35 to 60,000 that was later determined, and that had it been designed for that larger flow, might have been successful.

Are you aware of any efforts at containment which were predicated on the limited oil flows originally estimated and where that estimate was a factor in their failure?

MR. SUTTLES: There was a very, very large technical team, you know, which came together not only from BP but from the oil and gas service companies and also other oil and gas companies and the federal government. So I'm not familiar with all of the details, the technical details of what happened in that team. So I actually don't know if there are, deep inside of those teams, those concerns might have

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been there.

We were all working off of what would be a series of solutions and contingencies in case solutions weren't effective, to try to make sure -- the situation we had on the seabed was very difficult, particularly at the beginning when we had oil coming out of multiple locations and trying to contain it.

We also knew that the hydrates were going to be a major issue and a major problem. And in fact, the first solution to contain the oil was the containment dome, cofferdam, and it failed because of the severity of the hydrate problem. We learned from each of those. But I would also say that we weren't reliant on a single solution.

So I believe the -- what was referred to as the capping step, the final solution, was developed in the very early days, somewhere around Day 4, 5, or 6 was when that concept was originally birthed. And it was progressed and ultimately what allowed us to bring it in.

So I think the information continued to come in, and we continued to learn more. But I don't

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have any direct knowledge whether that caused any of these to fail.

CO-CHAIR GRAHAM: Captain, do you have any information relative to the degree to which the initial containment efforts were predicated on the original estimates of flow?

CAPTAIN STANTON: No, sir. My specific task really had to do with -- not with source control. That was all being run out of Houston, and I had no input or knowledge of the planning that went on there.

CO-CHAIR GRAHAM: Who in the federal government would have been aware of whether there was a relationship between the amount of oil flow and the various techniques that were considered for containment?

CAPTAIN STANTON: Well, there was a Coast Guard commander, and I unfortunately can't remember his name. He came from the National Strike Force and was at the command post at Houston. And he probably would have been involved or at least a party to many of those discussions, sir.

CO-CHAIR GRAHAM: Mr. Suttles, you, in

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listing your recommendations, one of them was the containment capability needed to be enhanced. As I understand, when you or Transocean or whoever applied for the permit to drill in this particular area, one of the requirements of that permit was a representation that there was the ability to respond to any accident or other negative event.

Could you describe for me what was that representation and who made it?

MR. SUTTLES: When you actually apply for an exploration permit and a permit to drill, you have to reference your oil spill response plan, which you submit, I believe it's every two years. That can be verified. And it has to actually be approved by what at the time was the Minerals Management Services.

So what you do is, your permit application stipulates the types of wells you're going to drill, the well you're going to drill --

CO-CHAIR GRAHAM: Now, was BP the permit applicant?

MR. SUTTLES: Yes.

CO-CHAIR GRAHAM: And could you describe,

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what was the representation that you made relative to your ability to respond?

MR. SUTTLES: Well, what it actually -- and I'm not -- I should be clear here, I wasn't involved in the creation of BP's oil spill response plans. That was inside of -- our Gulf of Mexico operating unit does that work. So I'm not personally familiar with the history of that, but I am familiar with the plan we use to respond.

CO-CHAIR GRAHAM: So you're the chief operating officer for exploration and production, but you were not involved in the response plan that was submitted as part of your permit application?

MR. SUTTLES: My duties actually are global, and in this particular case that response plan is filed by our Gulf of Mexico business.

CO-CHAIR GRAHAM: If that response were made, and then you say one of your recommendations is that containment capability needed to be enhanced, what was the cause, at the time of the application for permit, that there was a gap between what you represented you would do and what your capabilities,

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in fact, allowed you to do?

MR. SUTTLES: Well, I think a number of people have commented on the ability of the industry to respond to a spill like this, to a well control like this, in 5,000 feet of water.

And when they looked at the systems and the practices that were in place on and before the 20th of April, and then looked today -- and clearly from what we had to do during this response, we had to develop a great many things to be able to respond to it.

It's hard for me to go back in time and understand what people were thinking at the time. What we actually used when this event happened were containment capabilities, first of all, that were built into the safety system, such as trying to activate the blowout preventer from the seabed, and other things. And these are clearly in there. And they're referenced at a high level in the spill response plan.

But I don't think what had been fully envisaged was a well which continued to flow for weeks on end, at significant rates, that you had to find a

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way to contain that oil until ultimately you could get a relief well to stop the flow permanently.

Now, we've now built that capability. We've built what we call open systems which don't have a seal, but capture a great deal of the oil. And we built sealing systems. And we've proven they work.

Those will be available immediately. And in addition, working with the four other companies, we'll be working on systems which could be called out in a more permanent sense and a more sophisticated sense than the ones we've built here.

CO-CHAIR GRAHAM: Would it be your estimate that the other ongoing drilling platforms in the deep water of the Gulf that are the responsibility of BP, are they better prepared today to respond to a situation analogous to that that occurred on April 20th than they were on April the 19th?

MR. SUTTLES: I think today both BP and the industry's response capabilities are significantly improved over April 20th. Whether that is now proving that we can contain flow or actually intercept a deepwater well successfully, in addition, the

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capabilities we built in a response.

So whether that's accumulating almost 5 million feet of hard boom when we started with considerably less than that at the beginning of this spill, or whether those are the technologies that have been developed or the beach-cleaning equipment. And all of that capability is there today. And it's significantly greater than what existed on the 20th. And we've made a commitment to share that capability with the industry. And not just the equipment, but the know-how and the expertise that's come with it.

CO-CHAIR GRAHAM: Do you think that now your company can live up to the permit representations that it made as to its ability to respond?

MR. SUTTLES: Well, I think what's been clear is is we have demonstrated we can contain uncontrolled flow in this particular well, both with open and closed systems, and we could successfully drill a relief well.

What we need to do is see about how adaptable is that current capability to all the situations across the Gulf of Mexico and make sure

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those capabilities are available for all of those situations.

CO-CHAIR GRAHAM: How many wells is BP responsible for in the Gulf that are at more than a thousand feet?

MR. SUTTLES: I'd have to get back to you. I don't have that number at the moment.

CO-CHAIR GRAHAM: I would be interested in knowing how many, what they are, what your representations were relative to your ability to respond to an accident, and what now you think your capabilities are to deliver on that representation.

MR. SUTTLES: Chairman Graham, I should say that working with Director Bromwich at the BOEM, what we are doing is developing a new spill response plan.

Now, of course, they'll lay out the guidelines and the requirements for that plan. But we're in the process of taking what we've learned in this spill response and embedding it in a new spill response plan, and have committed to the director and his team to work closely with them as we do that.

Clearly the plan will have to meet their

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requirements. But what we're trying to do is make sure we can convert this knowledge and expertise we've built and put it in a spill response plan in the future. And that is underway as we speak.

CO-CHAIR GRAHAM: One last question.

Captain, you talked about some of the oil spills that had occurred in the time period immediately prior to April the 20th, I think you used one example that was a 65,000-gallon spill.

CAPTAIN STANTON: Yes.

CO-CHAIR GRAHAM: It seems to me one of our realities is that we're using the phrase "oil spill" to occur -- to apply to events which, in fact, are quite different. I mean, a 65,000-gallon spill in a relatively contained area, was this shallow or deep water?

CAPTAIN STANTON: It was a 65,000-gallon spill. And I agree with you, 65,000 gallons compared to this particular spill we're discussing, it's a pittance.

CO-CHAIR GRAHAM: And was it --

CAPTAIN STANTON: But it was offshore. It

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was --

CO-CHAIR GRAHAM: Was it deep water?

CAPTAIN STANTON: -- I believe 60 miles offshore from the Gulf, but not from a deepwater facility. I believe it was from a pipeline.

CO-CHAIR GRAHAM: Well, I wonder if one of the things we don't need to do, in terms of thinking about response, including how you organize for a response, is to categorize based on the scale, the duration of the event, other relevant factors, and that there would be not a single response protocol to every spill, but different protocols based on those different factors.

CAPTAIN STANTON: Oh, I quite agree, sir. Every spill in my mind, in my experience, is different. Based on the type of oil spilled, the weather conditions, the environment at the time, its proximity to sensitive environments. Absolutely. You're totally right. My only point in saying that was that we exercise quite frequently with the state organizations involved in spill response.

So in terms of having exercises and

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planning, unfortunately we have plenty of experience working with the state offices. That was -- and the organizations involved in spill response in Louisiana. So it's -- we're quite familiar with those people. They're quite familiar with us, they're quite familiar with our plans, and we with theirs.

That was my only point. We get to do this a lot. That's one of the reasons perhaps I was sent to New Orleans.

CO-CHAIR GRAHAM: And my only point was that what you do a lot is at dramatically different levels of intensity.

CAPTAIN STANTON: Absolutely.

CO-CHAIR GRAHAM: Are there any other questions?

CO-CHAIR REILLY: Quick question for Mr. Suttles.

Once the moratorium is lifted, one assumes that there will be a resumption of drilling, and yet that is contingent on satisfaction of Notice to Lessees 5 and 6. Do your wells currently conform to the requirements in those two NTLs?

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MR. SUTTLES: I am not deeply familiar with the details of 5 and 6 as I sit here. But I do know we're going through the NTLs as they come out and are looking at our capability to meet those. And of course we'll have to meet those to go back to work, and any additional NTLs which the BOEM issue as a precondition to restarting.

I think from those two already what is clear is that certain equipment, certain wells, certain rigs, are going to find it easier to meet those requirements quickly than others. So I would expect the net effect of this to be is, if you will, a phased restart.

CO-CHAIR REILLY: Thank you.

CO-CHAIR GRAHAM: Thank you very much. We appreciate you're extremely informative, based on close hands-on with this tragedy. We would like to make a request that we might recontact you with some written questions as they might emerge in the future.

Great. Thank you very much, gentlemen.

We will take a brief recess until 11:25.

(Short recess.)

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PANEL II

THE AMOUNT AND FATE OF THE OIL

CO-CHAIR GRAHAM: The commission will reconvene.

Our second panel is on the amount and fate of the oil. The lead questioner will be Mr. Terry Garcia. The members of the panel, Mr. Bill Lehr, Senior Scientist, Office of Response and Restoration at NOAA; Mr. Mark K. Sogge, Chief of Staff, U.S. Geological Survey, Western Region, Director's Office; Dr. Ian MacDonald, Professor of Oceanography, Department of Earth, Ocean, and Atmospheric Science at Florida State University; Dr. Richard Camilli, Assistant Scientist, Department of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution; and Dr. Terry Hazen, Senior Scientist, Head of the Ecological Department and DOE, Distinguished Scientist, Earth Sciences Division, Lawrence Berkeley National Laboratory.

I wish to thank each of you for joining us this morning. I'm going to ask if you would make your comments in the order in which you were introduced,

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beginning with Dr. Lehr.

DR. LEHR: Thank you, Mr. Chairman.

Distinguished members of the commission, it is a pleasure to be here today to discuss with you the rate of flow and the fate of the Deepwater Horizon oil spill.

Before joining NOAA, I worked for Jet Propulsion Laboratories, and a common rocket science joke there was if you asked somebody what was the time for dinner, they would give you an answer to ten significant digits. Because that kind of accuracy was necessary to make sure our spacecraft got to its correct spot in the celestial bodies. However, when I became an emergency responder, I discovered if you could tell the Coast Guard what was the direction to the -- maybe the nearest compass point for an oil spill, that was often sufficient accuracy for the operational decisions that they needed to make.

What was not acceptable and what is not acceptable in spill response are delayed forecasts. Predictions made after decisions have to be made are as useful as game scores forecast after the game has

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been played. The accuracy may be high in such circumstances, but the utility is negligible.

These points need to be considered in tracing the history of estimating the flow rate for a pipe one mile beneath the surface of the ocean. Let's start with what works poorly as best.

Based on field reports, NOAA staff early concluded that the spill was larger than the initial thousand-barrel-per-day estimate.

NOAA used visual observations to estimate 5,000 -- at least 5,000 barrels per day, and I have explained the limitations of this method in a report that I've already given to the commission. Still, the new estimate was large enough to encourage a significant increase in resources, and gave added impetus to getting a better estimate.

NOAA had begun the assembly of a team of fluid experts that later became the plume team, which was just one component of the flow rate technical group led by the U.S. Geological Survey director, Dr. Marcia McNutt, assisted by my fellow panelist Mr. Mark Sogge.

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I have listed the names of all the plume team members in my written statement because I truly believe that these scientists deserve the recognition of our nation. If there is a silver lining in the tragic event of the Deepwater Horizon spill, it is the way the American people were willing at all levels to help their fellow citizens.

So it was that when I asked, these scientists were willing to give up their weekends, their holidays, and other commitments to help assist in this effort, in many cases without any guarantee of compensation.

The method that the plume team used to estimate the flow rate was a variant of what's called particle image velocimetry, PIV. While difficult in practice, PIV is simple in principle. And this method of flow events such as eddy or other identifiable item is observed at two consecutive video frames. The distance moved per time between the frames gives the velocity after adjustment for viewing angle and other factors. Repeated measurements over time give an estimated mean flow.

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PIV was just one method to estimate the flow rate. Dr. Camilli I'm sure will talk about the methods that were used at Woods Hole. Now, each method had its strength and its weaknesses, and the strength and weaknesses of the PIV are discussed in the team report which I've already provided to the commission.

At the end of July the representatives from FRTG, Woods Hole, and the Department of Energy held a teleconference that generated the current best estimated flow rate of between 62 and 53,000 barrels per day. And Mr. Sogge can answer questions on that for you.

Along with estimating the oil flow rate, an equal challenge for the response science team was understanding the immediate disposition of that oil. Preparing a mass balance for an oil spill is typically a dull but straightforward process, but that was not the case for this spill. Instead we needed to develop the oil budget calculator. This was a combined effort of several federal agencies, leading academics in the field, and practical response experts. Its results

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are a product of field measurement, scientific analysis, and practical clean-up expertise. The emphasis was on getting a conservative answer so as not to underestimate any future clean-up requirements.

In terms of response, that translated into using conservative estimates for clean-up efficiency, particularly with regard to skimmers and dispersants.

It is important to remember that the Deepwater Horizon was an emergency, not an experiment. The needs of the emergency response defined the properties with a calculator. These were to be operable by response personnel with a specialized staff, be able to deal with incomplete, uncertain, or missing data, and still provide the best estimate available, and being conservative in its answers, as I've already explained.

It's important to understand what the calculator was not designed to accomplish. It is not a research tool, it was not designed as a damage assessment tool, it does not report the final fate of the spilled oil. Instead it estimates oil that is amenable to response association, such as surface oil

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as opposed to oil that is not, such as dissolved or evaporated oil.

In an effort to gain the public -- better public understanding of the short-term fate of the oil, Dr. Jane Lubchenco, Administrator of NOAA, presented at the White House press conference a multi-agency report called What Happened To The Oil. And I'm sure you've all seen the pie chart from that report. The report unfortunately was mildly misinterpreted in the media and by others, in claiming that three-fourths of the oil was gone. It does not say that. Academics confused what's essentially a field summary from an emergency response tool with a formal research report. It is not a formal research report. The actual formal technical --

CO-CHAIR GRAHAM: Doctor, could you summarize your comments?

DR. LEHR: Sure.

Anyway, the actual report will be coming out shortly, and in our statement I've given some recommendations for the improvement of the calculator. And I thank you for inviting me, and I look forward to

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answering your questions.

CO-CHAIR GRAHAM: Thank you very much.

Mr. Sogge?

MR. SOGGE: Good morning. Thank you.

I do not have a written or oral statement other than to provide some context as to why I'm here. I served as a deputy to USGS Director Marcia McNutt in her role as the flow rate technical group chair. And I served as her deputy as a liaison with the various subteams that were involved. So I'm here to answer any questions you may have about the general flow rate technical group activities.

CO-CHAIR GRAHAM: Thank you.

Dr. MacDonald?

DR. MacDONALD: Thank you for the opportunity to address this distinguished commission.

So, in the early days of the spill the rate of 5,000 barrels a day, as you just heard from Dr. Lehr, was derived by remote sensing methods. It's been said that there hasn't been much advance in technology since the Exxon Valdez, but one area that definitely has advanced is the use of remote sensing

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to estimate oil in the water. And this NOAA guide, which is a part of a bond agreement, an international agreement on how to assess oil in the water, includes guidelines about how its appearance can be used to estimate the thickness of the oil.

Very early on in the spill I used satellite data to which I'm privy from my research, and the Coast Guard's own maps, and I concluded that the rate of release was on the order of 26,000 to 30,000 barrels of oil per day, much higher than was given by the authorities. And as it turns out, I received from Senator Nelson and Representative Markey's office this BP spill rate estimator on 28 April that includes a best estimate or a best guess of 5,758 barrels per day.

My question was where did this number come from and why were our numbers so different? And one thing that I was able to discover was by comparing the guidelines that NOAA issues for how thick oil is according to its appearance with the guidelines that appear in the oil thickness estimations table in the BP regional oil spill response plan, you can see, if

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you look all the way down at the bottom, that dark oil in the BP oil thickness plan is one-hundredth the thickness as is in the oil in the NOAA table.

In other words, for whatever reason, by following this method, the BP technicians who were attempting to analyze the spill magnitude, would have gotten a number that was artificially low.

In the conclusion of my remarks I would like to compare the difference between natural seeps with the BP discharge.

Natural seeps are something that I've studied for 25 years in the Gulf of Mexico. There are about a thousand seeps, and they look like this. They discharge a few tens to a few hundreds of gallons per day on a continuous basis. Now, it has been stated or assumed that the existence of natural seeps might somehow predispose the Gulf of Mexico ecosystem better to recover from oil pollution, even oil pollution over the magnitude and duration of the BP oil discharge. My feeling is that the solution to pollution, it's often said, is dilution. But the cause of pollution is concentration. And the fact of the BP oil spill is

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that it was the most concentrated and most sustained deep water release of oil that we've ever seen in human history.

If we look at the surface oil at the height of the BP discharge -- this is on about May 26th -- we can see an area of very thick oil, covering some 15 to 20,000 square kilometers. We can also see natural seeps in this picture. And the natural seeps in comparison to these two images gives us a sense of difference in scale between these two processes.

And by my estimation, the release of oil from the BP well was some 10,000 times more concentrated in time and space than anything that we get out of the natural seeps.

There are some 1,000 seeps in the Gulf of Mexico. They discharge about 400,000 barrels of oil per year. The BP oil discharge released some 4.1 million barrels of oil, about 550,000 tons of oil, and an additional 185,000 tons of gas, which distributed itself over in excess of 150,000 square kilometers.

This is a composite picture showing where all of the oil was at one time or another throughout

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the spill.

We also know from the seeps what naturally degraded oil looks like. The upper picture shows oil from a natural -- a fresh seep, a fresh release of oil. You see the spikes, which are the normal alkanes. The lower trace shows a gas chromatogram from a heavily degraded oil which I collected at a seep, and you can see those alkanes are entirely missing. This is what oil looks like in seep sediments after it's been eaten by bacteria.

These are three samples of fresh oil that I collected offshore Louisiana and directly over the wellhead. And these are all -- the upper one is fresh oil, the other two are heavily aged oil, and the lower panel is oil that is thoroughly emulsified. And you can see that there's very little evidence that this oil is becoming like the oil that we see at the natural seep sediments. Thank you.

CO-CHAIR GRAHAM: Thank you, Doctor. Dr. Richard Camilli.

DR. CAMILLI: First slide, please.

First slide. I'll get started anyway.

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Good morning, Chairman and distinguished commission members. Thank you for the opportunity to speak today about the flow rate from the Deepwater Horizon disaster.

This past May, at the request of the U.S. Coast Guard, I led a team of researchers on a study to estimate the flow rate and the total spill volume of the Deepwater Horizon Macondo well. This investigation was undertaken using advanced acoustic technologies.

CO-CHAIR GRAHAM: Sir, would you mind speaking directly into the microphone.

DR. CAMILLI: Sure. Is that better?

CO-CHAIR GRAHAM: That's better. Thank you.

DR. CAMILLI: This investigation was undertaken using advanced acoustic technologies during well-containment operations. We integrated our equipment onto a remotely operated vehicle, and operations commenced immediately following termination of the top kill attempt.

Our investigation was conducted on a

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noninterference basis, exactly as described in my prior Congressional testimony. Less than 48 hours after completing field operations, my analysis team and I provided an initial flow estimate of .12 to .23 cubic meters per second. Following more detailed calculations using over 16,000 discrete Doppler velocity measurements and 2,600 individual sonar cross-section measurements, we revised our estimate upward by 8 percent to 0.25 cubic meters per second. These flow rates were at that time described as bulk volumetric rates because we had no accurate information as to the fluid composition, and BP had denied clearance for my team to use isobaric samplers to collect and analyze fluids from within the leak.

Through the continued support of the Coast Guard and the direct involvement of USGS director Dr. Marcia McNutt, I was authorized to lead a second team back to the Deepwater Horizon site and collect M-member fluids from within the LMRP top hat using the same samplers that had previously been prohibited by BP.

Based on compositional analysis and the

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previously measured volumetric flow rates, I calculated the oil flow at 59,000 barrels per day as of May 31st.

Using this estimate and the DOE's measured pre shut-in flow rate of 53,000 barrels per day, I extrapolated a linear trend for the interval between April 20th and July 14th and calculated a cumulative leak of 5 million barrels. Subtracting the collected oil from this total yields a net 4.2 million barrels released to the ocean. This estimate does not take into account flow rate change resulting from the riser shearing, the oil that burned prior to the platform sinking, or minor subsequent refinements in our oil composition analysis. These factors offset each other, and I therefore do not expect the 4.2 million barrel estimate to undergo significant revision. Neglecting these considerations, the WHOI team's findings are within 2 percent of the official government estimate.

Based on subsurface oil emulsion layers I observed during the flow rate investigation, I then submitted a proposal to the National Science

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Foundation to map subsurface hydrocarbon plumes using an autonomous underwater vehicle equipped with a mass spectrometer.

As chief scientist I led another expedition back to the MC 252 block. Our investigations revealed a continuous subsurface hydrocarbon plume, over 35 kilometers long, 2 kilometers wide, 200 meters high, traveling in a southwesterly direction at an average rate of 6.7 kilometers per day at 1100 meters depth.

We determined that the plume's origin was the Macondo well, but that it did not create hypoxic dead zones that would threaten fisheries. Our findings are detailed in a paper published in Science. Other studies provide additional insight into microbial degradation of these subsurface hydrocarbons.

The emerging body of evidence indicated that biodegradation within these plumes was predominantly limited to low molecular weight alkanes, mainly propane. Questions remain as to the transport and fate of more recalcitrant oil components, particularly aromatic and polycyclic aromatic

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hydrocarbons, many of which are known carcinogens. Other important aspects of assessment should be systematically addressed, including survey of sediment contamination and long-term monitoring of the Mississippi canyon blocks and its surrounding areas.

I'm prepared to describe field-proven technologies for high-speed, noncontact sediment contamination mapping, and systems for monitoring the water column contamination over extended periods.

I would like to close by acknowledging the significant assistance provided by individuals within many governmental, academic, and industrial organizations. Through these investigations, my colleagues and I have sought to remain sensitive to the lives lost in this tragedy, their families, many residents of the Gulf Coast who have been impacted, as well as the ongoing assessment and clean-up efforts.

We will continue to assist our nation and its cognizant agencies to the fullest extent possible when called upon. In order to avoid subjective biases or factual misrepresentation, we have made conscious -- a conscious decision to present findings

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publicly only after scientifically rigorous vetting or peer review. Thank you.

CO-CHAIR GRAHAM: Thank you very much, Doctor.

Dr. Terry Hazen.

DR. HAZEN: First slide, please.

Thank you. So we have a large team, and we've been focusing on -- as you see, some of the 40 people that have been involved. We've been focusing on the microbial community structure, especially down deep. And what I'm going to talk about today is only what was published in Science and thoroughly vetted, and peer reviewed.

So what we did initially was to look at where we had -- the pointer is not working well here. But you can see in the upper panel, at 1 kilometer we see this big spike of hydrocarbons from the CDOM, and which is a fluorescence indicator for hydrocarbons. And then out at 5 kilometers you see that spike goes down. And the dots that you see are the actual bacterial densities. So they basically double out at 5 kilometers. And then at 10 kilometers they're still

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up, but the plume has gone down. This is basically 1100 meters. And basically this coincides perfectly with what Dr. Camilli showed.

And then outside of the plume, in that last panel we see that there's no difference in the bacterial densities, and we don't see this plume.

We also see dissolved oxygen changes that occurred not at 1 kilometer, but just -- just minor. And then some significant changes in dissolved oxygen at 5 kilometers, a little bit less at 10 kilometers, and none outside of the plume.

We also have done a lot of sophisticated analysis in terms of 16S rRNA and phospholipids, and they look amazingly similar. There's differences between the community structure in terms of what's in the plume and what's outside the plume. And it diseases in diversity, but it increases in those amounts of petroleum degraders and organisms capable of degrading petroleum, particularly in the Macondo well.

We found a particular species that haven't been described before. Not only is it a new species,

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it's probably a new genus. 95 percent of the clones -- and this is another assay that we were using -- were this one type of Oceanospirillales, and whereas outside of the plume only 5 percent. So it's quite a bit of difference in terms of community structure.

This gives you a visual of this particular organism, probably the Oceanospirillales. We're doing a lot of the sequencing on this in subsequent studies. You can see at 1 kilometer, at 1100 meters, how that bug has just started to divide, and when it's completely divided it's over 20 microns long in complete division. But out at 10 kilometers you'll see much higher densities, and in fact you can see that it's -- it's how should we say, fat and happy.

We also took samples back to the laboratory and looked at them in terms of these flocks that we saw. And these flocks are what's left of the oil when we take it back at 4 degrees. So even though we took it back to the laboratory within three to four days, all the oil was degraded from the plume samples because these bugs were adapted to degrading oil at

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such low temperatures. They actually grow better at 4 and 5 degrees than they grow at 20 degrees.

We made estimates from four different techniques, using both changes in the alkanes, which is 80 percent of the fresh oil without the methane, and then both BP data and their own data. We also took mixed consortia and microcosm water back to the laboratory and estimated a -- basically a half life of 1.2 to 6.1 days. Now, that's quite fast, but it's within the range of what we normally see, and it's within the range of what we've seen on previous studies. And it's giving it a fairly wide range, but all of the data basically supports that. Thank you.

CO-CHAIR GRAHAM: Thank you, Dr. Hazen.

Our lead questioner will be Commissioner Garcia.

QUESTIONS FROM THE COMMISSIONERS

COMMISSIONER GARCIA: Thank you, Mr. Chairman.

Dr. Lehr, in your statement you made the point that based on field reports, NOAA concluded that the spill was larger than 1,000 barrels a day fairly

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early on, and that when you increased that estimate to 5,000 barrels a day, that that was large enough to result in added resources. Could you elaborate on that? Because we had a conversation --

DR. LEHR: Yeah. I listened to Admiral Allen express his sentiment. I can just speak from the NOAA side. We basically went out right then because 5,000 barrels a day -- that was our minimum estimate -- is a very large spill. So we, you know, people's vacations were cancelled. We brought people out of retirement and mobilized all our resources. We had the head of NOAA shows up at our offices. That's not something that normally happens. Getting a call from the Secretary of Commerce and basically told, You have a blank check, go through it.

And one of the things, for example, that we wanted to do was to get a better estimate of the surface volume. You cannot do that accurately from visual observation, you cannot do that accurately from just satellite images.

So we actually brought in, requested the NASA aircraft equipped with a special type of spectral

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scanner. And we requested that in -- one day, we got it the next day. This is for an organization where it takes me two years to get a new computer monitor. So that was a full-out dedicated effort started right from that.

COMMISSIONER GARCIA: We heard from the other witnesses that there were other estimates that were made, and those estimates were much closer to what was actually being released. Why the discrepancy? Why were your estimates so much lower than the independent scientists?

DR. LEHR: I can't speak to the other estimates because I don't know -- I haven't seen any papers on those estimates. So I really wouldn't want to comment on the science.

I can -- I have provided to the commission why I don't think that visual observations would work. Satellite images in this case which were mostly radar images are even worse.

What happens is that the oil, once you get beyond a certain thickness, is black. And yet the thickness of that black oil can vary by as much as

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three orders of magnitude, a thousand times. And so you just -- you're picking a number, essentially. If you pick right then you get it right, but it's a guess. So that's why we needed more sophisticated measures for surface, such as the NASA -- the AVERS system. So we felt right away we needed to bring in fluid experts to actually do an estimate of the oil coming out of the pipe.

Does that answer your question?

COMMISSIONER GARCIA: Well, maybe.

Dr. MacDonald, what do you think?

DR. MacDONALD: Oh, I agree with Dr. Lehr that this is not the best way to come up with accurate or precise estimates of the flow. I think the appropriate use of remote sensing technology in an event like this is as a common sense check; are we in the right ballpark? And 5,000 barrels a day was not in the right ballpark, for whatever reason. And I think that we could have done better. And I think that the kinds of assets that were brought to bear, AVERS was an excellent idea and it provided very valuable information, but it took a long time to catch

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up to reality.

So I agree that it's difficult to characterize. However, even in the height of the spill response, much of the extraction of the information from the satellite data was done manually. In other words, there were people sitting in a room looking at satellite images and manually tracing around them. And that leads to judgments, subjectivity, fatigue, and so forth. I think that the prospect of automating these processes, as we've done in my laboratory and as we've collaborated with NOAA in doing, would be an advance.

COMMISSIONER GARCIA: Dr. Camilli, do you have any comments on that?

DR. CAMILLI: I would add that when you make this surface-type measurement, it is subject to the oil that is on the surface. And that could be very different from what is actually escaping from the deep source, in this case 1500 meters deep.

COMMISSIONER GARCIA: Dr. Lehr, what was the process then for releasing estimates? What did you have to go through to release your estimates to

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the public?

DR. LEHR: I think actually I'm going to let Mr. Sogge, since he was the assistant to the director of FRTG, probably better answer it, if you don't mind. Is that acceptable?

COMMISSIONER GARCIA: That's fine.

Give it a shot.

MR. SOGGE: Well, the flow rate technical group was chartered on May 19th, so I can't speak to anything that may have occurred before that time. But once the flow rate technical group was working, we brought multiple techniques to bear, independent techniques, independent science teams, to collectively come up with their best estimate.

When we had new information or revision to an estimate, that went through the National Incident Command and the Department of Interior for release of the -- usually it was a press release or it was a preliminary report.

COMMISSIONER GARCIA: Okay. So on these flow rate estimates, then, were they reviewed by independent scientists? Was there any kind of a

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peer-review process that you went through?
MR. SOGGE: Yes. The results from all of the teams were peer-reviewed. They may have been peer-reviewed differently because some teams were Department of Energy, some were USGS, but they were all peer-reviewed.
COMMISSIONER GARCIA: Dr. MacDonald, you have indicated in your testimony, at least the written testimony, that you have concerns about the long-term impact of the release of such concentrated amounts of oil. What are your recommendations for determining that long-term impact, and what should we be concerned about?
DR. MacDONALD: I think we should be concerned about percentage, fractional decreases in the productivity, in the biodiversity of the Gulf of Mexico ecosystem, particularly in the northeastern Gulf where this release occurred. And I think that the way to track that over time is to consider the species which are dependent upon a healthy ecosystem. And these include species like sperm whales, bluefin tuna, sea turtles, which are large, charismatic

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animals, but they also include humble organisms; Donax clams, periwinkles and so forth, which are small; very very, numerous, but perform essential functions.
In many cases we don't know what the baseline levels of these populations are. Nonetheless, we should track them very closely over time, because the experience in Exxon Valdez in Prince William Sound was that it sometimes took several years or seasons for the impact to a population to appear.
So I think we need to be very careful not to assume that this impact is over until we've had the chance to monitor it. And my greatest concern is for knock-on impacts that affect species that are already in danger. For example, bluefin tuna, sperm whales, which are sort of prior to the spill they were balanced at about 1500 to 1600 individuals. And population scientists estimated that the loss of even a few more individuals might tip the population into a decline for which it would not recover. Those kinds of concerns are my deepest fear as a resident and lover of the Gulf of Mexico.
COMMISSIONER GARCIA: Drs. Camilli or

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Hazen, do you have anything to add?
No?
Dr. Lehr, were there any instances where you had estimates that you wanted to release but you were denied permission to release them?
DR. LEHR: No, not at all. In fact, it was very straightforward for releasing all the information.
COMMISSIONER GARCIA: And the manner in which the oil budget was released, do you feel that that was handled properly?
DR. LEHR: I do. And, you know, this is a question of philosophy. Typically that oil budget is always done. And you do make adjustments for each spill, but it's not released to the public. But I think because there was such a --
COMMISSIONER GARCIA: Should it have been released to the public?
DR. LEHR: I believe it should. Now, this is a philosophical issue. I believe in greater transparency, and I think we would have done a disservice to the public to have kept back information

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that we had. So my personal opinion, I think that that was the right call.
COMMISSIONER GARCIA: So do you think then that there was enough transparency in the sense that you clearly described the purpose of the budget and what went into the calculation?
When I say "you" I'm not referring to you, individually.
DR. LEHR: We can always argue on the wordsmithing on it. If I was to do it again, I think that I would go more towards what was in an article on it in the Science journal on I think August 13th, where instead of having one pie chart you had three pie charts that shows the uncertainty. I think that probably would have helped.
But it's always a difficult question, how do you show uncertainty to the public and not -- and do it in a clear fashion. And that's one of the recommendations that we have in our written statement, to see if we can improve on that in the future.
But I think it was still valuable to get out to the public. There were lots of stories at that

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time going on about what happened to the oil. I think it was best to get that out to the public.

COMMISSIONER GARCIA: Thank you.

Dr. Camilli, you indicated that you were contacted by the Coast Guard early on to come down to Louisiana and assist in estimating the oil. And in your written testimony you indicated that you were denied permission by BP to the staging area at Houma. I think I heard you say in your oral statement today that BP also prohibited you from using samplers. Were you given a reason? What was going on?

DR. CAMILLI: The issues of the samplers revolved around what was deemed as safe and acceptable. Much of the -- many of the assets that are used at the Woods Hole Oceanographic Institution are actually owned by the Navy. As such, they fall under NAVC guidelines for safety. And the samplers that were in question are designed to hold samples at the ambient pressure where they were collected. So at 1500 meters equivalent depth.

Now, these samplers that we had, they were certified using our ALVIN standard, which requires a

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safety factor of 1.5, and designed for what's called full ALVIN depth, which basically converts out to equivalent depth of 6,000 meters. We provided that information, although BP chose to use the American Bureau of Shipping, which requires a different standard. We tried unsuccessfully to get them to recognize the standards that we used. And that -- at that point that's when Dr. McNutt assisted us and was able to show that the ABS standards actually did not apply in this case because these pieces of equipment were not actually bolted onto a ship. So -- and then we were allowed to return and make those sample collections.

COMMISSIONER GARCIA: And how much time did this process take?

DR. CAMILLI: I think that process was something on the order of three weeks.

COMMISSIONER GARCIA: I'm sorry?

DR. CAMILLI: Three weeks.

COMMISSIONER GARCIA: Three weeks?

DR. CAMILLI: Three weeks before we could get back out on site.

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So it wasn't simply a matter of getting an approval; it was to arrange so that we could remobilize and get back out on site with RVs and take the samples.

COMMISSIONER GARCIA: Mr. Chairman, I don't have any further questions.

CO-CHAIR GRAHAM: Questions?

Commissioner Beinecke. Then Commissioner Murray.

COMMISSIONER BEINECKE: Thank you.

Dr. MacDonald, you just commented on that there wasn't adequate baseline information in the Gulf. And clearly there's a proposal for a much expanded offshore leasing program in frontier areas, not the Gulf. Can you just elaborate on what you would deem to be adequate baseline information in either the Gulf environment or in a frontier environment where offshore leasing had not yet occurred?

DR. MacDONALD: This is an area that I've worked on for some 20 years in my career. When I was a younger oceanographer we had three or four ships in

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the Gulf of Mexico. Currently we are down to one ship, the Pelican, which is 110 feet long. The University of South Florida has just acquired a second ship, the Weather Bird, which I believe is 115 feet. These are excellent ships. They don't have the capacity for extended operations offshore. We're frequently able to draw on resources from Woods Hole, but I think on many occasions that the basic work that needs to be done is inhibited by the fact that we have little infrastructure for oceanography in the Gulf. And so my strongest recommendation would be to build that infrastructure up.

The contemplated opening of the eastern Gulf of Mexico to oil and gas exploration has not yet been accompanied by the very high level of work done by Minerals Management Service and their environmental studies group to investigate potential impacts in the deep sea. So much of what we know about the deep sea oceanography is thanks to work funded by Minerals Management Service and carried out very capably, in my experience. We haven't yet done that in the eastern Gulf where we are contemplating exploration in even

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deeper depths.

So I think there is a great deal of work that needs to be done, but we have infrastructure limitations.

COMMISSIONER BEINECKE: Can you comment on how long it would take to get that kind of baseline information, if, for example, you had the infrastructure to go into the eastern Gulf? Is that, you know, one season, multi-seasons? How long does it take to do that?

DR. MacDONALD: It's multi-seasons. I mean, the work in the western and central Gulf was that it was the occupation of 20 years, starting in shallower depths, you know, down to 500 meters, and proceeding out. I'm currently involved in projects looking at deep sea corals. We just concluded a study of deep sea chemosynthetic communities. So all these things take time to set up, to fund, to specify. So it would not be done overnight.

Unfortunately we've added on to this a great deal of concern about the health of the deep end folks, which we're going to have to answer not by

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comparison but by trajectory.

COMMISSIONER BEINECKE: Could you also comment on, and also Dr. Camilli and Dr. Hazen, on what would constitute a long-term monitoring program of the impacts of this spill in the Gulf, how long would you recommend that that be conducted in the fields in which you are both -- all three of you are engaged? Could you maybe, Dr. MacDonald, start, and then Dr. Camilli and Dr. Hazen.

DR. MacDONALD: I think we should have a ten-year project. I think we should look very closely at what was done by the trustees in the Prince William Sound did a good job, an excellent job, I would say, both with the national damage assessment process, national resource damage assessment process, and then follow on with I think a thousand peer-reviewed publications or more that were done where we really, really learned.

Unfortunately, what we learned in many cases is not encouraging. You know, the Peterson paper in 2003 suggested the Prince William Sound ecosystem was permanently restructured by the impact

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of a much, much smaller spill. Albeit we have a much bigger area over which this spread and in deeper water, and it may have been lighter oil, warmer weather, there may be many contributing factors. We certainly hope that there are. We don't know what this spill has done and will do, and we need to pay close attention. And we need to restore -- I agree fully with Billy Nungesser that one of the things that we should take from this is the resolve to restore, to understand, and sustain the Gulf of Mexico much better than we've done.

COMMISSIONER BEINECKE: Thank you.

Dr. Camilli, do you have a comment on long-term monitoring?

DR. CAMILLI: I think the decadal-type time frame would be appropriate for this type of long-term monitoring. Another thing that I would point out is that the standards by which we make these measurements need to evolve. For the -- this spill, one of the certifications of protocols was the NRDA, natural resources damage assessment. That was developed in the early '90s. It's very good, but technology has

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come a long way since then. And certainly in the fields where I focus my research, in robotics and so forth, these new kinds of technologies and techniques need to be incorporated certainly as we move into deeper offshore oil production.

COMMISSIONER BEINECKE: Thank you.

Dr. Hazen?

DR. HAZEN: We've been sampling since May 25th, and they're still sampling. So we think it's -- as Dr. MacDonald says, we need to do the decadal type of analyses.

I think from our perspective, what this may involve is looking in detail at the difference between leaking wells and exploratory wells and natural seeps, and differentiating all of those. What potentially we can do with these human restructure changes that we see is the fact that they do last for some period of time after the spill was stopped. So we still detect some microbial community changes after we don't detect any oil. We may be able to use that as an indicator, in fact -- and this is just a hypothesis now -- of recent episodic sort of leaks in oil from wells and

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from natural seeps. So we could take advantage of some of this basic research that was done.

COMMISSIONER BEINECKE: Thank you.

CO-CHAIR GRAHAM: Ms. Murray?

COMMISSIONER MURRAY: I was going to say that was exactly the question I wanted to ask. So I'll ask a different one, which is, you all three are looking at this problem like the proverbial elephant, from different aspects of it. And I'm wondering if, in part of the long-term monitoring, if we could find the plume and what's happened to it, look at the alkanes in the plume, and monitor the bacteria at the same time, and actually understand about the degradation that's going on? How is your research funded, and is there any such way that we could take advantage of this unfortunate moment?

Any one of you want to answer?

DR. CAMILLI: I'll just speak about the technologies that we employed with the autonomous vehicle. The -- those technologies were developed through funding from the National Science Foundation and the National Ocean Partnership Program.

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The techniques to hunt for the plume using this autonomous robot were actually developed through funding from NASA to develop extended autonomy for space probes. So they come from a very diverse background of fundamental science. But they can be applied, as we've seen here, for very practical purposes. And I think in some ways we're a victim of our own success. We haven't had a large oil spill since the Exxon Valdez, and haven't really contemplated a failure like the Ixtoc blowout since it occurred.

So we're in some ways a little bit behind the curve. And actually, a colleague of mine pointed out when we first arrived to do the flow rate measurements, he said, when we were looking at the video screen of the ROVs in operation, he said, This looks like a 19th century fire engine, horse-drawn fire engine, pulling up to a high rise to put out a fire.

And so that we have come along way in the technologies. But we have not done that in a directed way, a purpose-built way, to be able to address these

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issues for the particular -- particularly the deepwater work.

COMMISSIONER MURRAY: Dr. Hazen?

DR. HAZEN: There's certainly a lot of things that need to be done. And I think the NSF, of course, responded with these rapid proposals. And I know I wrote letters of support for a number of different investigators and provided them with samples also so that they could get their research going.

And the turnaround time on those proposals was sometimes only two weeks from the time that they're submitted to the time that they were actually awarded the grant. Now, that's fantastic, especially for a rapid response that was needed.

However, the amount of money that was given in those was about -- I think it was limited to $125,000 a year, and a two-year maximum. For doing this type of deepwater work in longer term studies, I think we need to have some programs that are much more comprehensive and that will do team science, like we do at the national labs, and put together some of the best experts and have teams that can go out. And this

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could be funded by NOAA or National Science Foundation.

DR. MacDONALD: I can speak to the research objectives here and goals of the oil spill academic task force in the Florida Institute of Oceanography, with funding from BP, which has all now been disbursed to the individual investigators, in looking at a wide variety of potential spill impacts. My personal research is to look at the distribution of the surface oil. I have no way of measuring the subsurface oil. But I can say from our careful review of the surface data that the oil spread to the north and to the -- to the east a good deal more than perhaps is -- well, we all knew that it came ashore in places that it did.

There appears to be evidence that some of it is has also sunk to the bottom. And so we need to look at the -- at the -- where the satellite data would predict that the oil was, and might have sunk. And I'm doing that together with Dr. Richard Snyder from the University of West Florida.

And we have a combined program to sample where the -- most of the oil where the satellite data

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indicated the oil made landfall along the coast of Florida. And so we're conducting a time series of sampling on the bottom and in the water columns to see how that's addressed. I would like to see that sort of work extended, because we have a very large area of the deep gulf where there's potentially oil at the bottom.

COMMISSIONER MURRAY: Thank you.

CO-CHAIR GRAHAM: Commissioner Boesch?

COMMISSIONER BOESCH: Yes. First of all, Dr. Camilli and Dr. Hazen, I want to commend you for going through the process of your careful analysis and publishing the results without speculating. I think this was a model that I think a lot of scientists should follow going forward as we begin to understand this whole phenomenon.

My question in that regard, of course, is that there are more and more papers out every day that give us another perspective on what happened to the oil, particularly the subsurface oil that both of you studied. And I think, Dr. Camilli, you made a mention of one recent paper related to the degradation that

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seems to be initially focused on propane, or at least the gaseous hydrocarbons in addition to methane that were released.

The question I have is to Dr. Hazen, is that what evidence that you have from your work that there's degradation going on of the liquid hydrocarbons in addition to the gaseous hydrocarbons in this near-term response, and what would that lead you to believe in terms of the long-term fate of those compounds that are released in the deep plume?

DR. HAZEN: So the paper you are talking about is Dr. Valentine's?

COMMISSIONER BOESCH: Right.

DR. HAZEN: And so Dave and I know each other quite well, and we've talked about this. In fact, we saw the same groups of organisms. We were using a variety of techniques. And he was using -- limited to just a couple of techniques. We saw the same group of organisms.

We were looking at the alkanes specifically because that was the highest concentration that we were seeing in this very disbursed plume down deep

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that was very low concentrations. So it was difficult for us to measure anything else, as you can see in our paper.

COMMISSIONER BOESCH: By alkanes you mean hydrocarbons beyond the size of propane, butane?

DR. HAZEN: Yeah. We did see a lot of those, the propane and methane and that sort of thing.

Now, I actually have a patent in -- that's owned by DUE, of course, and -- on gaseous nutrient injection using methane. And we do know that co-metabolism can occur, and that these propanotrophs and methylotrophs, they have an enzyme that will degrade fortuitously over 300 other compounds, including a lot of the hydrocarbons that are in them.

So we may have -- this may have been advantageous to -- and we need to look at this, and these are just some hypothesis now -- that in fact co-metabolism may have helped because the propanotrophs and methylotrophs come up quite quickly. Fortuitously as they ran out of that, they would have fortuitously degraded the other hydrocarbons.

Now, we specifically took back to the

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laboratory and did tests on the fresh oil, which was predominantly alkanes. So it did not have the volatile components in it. So those estimates of half-lives are from that, and not from the methane and that sort of thing. And we're currently doing a lot of other investigations on the linkage between the propane ethane and the methane. Of course the methane forms gas hydrates at this depth and temperature. And we believe that it has to get up to about, based upon the physics, about 400 meters before it starts to melt. We used -- there's some other studies that show that at 200 meters we start to see a lot of activity there.

Now, if that was able to overcome the extreme amounts of methane that were released in this case, we don't know. So a lot of other studies needs to be done there.

COMMISSIONER BOESCH: So what would you imagine would be, you know, in terms of the bacterial degradation that you saw, the state of those suspended droplets today, two-and-a-half, two months after the spill was capped?

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DR. HAZEN: We can't detect them. So within about the first week in August we could detect them by fluorescence by the CDOM device on the CTD. Excuse me for my acronyms. The --

COMMISSIONER BOESCH: I'll translate them for the rest of the commission.

DR. HAZEN: Okay. So we have gone back and also analyzed that with chemically fixed water samples from those depths. And we cannot find -- where the plume was, we see the highest count we've ever gotten after August and in through August was one hit of 2 ppb. So again, below sort of drinking water standards almost.

And for all the other samples, it was fractions of a ppb, for all of those previous sites that we had sampled. So it did disappear fairly rapidly.

Now, be clear that when I say half-life, that does not mean -- and I have to explain this to the press quite a bit. That does not mean when I say the half life is two days, that everything is gone in four days. It means that half of the material is gone

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in two days, and half of the remaining material is gone in two days, because there is recalcitrant components that will remain for a long period of time. But we do that estimate based upon the alkanes, which are the largest component.

COMMISSIONER BOESCH: Dr. MacDonald, in your written testimony you offered the opinion that the remaining fraction of the oil that wasn't captured evaporated in the ocean may, in fact, be residing in the sediment somehow, and that you estimated this could be as much as 50 percent of this durable material is now buried in marine coastal sediments, and that there's scan evidence that bacterial degradation of this material has gone on before burial.

How do we quantify this? And I'm particularly interested also, Dr. Camilli mentioned as a teaser, this technology for high-speed noncontact mapping of sediment contamination. Could you talk about what we know about the extent of sediment contamination, and Dr. Camilli, could you give us some insights about how you might map this?

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DR. MacDONALD: Well, I can speak to work that's been done by colleagues in Florida who have looked at Pensacola Beach and regions in that area, and they found very quickly after the oil came ashore -- the oil came ashore for a period of about three weeks -- that it sank down within the sands, the sand offshore --

COMMISSIONER BOESCH: Offshore, you mean close to shore?

A Close to shore, yeah. Sort of the surf zone and the immediate shore area.

-- that the oil sank from view so that it was no longer clearly visible but formed layers that persist to this day.

The two problems with that, one problem is that the deeper it gets, the less oxygen is available for breaking that oil up. And of course the reason that we have oil is because it's a material that very stubbornly resists breakdown. Most of the oil we use is millions of years old. So it's not a compound that breaks down easily.

The other problem with buried layers of oil

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is that any storm event tends to resuspend them. And we've had events along Florida where there have been fresh oilings probably due to rough weather, resuspending oil.

So this is a very difficult problem. And, you know, I think techniques that Woods Hole group could develop to rapidly measure oil, some sort of a probe that could go along and sample in a systematic way, possibly coupled with careful modeling of the plume trajectory, that would be a valuable approach, but a very difficult challenge.

COMMISSIONER BOESCH: Dr. Camilli?

DR. CAMILLI: Yes. So in my opening statement, I mentioned -- I used the phrase "field proven for the sediment contamination mapping." And back in 2009 I actually published a paper on sediment contamination mapping in the Marine Pollution Bulletin. The technology is actually not that different from what we use to map the plume with the autonomous vehicle. Instead we actually were able to show that we used a remotely operated vehicle equipped with one of these mass spectrometers, and had the

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vehicle move along at about a meter above the sea floor, moving continuously without touching the sea floor, without stopping to take a sample, it was able to detect the hydrocarbons coming out of the sediment. And we were able to map those, and in the paper described how we were able to map and even show the shape of sources down to centimeter scales.

Now, the reason this is important is because the sort of tried-and-true method involves using core sampling, which is very good. You get a sample that's brought back onto the deck of a ship, but it's also very labor-intensive and slow. And to put that in perspective, if you do core sampling, if you have a very good team, you may be able to collect a dozen or so samples per day. With the approach that we published in 2009, we are able to show that we could make measurements of several thousand measurements per day and actually map sea floor contamination.

And we found that the sea floor contamination with heavy oil, as it's called, tends to be very localized. And it tends to pool in low --

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low-lying areas. And it looks sort of like mud puddles, if you will.

So to understand the fate of these hydrocarbons and come up with a budget, I recommend using that technique. There are other techniques involving fluorometry that have been developed. A lot of this work has actually been funded by the U.S. Coast Guard over the years. The Coast Guard has a research and development center in Connecticut and has been working on this for a decade or more, and these technologies are out there.

COMMISSIONER BOESCH: Thank you, Mr. Chairman.

CO-CHAIR GRAHAM: Any other questions? Yes, Commissioner Ulmer.

COMMISSIONER ULMER: Thank you.

I have a question that I would like to address to the entire panel, but don't feel like you have to answer it if you don't have an answer.

I am trying to take away from this panel some lessons learned from this experience that we would like to do something different in the future

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based on what we've learned. And I think one of the things I've heard is that we need more baseline sampling so that we know what is there, so that when an incident occurs, we have a better way of measuring over time, in the decadal or longer period of monitoring after the incident, of what impact. I think that's one thing I heard. I think I heard additional technology and investment in technology to be able to do a better job of being able to estimate spills after spills. Perhaps better science coordination both from the standpoint of what kind of research needs to be done before and after.

Those are a few of the takeaways from what you have said. If there are some others, recommendations that you feel the commission should consider as we make our report to the President, I would appreciate your words of advice.

DR. HAZEN: So I would say that one of the things that I think definitely needs to be done is to have a large team of science that can be rapidly deployed in these cases of these emergencies. And so we missed out on a lot of information because we

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couldn't get out there quick enough. Meaning that the funding to get out there quick enough, and I am speaking for the scientific community in general. If we had had that, we could have gotten a lot more information a lot faster. And we had a lot of critical estimates of various types of flow rates and where the plume was going and effects and that sort of thing. It requires that basically there be a rapid deployment of a large team that can do this type of thing.

And, you know, we've seen that the bureaucracy holds up that basically for months, literally, until in some cases the well was capped before some people could get out there.

COMMISSIONER ULMER: Thank you.

DR. CAMILLI: I would like to add that from a technological perspective, there are many, many new technologies that are coming online. But there's not a very well-known mechanism to allow those technologies to translate into operations-type work.

The Coast Guard has strike teams that go out when there are accidents like this, to immediately

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deal with the situation. It would be nice if there was a formal mechanism that allowed those of us in the scientific community and elsewhere to provide equipment, information, expertise, and so forth on a much smoother basis. Because I have incredible respect for those guys. They have to go out in harm's way and deal with these situations. And they have multiple things that they have to accomplish. First and foremost is minimize loss of life. And then after that, address these other issues of stabilizing the ship or platform.

And so if we could make their jobs easier, I think that that's very important. So in the military and defense world we talk about technology readiness levels. If we could have some equivalent that we could then bring technology and other techniques in full review so that it's fast-tracked into their utilization.

DR. LEHR: I would like to second that, what Dr. Camilli was saying. Ten years ago we submitted a paper at the National Oil Spill Conference predicting what an oil spill would look like in 2011.

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In 2011 we'll give another paper talking about what actually happened with those predictions, and there's a wide gap between the two.

One thing we have discovered is it's very difficult to translate pure science into operations. There's a center, a NOAA, University of New Hampshire Center, Coastal Response Research Center, I believe you'll have the director of it on the panel next, and she can go on to some of the difficulties that we've had of translating the science into something that can be operational for the Unified Command to make decisions.

So I think one of the keys would be to be able to make sure that that science is part of any contingency planning so that when it comes -- a spill that's unusual like this one, we don't have to develop things that we would have liked to have developed before the spill happened.

DR. MacDONALD: One of the cutting-edge areas of science is what's called ocean observation. And this is the idea that we stop just observing the ocean or stop looking at the ocean but try to predict

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what it's going to do based on ongoing measurements, the way we do with weather. And ocean observatories are being installed in various parts of the world, including the United States, off the West Coast.

We already have ocean observatories in the Gulf of Mexico, quite a number of them. And they're called oil production platforms. And they have the capability, and the oil industry could play a role greatly to improve the collection of coastal information, specifically currents.

One of the lessons that the State of Texas took from an oil spill that I was involved with long ago, the Mega Borg, was that the models that we had, including excellent models from NOAA, were not sufficient to predict where the oil was. So they acted on the models and they boomed certain areas, and the oil actually ended up going in a completely different direction. The State of Texas said we have to measure the currents real time to be able to respond real time to oil.

We do not have such a system off the coast of Mississippi, Alabama, Florida. There is a bit of a

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system off of Louisiana, but we really don't have anything like the kinds of weather observations that are made routinely across the country, which are key for, you know, predicting tornadoes and extreme events, but also help people in their daily lives to understand what's going to happen.

Well, what we understand now as a result of this spill, just how important the ocean is for our daily life. I think we should take from this the resolve to measure it better.

COMMISSIONER ULMER: Thank you very much.

CO-CHAIR GRAHAM: Co-chair Reilly?

CO-CHAIR REILLY: Dr. Lehr, the comments you made a few minutes ago about the need to be prepared for something like this in the future, for the scientific community to be capable and ready and standing by, and your panelists shared this sense, do I take from that that this has not yet been done? I thought that the technology now had been significantly advanced to make judgments about spill rates. And just assumed that that would be incorporated into the response capabilities of NOAA and the USGS and the

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other agencies involved. Can you just make clear whether that's correct or not?

DR. LEHR: It's partly correct. We've got models that will predict a typical tanker spill, for example, and estimate the rate that would flow out of there. We do not have the capabilities, you know, established in-house to estimate this problem, which was a fluid coming out, it was a mixture of two phase, water entrainment, hydrate formation. That's why we had to go out and get the outside experts.

I've submitted to the panel already a proposal that we submitted within NOAA to advance our fate and behavior models.

CO-CHAIR REILLY: It's a proposal at this point.

DR. LEHR: It is a proposal, and we've been lacking the resources to do it.

CO-CHAIR REILLY: Well, the only thing I would say is that one of the really significant sources of public discontent and distrust I think of the whole response was the rapidly changing numbers of -- on the spill coming out of the government. And

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it seems to me that for public trust and confidence in so many aspects of the response, it's really vital to get that right next time. You don't disagree?

DR. LEHR: Well, I mean, we -- it was a challenge. And I think, again, we have to realize we were dealing with something that's a mile beneath the water surface --

CO-CHAIR REILLY: I understand.

DR. LEHR: -- looking at robot images, having the difficulty, as Admiral Allen mentioned, in getting the high-quality video. I mean, all the difficulties were there. And I think you always tend to estimate conservatively when you're the government. If I was working for Associated Press I would probably do the converse; you always estimate big.

CO-CHAIR REILLY: Well, that's what you say. The Coast Guard doesn't say that. They say they assume the worst case.

DR. LEHR: Well, you look at the worst case. And we did. And that was in the numbers that BP released in their original contingency plans when they applied for a permit to drill. So that was

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there, that was -- the Unified Command knew about that. But it was a very difficult, challenging problem.

CO-CHAIR REILLY: I didn't mean to discount the complexity. What I meant to suggest was that having learned from this, I assume next time we'll do better?

DR. LEHR: I hope so.

CO-CHAIR REILLY: Thank you.

CO-CHAIR GRAHAM: Dr. Camilli, I believe it was you who used the analogy of the 19th century fire department coming to a fire in a 21st century high-rise. Were you the author of that?

DR. CAMILLI: I was not. One of my colleagues was.

CO-CHAIR GRAHAM: But you stole it from someone.

DR. CAMILLI: That's correct.

CO-CHAIR GRAHAM: That is an analogy which has actually been used in another context, and that is that there have been some areas of technological advancement, such as the ability to build taller and

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taller buildings, where there has been a history of science, of safety, closely mirroring the science of greater height. And, in fact, we have developed techniques to deal with fires in very tall buildings.

The deepwater oil industry seems to be an area where that has not happened; that is, the technology to drill at deeper and deeper levels has not been concurrent with the development of technologies as to how to do it safely and to be able to respond effectively to it.

As a scientist, what accounts for the concurrence in one area of science and the divergence of safety from what I would call affirmative technologies, in this case affirmative to be able to drill at deeper levels; what accounts for that, and what can be done maybe within the culture of this industry to try and make those two more parallel?

DR. CAMILLI: That's a very complex question. But I would say first of all that the field of oceanography has been working in the deep water for a very long time. The organization that I work for have been working in depths much greater than this for

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decades. As some of our deep submersibles, like ALVIN, have been in operation longer than I've been alive. And all of that's been done very safely.

Now, I think one of the differences with the deep water work is particularly the issue of hydrate formation.

CO-CHAIR GRAHAM: Is?

DR. CAMILLI: Hydrate formation. And as Dr. Hazen mentioned, in the Gulf of Mexico, the hydrates form -- or there's a stability zone at, let's say, roughly 500 meters water depth.

Once you get below the 500 meters water depth, the response that you would have vastly changes. And we saw that actually play out with the original containment structure that was attempted.

That containment structure is sort of a standard play out of the playbook for dealing with an oil spill of this type if you were in shallower water, it works very well.

Ixtoc is a good example. Its containment structures are used routinely for failed blowout preventers and other failed infrastructure.

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The problem right there was the hydrate formation. We saw the hydrate formation actually create problems during the first attempt at cutting the riser with the diamond wire saw. That system became completely covered in hydrates, and eventually it shut it down.

So the hydrate issue is one of the things that has to be addressed. And actually through the attempted containment efforts, we've learned a tremendous amount of the do's and don'ts. But more work needs to be done.

And I would say that right now with the increasing push to move deeper and deeper offshore in oil production, there's also a technological push underway to do what's called subsurface completion. In other words, instead of having a platform residing on the surface, all of your infrastructure would reside on the sea floor.

There are advantages to that. One being that you stay out of the very high-energy environment on the surface that you would experience, particularly in the Gulf of Mexico because of hurricanes.

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Now, the difficulty is how do you maintain those systems in the subsurface if you can't have humans there walking around and doing the regularly scheduled maintenance. We're limited by the robotic capability. And that's where a lot of research and development needs to be done. And that's I think where the scientific research can actually help the industry and our nation.

CO-CHAIR GRAHAM: Okay. It would be helpful -- you've listed two areas where you think some additional effort in understanding and research and development of appropriate responses would contribute to this parallelism between deeper drilling and safe drilling. If there are other items that you would like to add to our list of those areas, I would appreciate it if you would communicate to us subsequent to this hearing.

Are there any other questions?

If not, thank you very much for a very excellent presentation. We appreciate the contribution that you have made today, and be alert that we might be asking for further contributions in

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the future. Thank you.

We will break for lunch and will reconvene at 1:30.

(Luncheon recess.)

PANEL III

THE USE OF DISPERSANTS

CO-CHAIR REILLY: It gives me great pleasure to welcome the 12th, I believe, Administrator of the U.S. Environmental Protection Agency, a number I had some role in ensuring when I decided not to count Ruckelshaus twice.

We are very pleased to have you with us this morning, Administrator, and very interested in hearing you make your presentation and talking about dispersants and some other issues as well, I think.

THE HONORABLE LISA JACKSON: Thank you. So let me go.

CO-CHAIR REILLY: Pull the microphone a little closer, please.

THE HONORABLE LISA JACKSON: Well, good afternoon, and thank you all very much. It's lovely to be here. Thank you for inviting me to testify

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about the use of dispersants and, of course, EPA's role in responding to the BP Deepwater Horizon rig explosion.

Please permit me to begin by expressing my condolences to the families of those who lost their lives in the explosion now five months ago.

Thankfully the well is sealed, and we are now focused on scientific and science-based monitoring and investigation, as well as on the long-term recovery and restoration of the Gulf of Mexico, its people, and its ecosystems.

Over the course of the response and at the President's direction, I personally traveled to the region, the region I grew up in and still consider home, nine times, and spent 21 days on site.

From the onset of the crisis over 200 staff from EPA worked on the response, from scientists, engineers, contractors, and others, in all of the affected states.

CO-CHAIR GRAHAM: Excuse me. Can you pull the mike closer --

THE HONORABLE LISA JACKSON: Even closer?

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Oh, I'm so sorry. Shall I start over?

CO-CHAIR GRAHAM: No, that's fine.

THE HONORABLE LISA JACKSON: We quickly stood up a process of rigorous testing and monitoring of air and water quality and sediment, and made that data public every day. In coordination with our federal partners, we also monitored for the presence of dispersants in the water column.

One of our top priorities was the safe application of these dispersants. Dispersants, as you know, are chemicals that are applied to spilled oil to break it down into smaller drops on and below the surface.

This dispersed oil mixes into the water column and is diluted and degraded by bacteria and other microscopic organisms. We know that dispersants are generally less toxic than oil. We know that they decrease the risk to the shoreline and to organisms at the surface, and that they biodegrade over days or weeks and not years, as oil sometimes does.

However, all the potential unknown long-term effects of the dispersant application on

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aquatic life and the unprecedented volume applied in this response, almost 1.8 million gallons, certainly warrant caution.

EPA was first asked by BP on April 30th to authorize unlimited use of dispersants in a novel manner; underwater, at the source of the leak. EPA's goal in evaluating this request was to maximize the degradation of the oil before it came closer to shorelines, our estuaries, and our marine nurseries. Since this approach was never before contemplated, EPA first requested specific scientific data from BP to prove that such use of the dispersants was, indeed, effective.

After that data showed that this approach was working, EPA required the implementation of a rigorous monitoring system to ensure that underwater application would continue to be effective, and also to track measurable environmental impacts through monitoring of dissolved oxygen and toxicity.

On May 14th, two weeks after their request, after the system was in place, EPA conditionally granted authorization for underwater use after it was

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made clear to the company and to the public that EPA reserved the right to halt the use of subsurface dispersant if we concluded that at any time the impact to the environment outweighed the benefit of chemically dispersing the oil.

The good news is that we did not see significant short-term environmental impacts of using dispersants. We did not and continue to not see diminished levels of dissolved oxygen near the wellhead. This is a good indicator of overall aquatic health, and we saw normal levels in testing locations near the rig site where subsurface dispersants were applied.

We also saw no significant toxic effects on rotifers, which are sensitive organisms that act as the canary in the coal mine for water health.

Also, water monitoring continues to indicate that dispersant was not found in waters on or near the shoreline. Of the more than 2,000 NOAA-generated samples and the nearly 1200 EPA-generated samples, there have been only two detections above the method detection limit, but well

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below health limits.

While these detections were likely caused by problems with the testing devices themselves, they were immediately investigated as though they presented real detections. The areas were resampled. In both cases follow-up testing indicated a nondetection of dispersant. Our monitoring continues and will continue, in order to ensure that potential environmental impacts are immediately identified.

From the early stages of the response we recognized the need for EPA to be vigilant and cautious with the use of dispersants. That is why, along with the Coast Guard, we ordered BP to use less toxic dispersants and to limit use and volume of dispersants. Specifically EPA and the Coast Guard issued a directive to BP on May 26th, instructing BP to significantly scale back the subsurface use of dispersants to only what was needed to be effective, and to halt use of subsurface dispersants unless conditions on the ground limited the use of other mechanical means of dealing with the spilled oil.

After that directive was issued, we saw the

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total volume of dispersants used daily fall by 75 percent from their peak levels. While some days showed increased dispersant use, the significant decreasing trend line in use at the surface was undeniable.

EPA also conducted independent peer-reviewed testing on the toxicity of all the dispersants that were authorized for use. Our own independent analyses found that all of the dispersants that were tested, when tested alone, could be categorized as practically nontoxic to slightly toxic. The oil, when tested alone, was generally moderately toxic. Mixtures of oil and each of the dispersants were no more toxic than the oil alone. So that would mean as high as moderately toxic.

It is clear that we must make an investment into the scientific research of dispersants. Congress has recently appropriated to EPA $2 million to begin a long-term study on the impact of dispersants. These funds will help support research on the short- and long-term environmental and human health impacts associated with the oil spill and dispersant use.

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We were in a position with no perfect solution. As I have said before, preventing the oil from reaching the shoreline was the Number 1 goal. Still, we must learn from our experience with this tragic event. I am fully committed to revisiting the regulations surrounding EPA's response, particularly regarding dispersant registration and registration of other chemicals under the National Contingency Plan.

As a New Orleans native I know firsthand the importance of the natural environment to the economy, the health, the culture of the Gulf Coast.

We have a great deal of rebuilding to do, both in material terms and in terms of restoring this community's trust that government can and will protect them in a time of need.

This is one of those times. I urge that we do everything within our power to ensure a strong recovery and future for the Gulf Coast, and I welcome any questions you have.

QUESTIONS BY THE COMMISSIONERS

CO-CHAIR REILLY: Thank you very much, Administrator Jackson. I have a question not on

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dispersants before I turn to Professor Boesch, who will be the lead questioner on dispersants. And that is, no one knows this region, no one certainly in the administration at your level, as well as you do. And we have had a number of allegations, complaints, concerns raised about the disposal of debris, of soiled boom, of animal carcasses, of other debris, in communities that are low-income or minority communities in the Gulf region.

And I know you have given a high priority to environmental justice, as I did. Is this something that has risen to your level of concern? Is it that you have a sense of how serious that issue is? And any suggestions as to how we might deal with it?

THE HONORABLE LISA JACKSON: The disposal of waste from any disaster, any environmental disaster, always becomes an issue of concern. It becomes part of the public discussion, as it well should. And it's not always, but typically environmental justice issues become part of that discussion.

It goes back to historic siting decisions.

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Many times communities either grew up around or more likely found themselves locations that were deemed suitable for disposal facilities.

Now, in my job as head of EPA, I often say that we have regulations in place that govern how not only how a disposal facility should be sited, but how it should be monitored, you know, covered, operated on a daily basis.

And in the case of oil waste, which is E&P, exploration and production waste, are generally exempt from all of our regulations. The states' oversight and regulatory scheme are extremely important.

We have, and this issue, the issue of environmental justice, the issue of the broader community wanting to know where this material is going and the fairness of who has to deal with this waste and whether any community, any community along the coast, was getting undue amounts of waste, became part of the conversation. It certainly rose to my level. The primary lead on that discussion was Mathy Stanislaus, who is the senatorially confirmed head of our waste program.

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CO-CHAIR REILLY: Who has testified before us in New Orleans.

THE HONORABLE LISA JACKSON: Exactly.

They are not easy issues. Our belief was that local decisions that sometimes are driven by community concerns that one area should or should not take waste or could exempt themselves from being part of a larger waste plan, which we ordered BP through the Coast Guard to put together, we not only ordered BP to put the waste plan together but to put it online, to put waste-flow information online, to update that information to try to demystify what was happening with these trucks of waste.

I went down twice. I went down nine times, but two of them specifically to go and look at facilities where this waste was being staged and prepared for disposal. And we took the very unusual step of doing our own independent testing of waste, which caused some of the states to scratch their head. Because that's really their oversight. This is a solid waste, for the most part. But we wanted to be able to assure people that the federal government was

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going the extra mile to sample and run tests on this waste to determine whether any hazardous constituents -- we were very concerned not only about dispersants but other constituents -- had somehow become part of the waste stream.

It will be something that I think, you know, this commission, we would welcome input on. There's the fairness issue. And there's also the issue that -- whereas these are facilities that take waste like this all the time, in the heightened sort of glare of the spotlight around this spill and the visual of people on shorelines protecting themselves with Tyvek suits and gloves, communities ask reasonable questions.

And I feel assured that good, strong efforts were made on the government's side to ensure that BP was -- made good decisions about waste disposal and did not send all of it to any one community.

But BP made some decisions on their own to exempt certain communities, and that caused some real frustration. Because not that any community wants

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waste, but if one community can kind of opt out, then the fairness doctrine sort of dissolves at the same time.

CO-CHAIR REILLY: Thank you.

Commissioner Boesch?

COMMISSIONER BOESCH: Yes.

Administrator Jackson, good to see you today.

In this process when it became known the size of this event and that it could go on for a period of time, and of course as you pointed out, even though dispersant use was preauthorized in the area of response plan, the issue of dispersant use seemed to be elevated to a discussion at the National Response Team in Washington, chaired by Secretary Napolitano.

And so at some point the decision was made that EPA should play a more active role and call for in the area of response on the issue of dispersant use. I think on or about May 20th you advised BP, as you've indicated, to reduce the application of dispersants and provide information about the availability of less toxic dispersants.

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I wonder if you could help us understand your concerns and the process that you went through in conjunction with the other federal agencies so that EPA therefore assumed more of a command role than was maybe anticipated in the National Contingency Plan or the Area Contingency Plan.

And in that light, is there some recommendation you can provide to us about what kind of guidelines that we might recommend that would elevate the decision-making from the more routine decisions about these applications of dispersants to these extraordinary kinds of considerations and decisions for moving forward.

THE HONORABLE LISA JACKSON: Well, thanks, Commissioner Boesch. I think my -- I'll probably end where you ended, which is that there is a need for those kinds of guidelines.

This was an unprecedented event. And of course, every day you make the decisions that are before you. But over time, I think one of the things that I discussed often -- and you'll hear from Admiral Mary Landry next -- you're not only looking at the

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decision before you that day, but cumulatively what does this mean for the response and what can we say about it.

A couple of things. Surface application of dispersants is authorized, was authorized by the Area Contingency Plans. And those plans gave the federal on-scene coordinator, in this case a Coast Guard representative, it was originally Admiral Landry, the ability and authority to make the determination to deploy or have the responsible party deploy surface use of dispersants. And, in fact, that's exactly what happened probably very early on in the spill response. I don't have a date before me.

EPA's involvement, and I -- you mentioned Secretary Napolitano. That's the NIC, the National Incident Command. The National Response Team is actually chaired by the EPA, by Dana Tulis, who is acting chair there, head of our emergency operations center. And then there are regional response teams that mirror the national structure in each one of the regions.

On or about I believe it was the 30th -- I

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can pull up the timeline -- of April, the regional response team notes show that there was a request that came in to try application of dispersants which were already being used on the surface, at the wellhead. So 5,000 plus feet into the water column.

Now, the justification is one that makes an engineer nod her head the first time she hears it, which is, Well, there is so much energy associated with the turbulent flow and the heat of this oil as it's first being released, that's the place to catch it. Plus that that's where we have it all in one place as it comes out of this pipe, as we all saw so graphically on TV over time. That's the place to get it. You will be much more effective, because dispersants work by energy.

In fact, you can't apply dispersants on the surface on a perfectly waveless day, because there's not enough energy in a flat sea to mix the dispersants with the oil and get real dispersion.

It sounded like a great idea, but we were skeptical. I was certainly skeptical.

That decision quickly became elevated, even

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I would say outside the NRT process. All of the agencies that are on the NRT were involved, including states. But that was just -- it was novel. It hadn't been done. It wasn't preauthorized. We didn't have any data. And the threshold question became, Do you just say no? Do you say absolutely not? And I've said publicly that that was one of the toughest decisions I have made, if not the toughest to date, with all the tough decisions we make, was that one. Because it meant explaining to people why the addition of more chemicals was actually being done to hopefully aid this response.

And it was only made after about two weeks of work. And I had actually gone down, as it turned out, I had been on I think already two trips. One where we met with the community, but the second where we sat down with academia. I went to LSU, just an informal meeting. I went to Tulane, our alma mater, and just talked to them about a number of issues associated with the response. Dispersant use came up. Already there were some skepticism, some concern. But the idea was is it enough, do we know enough that we

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could design a monitoring system where we could employ this and know whether or not on a day-to-day basis we were doing more harm than good.

So how do you know if you're doing more harm than good?

You worry a lot about hypoxia, about the conditions around the wellhead. Are you dispersing so much oil that you're making a cloud of hypoxia in the water column that would then be very damaging, very immediately, to the ecosystem.

So that became part of the monitoring, real time, constant monitoring of oxygen levels. Along with the criteria of 2-part-per-billion cutoff. If we saw oxygen go below that level, NOAA and Fish and Wildlife and others thought that that was a reasonable level for cutoff.

Then these rotifers, creatures I didn't know a thing about before as a land-based engineer, worked most of my life in Superfund response. But looking for a sentinel critter, a type of, you know, plankton, if you will, in the food chain that if you saw massive die-offs, that would be an indication of

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an immediate toxicity. And those data were, we looked for something that we could look for every day, that we could -- not me, personally, but that NOAA and EPA could demand that BP do a directive test for every single day.

And although there were days when tests didn't happen -- that always happens in the field -- the rotifer testing and the dissolved oxygen, along with fluorometry to look for particle size to see if you were actually getting dispersion. Because if you were applying this and not getting dispersion at all, that would be of real interest.

Those tests took about two weeks. And probably some of the most interesting -- it's anecdotal and it's photographic and it's not entirely scientific evidence that we looked at were, when we were testing the subsea dispersant, what happened at the surface. And you really could see fairly dramatic differences at the surface in the amount of oil when they -- when they were testing it for a few hours versus when they stopped. That alone would not have said to us you have to do this, but it was an

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indication that you were getting dispersant of oil better than you got by simply flying overhead with a plane.

So two weeks later we ordered use of the subsea dispersant, but we ordered it along with a requirement for the monitoring. And in the beginning, I was personally involved in reviewing the monitoring data, to ensure that eyes were being cast. You know, there's nothing worse than taking data and no one is looking at it. We wanted to make sure everyone was focused on that data every night.

And probably the next milestone -- and then I'll let someone else ask another question -- was one of the reasons we thought this would make some sense, was there was lots of concern in the Gulf about, you know, this aerial application. We had lots of people out there. We had lots of vessels of opportunities. We were starting to really come up, and people were concerned about being sprayed with chemicals.

And there was lots of concern about what these chemicals were. Lots of speculation. Some of it correct, some of it not. But it was causing a

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level of real concern in a community that didn't need one more thing to worry about.

And Admiral Landry, who you will hear from, and I became very concerned, because I was going down for a visit, and the amount of surface application was still increasing, even though we were also dispersing in the subsea. And we together said, Hey, this wasn't the idea. The idea was if you disperse it here, there's not a need to use all this chemical on the surface.

And that's when the next directive came along on -- I believe it was the 20th or 24th, I have to look at my notes, that said prioritize all the other mechanical means first before you use any surface application of dispersant. Because we were allowing for about 15,000 gallons of subsea dispersant, we weren't looking to see another 70 or 65,000 gallons sprayed at the same time.

COMMISSIONER BOESCH: So that's very helpful. As you indicated, public fears about dispersants, the use of dispersants, both from the basic nature of putting on another chemical to deal

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with a chemical problem, have increased fears. And still there's a lot of concern about remnants of these dispersants that could -- that could still be causing problems. Not only toxicity for marine organisms, but for people.

And what you've told us is that the monitoring that you've done thus far has not shown any remaining traces of the dispersant from the sampling that you've undertaken.

However, as I think the progression of your testing has shown from when you actually did toxicity testing of dispersants alone, to then dispersants and oil, the real issue with dispersants, because you said they were fairly low toxicity, is the fact that they inject more oil into the environment. And, in fact, if they're effective, they do that very well.

So can you give us some idea about emerging protocols that might be developed that more accurately assess the risks of dispersant use in the marine environment other than just toxicity testing?

THE HONORABLE LISA JACKSON: Absolutely, Commissioner.

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You know, the actual decision about whether or not to use the tool and when it should be used, and the guidelines you spoke about, are not a scientific decision as much as a risk-management decision. But the risk-management decision is best informed by better science. So in my opinion -- and I just the other day went to a National Science Foundation workshop on this. There are tons of brilliant minds who actually work on this, both there's some real expertise within EPA. And I should, you know, commend my staff who worked this issue. But there's also lots of expertise outside in the private sector, but also in academia.

And there is a need to really I think go back to some amount of basics, about long-term toxicology studies on a deep sea marine environment from application of these. It's the same work we're going to be doing to monitor what happens to this ecosystem over time.

I mean, the oil itself certainly caused damage. And whether or not the dispersed oil, certainly common sense would tell you if there's more

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of it in the system, there's a potential for more of it to cause damage, is also a much greater potential for it to biodegrade, which is a good thing, as long as it doesn't mean we're growing, you know, a different ecosystem. And if we do that, it can recover.

So those things are absolutely necessary. It would be my wish that no one has to make the same risk-management decision with the same level of science. If the science becomes clearer, I don't -- I'm not sure that you'll ever convince the average person that putting huge amounts of chemical into the system is good. But if you can show that you optimized the amount of chemical, if you could show that you've optimized the dispersant to make it as green as possible -- and that was a discussion as well -- and that you studied the longer term effects, we would be able to answer questions about it in a much better way than, We promise we're going to monitor this. Because that's really what we were doing. And it is my belief we set up the best short-term and day-to-day monitoring we could, but we

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never, ever thought that should take the place of long-term and mid-term monitoring as well as a real investment in the science.

COMMISSIONER BOESCH: Tomorrow our commission will have a hearing on restoration of the Gulf Coast following the spill.

Instruct me, you mentioned the concern about hypoxia, the low-oxygen environments in the deep water in the Gulf around the spill site. And as you know, every year there's a very large area of recurrent hypoxia, so-called dead zone on the continental shelf.

The day or so after the well was finally capped with the capping stack and oil ceased to flow out into the Gulf, our home town newspaper, the Times-Picayune, had ran an editorial that said something to the effect that, Great, we capped the oil well, when are we going to begin capping the nitrogen coming down the river that's causing this problem.

And this is something, of course, that EPA has the lead responsibility for within the federal government. I wonder how dealing with this problem as

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well as the other environmental issues, large environmental issues in the Gulf Coast, would play into the administration's effort to respond and restore the Gulf in the wake of this spill.

THE HONORABLE LISA JACKSON: The President's truly unprecedented turn in his oval office address to the need to look at the ecosystem and the restoration of the coast as a whole made me, you know, proud. Because I think it was a recognition. I was somewhere the other day, and there's the Atlantic Ocean, the Pacific Ocean, and there's this big water body down by Texas, Louisiana, and Alabama, Mississippi, Florida, it was unnamed. It was an old map. I was in a hearing room over near EPA, and I made a joke about it.

But it really is outstanding, unprecedented for everyone, the eyes of the country were on the Gulf. And with horror, realizing that this resource that we rarely talk about is truly an outstanding resource any way you measure it, from its ecosystem value to its energy value to its, you know, seafood value to its cultural value to its security value.

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EPA plays a strong and important part in dealing with Gulf Coast hypoxia. And one of the things we've quietly done is look at efforts to now, now that the country is looking at this resource again, engage the Mississippi basin states in what I hope and believe can still be a cooperative process to start to find the larger inputs and make people realize that if you care about the Gulf, we have to actually go upstream to really heal it.

There are complementary efforts. There's a restoration of the wetlands and the marshes, so important to the entire Gulf Coast region, the cleanup and study of the ecosystem, so important. But EPA, and I can assure you I take very strongly and personally my role in making sure that EPA does its job on the hypoxia.

The need for us to redouble our efforts there I think is highlighted by this tragedy. And of course we do it realizing that everyone's pulling out of a recession. But I believe that there are some states who have shown some real leadership in the watershed already. And it's EPA's job to hold

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everybody to a level playing field with respect to the release of nitrogen and phosphorus.

COMMISSIONER BOESCH: Would you anticipate you might have to get to the point of TMDL, total maximum daily load, much as we're doing with the Chesapeake, in order to achieve the end result?

THE HONORABLE LISA JACKSON: Yeah. You know, the Chesapeake Bay example is what happens when we all say for years and years and years that this is a worthy and important thing, healing the bay, or healing the Gulf. But, you know, at some point there has been a need to bring to bear the Clean Water Act. The Clean Water Act does give us some tools, not all tools, for dealing with runoff pollution, the pollution that comes from our lawns, the pollution that comes from our farms, the pollution that comes from our animal feeding operations, are all what cause the kind of algae buildup and low-oxygen conditions we see not only in the Gulf, but in other parts of this country.

And I do think that never should we take regulatory tools off the table. In fact, my hope

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continues to be for the Chesapeake that because we've outlined to the states that we're serious, we'll see other states do what Maryland and the District have done, which is try to get in front of us to ensure their citizens and their businesses and their agricultural community that the state realizes it needs to be done but has it as part of a bigger framework, but it's certainly something we have to look at.

COMMISSIONER BOESCH: Thanks very much.

Mr. Chairman?

CO-CHAIR REILLY: Are there other comments, questions?

Commissioner Garcia.

COMMISSIONER GARCIA: Just one question.

We were discussing the oil budget this morning. And some significant amount, we don't know how much, but some amount of the oil evaporated and was put into the atmosphere.

I assume that you were conducting air-quality monitoring tests during the spill. Can you tell us what those tests indicated and the likely

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consequences or any concerns that arose from those tests?

THE HONORABLE LISA JACKSON: Absolutely.

You know, air sampling was sort of the first sampling that we could stand up. Primarily because there's some amount of air sampling that happens routinely all around this country as part of Clean Air Act responsibilities that the states implement.

So the first thing that EPA did was contact the states and ask them to take their regular monitors which are located in Gulf Coast regions and sort of step it up a notch.

And by April 28th we were doing some additional sampling, looking for the volatile fractions of oil. And I have the data in my timeline, but I could get it for you. We added different constituents that are volatile in dispersants as concerns grew about the fact that there was aerial spraying of dispersants going on.

The samples and the results are available on our website. They went up, it depended on the

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turnaround time, but we would get the results, QA-QC them. In a couple of cases we put them up without QA-QC, and then we had to pull them down. That happened. And then we would also try to interpret them to compare them with some benchmark.

With the benzenes and the toluenes and the xylenes it was very easy, because we have human health benchmarks for those. And the fascinating thing is, I guess maybe it's the air equivalent to the hypoxia question. There is air contamination in the Gulf Coast region. What we didn't see was there was any huge spike as a result of the oil release, per se.

Now, you can smell, as many of you know, the volatile portions of oil at fairly low levels, lower than science says are a chronic health threat. But for some people they're an irritant. On a hot summer day -- and the weather was extremely warm on lots and lots of days along the shore -- people were either irritated or they would say, you know, I don't feel well, I can smell this strong petroleum odor and this cannot be good for me.

That's why early on, working with the state

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health departments, the guidance went out, you know, try to stay inside in an air-conditioned space. If you can smell it, it doesn't necessarily mean that it's harming you systemically or chronically, but if you can smell it and it's making you feel nauseous or ill, please don't do that, as much as you possibly can.

Now, for workers that's a different question. Obviously worker health and safety, OSHA and the Coast Guard worked very closely during the response, and they are probably better able to speak to that.

But it is very important for us to remember, just as we can't focus only on restoration from this issue and forget about the hypoxia issue in the Gulf, we can't only look at the air samples and say, Well, they weren't out of the ordinary, and not realize that ordinary in that region, just like much of the country, means there are a number of ozone alert days where we basically say to people, Please stay inside.

I mean, we're at the point in this country

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where there are many, many days where air pollution is significant enough that our only health intervention is to say to people who may have pulmonary problems or heart problems, you know, Our best advice today is to stay inside.

CO-CHAIR REILLY: Commissioner Beinecke.

COMMISSIONER BEINECKE: Just to follow up on that, Administrator Jackson. I think that one of the key issues that you find again and again when you visit that region is lack of public confidence in the data that's there or in the response that's been made. And I'm sure you've heard this many times, and we as a commission have been discussing, the whole issue of public confidence.

So looking back at what happened both with the dispersants and with air quality, is there a different approach that you would take in explaining to the public what the government's response is and how to develop a higher level of public confidence in that information?

THE HONORABLE LISA JACKSON: Absolutely, Commissioner. As the response wore on, EPA -- another

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one of our strengths, we don't always get it right, is that we do have fairly good relationships with NGOs and community organizations. And we did, and I'm proud of the fact, you know, include environmental justice, include community outreach as part of what we did, and oftentimes we worked hand in hand with the Coast Guard to set up and attend sort of these multi-agency meetings.

And yet there was still a lot of skepticism. Some of that I think is just the remnant of the fact that people down there are skeptical of the government, as I said in my remarks. I hosted a couple. I spent hours with fishermen, with the Louisiana seafood group, just hearing their concerns and explaining to them the rationale for my decision-making, and assuring them that I wasn't going anywhere and that I had no interest at heart except human health and the environment. It is very hard.

I think that over time, more investment in community, sort of trusted voices to do sampling and get information out, is important. But I also have to say that if there's going to be that investment, those

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trusted voices have to be willing to, you know, not hype, but be very honest about contextualizing information. Because, you know, I cannot tell you how hard it was for me to sit with groups who were just petrified. I mean, you know, the mental strain on folks down there I think was -- you know, has been talked about, thanks to the commission and others. And what we need to do I think as we're building all this scientific research, is building a system, a group of folks who can speak to the community and say, Yeah, we're reviewing the EPA data, and we understand what they're finding.

And we did, we had a mobile unit, a bus that could go anywhere. A couple of times what was really helpful was actually going out in community groups and saying, Okay, where do you want this bus? We'll go there, we'll sample the air so we can give you -- you know, you can watch us do it. That helped.

We found a lot of people didn't have Internet access. So actual fact sheets with data and information, that helped. But that's ongoing. And I think it requires a real sensitivity, too. And I

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don't think the Gulf Coast is unique with that. Communities trust each other, and they're the best source of information. You just want to make sure they're getting it from a source that holds themselves to the highest standards of scientific data collection and interpretation.

COMMISSIONER BEINECKE: Thank you.

CO-CHAIR REILLY: I have long been suspicious of dispersants, but you make a powerful case for their use in this instance. One of the questions or suggestions that the commission has heard is the need for more than laboratory tests of dispersants; open water tests. And they point out that not everybody is excited about getting permits to deposit oil out in an open water situation.

Are you open to that? Do you agree that that would be a helpful way to resolve these questions before the need arises to use the dispersants, and then we start the debates?

THE HONORABLE LISA JACKSON: Yeah. You know, Chairman, I should first thank you, because your leadership on this issue and also your willingness

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before you became chair of this commission to talk to me about your decision-making was very, very instructive.

I do think they need testing. I'm probably not the person, although I would be happy to talk to someone on my staff, about whether the next step is to really go open water, or how much you could really understand from what I would call a pilot field, controlled pool, swimming pool, for lack of a better analogy type of format.

You know, remember that right now the testing that's done to list the dispersant doesn't use Louisiana crude. It uses fuel oil Number 2 and Prudhoe Bay crude. So we, when we did our testing, we were actually doing testing on the dispersants on our list with South Louisiana sweet crude oil, and we used Gulf of Mexico water.

Because you're doing those same tests, just by changing the fact that you're using this crude meant that we spent a lot of time in the lab at EPA and with the contractors we hired, devising methods to ensure we got representative samples.

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Because when you think about it, if you're not dispersing the oil, then that's not helpful. So trying to find the oil disperse fraction as it became known was really important.

And I think there's a huge amount of science between fuel oil Number 2 and Prudhoe Bay and going into open water. And I'm probably not qualified to speculate more than that, except I would want to see sort of a progression before I would agree.

Now, the deep sea environment is different. And certainly that's a little harder to imitate those pressures and the temperature gradient between the oil and all. So I can't say it won't ever happen. But I can say this: I believe the industry is going to want to look at this tragedy and draw the conclusion that dispersants should be used all the time, at the wellhead, look how well it worked. And I am personally not there yet.

I think we had to make a decision. And there's a lot of other interventions. But having to sit in that meeting with those fishermen and explain why that trade-off seemed to be the lesser of two very

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evil situations is not something I think anyone should take lightly.

CO-CHAIR REILLY: Thank you. Thank you very much for your appearance today, and for this presentation.

THE HONORABLE LISA JACKSON: Thank you all.

PANEL III(b)

THE USE OF DISPERSANTS

CO-CHAIR REILLY: Admiral Landry and Dr. Kinner. Would you please take positions at the table.

Rear Admiral Mary Landry is Commander of the Eighth Coast Guard District of the U.S. Coast Guard. Dr. Nancy Kinner is Co-Director of the Coastal Response Research Center at the University of New Hampshire.

Welcome. Dr. Landry?

REAR ADMIRAL LANDRY: Thank you.

Good afternoon, Senator Graham, Commissioner Reilly, and distinguished commission members. Thank you for allowing me to be here today to discuss the Deepwater Horizon incident.

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Our initial response obviously occurred on April 20th, 2010, when the MODU Deepwater Horizon, with 700,000 gallons of diesel fuel on board, exploded 45 miles southeast of Venice, Louisiana. As the Eighth District Commander, I oversee the activities of the predesignated federal on-scene coordinators for the district.

Since the Deepwater Horizon impacted multiple port zones, I asked and received approval for designation as the federal on-scene coordinator for the Gulf by the Commandant of the Coast Guard. The Eighth District is based in New Orleans, and I would like to draw the commission's attention to the brochure that you've been provided, which outlines our mission areas and geographic area of responsibility.

The district I lead is divided into seven sectors, each commanded by a senior Coast Guard officer. With the volume of activities that take place year-round in this district, the Eighth Coast Guard District members are accustomed to responding quickly and working collectively with both the private and public sectors to respond in the safest and most

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effective and efficient manner to save lives, to protect property, and to minimize environmental damage.

The response to the Deepwater Horizon began with the Eighth Coast Guard District Command Center coordinating search and rescue. The Marine Safety Unit in Morgan City, which is subunit of Sector New Orleans, lead the response to the MODU fire, the pollution case, as well as the marine casualty investigation.

As is the standard procedure, the Eighth District Command Center briefed me and my senior staff immediately in the initial hours of this incident. My responsibilities as the district commander is to ensure all aspects of this response are going as prescribed by law, by policy, by doctrine and, when necessary, to pull upon resources or specialized services outside the district.

Early Wednesday, April 21st, we were still actively involved in a search-and-rescue case. The command center reported numerous survivors on the Damon B. Bankston, with severely critical injured

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survivors having been airlifted ashore to hospitals. We were also actively involved in the first steps establishing a unified command with the Coast Guard, the Department of Interior, EPA, BP, Transocean, other federal partners, and our coastal states.

Our doctrine from the Oil Pollution Act of 1990 requires preparing for a worst-case scenario, and the federal government and BP as the responsible party began mobilizing resources for response in accordance with the plan that BP had filed with the former Minerals and Management Service. My discussions by phone with then Commandant Admiral Allen and the area commander, now our Commandant Admiral Papp, were that others early that morning centered around the potential for the worst-case scenario. And the worst-case scenario I described is that the blowout preventer could have failed and that the safety features designed to shut the well could have failed to operate as designed.

We began a process to build out to the Unified Command response while ensuring the marine casualty investigation process was proceeding, to

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capture and preserve the important information of why this accident took place in the first place.

The Coast Guard and MMS have a memorandum of understanding dating to March 2009 which has since been transferred to the Coast Guard and BOE MRE, and so that both agency investigators were dispatched the morning of the 21st to rendezvous with the survivors who were sailing ashore on the Damon B. Bankston. This was to get the initial impressions from these survivors on what might have occurred with this incident.

As we aggressively staged a broad array of assets to respond, I had discussions with the four coastal sector commanders and explained I would assume the FOSC role for this spill. It was agreed that each sector would stand up an incident command post as needed to respond to potential shoreline impact in their geographic area of responsibility. We provided case updates up the chain. We worked with MMS. Admiral Allen was briefing Secretary Napolitano, and it was understood that Deputy Secretary Hayes of the Department of Interior was being dispatched to the

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Gulf.

On April 21st we were already undertaking the field response under the National Contingency Plan, working with other federal agencies as well as the affected states. When the rig sank, we were actually informed that 115 persons were accounted for, and that we were still searching for 11 potential survivors. We mourn the loss of these 11 workers, and our hearts go out to the families. We applaud the efforts of the good Samaritan vessels who were fighting the fire, the Coast Guard air crews, and the Damon Bankston, who took great steps to rescue the 115 member who were saved.

And on April 24th we discovered that there was a leak. There was a sons designation, and you've heard from Administrator Jackson the discussions about the dispersant use and protocols. I just want to emphasize that the preapproval for dispersants was clearly understood. We knew we had it for the Gulf. We knew that Regions 4 and 6 of the RRT had already ascribed to these preauthorizations. But I did make a commitment early on to Administrator Jackson that

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the -- it was obvious that if we considered subsea injection of dispersant, that we were going to go beyond the scale and scope of anything that was envisioned when this preauthorization was given. So we fully engaged not only the RRTs but the National Response Team members, and the -- certainly the EPA and the Coast Guard to make that decision and cross the decision. It was not cross the decision to use these dispersants without understanding that we would have robust, smart protocols in place to monitor the effects of this dispersant injection at the subsurface, mid range, and on the surface.

So it was with the three different tests where we proceeded to employ subsea dispersant injections. And I'll stop there.

CO-CHAIR REILLY: Thank you, Admiral.

Dr. Kinner?

DR. KINNER: Chairman Graham, Chairman Reilly, and distinguished members of the commission, thank you for giving me this opportunity to speak before you today.

The Coastal Response Research Center, a

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partnership between NOAA'S Office of Response and Restoration and the University of New Hampshire, acts as an independent, honest broker to oversee research on oil spill response and restoration, and serves as a hub for the oil spill R&D community.

The majority of research conducted on dispersants and dispersed oil has focused on their efficacy and effectiveness, with little research conducted on their long-term fate, behavior, and effects. In addition, much of the older research has not been peer-reviewed, nor used standard protocols. As a result, dispersant issues have been one of the foci of the Coastal Response Research Center's efforts.

In September 2005, the center convened a workshop in response to the NRT report on dispersants. The participants include government, academic, industry, and NGO scientists and practitioners from the U.S. and abroad. The workshop report was a detailed R&D plan for dispersants and dispersed oil. Concurrently, the center founded the dispersants working group, which consists of government, industry,

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and NGO organizations that fund or oversee R&D. The group coordinates their research funding and findings in order to avoid duplication of effort, update the R&D plan, and maximize the effectiveness of the limited funds available.

Unfortunately, due to lack of funding, only 25 percent of the approximately $40 million of research identified in the 2005 plan has been conducted.

During the Deepwater Horizon spill, the response community was at a disadvantage with respect to the use of dispersants. Little was known about the novel application of deep sea dispersant injection, with thousand-fold greater pressures and 80-degree C higher temperatures than those used in most research.

In addition, little research had begun on the long-term use of dispersants during a spill, and very little was known about the chronic toxicity, biodegradability, and bioaccumulation of dispersants and dispersed oil.

Approximately one month into the spill, the center was asked to host a workshop to address the use

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of dispersants as part of their response. The group of 50 experts, representing a diverse spectrum of views regarding dispersant use, arrived at conclusions that are worth reviewing today.

Number 1. No combination of response actions can fully contain oil or mitigate impacts from a spill the size and complexity of the Deepwater Horizon incident.

Number 2. Mechanical recovery, in situ burning, and chemical dispersants are all components of an effective response to surface oil pollution.

Number 3. Mechanical recovery is the preferred method for on-water spill response, because it removes the oil from the environment. But it is not always effective, due to environmental conditions such as wind and waves, which I should note were high enough during much of the Deepwater Horizon response to often prevent the use of mechanical methods and favored mixing of chemical dispersants into the oil.

It was the consensus of the group that the use of dispersants and the effects of dispersing oil into the water column was generally less

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environmentally harmful than allowing the oil to migrate on the surface into the sensitive wetlands and near-shore coastal habitats.

The group went on to conclude that there should be a continual reevaluation of trade-off options during a spill by a means of a consensus ecological risk assessment or the equivalent, and that detection, tracking, monitoring, and modeling are essential.

I believe that these observations are valid for future spills. In addition, there is a pressing need for independent, peer-reviewed R&D, funded through a rigorous competitive grants process, to address the long- and short-term fate and behavior of dispersants and dispersed oil, especially in deep offshore environments and Arctic waters.

We must also study the effects of dispersants and dispersed oil on a variety of relevant species and life stages with realistic exposure scenarios, especially in light of our increased ability to detect impacts now at the molecular level.

In conclusion, the Deepwater Horizon spill

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has reminded us that dispersants can have a role in a response to a prolonged, massive, offshore release of oil, when sea conditions prevent the use of mechanical recovery. We must not fall short in formulating, funding, and conducting a rigorous R&D program on dispersant use to be ready for future spills.

Thank you for giving me this opportunity to speak before you today. I would be happy to answer any questions.

CO-CHAIR REILLY: Thank you, Dr. Kinner.

Professor Boesch.

QUESTIONS FROM THE COMMISSIONERS

COMMISSIONER BOESCH: Yes.

Admiral Landry, you heard Administrator Jackson talk about the growing concerns because of the increased volumes of dispersants that were being used. And so the perception by some, members of the public, environmental groups and so on, was that BP was unconstrained in its use of dispersants initially, and that the use was growing on a daily basis. And then, of course, you heard Administrator Jackson talk about the directive, which basically asked them to reduce

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the use of -- moderate the use of subsurface dispersants and eliminate the use of surface dispersants, except in rare cases where they may be an exception.

And it seems, though, that exceptions were made every day, almost on request, rather than this being a rare exception.

I'm wondering whether you can describe for us the process by which the Coast Guard evaluated BP's plans for dispersant use, especially in this period where they were under the directive to eliminate, except for the rare cases, the applications on the surface, Number 1. And then Number 2, can you tell us whether, to the extent to which there may have been application of dispersants outside of the bounds that were described, particularly inshore and inshore environments?

REAR ADMIRAL LANDRY: Let me just explain that initially absolutely we had to follow the smart protocols for the preauthorized use of dispersants. So there was very active oversight of all BP's application of dispersants from the get-go, including

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an audit midway a few weeks into it, to make sure the planes were flying and applying the dispersants as appropriate, to make sure that they were being applied either by plane or vessel in the appropriate distance offshore. So we were monitoring very carefully throughout the beginning of the response to make sure they followed the protocols.

The tool, the subsea injection was based on weather conditions, as was mentioned by Dr. Kinner. The challenge you have in this environment is some days you can use mechanical means and in situ burn, and other days you only have the dispersant use as an option.

And the other part of this element of the protocols that were put in place for subsea injection included the operational requirement of continuing to try to secure the source. So source control and the VOCs, the volatile organic compounds that might reach the surface if you're not injecting subsea dispersant, were part of the parameters that led to our decisions for whether or not we were going to authorize use of subsea and surface dispersants.

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So we did push for a -- when we approved the subsea injection, we absolutely felt there could be a reduction in the amount overall of use of dispersants. And that was very promising to us, because we really realized we were reaching a very significant volume of dispersants being applied. But we did have times, and those days around the end of May when the directive was signed, where the source control issues and trying to keep the work on securing the source, were critical. We were going into the top kill phase, and we had to make sure that the workers on the surface could continue to work without a risk to their health, and we also had to ensure that we could continue to apply dispersants so that we could mitigate the impact on the shoreline.

COMMISSIONER BOESCH: I wondered if you could, on the issue of the frequency or rarity of the exemptions, I wonder whether you could provide for us some documentation of the frequency of proposals to apply dispersants that were rejected by the Coast Guard or scaled back by the Coast Guard to address this concern.

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REAR ADMIRAL LANDRY: I should probably explain. My role as the federal on-scene coordinator did secure on June 1st to go back to the district for hurricane season. My deputy, Rear Admiral Watson, stepped into my seat and the FOSC. But I am very familiar with the requirements we placed on BP to ask daily for the application of dispersants and being attentive to the volume and evaluating the volume. It was being submitted from Houma. It was also being reviewed by the Unified Area Command scientific group.

So each day we had to take conditions, what was going on with the operation, and factor that into any decisions to proceed with the amount of dispersants subsea and on the surface, with the overall goal of reducing the volume of dispersants being used. And over time we met that goal of reducing the amount of dispersants over times.

COMMISSIONER BOESCH: Thank you.

Dr. Kinner, you gave us a fairly ambitious and broad research agenda that you advocated for. I wondered if there are a few key questions or issues that should be addressed with respect to the effects

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of dispersants that are really central to understanding their risk in the decision-making process.

DR. KINNER: Yes. I think we have to develop a new set of protocols to evaluate the risks associated with dispersants. And there are a couple of things I would point out.

First of all, we have to use relevant species. So in the tests that were done this summer, for example, they used eumysage shrimp and an inland estuarine fish. Those may not be the most relevant species for this particular spill. And that would be true in any site. I think we have to think about the relevant species.

I think we have to think about the relevant life stages. And this is why I think doing that risk assessment and keeping it going during the spill is so important. Because you go, as time progresses, through different life stages of organisms. And different organisms are in their reproductive stages, et cetera. So we have to have something that's flexible.

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The other thing is that when we do these tests, we tend to look at, for example, 96-hour exposures. That's the standard. That may not be the relevant time frames that we want to look at. We're really looking there at what we called lethal or acute toxicity. And we may be much more interested in some cases in looking at not only acute toxicity but chronic toxicity. And that may change the time frame.

The other thing is that during these tests you want to look at specific compounds that may be of most importance, instead of looking just generally at what the concentration of oil is. Whether those compounds are in a water soluble state and/or what those specific compounds are. Because as you know, each compound has a certain toxicity, but in addition there is an additive, potentially an additive effect.

COMMISSIONER BOESCH: You're talking about compounds and components of oil rather than the components of the dispersant.

DR. KINNER: Yes, sir, I am.

COMMISSIONER BOESCH: And your point about the exposure time in the toxicity test, you made the

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point that maybe 96 hours toxicity test might not be adequate. But of course that has to be balanced again against what is the exposure time, at what concentrations. Because in most cases, of course, the concentrations to which an organism is exposed into dispersants works to -- dissipates rather quickly.

DR. KINNER: That's correct.

COMMISSIONER BOESCH: So when asked to replicate that, it would seem to me a static concentration.

DR. KINNER: That's correct. We actually funded a study by Mike Newman at VIMS. And he looked at what happened when you expose the organisms to a 96-hour exposure, and then put them in clean water, and began to look at what the impacts were after that.

And he found dramatically important results there. He found that many organisms that you might have considered impacted lethally were actually reviving. And those kinds of things. So I think we have to really have a view to revamping these, quote, standard protocols.

COMMISSIONER BOESCH: Thank you.

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Mr. Chairman.
CO-CHAIR REILLY: Thank you.
Thank you, Commissioner Boesch. I'm going to suggest that the commissioners submit further questions to you if that's agreeable. And we will look forward to your answers. I have one concerning the selection of Corexit, but we don't have time to go into it.
I want to thank you, Admiral Landry and Dr. Kinner, for your presentations today, and look forward to continuing to have communications with you.
Thank you.
DR. KINNER: Thank you very much.
PANEL IV
THE FUTURE OF OFFSHORE DRILLING
CO-CHAIR REILLY: Secretary Salazar, I understand, is in the house. Is that correct, he is here?
Good afternoon, Mr. Secretary.
THE HONORABLE KEN SALAZAR: Good afternoon.
CO-CHAIR REILLY: Deputy Secretary Hayes, Director Bromwich, welcome. Very pleased to see you

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here this afternoon. We know that you've been very vigorously addressing problems of the sort that we have been investigating. We've turned to the government today as the focus of our inquiry, and look forward with great enthusiasm to your presentation.
Thank you, sir.
THE HONORABLE KEN SALAZAR: Thank you very much, Chairman Reilly and Chairman Graham, and to each of the members of the commission. Thank you for your service to the country and your service on this commission as we move forward to understand what caused the explosion at the Deepwater Horizon, and how we move together to develop the gold standard for the development of ocean energy in a manner that protects workers and wholly protects the environment. So we would look forward to working with you, and today what we hope to do is give you an update on some of the work that we have been doing at the Department of Interior to achieve that goal.
I will make some brief opening comments on several matters, and then Michael Bromwich will make a statement about where we are on the moratorium and

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three key issues that we're looking at with respect to the moratorium, and Deputy Secretary David Hayes will then review quickly some environmental and science issues and initiatives that we have underway. Tomorrow you will also hear from Assistant Secretary Tom Stickland, who will be focused on the restoration efforts in the Gulf of Mexico, as well as Jane Lyder in interior, who has been focused on wildlife impacts.
Let me at the outset say to the members of this commission that for me as Secretary of Interior, I have one very simple goal, and that is that we are able to move forward with the development of oil and gas in the oceans of America in a manner that will protect the workers and that will, in fact, protect the environment. That is something that I have been committed to, will be committed to, and know that we still have much work ahead of us.
We started with our reform agenda Interior the day that I arrived there. When I came in to the Department of Interior as Secretary, we were given a plan that had been put together by the prior administration that essentially opened up all of the

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oceans of America for oil and gas development.
We took a look at the proposal that had been put on the table, a plan that was supposed to cover the period of 2010 to 2015, and at that time made the decision that we needed to have additional public input and comment on that plan.
And so we extended the 60-day period that was set forth in that plan to 180 days so that we could hold hearings around the country. And it took us from New Jersey to Louisiana to California and to Alaska. We solicited comments from the public, as well as from other agencies. And all who were interested, we received over 400,000 comments on that plan.
That part of the reform led to the March 31st announcement, which the President and I made. And we set forth a new framework with respect to development of oil and gas in the outer continental shelf. In essence what we said is with respect to the Arctic areas of America, we needed to develop additional information, additional science, additional information with respect to oil spill response. And

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so we reached back even into the 2007 and 2012 plan and cancelled four lease sales in the Chukchi and the Beaufort Seas, and made a determination through the President's directive that Bristol Bay and its ecological values meant that that place had to be protected into the future, and so no oil and gas leasing would be allowed there.

With respect to the Pacific, based on one of the OXLA factors in terms of the positions of the states, as well as the ecological factors of the Pacific, we said that the Pacific was off limits to development.

And with respect to the Gulf of Mexico, we looked at the central and the western Gulf of Mexico, and given the positions of governments, the infrastructure and the level of environment information and the other factors that we looked at, decided that was an appropriate place to move forward with respect to oil and gas. And with respect to the eastern Gulf of Mexico, the area closer to Florida, we said that so long as you stayed more than 125 miles away from the coast, that about 67 percent of the

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resource could be recovered in that planning area. But also important to note that that is a process which allowed for scoping and for environmental analysis to take place prior to making any determination; indeed, on the eastern Gulf we required congressional action.

And then with respect to the Atlantic, the brief statement on the Atlantic as we said, there needs to be additional information developed because there is a dearth of information, about 30 years old, on the Atlantic.

We also moved forward outside the oil and gas arena to embrace a new energy frontier for America, with a strong effort to develop renewable energy, especially wind off of the Atlantic. We have an Atlantic Wind Energy Office, and are moving forward with a number of different efforts to try to stand up wind energy with the Atlantic.

Finally, with respect to oversight and management of what was then the MMS, now the Bureau of Ocean Energy, a number of different initiatives have been undertaken. First at the beginning of the

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administration, moving forward and establishing a zero-tolerance policy with respect to ethics. Most of the issues that have been raised with respect to the misbehavior, if you will, of public employees occurred prior to the time that this administration came into office. We have established a zero-tolerance policy with respect to that.

We deep-sixed the royalty-in-kind program because it had been a place that had been scandal-ridden, a program that had problems, and part of the format was to then go ahead and terminate that program.

We also moved forward in the fall of 2009, and in testimony before the Congress, supported the proposition that this agency needed to have organic legislation. An agency that now exists by virtue of Secretarial order in my view then, as well as today, should have organic legislation, because this agency for the American taxpayer collects $13 billion a year, as well as it carries on the very important function of making sure that we have safe energy production in the outer continental shelf.

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And finally, in that same time frame in the fall of 2009 we asked the National Marine Board, an arm of the National Academy of Engineering, to put together a set of recommendations for us with respect to how we might be able to do better inspections and enforcement with respect to offshore rigs. That was an effort which we commissioned.

We are now in a state where we have a moratorium in place. There are three central questions which Director Bromwich has been reviewing in many meetings throughout the United States of America. And I would ask him to quickly review what those three central questions are and what some of his findings have been.

DIRECTOR BROMWICH: Thank you very much, Mr. Secretary.

Mr. Chairman, great to be here again. The Commissioners, it's good to be with you again.

As you know, the Secretary asked me in early July to hold a series of public meetings or forums during which I would gather information on the three issues that underlie and support his July 12

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moratorium order. And he asked me to gather that information by going around the country and soliciting contributions from a range of industry, environmentalists, others interested in the issue.

Just to review, the three issues are drilling and workplace safety, spill containment, and spill response.

What we did was to put together a program where we would touch all of the parts of this country that have interest in the offshore drilling issue. And we started in New Orleans in early August. We went to Mobile, Alabama; Pensacola, Florida; Santa Barbara, California; Anchorage, Alaska; Houston, Texas; Biloxi, Mississippi; and we ended on September 13th in Lafayette, Louisiana.

Through those eight programs we had close to a hundred presentations from representatives of industry, from environmentalists, from academics, and from a significant number, close to 40, elected officials who shared with us their views on the three issues that are on the table; that is, drilling and workplace safety, spill containment, and spill

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response.

We have, over the last two weeks since those forums concluded, been gathering that information, analyzing it, and synthesizing it. And even though our original deadline was to provide the Secretary with a report by the end of October, we're going to be able to provide him with a report by the end of this month. So, in other words, later this week.

THE HONORABLE KEN SALAZAR: I would like the Deputy Secretary, who has been involved in these efforts last year and throughout dealing with the response to the Macondo well blowout, to provide comments on both the science and environmental issues.

THE HONORABLE DAVID J. HAYES: Thank you, Mr. Secretary, and it's great to be here with the commission.

I just want to make a couple of quick points before we get in the Q&A, on the science budget that the Bureau of Energy Management has and how it's applying it, and with a particular eye towards the Arctic, given the commission's special interest in

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that today and always. We share that interest.

Mike's organization, BOEM, has a science budget of $30 million a year. And approximately up to a third of that is spent supporting science efforts by NOAA and by the United States Geological Survey. They are the biggest science customers of BOEM.

The balance is provided to independent scientists whose work is necessary, in BOEM's view, to fill important science gaps that face it. There is a standing FACA committee -- you're familiar with FACA, overly familiar with it -- that meets every year to review the proposed science priorities of BOEM. In fact, they just met the week before last to look at the current proposed science efforts.

In addition, we have independent funding of a number of issues that relate to the management of the oceans. And probably the best example and most pertinent here is the United States Geological Survey is the primary expert when it comes to polar bears and the behavior of polar bears, their interactions with the ice issues. They're the ones that did the work that underpins the listing of polar bears as an

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endangered species.

Dr. Marcia McNutt is the director of the United States Geological Survey. And consistent with both the USGS's role in science and her own interests as an oceanographer, the Secretary has asked her, as you may know, to do a special analysis of science gaps and science understandings vis-à-vis the Arctic to help inform decisions going forward.

So I lay this out just to give a flavor for the various players that we have involved in the science questions that are before us at the department.

I think I will close there, and I know we're anxious to get to questions and answers, and I'll defer back to the Secretary.

THE HONORABLE KEN SALAZAR: Thank you very much, Chairman Reilly, Chairman Graham.

Are there any questions?

QUESTIONS FROM THE COMMISSIONERS

CO-CHAIR REILLY: Thank you for those presentations. I appreciate them. I want to say that I particularly appreciate, Mr. Secretary, that when we

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invited you to talk about the Arctic today, you said you wanted to have a more expansive conversation, which we really welcome and appreciate.

I'll say also that among the many vigorous reforms that you have been busy implementing, one that I particularly admire is the degree of transparency and directness in your inquiries with respect to the status and quality of BOEM, of its staff, of its resources, of its general capacity to perform.

And what we know about that enterprise, we depend very much on your own oversight board and other Interior Department reviews.

I want to begin, and I'll simply list the issues that I hope we can get through in the next half hour so that we have it. I'm going to try to leave some time to get into the Arctic, too, with Commissioner Beinecke as lead questioner.

The first has to do with the state of MMS. It really, based upon the reviews that we've seen from your department, it's dysfunctional. It consists of people who have been undertrained, overworked, underfinanced, insufficiently supported by their

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district superiors according to more than 40 percent of the respondents, the workers at BOEM. Overly susceptible to industry pressures, several instances of that, of inspectors being reversed by their superiors; not equipped with manuals or protocols, policies. Certainly outgunned and possibly captured. That's the history. We're going to look back as well as forward here, because that's the responsibility of our commission.

So the question we really have is, how did this figure, the state of this agency, and the fact that it was so overworked, among other things, I understand something like 54 rigs per inspector were the responsibility of people in the Gulf, versus eight in California. How did that, or did that figure in your decision to go ahead and propose with the President an expansion of offshore oil and gas leasing?

And then of course, the follow-up to that is, how much has changed? And how much can we assume going forward, how this agency will be characterized by different -- by more training, formal training. I

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gather there's not been formal training for employees.

Compensation. Is it possible to use some of the resources, the procedures that have been used by other agencies, the government, to get especially technically trained people where they're interfacing with people who are compensated significantly more than they are, and you need simply a way to recognize that.

Have there been any suspensions, dismissals with respect to some of the things uncovered in the oversight board's inquiry and in some of the others.

Finally, with respect to your own reorganization proposal -- and I very much want to get into that, it's a major concern of the commission -- did you take into account the experience of other countries? We noticed that several countries, most notably the United Kingdom, Norway, Canada, Australia, have undergone very significant reorganizations in the way they have overseen, leased, regulated, enforced safety and environmental protection in the offshore environment. And have you looked, or did you look before you made some of your own proposals -- and I

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know it's unfair to ask a cabinet officer to talk about how seriously he might have considered moving an enterprise outside his own agency, but has that come up, and has the White House, has the administration, been involved in making judgments about proposals made by Former Secretary Babbitt and others, the functions of leasing and revenue-raising simply do not belong in the same place and in the same department with the regulatory enterprises looking at safety and enforcement.

That's a long list, I know. And I hope that we can get through a good bit of it, but I invite you to simply respond to any or as much of it as we can get through.

THE HONORABLE KEN SALAZAR: Absolutely. And let me just say, Chairman Reilly, I think there's no question that you shouldn't ask me and that you shouldn't ask the Department of Interior relative to things we've done or things we will do in the future. I think those are all good questions which you asked. Let me try to take them one at a time.

First with respect to the culture within

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MMS, there's a clear statement that I made when I hired and appointed, with the President, Assistant Secretary for Land and Minerals Wilma Lewis, a long-time prosecutor in the District of Columbia, a former inspector general of the Department, and now with Michael Bromwich, also a former inspector general at the Department of Justice, that we meant business when we came in. And that was we were going to change the culture within MMS. And we have been doing that. And as I said, I think most of the conduct which has been brought to light, which was not the kind of conduct that anyone wanted to tolerate in government or in public service, I think most of that is conduct that occurred back in '04, '05, '06. And I've asked the Inspector General to look again to see how much of that conduct has occurred, if any, from the time that we came in and imposed those new ethics reforms.

Having said that, those relate to ethics issues. There are, in fact, a whole host of other issues relating to whether or not this agency, with these very robust and important missions, has been adequately supported or financed to do the

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inspections, to do the kind of environmental planning to carry out the other functions. And that's essentially the assignment which we have given Mike Bromwich to do, and that is to overhaul this agency from top to bottom.

I will also say this, that within the organization of 1700 employees, I believe that most of them are good employees, they're good public servants. But I think as you all know, one bad apple can spoil the bushel. And so we continue to work on that, and with -- in a new unit which Mike Bromwich has already stood up, I believe we are well on our way to changing the culture within MMS.

Secondly, how that all related to the expansion on the OCS. Chairman Reilly, again, I think when you look at the announcement that we made on March 31st, what we said at that point in time is that we were moving forward with the process which OXLA contemplates relative to the creation of a five-year plan. That came after an extended period of comment of 180 days, which would have then kicked in a whole set of additional environmental analysis prior to the

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time that we made any decision about where it is that we were going to lease.

And so it might have been that even under that process, that at the end of day there would have been nothing more leased in the Arctic. We weren't prejudging that, because it's a process of gathering information and doing additional environmental analysis.

With respect to the future, if there is a singular goal that we have assigned to Mike Bromwich, it is to make sure that we have a robust agency that can do the assignments assigned to it, and one that you as a commission, one that the President, one that the Congress, one that the American people can be very proud of. That is his assignment.

In terms of personnel actions that have been taken, you know, through -- in both the sex and drug scandal in the Lakewood office at MMS, people have been terminated, some people have been prosecuted, and the other places where there have been the kind of misconduct which the Inspector General and the GAO have looked at, appropriate personnel action

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has been taken. And there are a number of people who have been affected by it.

Finally -- and I would ask Mike Bromwich to testify also just in response to your questions, Chairman Reilly -- I would say this: The reorganization which we have put forward essentially is an effort to deconflict the missions of what was then MMS. And so what we've done is we've taken the revenue collectors, moved them totally out of Wilma Lewis -- this is the Secretary, Wilma Lewis's part of the department, and moved it over into the budgeting and management functions, under Assistant Secretary Rhea Suh. And that's because the Department of Interior, unlike most other departments in the United States Government, has a major function in terms of collecting revenues on behalf of the 20 percent of land mass and the 1.75 billion acres that we oversee on the outer continental shelf. And that's true whether we're talking about rentals from solar projects on BLM lands or oil and gas onshore or offshore. And so the Office of Natural Resource revenue essentially takes out the revenue collector

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from those who are in charge of doing the planning and also doing the enforcement.

So then that leaves the other part of what now Mike Bromwich oversees, and that's the Bureau of Ocean Energy Management Regulation and Enforcement. There we split the functions between the function that on the one hand will do the planning and the leasing, and we will have the personnel that will be assigned to that function, from the other function, which is the policing, safety, and making sure that there's environmental compliance.

Now, your question is how did we arrive at that format and organization. We had a very extensive review conducted by people in my office, including Rhea Suh, Chris Henderson was our economic recovery person who came in from the private sector. And we looked at the experiences in places like Norway and the United Kingdom. And looking at the experiences and the way the organizations were set up there, this was what we thought would work best for the United States.

And because so many of your questions,

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Chairman Reilly, go to the exact assignment that I have given to Director Bromwich, I would like him to comment on your questions.

DIRECTOR BROMWICH: Let me respond to what you said at the top, Mr. Reilly, in describing my agency as dysfunctional, and then looking for reasons.

And if you go down those reasons, underfinanced? Absolutely. Underresourced? Absolutely. Only susceptible to industry pressure? Probably not only, but probably too much, in part because they were underfinanced and underresourced.

Outgunned because of the other reasons, being underfinanced and underresourced? I think the answer is yes.

So we have an agency that has been starved for a very long time, where the pressures were to process permits quickly and to push them out. That was the incentive system that I think has existed for a very long time. And that's the incentive system that the Secretary and I are trying to change.

I want to emphasize that the bulk of the employees in this organization now and before have

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been good, professional, dedicated public servants. They are now being given a new and expanded mission. They are being led to understand that safety and enforcement are preeminent values that they are to enshrine in all of the work that they do.

So I think things are significantly changing in the agency, but they will only change as much as you and I and the Secretary want them to change if we have the resources to do the job. That is critically important. Because as you suggested, it is absurd, the workload that was heaped on inspectors, in terms of the average number of rigs they were going to be expected to inspect. It was beyond anyone's ability, using the meager resources that existed, to do that job.

As to undertraining, yes, that's been a problem as well. As I'm sure you and many other members of the commission know, in times of tight budgets, the first thing to go is training dollars. I've seen that in police departments, other law enforcement agencies, and private sector organizations as well.

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And so we have not had the kind of robust training program that everyone should want us to have.

We are right now advertising for two training directors, because we recognize the need to put together the type of formal training program that is necessary in order to build a vibrant regulatory and enforcement capacity.

In the past our inspectors have been trained through industry operator courses. Well, they can learn a lot from those courses, but they are designed primarily for operators. We need a separate curriculum that is designed to get at training people to be inspectors and to do the jobs that they were expected to do in our agencies.

Just going back to one of the points you touched on early on in terms of compensation. We're going to have to be very creative to think of ways to recruit and retain the best and the brightest people in the oil and gas region so that we can get truly quality people who are willing to go into public service and stay in public service.

We're not going to be able to compete

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dollar-for-dollar with the oil and gas companies. But I think by pitching this as public service and trying to be more competitive than we currently are, I think we're going to make some very significant inroads.

And so among the many things we're going to be doing is exploring with OPM and other creative ways of trying to raise salaries for our inspectors so we can do a better job of recruiting them and retaining them.

And we also hope to recruit very aggressively, I'm going to recruit personally at various petroleum engineering schools and schools that train other professionals in related fields in the months ahead.

So we know this is a major challenge. We think we're up to it. I'm committed to making it succeed, as is the Secretary, and as is my entire organization.

CO-CHAIR REILLY: I have no doubt you understand this. I think you are trying to -- I guess the question I'm asking is how much has been accomplished so far. And I'm a little unclear. The

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oversight board that reported some of the problems I described, what was the cutoff date for that? At what point was that current, those problems that were described in that report?

DIRECTOR BROMWICH: My understanding was they were given the task of doing this back in the April/May time period.

CO-CHAIR REILLY: Of this year?

DIRECTOR BROMWICH: Yes.

CO-CHAIR REILLY: Well, things then were pretty bad at that point, based upon the responses that I have read.

DIRECTOR BROMWICH: Right. But as I'm sure you also read, the bulk of the report consisted of self-reporting by individuals in the agency. So these were not external critics coming in and in the face of denials or --

CO-CHAIR REILLY: I'm quite aware and was complementary of that fact and the Secretary's leadership in overseeing that.

But what I'm getting at is that I don't think you can fairly say that it was an inherited

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problem that the ethics issues and certainly the issues of reversing inspectors was in the past. It looked like from that report as though it was still an issue in the minds of the inspectors themselves who reported. Is that correct?

DIRECTOR BROMWICH: But nothing had changed in terms of resources as of that time. And I think that is a major part of the solution here.

THE HONORABLE KEN SALAZAR: Chairman Reilly, may I just add, frankly, you know, that report, as I think you appropriately said, you know, it lets everything hang out. Okay? And tells the American people what it is that was happening from the agency. It is a harsh report, but it is a real report.

But that's the only way that an organization can be fixed. The only way that we'll get the gold standard kind of an agency that you all want, that we all want, that the President has directed us to create, is to make sure that we understand what the problems are.

And so that report, as harsh as it may be,

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was a report we directed. It was a report --

CO-CHAIR REILLY: I am very aware.

THE HONORABLE KEN SALAZAR: It was a report that was done by my staff. And it provides Mike and me and David as we move forward with a roadmap on the matters that we need to address.

CO-CHAIR REILLY: It suggests a very large challenge, which I know you understand.

Let me, in the time I want to take, now to turn to the reorganization.

The proposed reorganization, as I understand it, your proposed reorganization, would have to be responsible for the management of leases along the outer continental shelf, and the bureau responsible for the enforcement of safety and environmental standards. Both of those would report to the same Assistant Administrator for Lands and Minerals, who reports to the Deputy Secretary, who reports to you.

Now, doesn't that pose the same apparent conflict of interest, promoting development of revenue generation on the one hand, I realize not receiving

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the revenues, versus safety and environmental protection on the other? And the reason I raise those other countries, none of them has done that in response to a catastrophe of the sort that we've experienced and some of them have experienced. They have all separated the enforcement, environmental, and safety performance and oversight from the management of the leasing.

THE HONORABLE KEN SALAZAR: Chairman Reilly, the separation is one that was driven, in fact, by what we looked at when we looked at the programs that have been set up in the UK and in Norway. And so the group of people that I had looking at other organizations felt that the separation which they recommended to me was a separation that would accomplish the deconflicting of the missions.

CO-CHAIR REILLY: Well, I agree it's a step forward. But in those countries it's actually a separate cabinet agency that oversees each of those functions. And that's what I'm getting at.

If I analogize to my own experience at EPA, were we auctioning off in one assistant secretaryship

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and receiving revenues, and then overseeing environmental performance, air, water, and so forth with another, I can't imagine that we would not be accused of being conflicted. And so that's really fundamental in my question about the reorganization proposal.

THE HONORABLE KEN SALAZAR: I recognize that that is one alternative which could have been pursued. It was our view -- and we'll have David comment on this as well, because he was overseeing the effort. It was our view that the way we had split up the functions with respect to the different missions, appropriately accomplished the same separation that was accomplished in the UK and Norway.

David?

THE HONORABLE DAVID J. HAYES: I would just make two quick points, Mr. Chairman.

One is that the fact that both report in to the Assistant Secretary does not suggest that they do not -- those two entities do not have independence. The National Park Service and the U.S. Fish and Wildlife Service both report in to a single assistant

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secretary, but they're very independent. Likewise, the Bureau of Reclamation and the U.S. Geological Survey both report in to a single assistant secretary. They are very different, very independent organizations.

I guess the second point I would make is somewhat similar to EPA. In 1992 the decision was made by Carol Browner, after the transition period that I served on, to separate out the Office of Enforcement from the permitting agencies that were granting the permits. And the concern was that it was not appropriate for the clean water administrator, assistant administrator, to also have the enforcement segment in that same group. And so same agency, but separate out the functions. That's basically what we're trying to do here, too.

CO-CHAIR REILLY: But there were no revenues involved with that.

THE HONORABLE DAVID J. HAYES: No. Well, the revenues had been moved out completely into a whole different area of the -- of the department. I see your point, though.

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CO-CHAIR REILLY: I would just say, with respect to science, that you didn't get much of a chance to talk about it, Mr. Hayes. I would simply commend to you the experience that we have had after Prince William Sound, where a substantial amount of money, more than $100 million, was put into science to provide the kind of baseline reports that allow us today to say that the persistence of oil there continues to be noted and have ecosystem effects. And that turned out to be a very constructive thing, based upon what I've learned as recently as a couple of weeks ago in Alaska.

I would like to continue this conversation, and we will look forward to doing it. I think within this week we're going to have another commission meeting with you, and very much appreciate your time with us.

But I'm going to turn it over now to Commissioner Beinecke to relate to the Arctic issues.

COMMISSIONER BEINECKE: Thank you, Chairman Reilly. I have two areas that I would like to explore with the three of you.

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The first is the expanded offshore oil and gas leasing program, and the consequences of the accident on your approach to that going forward.

So NOAA is the lead ocean and coastal agency in the federal government, and you envision expanding operations extensively into the offshore environment. Do you have a different process that you would be planning to proceed with of how to consult with NOAA on baseline science, what areas are of environmental significance, and how their expertise ought to be integrated into the planning of a five-year leasing program? Because in an earlier hearing we heard that there was very little consultation going forward. So I'm just wondering if you have a different approach based on what we know now.

THE HONORABLE KEN SALAZAR: Commissioner Beinecke, you raise a very good question. Let me make the following points.

First, I acknowledge NOAA and the expertise that NOAA has as an agency and the importance of the Department of Interior and myself as secretary to make

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sure that consultation does, in fact, occur with NOAA.

It did, in fact, happen in the last round of the process in developing the five-year plan. They did, in fact, submit comments. As David just commented on, much of the money that we actually spend on science from what was then MMS, what is now BOEM, was actually spent in contracts with the NOAA scientists.

Now, does that mean that the consultation could not be enhanced and improved? No, I think the answer to that is yes. We need to make sure we have a robust consultation with NOAA because of their very important mission, as we do with other agencies. And it is part of the reason why I have asked USGS, for example on the Arctic, to make sure that we are getting the best of science from USGS with respect to the Arctic.

We also are in the process of putting together a new MOU between ourselves and NOAA relative to the consultation process. And perhaps Director Bromwich may want to speak to that as well.

DIRECTOR BROMWICH: Yes. We've been

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involved in a series of meetings with NOAA and others who are interested in these issues. And I foresee that we will be entering into an MOU with NOAA specifically on some of the issues you're identifying, in the very near future. The most recent of those meetings happened last Friday. They are going forward on a regular basis, and I think we will have something to announce in the not-too-distant future.

COMMISSIONER BEINECKE: Thank you.

Now turning to the Arctic, Secretary Salazar, you were up in Alaska recently, and you stated publicly that you would be undertaking various specific analysis before you made decisions on whether to proceed in the Arctic.

One of the things that we've heard a lot about is the response gap in the Arctic. We watched in the Macondo spill the technology being stretched to deal with the spill of that magnitude. And of course the conditions in the Arctic are very, very adverse and very different than in the Gulf, and yet the technology is the same.

So could you just talk a little bit about

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what specific issues you've asked to get more information on as you proceed with decisions relative to the Arctic, and specifically how you're dealing with this response gap of what the technology currently is, and whether that could be applied in the very different conditions in the Arctic, whether it could be applied successfully.

THE HONORABLE KEN SALAZAR: Commissioner Beinecke, those are all very good questions. And, indeed, it was because of the what I consider to be the lack of sufficient science in the Arctic and the reality of an oil spill response and the conditions that are so different in the Arctic than they are, say, in the Gulf of Mexico, that we made the decision to withdraw the leases that had been scheduled to go forward in the Chukchi and the Beaufort Sea. Those questions were relevant during the last year in 2009/2010. Those decisions were reached, those decisions are still relevant today.

The reality of the Arctic is that you don't have a United States Coast Guard response capacity in the same way that we had in the Gulf of Mexico. The

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reality of the Arctic also is that you are operating in frigid conditions, with floating ice and other kinds of hazards and very narrow windows in which you can operate under up there. So those are very relevant questions.

There is, on the other hand, a reality about the Arctic seas, and that is that you are dealing with depths that are much less than what you are dealing with in the Gulf of Mexico, at a hundred to 150 feet.

And so we are looking at it, and it's part of the science and information-gathering that we'll take on in the months and certainly in the years ahead as we decide how to move forward.

Overall, Commissioner Beinecke, my approach as Secretary of Interior on the Arctic has been to go slow, to be thoughtful, to develop additional information. And that's why we ended up in the cancellation of leases in the Arctic area, but also further down outside of the Arctic, but dealing with Bristol Bay in the protective way that we did it.

COMMISSIONER BEINECKE: Thank you.

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CO-CHAIR REILLY: Questions? Mr. Garcia?

COMMISSIONER GARCIA: Yes.

Good afternoon.

Once the moratorium is lifted, and this is just an estimate, but how many rigs do you expect to be drilling in the first month?

THE HONORABLE KEN SALAZAR: I am going to have Director Bromwich answer that question because it's a question that I have been asking of him as well.

COMMISSIONER GARCIA: Well, glad to give you another opportunity.

DIRECTOR BROMWICH: Sure. I would be happy to do it.

In the first month, probably very few. And let me take a step back and describe what the process is.

We have two very significant rules that are likely to be issued towards the end of this week, one of which will have an immediate and quite substantial impact on what companies will need to do. It's called the interim final rule. It's going to be effective

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immediately. And it's to impose a significant number, mostly of technical requirements, on the industry.

Now, these will not come as a surprise to the industry. They were foreshadowed in the May 27th report that Secretary Salazar delivered to the President. And we've been talking about them, I've been talking about them to a significant degree during our public forums, just underscoring the point that industry can expect these to come out, and even outline the schedule on which they're going to come out.

So industry has known that some collection of these new steps are going to be coming out. I don't know, because I haven't called individual operators, I don't know which of them various operators are already compliant with and which of them will take some period of time for industry to comply with. But there are a significant number of additional requirements that industry is going to have to comply with, and many of them to certify that they have complied with.

So even when the moratorium is lifted,

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you're not going to see drilling going on the next day or even the next week. It's going to take some time. And I would simply be guessing at this point how long it will take companies to submit their new applications, and how long it will take us to very carefully and responsibly review those applications to make sure they're fully compliant with both the old rules and the new rules.

COMMISSIONER GARCIA: You know, that's a good point, the last point you raise. Given the fact that you are underresourced, understaffed, how do you anticipate that you will be able to review these proposals and assess the efficacy?

DIRECTOR BROMWICH: Well, we are stressed and we are stretched, but we also need to adjust to the new realities that we're going to be dealing with in the near future.

So I have directed the reassignment of certain resources, both from California and from Alaska. In addition, there is the internal reallocation of resources within our Gulf regional office. So we will have a significant number of

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additional people who will be dealing with both shallow-water permits that are already pending and the deepwater drilling applications that we can fairly anticipate.

THE HONORABLE KEN SALAZAR: If I may, Commissioner Garcia, make a comment on it.

I think what I would like the commission to take away from this is that we are moving forward in as thoughtful a way as possible as these requirements are imposed. But they are not new.

When we sent the report which the President directed me to give him, the so-called 30-day report in to the President at the end of May, that report laid out a number of different recommendations relative to safety.

Those recommendations were put together through outreach and through expertise that we had internally as well as outside, including some of the members of the National Academy of Engineering.

And so much of what we will be announcing in the next several days is carrying out the recommendations that we made to the President in the

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safety report.

I will say this to the commission: I know this commission is created in large part to get to what the root causes were of this explosion and this oil spill, which no one ever wanted to happen, but it did happen. It's incumbent upon you, incumbent upon us, to learn everything that's going on.

We do not yet know what the root cause of this was. I visited the blowout preventer to see the LMRP and the BOP and the riser pipe and the pipes cut, all now a crime seen in Michaud, Louisiana, on this Saturday because I wanted to see what it looked like and to understand the forensics that will be undertaken, which ultimately will give you as a commission, which will ultimately give the BOEM, Coast Guard Marine Board, the evidence they will need to determine what exactly went wrong here.

There is no doubt in my mind that there was, at the end of the day, the hand of human beings that had some responsibility for failure for detection or other things that happened, perhaps several days before April 20th. You've heard some of that

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testimony here.

But having said that, we do know that we can move forward and are moving forward with new requirements concerning cementing, concerning casing, concerning the testing of blowout preventers, including the requirement that they be tested under different conditions in the subsea, and a whole host of other things that have already been learned.

The last six months, from April 20th until we declared the Macondo well dead Sunday a week ago in the morning, have been very much a laboratory of learning. So indeed, as the relief wells, the two relief wells were being drilled to finally accomplish the bottom kill, there were testing requirements that were placed on the BOPs that had never been put on before. And they gave us information on what to do with respect to blowout preventers relative to the testing protocol that will be required.

So as you look forward to what happens in the postmoratorium world, the lessons that have been learned over the last six months are lessons that we will be applying in the new regulatory framework that

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Director Bromwich will be initiating here in the days ahead.

His report to me on the moratorium was due on the 30th of November. He has worked very hard, along with an entire team of people. And the extensive outreach which he described to develop a report that will make recommendations to me on how we might move forward with recommendations, as he said in his testimony, he expects to get that to me by the end of this month. I very much look forward to reading it, analyzing it, and spending some time looking at the options and making decisions on how we move forward.

CO-CHAIR REILLY: Other questions?

Commissioner Ulmer.

COMMISSIONER ULMER: Thank you very much.

Mr. Secretary, I would like to thank you for your Great Outdoors initiative, and I would also like to thank you for your efforts to rebalance the MMS, now BOEM, approach to safety and environmental concerns.

My question relates to spill response

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plans. They've been criticized as lacking adequate review and lacking transparency. And this morning we heard a lot about the Unified Command and a representation that basically for small scale spills, that has worked very well; but for a spill of this dimension, just the scale made the response very challenging. Which kind of brings me to the question of how much information does the agency have about the potential size of a field that is going to be permitted for an exploratory drill, and the response plan that is commensurate with the size.

So this is what I'm thinking: The spill response plan for an elephant-sized field versus a horse versus a mouse, should be pretty different in terms of what kind of capacity the industry has to respond to a spill. It sounds like there has been a rubber-stamping of spills over the last -- or spill response plans over the last decade or so, which has led to a less-than-appropriate level of planning for at least these elephant-sized fields.

So, does USGS provide some information when MMS, now BOEM, is actually reviewing the appropriate

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scale of a response plan? How could we improve public comments on these response plans, and integrate the appropriate science from the region, from the universities, from other parts of the federal government, to really have them be effective?

THE HONORABLE KEN SALAZAR: Commissioner Ulmer, it is a very crucial question, and, indeed, it is one of the three major questions which Director Bromwich will address in the report that he will deliver to me with respect to oil spill response plans.

And one of the things that he is doing is looking at the question of worst-case discharges. And, indeed, as we move forward with our program on shallow-water drilling, it has been an issue which has been addressed there. And it's something which we recognize is a very important foundational issue as we move forward with respect to developing oil and gas in the oceans.

My view of what happened in the post-Exxon Valdez days is there was a national sense shared by Republicans and Democrats alike, multiple

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administrations, multiple secretaries of interior, that essentially when you were dealing with oil spill response, you were dealing with a finite quantity of oil, an amount of oil from a tanker, for example, that could be quantified.

I think what we found out during the 75 days of the Macondo well flowing out into the ocean is that this invading oil was very difficult to quantify in the first place, which brings in and of itself a whole set of lessons which we learned in terms of instrumentation and other things we are working on. But also just the difficulty of being able to respond to it.

So that is one of the key issues which Director Bromwich is working on for me. And I would ask on this one also, because Deputy Secretary Hayes has worked on it so much, I would have him comment as well, and then Mike Bromwich.

THE HONORABLE DAVID J. HAYES: Just a quick comment, Commissioner. I don't think there's any question that the spill response plans need a fresh look, and we intend to do that.

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On your threshold question, which is a profoundly important one, how do you know in the aggregate that you have adequate capacity for the fields that are particularly large, as well as the small ones.

In fact, under the current system, companies are expected to do spill response plans based on all of their assets in the region. And the irony here is that BP had a spill response plan that anticipated a spill of 260,000 barrels a day, significantly more than the Macondo well.

So I think that's not the problem, frankly, in terms of whether the response plan is sized correctly. The challenge is, is the response plan truly capable of execution. And that's where, clearly, the process of staleness that's developed since Exxon Valdez, both in terms of review but also in terms of the companies having the vitality of response efforts available, and the R&D investment, and sort of the technology investment, it's not been there.

There has been an overreliance on the

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shared enterprise of the Spill Response Corporation. And we had a very provocative session last week, because we now have this same issue arising now with containment, which previously really had not been addressed in any significant degree at all. It's really an extension of spill response. If you have a deep sea blowout, how do we contain it as a portion of the response.

The Secretary is leading a very thoughtful exercise here that we look forward to working with the commission on, on how best to deal with these issues.

I will say that one of the holdups, if you will, in terms of the approvals of shallow-water drilling, has been the requirement in the notice to lessees that we put in earlier this summer that companies identify a worst-case spill analysis scenario.

That had been removed by the prior administration from exploration plans. We put it back in, and it's taking companies a while to come up with those scenarios and for us to review those scenarios. We expect that to be continued if and when the

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deepwater moratorium is lifted. That's appropriate, we think, and necessary.

THE HONORABLE KEN SALAZAR: Mike Bromwich.

DIRECTOR BROMWICH: Yes. Very quickly, it has not gone unnoticed that the spill response plans need close scrutiny. And we're doing that right now, and we're hopeful that within the next few months we'll be able to give guidance to lessees, through formal notifications, on how our thinking is changing and the additional requirements we're going to be imposing on the industry. But it is very much under review right now.

COMMISSIONER ULMER: I would encourage you to include something along the lines of a public response opportunity, a 30-day public notice, something that allows the public, people within the region, within the states, to be able to review those response plans.

THE HONORABLE KEN SALAZAR: Thank you.

COMMISSIONER BOESCH: Secretary Salazar, I'm pleased you chose to highlight your prospective investments in the science programs going forward.

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At our first hearing in New Orleans, I think Director Bromwich was present when some scientists from agencies testified about the lack of deep understanding of the Gulf of Mexico that was necessary to fully understand and respond to this spill. And I think Director Bromwich even volunteered that he recognized that this had been an underresourced, indeed, science program.

Just before lunch here today we heard from scientists who were investigating what's happened with the spill in deep water, and actually used some quite remarkable technologies, both mechanical, remote-sensing deep operation technologies, as well as biotechnologies, to help understand this.

It struck me, as a long-term observer of the science programs, support the MMS program, in fact I chaired the science board way back when, that MMS then was using fairly descriptive approaches to its science program. One approach is really designed to answer some questions that had to be addressed in the EIS rather than the long-term operational conditions.

And so I was wondering whether you, in your

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thinking about this in the future, you're also doing something similar to what you say Marcia McNutt is doing for the Arctic, looking at the requirements, long-term science requirements in the Gulf of Mexico, particularly deepwater Gulf of Mexico in light of this experience, with making sure that we're using the best and brightest scientists that we have in this nation, quite remarkable, and the new technologies that are emerging from science, to help our understanding in very dramatic ways.

THE HONORABLE KEN SALAZAR: Director Boesch, the answer to that is yes, we're doing it. First there's a very extensive monitoring program that is being worked on, and a monitoring protocol with respect to the Gulf of Mexico and the impacts from the Deepwater Horizon. And those protocols are now being finalized as we speak, and they will more forward in the next couple of days.

Secondly, we are conducting ourselves, within the Gulf of Mexico, a supplemental environmental impact statement to take into account the consequences of the Macondo spill.

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And third, you are correct in that I -- my own view is we have an agency that has such an important responsibility for this aspect of our ocean energy resources. It's important that we have the best robust science. And so that's why there are 10,000 scientists, Director Boesch, within the Department of Interior; some in USGS, some in the U.S. Fish and Wildlife Service, some at BOEM. And part of the agenda that we have is making sure that we have those resources on science focused in on these activities.

We are asking for an additional $100 million in the budget amendment which we have pursued which the President has submitted to the Congress. It's being deliberated right now. Part of it will be to add additional science resources to BOEM.

CO-CHAIR REILLY: Chairman Graham.

CO-CHAIR GRAHAM: Thank you, Mr. Chairman.

When do you estimate your next lease call for leases in the Gulf of Mexico will be issued?

THE HONORABLE KEN SALAZAR: We'll make that determination in the months ahead. Here is, I think,

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Chairman Graham, the sequence.

I will receive the report from Director Bromwich on the moratorium. I will take a good and hard look and study it, obviously, as the product of major input already. We then will take a look at the leasing schedule. I think the next lease in the Gulf of Mexico was not scheduled to go on until sometime in 2011. And so as we craft our program going forward, we'll make whatever adjustments are necessitated by what we are learning from this process.

We have cancelled one of the lease sales which was supposed to go forward, I think it was in the last month, David?

THE HONORABLE DAVID J. HAYES: Yes. Yes. And, you know, as the Secretary referenced, the Secretary has asked for a supplemental environmental impact statement to be done, because obviously this spill has had an impact on the Gulf. And the question being, that environmental analysis should go forward, and before our next sale occurs. So to some extent we're going to see how long that takes.

But the Secretary is committed to having

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good science and good environmental review inform the timing of leasing sales.

CO-CHAIR GRAHAM: Part of the reason for asking that question was our last panel, we had one of the panelists from Woods Hole commented about some resistance that his organization had encountered in their research while the spill was still ongoing.

I cite that as a specific example of some of the kinds of things that need to be considered for inclusion in the lease terms. It's really I think intolerable to have a major accident like this, have an agency of the quality of Woods Hole, under the auspices of the federal government, thwarted in its efforts to fully understand because the leaseholder is withholding access to information.

So I think this next round of leases is an opportunity for the federal government, as essentially the owner on behalf of the American people of this property and this environment, which potentially is at risk, to use the leases as a means of setting a new set of standards of how this property is going to be managed.

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THE HONORABLE KEN SALAZAR: Chairman Graham, if I may, we believe really strongly on science and the integrity of science. And even in the moment of crisis, with the invasion of oil in the way that threatened this country in the way that I don't think anybody ever imagined that we would ever face this kind of a situation, we still put together the best of scientists and engineers from around the world and focused them in on the problem.

We held the first science summit in my office with Secretary Chu, where we gave guidance and oversaw what was happening with respect to the efforts to try to stop the spill.

We hosted a first meeting of scientists over at EPA with Administrator Jackson. We brought scientists from around the country who we wanted them to be involved with us as we looked at the science issues moving forward.

And then the leadership of both Administrator Lubchenco from NOAA and the USGS director Marcia McNutt, and John Holden, the director of the OSD in the White House, pulled together a group

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of scientists down in Louisiana to also help guide the effort.

I would just conclude by saying, Senator Graham, is that these efforts have just begun. The need for scientists, obviously not only in the Gulf but with respect to what we do in other places such as in the Arctic, is something which we very much understand.

CO-CHAIR REILLY: Mr. Secretary, I have a couple of requests and one final question.

We have focused before, as you have, I think, on various industry alternatives for supplementing, with a change in industry culture, the regulatory process that you oversee. And one of those we looked at closely is in the nuclear industry, the Institute for Nuclear Power Operations. There are other examples of that, and I raised this with Director Bromwich at the last hearing.

Have you had a chance to form an opinion on whether that would be a useful addition to your arsenal?

THE HONORABLE KEN SALAZAR: Chairman

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Reilly, we are in the midst of taking a look at that very issue at a conference which Deputy Secretary David Hayes pulled together with Secretary Chu and myself just last week.

We had industry, as well as Secretary Chu, Admiral Allen and others, give us an overview of some lessons learned and trying to look at the way forward.

Tom Hunter, who is a former director of Sandia Labs, has developed a set of principles and a protocol relative to the formation of a collaboration. Even over the weekend I had conversations with him, asking him to help us in terms of trying to elaborate on what that would look like.

And so my response is, we don't have a decision yet on which way to go with respect to the formalization of this collaboration, but we recognize it as a very important issue.

It's an issue, frankly, that's raised in part by industry's commitment, now joined by BP, to basically put a billion dollars up for just the oil spill containment piece of the issues which Director Bromwich was speaking about.

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The question is, how should that be governed; should it be under the auspices of a nonprofit called the Marine Oil Spill Containment Corporation, or should it be done in a different way.

And so those are the issues which we are working at, and we will have I think some recommendations for you and others to look at in the weeks ahead.

CO-CHAIR REILLY: That you. My requests are -- I know you have a contract with Mackinzie, which is looking at a whole range of -- we don't have time to go into it, but I assume reorganization questions and various others. Could we be privy to those recommendations as they come in and have a copy of that report just as soon as it's available?

DIRECTOR BROMWICH: I'm working most directly with them. They are in the course right now of gathering information by visiting, along with me and others, our Gulf offices, our other offices. I don't know that a final report is ever the aim here. It's going to be a rolling process because of the importance of getting real time information and then

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making decisions relevant to the reorganization as promptly as we responsibly can.

So I would suggest that we talk with you and your staff about sharing the information with you, but I don't want to promise a report when I may not even get a report.

CO-CHAIR REILLY: I appreciate that. We will cooperate however that is most productive. We'll be out of your hair by January anyway.

THE HONORABLE KEN SALAZAR: I do think, though, on that point, Chairman Reilly, I think it is important. We are dealing with a dynamic situation. You obviously have a report that you will deliver in January. And I think the quality of your work and your presentation can be enhanced by what it is that we're learning as we're moving forward with these processes. Because as you can tell from our testimony and the written testimony which I have submitted to you today, which I didn't bother to read because it probably would have taken the whole hour, but it shows the work we are already doing, because we are not waiting.

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But as we are not waiting, it is also important for us to make sure that we're working with you and your staff so that you know what we know.

CO-CHAIR REILLY: Your efforts have already been very helpful to this commission, and your experience very instructive.

The one final request I was going to make is the oversight board made 50, if I remember correctly, recommendations to you. We would be very interested to know where you stand with those, how far along you are. Obviously you're intending to accept quite a number of them, according to what Director Bromwich has said. And the degree to which you're getting support on those questions, the request to OPM, for example, for differential pay opportunities for inspectors and the like, we would be very grateful to have that and will take it seriously and take it into account for our own report.

THE HONORABLE KEN SALAZAR: We will keep you informed and updated.

CO-CHAIR REILLY: Thank you.

Mr. Secretary, Deputy Secretary Hayes,

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Director Bromwich, thank you very much for this very illuminating and forthright conversation.

THE HONORABLE KEN SALAZAR: Thank you.

May I make a closing comment?

CO-CHAIR REILLY: Certainly.

THE HONORABLE KEN SALAZAR: Chairman Reilly and Chairman Graham, you are working on a very important subject, obviously, to the Department of Interior and the United States of America. But in so many ways it really will go beyond the United States, because I believe that the gold standard that we all develop here in this country will be the guidance for what will happen around the world. So the serious nature of what you're doing and what we're doing simply cannot be overstated.

Let me just say to you in the most blunt way of what I hope happens as a result of this tragedy, which no one asked for, no one wanted, but it has happened. And so the question is where will we go from here.

It is my fervent hope, first of all, that we can lead the way in developing the safest

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production of oil and gas in our ocean, that does, in fact, protect the environment, and protects the workers who are working out there on those rigs.

And secondly, knowing the members of this commission and your history and your support for conservation and for restoration, that we will be in a position where in the Gulf of Mexico as a result of this tragedy we will see a restoration of an ecosystem which people have dreamt about for a very long time. From the Mississippi River and its diversions, to the barrier reefs, to the 36 United States fish and wildlife refuges and the national parks in that area, it is an ecosystem which is truly one of the landscapes of national significance for the United States of America. And your support as we move forward with that agenda as it unfolds in the months ahead is something which we very much will appreciate.

CO-CHAIR REILLY: We appreciate that. If you would like to come back tomorrow, we're going to concentrate on restoration.

Thank you, Mr. Secretary, thanks very much.

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PANEL V

RESPONSE IN THE ARCTIC

CO-CHAIR REILLY: Senator Begich, we understand you were running a little bit behind, and we understand that you are pressed for time, too. We very much appreciate your appearance here on just about I think the shortest notice yet. Defend Alaska. And you have the floor, sir.

THE HONORABLE MARK BEGICH: Thank you very much, Chairman Graham, Chairman Reilly, to all the members of the commission. Thank you for this opportunity to testify about your important mission to our nation, investigating the causes of the Deepwater Horizon spill and recommending action to get America's gas and oil industry back on track. Special greeting to Fran Ulmer. We are very proud of you to be on this national forum, and we know that you'll contribute a great deal. So again, good to see you, Fran.

Until the accident that you're investigating, Alaskans lived through the worst oil spill in the nation's history. From Easter weekend in 1989 when the supertanker ran aground on a well-marked

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reef, to the resulting Supreme Court decision two years ago, the Exxon Valdez disaster has been a nightmare for thousands of Alaskans. 11 million gallons, enough oil to stretch from Cap Code to North Carolina's Outer Banks, gushed into Alaska's most spectacular, sensitive, and productive areas. Now 21 years later, scars to Alaska's environment and Alaska's people remain. Thousands of Alaskans, sadly fewer each year, were only recently and partly compensated to the damage to their lives and livelihood.

Last month I traveled to the Gulf to personally witness the devastation clean-up from the Deepwater Horizon spill. I think of those who are working hours after hours under tough conditions to clean up the spill, including many Alaskans bringing their experience to the Gulf.

I've also met with some of the families of the 11 workers killed when the rig exploded. As we assess the lessons learned from both these accidents, one truth rises above all others: We must be committed to paying the price of vigilance, because

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the price of complacency is too high.

In the aftermath of the Exxon Valdez, Alaskans led the way for tougher national laws in oil transportation procedures, including the double-hulled tankers, tractor tug escorts, and better citizen oversight of the oil industry.

In the aftermath of the Deepwater Horizon, I would urge the commission to propose additional actions which the federal and local governments should take to guard against another such fatal tragedy.

As the top of my list is providing the tools to guarantee that those affected by the oil spills are justly and promptly compensated.

In Alaska's case, Exxon fought the legitimate claims of Alaskans for nearly two decades until the Supreme Court shamefully reduced the company's punitive liability to just 10 percent of the original court's $5 billion judgment.

I have introduced legislation to do exactly this by increasing the financial liability for oil companies and requiring any company responsible for oil spills to establish an independent escrow account

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to compensate those affected by the spill. The current $75 million liability cap must be raised. And I recommend no cap for deepwater wells like Deepwater Horizon. Taxpayers should never be on the hook for oil company mistakes.

My other main message to you is to help put America's oil and gas industry back on track. About two-thirds of the oil and gas this nation consumes comes from countries, and countries of some who don't simply like us. My own state of Alaska, long America's energy storehouse, is ready and willing to help. We have billions of barrels of oil and trillions of cubic feet of natural gas on land and offshore, posed for development. Of course, Alaskans firmly believe these energy resources must be developed responsibly, to protect our environment and the people and the wildlife which thrive on it.

I know my friend Mayor Itta will address this in his remarks when he comes up next.

Unfortunately, the Obama administration's moratorium on deepwater development in the Gulf of Mexico has had collateral damage to Alaska, shutting

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down the planned exploration in the Chukchi and Beaufort Sea this season.

I've asked my friend Secretary Salazar, who you just heard from, and the Obama administration, to provide a clear timeline and process within the next 60 days so that the energy development in Alaska has a clear path forward.

To encourage responsible domestic energy development, I've introduced numerous bills designed to find the regulatory tools and resources, including better Arctic science, new Coast Guard facility in the far north, new requirements to NOAA and the Coast Guard to prevent and respond to oil spills, a louder voice for residents in development decisions affecting them, and revenue sharing with the states and communities affected by energy development.

Finally, I've worked with my colleagues to forge a compromise that would protect taxpayers while keeping responsible American companies in the OCS by allowing those operators to pool their liability and collectively pay for the damages from oil spills.

Mr. Chairman, I don't envy you and your

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group in the task before you. But I do want to say that it is critical as you continue your work, that it's done in a timely manner. Alaska seasons, when it comes to oil and gas development, is not something you can turn off and turn on. The decisions that the industry makes now will determine what happens the next 14 and 18 months in our Arctic Ocean as well as in the other area within Alaska because of our seasonal activities.

Almost all of our development at OCS is shallow water. The amount of review is enormous. And I will say it's significantly different than what you've seen in the Gulf. I joke a lot about how anytime you think of anything about oil and gas development in Alaska, before you even do it, you're more than likely going to get sued. And then we go through a whole process that is very tedious, very informed, as well as the state, local, and federal jurisdictions have enormous review over what we do up in the Arctic here and what we do on shore on the north slope. So I would ask you as you develop your recommendations, which I'll be willing to help and

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assist if there's legislative action, to keep the process moving. But the most important thing from Alaska's perspective as you deal with deepwater is Alaska has been, as I mentioned earlier, collaterally damaged. The work in Alaska has slowed down a great deal because we're waiting to see results of all these different commissions.

The problem is the timing. As we move through the winter now, the next 60 days, many in the industry will make decisions what they do next year. What they do next year will pave the way to the future. We have enormous gas resources, as I mentioned, and oil resources. And honestly, I was born and raised in the state. There's no better place, when it comes to developing, how to understand the importance of the environment as well as doing the development. Alaskans are clearly aware of what can happen in an environmental disaster. At the same time, we understand what we need to do to protect and be prepared for it.

I think in Alaska we have an enormous and a very robust state procedure as well as also, as I

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mentioned, federal and, as I also mentioned, the litigating process. There's no question anytime, as I said, we think of oil and gas development, we get sued. And as we do that process it actually opens a lot of debate and discussion. But at the end of the day it has gone through enormous review, more than probably anywhere in this country when it comes to development.

So let me end there. I'll be happy to answer any questions. But I do thank you for allowing me a few minutes to be able to give you my thoughts. And again, I commend you for the work, and I don't envy you at all.

CO-CHAIR REILLY: We're very pleased to have you.

Dean Murray.

QUESTIONS FROM THE COMMISSIONERS

COMMISSIONER MURRAY: You know, if as you say there are collateral damages with the moratorium in the Gulf and the rethinking of how we regulate oil and gas drilling, should those collateral damages continue through going into the winter, what effect is

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that going to have on Alaska's economy, and what can the federal and state agencies do to mitigate that?

THE HONORABLE MARK BEGICH: I'll give you -- and again I know some folks will be here to tell you specifically what will happen. But I'll give you the general sense. 80-plus percent of our revenue streams for the state of Alaska are oil and gas related; in other words, they are royalties and so forth, severance paid.

But the reality is as you move down in the next 60 to 90 days, you can't make a decision what's going to happen next year. As the pipeline, which is our main component of our economy in the sense of state revenue stream, that amount of oil going through the pipeline continues to decrease. At a certain point you cannot operate it when it gets too low. And we're getting to a point where the volume is getting significantly low. It also has a direct impact to the revenue streams of the state.

It is critical that exploration continue to determine where those next resources will come from to continue to fill that pipeline, which of course fills

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the economy of this country, and it makes a choice of instead of buying from countries that hate us, we buy it from ourselves.

And so it's a multiplier effect. Now, what would the federal government do? No disrespect to my colleagues in the federal government, as now a member of the federal government. They are not fast to respond to economic issues. And I limit -- I would rather have the stake and continue to do what they're doing, in the sense of encouraging oil and gas development which fills the coffers of the state, which they can distribute through their own means. If you get to a point where it's an economic hardship, you know, unemployment rises, which of course the federal government plays a role, the welfare rolls rise because people are not working? I mean, the list goes on and on. So it's a cost one way or the other.

And from our perspective, you know, for example -- and I know the industry will tell more about this, you know, the issue in the deep water with the single blowout preventer, in the development of the Arctic you end up with usually two blowout

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preventers, one on the ocean floor below and one in the ship above, because the distance is so narrow. You know, anywhere from 70 to 80 to a hundred, 200 feet. So it's not 5,000 feet. So it's a whole different -- but our precautionary measures are much greater.

And so it will have clearly over time a direct impact on the economy. There's no question about it. I mean, luckily, you know, the industry is still kind of there, even though this year was very iffy. And some of the stuff that was delayed was nothing about drilling; it was doing geological surveys; simply trying to figure out where the lay of the land is. And that was now caught up in this.

So what I'm saying is, there are two different things. In the Arctic we have a whole different procedure on how we deal with it. And it's much different than the Gulf, where some of you are already recognizing some of it was just business as usual. Not in Alaska. You can't do anything without having enormous amount of public review.

COMMISSIONER MURRAY: To that point,

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though, the response plans in Alaska obviously have to deal with many things that you don't have to deal with in the Gulf, including ice, months of darkness, and the fact that there's no Coast Guard station that could do quick response.

I noticed that you said that you had put into pending legislation a Coast Guard station in the north. The question is, should the federal government be right in its slowing down, because obviously the response plans have some issues in the Arctic.

THE HONORABLE MARK BEGICH: Well, I guess I would say -- you know, I'm not going to talk about the Gulf of Mexico response plans, because they had animals down there that didn't exist, but that's another issue in itself.

I think in Alaska the response plans that have been laid out, they go through -- again, it's not just the federal land. There's a state jurisdiction as well as, depending if it's on shore, it has another local component. Being a former mayor, you know, when you have local government involved, more than likely if you are going to develop you're going to get really

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tortured. You're going to have a lot of requirements. But saying that the Coast Guard is an important factor, I don't question that at all. But if you look at where most of the oil spill technology comes from in response, it's industry response. The Coast Guard is the facilitator in most cases. And so what you see in their plans is multiple layers of protection and response equipment. Again, they can give you more detail on what they provide, but each one is a little different, depending on the type of work they are doing.

But there is no question the requirements they have and will have, at whatever level of exploration or development, will be pretty significant, more significant than you've ever seen down in the Gulf. Because we understand the sensitivity of it. The industry understands the sensitivity. But also, you're not dealing with 5,000 feet of water. You're dealing in much shallower water. You have the one aspect, which you mentioned the Coast Guard, which we think there should be a northern base, or a forward base for the Coast Guard,

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but that's not the only thing that does the response. Especially in the Arctic.

COMMISSIONER MURRAY: How can we and you, and of course the local people, be confident that the industry can carry out what its response plans are?

THE HONORABLE MARK BEGICH: Well, you know, there's always -- and, you know, we've recommended an advisory like we have in the Prince William Sound, and the Gulf is now recommending it, where they have a citizens advisory council. I'm a big believer and it's a great way to get the citizens, who are going to be the most critical, in making sure their environment is protected, is engaged in. I think that's a huge positive step.

Again, you'll hear from Mayor Itta. He will tell you exactly what they do now. They are fully engaged in what goes on. Because the subsistence lifestyle of Alaska natives is very dependent on the resources of the ocean. And they understand also there's this other piece of the equation, which is the development that will occur over time. So how do you balance that?

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I think they have set up very solid mechanisms to do that. And all onshore as well as now continued discussion of offshore.

So the community is -- you know, again, I see a much different type of relationship with the community in Alaska and our development of oil and gas than what you see in the Gulf. The Gulf, it's been going on so long it's just kind of like you go down the street, there's another oil well being drilled. In Alaska it just doesn't happen that way. Like I said, when you think of the idea of drilling, litigation, it's communities engaged, it's full-court press. There's no, you know, We're going to do five wells today and that's the way it works. It doesn't work that way.

And so you have full engagement. It's not just with the folks who are on the slope; it's all the way through.

I know when I was the mayor of Anchorage, which is the largest urban area in Alaska, we were engaged in making sure how that went and what went on up there.

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So I think obviously the advisory board that we've suggested through legislation is one way. But there are mechanisms already in existence that do a very good job in giving input. And very aggressive input, I must say. The industry will tell you too aggressive, but we think it's just right.

COMMISSIONER MURRAY: Still, there is a difference between the Beaufort Sea, which is very shallow water and very close to shore and more easily accessed than the Chukchi. Do you believe that there are very distinct differences, and should the regulations be different in those two areas?

THE HONORABLE MARK BEGICH: I agree with you, they're different, and there's probably differentials in the regulation.

Here's the issue that we put on the table. Whatever those regulations are, whatever those conditions are, the most important thing for the industry to know is, what are they? Then they can work with it. But if you don't know what they are, then you have no way to plan for it. And that's a dilemma we're going to have.

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You know, I was just listening to Secretary Salazar talk about, you know, in a few months they'll have their report on the moratorium. Well, a few months, then they're going to take -- knowing how the federal government works, another few more months to think about what the report should say or not say, and then they'll take another couple of months of review, and then we're into March of next year, probably, at the rate they're going.

And what I argue for for the state from our view is, tell us what the rules are. And if there's differentials between Beaufort and Chukchi, lay it out, and then let the industry determine if they can mitigate and resolve those issues. If not, then they'll make an economic decision.

But at the same time, if you don't know what the rules are, there's no way to plan for it. If you can't plan for it, then they stop. And these are global companies that will go elsewhere.

Honestly, some people I know will say, from parts of the different communities, Well, good, they won't drill in the Arctic. Well, here's the moral

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argument we have with ourselves. And that is, we can continue to get oil and gas or oil, 60 percent of our oil from countries, a portion of them from countries that hate us, that use the money to do many things that do harm to our country. Or we can go to the most responsible country in the world when it comes to oil and gas development -- that's us -- and develop our resources properly as we continue to diversify our energy base in this country.

It's not an either/or. It's they have to both go together. And this theory that some have, and I know I hear it. They say, Well, if we can just delay the Arctic long enough, the economics won't work for them anymore, and they'll go off to somewhere else, Nigeria or whoever, you know, Sudan or wherever.

Well, that is a moral argument that I'm not willing to accept. That is unacceptable for us, as citizens of this country, to say that we will continue to buy oil from countries that have the worst or no -- they're not even equal to our environmental standards that we have right now.

And if you do your work as you go forward,

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we'll even have better environmental standards. It's a moral argument that we should not subject ourselves to, and figure out how to do this the right way.

And that's why I argue, yes, there might be differences between Beaufort and Chukchi. But lay the rules out, and let's see where we go. But if we don't lay the rules out, no one goes anywhere.

CO-CHAIR REILLY: Thank you.

Other questions for Senator Begich?

Commissioner Ulmer.

COMMISSIONER ULMER: Senator, thank you so much for joining us today.

You have a package of bills, and as you briefly described it, and as we have additional information in our pamphlets, revenue sharing, research, more capacity of response, Coast Guard, RCACs, et cetera. Great package. One could make the argument that you'd want that package in place before you actually made a deal on the Arctic. Because as you know right now, it's zero revenue sharing for the state.

THE HONORABLE MARK BEGICH: Right.

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COMMISSIONER ULMER: And there are -- yes, it's true that I think the industry has tried very hard to come up with response plans, way in excess of what is either required or what is being done in other places, but there's still a lot of the flavor of we are at the edge of the frontier, in some pretty powerful ways, given where we would be talking about doing business.

So I'm just wondering, is there some chance that your package might actually pass in the near term? And if so, wouldn't that help with some of the objections that people have currently to development in the Chukchi and Beaufort.

THE HONORABLE MARK BEGICH: Thank you very much, Fran. And I think there are two pieces to the equation. Which one comes first? Because both take time. You know, development that's just doing their geological survey doesn't come online next week or next year; there's a spread of time. And in a lot of ways these should move, in my view, simultaneous.

A big chunk of our legislation actually got rolled into what they called the Shore Act. The Shore

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Act was actually in process to move the last time before we took break. I believe that the Shore Act will be part of a larger or a mid range -- I would rather have it a much larger -- energy package, but a mid range after we get back on the first of next year. Because there seems to be wide acceptance of some of the things we've laid out.

Senator Rockefeller, which is the lead on the Shore Act, he incorporated a significant portion of our legislation. It did not include the revenue piece of it in the sense of the revenue sharing, only because that was another legislation.

Now, saying that, I think we're going to have some sort of energy legislation between now -- when I say "now," not this week, because we're out as of this week, but when we get back for the lame duck and/or early part of next year.

And I think they can move simultaneous, because you've got to keep in mind the timetable that it takes to develop a field in the Arctic is not something you just do like in the Gulf of Mexico, where it's very quick. Ours is multiple years.

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Actually, that's a big argument I know that industry on the issue of the moratorium, they're losing years off their lease they can't do anything on. But the fact is, I think you can simultaneously move them together. But if you stop and say, Well, which one comes first, and then we get all this in play, it may mean multiple years down the road.

And I think we have, you know, multiple pieces of the puzzle simultaneous is how I would argue this, with a cautionary look to make sure our regulations are tight enough that industry can respond to them, at the same time putting additional infrastructure in place. I think we can do both.

But if we sit here and say, Well, we're just going to sit here and wait and hope for everything to be done, honestly, we'll -- you know, five years from now we may not have this forum, hopefully not, but we'll be sitting around talking about 70 percent of our oil resources instead of 60 percent coming from foreign countries. That is not the right equation.

But I do think they can work

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simultaneously. And that's why we've worked aggressively on our piece of legislation, to move it forward.

CO-CHAIR REILLY: Any other questions?

Thank you, sir. I know you have to move along. And we appreciate it very much, as I said, that you made arrangements to speak with us today and deliver this statement on such short notice, and we look forward to having continued cooperation with you in following your legislative proposals, for which there's a lot of sympathy, I think, on this panel.

THE HONORABLE MARK BEGICH: Very good. Thank you all very much. Thanks for the time.

CO-CHAIR REILLY: Well, we don't catch a break here, do we? Who wrote this schedule?

Would the panelists like to take a five-minute break? I think they would.

Hearing no dissent, we'll be back in a few minutes.

(Short recess.)

PANEL V(b)

RESPONSE IN THE ARCTIC

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CO-CHAIR REILLY: All right. Let us resume.

We are continuing now, this is Panel V(b), Response in the Arctic. And we're going to hear from Pete Slaiby, who is the vice-president for exploration and production, Shell Alaska; Captain John Caplis, Chief, the Office of Incident Management and Preparedness of the U.S. Coast Guard. Mayor Edward Itta, the Mayor of North Slope Borough, Alaska, will be with us by hook-up, I understand. He will be able to see us and hear us, as we will him. And Dr. Dennis Takahashi-Kelso, Executive Vice-President of the Ocean Conservancy and former head of the environmental department in the State of Alaska during the Exxon Valdez.

We'll begin with Mr. Slaiby.

MR. SLAIBY: Thank you very much, Commissioners. Thank you for the time.

I'm going to make my presentation, being an engineer, perhaps a little more visual. I'll make it very quickly with you with videographs, if I might. And I have submitted written testimony.

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I would like to talk very briefly about Shell's proposed 2011 program with the recent presentation with the Secretary of the Interior. We talked about those areas that will not be leased. Of course, there are a number of leases in the Arctic that are being pursued.

Our plans will be to drill two wells in the Arctic in 2011. We have a very short open-water season that runs from about mid-July, statutorily concludes on the 15th of October.

We will also be doing a large body of work that has absolutely nothing to do with drilling, but has everything to do with continuing to build a scientific baseline.

There has been a half a billion dollars' worth of studies that are done in the Arctic to support exploration drilling. And we continue to develop those studies to do the research that we need for our possible future development. So we will be looking at shallow hazards, which basically means clearing drill sites for gas. We will be looking and continuing to gather ecological data to develop a

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baseline of the flora and fauna in the area that we're working on, on an already large basis. We'll continue to develop and understand Arctic ice currents, meta ocean work. And finally, marine mammal monitoring becomes a very, very large portion of what we're doing as well; understanding the creatures that inhabit the Arctic.

Talking very briefly again about the three-tier oil spill response plan. We have always prepared for the low-probability and high-impact event at Shell. It's something that from the very beginning when we reentered Alaska in 2006, we decided we had to do. And we've actually put a plan in place that will be ready from the moment we start drilling.

It will be very different than what we saw in the Gulf of Mexico in that it won't take a phone call to start the plan. All of these assets that you see will be deployed from the moment we start.

Now, that doesn't mean we won't have other assets that we can call up, but these assets will be available from the moment the well is started or what we call spudded. The oil spill around the offshore

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area will be statutorily ready to go within one hour after an event would happen. And ready 24/7. Then we would have the other areas, our other areas we can call in to get additional help as the scene might or might not escalate.

Our oil spill contingency plan has been reviewed by a number of people and meets the state and federal standards. Senator Begich just talked about the exacting standards that we have had in Alaska that are perhaps different than other places.

We have a world-class contingency plan, and ours is, indeed, a world-class contingency plan, oil spill plan, that has been reviewed by the agencies that you've seen. And to answer I think some of the questions we've had, it has been exposed to the public through the coastal zone management process, where it is extensively reviewed by any stakeholders and residents of the North Slope Borough.

We've looked at worst-case discharge for 2011. And we will have a case with the wells we're proposing that are significantly lower than the planning standards that we've put in place. However,

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we will keep all the resources that we have in place and exceed those planning standards, as we have done from the beginning.

We looked at the Alaska planning standards, and we opted to exceed it, both with mechanical and other mechanisms.

I'm not going to be able to talk at length, save it for questions, on oil spill on ice. But there is a lot of work that's been done on that, and a lot more discussions we've taken on individually with this commission.

We're proposing to put a containment system in place as well. The containment system won't be as large as we've seen in the Gulf of Mexico, simply put because our worst-case discharge will not be as large as we can see in the Gulf of Mexico. So we've opted to go ahead and move and go forward on that one.

Our system would be available, would be deployed in Alaska, and would be ready to go into service for our 2011 program.

It would work in what you saw in the Gulf of Mexico with respect to capture, and it would also

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be available to do containment work.

We also have agreed to do additional measures that you can see on the right-hand side of the viewgraph with respect to a second relief well rig, BOP testing every seven days versus 14. Second set of shear ramps which Senator Begich talked about. Actually putting our remote panels away from the well itself, in looking at what went on early on at Macondo, I think that's a very good idea as well.

What's the size of the prize? And again we talked a little bit about this, but about 25 billion barrels of oil, 120 TCF of gas. It is material. The only area that has additional material would be the deepwater Gulf of Mexico. This is more material than the East Coast and West Coast combined, significant benefits, $72 billion in payroll, 35,000 jobs. And those jobs, that's average jobs over a 50-year period, hundreds of millions for Alaskan contractors, extended life of the trans-Alaskan pipeline.

You can see we have a fairly significant presence in Alaska, and I think with that I'll close and take questions later.

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CO-CHAIR REILLY: Thank you.

CAPTAIN CAPLIS: Good morning, Chairman Reilly, Senator Graham, distinguished members of the commission. I appreciate the opportunity to appear before you today to discuss oil spill response in the Arctic.

The Arctic is one of the most challenging and dynamic regions in the world. Industry and government are well positioned to support and respond to current land-based activities. One of the key lessons of Deepwater Horizon oil spill response is that we must always be preparing for worst-case scenario, and responding to spills off the Arctic coast provide unique challenges, especially during the winter months, due to extreme conditions. Inclement weather, sea ice, cold temperatures, extended darkness, and the incredible remoteness of the region.

The Arctic region is both large and remote, which is why it is important that provisions are made to pre-stage the necessary equipment. Even in Deepwater Horizon we saw some assets were immediately available, while others surged from other areas and

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required time to sail to the Gulf.

Depending on the type of event, similar realities may exist in the Arctic as well. In such cases, alternative response strategies such as controlled burning and seasonal global mobile assets that are limited by ice coverage and seasonal conditions are the best immediate response options available.

Given the challenges, I have highlighted three key areas, which lessons learned from Deepwater Horizon are particularly instructive with respect to actions we can take to prepare for the future needs of the Arctic.

First area is in contingency planning. One of the lessons learned in Deepwater Horizon is that regional and area contingency spill plans must be aligned with facility, vessel, and offshore facility response plans, especially when responding to a worst-case discharge.

The north slope sub area contingency plan addresses pollution response operations in the Arctic. The Coast Guard has been actively working with the

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State of Alaska, the Department of Interior, industry, and local stakeholders, to ensure that the Arctic response plans are aligned, that response resources and gaps are permanently identified, and responders are as well prepared as possible, given the challenges they would face.

Another lessen to learn from Deepwater Horizon is that outreach and education with local stakeholders is critical for understanding trade-offs of using different response technologies. The Coast Guard strongly supports conducting future ecological risk assessments for the Arctic. This process consists of workshops in which stakeholders can examine science, identify gaps, and discuss the use and tradeoffs of each type of response technology. The risk assessment would help federal, state, and local planners in their efforts to develop offshore response strategies for the Arctic.

Deepwater Horizon response also benefitted from the assistance offered by many of our international partners. Similarly, it is important to build upon both existing and new mechanisms for

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enabling the sharing of resources for oil spill response in the Arctic.

The second area is in research and development. Deepwater Horizon reminded all of us that the response tools need to keep pace with new technology, especially when new technologies enable us to work in difficult new environments.

The extreme conditions and challenges of working in the Arctic, especially when responding in ice during the winter months, require robust research and development efforts.

The Coast Guard is working aggressively with other federal partners, including the member agencies of the Interagency Committee on Oil Pollution Research or ICOPAR, which was created after the Oil Pollution Act of 1990, to advance research and development focused on the Arctic.

The third and last area I'll speak to deals with infrastructure. Deepwater Horizon highlighted the fact that when a disaster occurs, the American public expects our government to play a leading role, complete with the tools and capabilities necessary to

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respond.

The Coast Guard faces unique challenges operating in the high latitudes. The Coast Guard is in the final stages of completing the high latitudes mission analysis of the Arctic. This analysis focused on the unique challenges in responding to emergencies in the Arctic in terms of both harsh environment and the tyranny of distance.

The Coast Guard is working to refine its future operational requirements and to identify the precise mix of personnel resources and assets needed to carry out response missions in this vitally important region. In their interim, the Coast Guard continues to test and evaluate the performance of how its existing platforms can work in the Arctic environment. Coast Guard icebreakers continue to be a necessary asset for providing both command and control and access during an offshore oil spill response.

I thank you for your time, and I look forward to answering your questions later.

CO-CHAIR REILLY: Thank you, Captain.

We're going to hear from Mayor Itta now.

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Do we have the technology for that?

And there he is.

Welcome, Mr. Mayor. We are delighted to have you with us, even virtually.

MAYOR ITTA: Good morning -- good afternoon, Commissioner. Thank you. Can you hear me okay?

CO-CHAIR REILLY: I hear you fine.

MAYOR ITTA: Okay. Thank you and good afternoon. It is my honor and pleasure to be before this esteemed commission and your important work you're doing for our country, which also affects us very deeply.

And thank you again for giving me this opportunity to give a local perspective on oil spill response and prevention in what may be the next largest oil province in the United States of America, the waters of the northern coast of Alaska.

My name is Edward Itta. I am an Inupiat Eskimo, born and raised here in Barrow, Alaska, the northernmost community in the United States. And also am the Mayor of the North Slope Borough, which is the

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regional government that covers the entire northern portion of the State of Alaska and a significant amount of the northern coastal area of the State of Alaska.

Most people know very little about America's Arctic, and some are surprised that it's not just an empty expanse of frozen tundra and icy waters. There are people here. The Inupiat Eskimos have inhabited this land for thousands of years.

Our health and our survival have always depended on what the land and the sea give to us in the form of bullhead whales, caribou, other large coastal and marine mammals, the fish, the waterfowl, and it's important that I state that in this respect, we do not differentiate ourselves as a people from the physical world that we live in. We consider both the sea and the land and the Inupiat Eskimos to be one. Therefore, the fate of the ocean is our fate.

In recent years, people have become increasingly interested in the Arctic because it is the heat sink for the global climate change that's happening. We up here are seeing the effects in very

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dramatic ways, particularly in the ice cap melting at an alarming rate these past few years.

To the extent that this affects our marine mammals or their habitat, it affects us directly. The retreat of the sea ice is also opening vast new and promising areas to oil exploration.

Some groups have been quick to point out certain differences between the Gulf of Mexico and the Arctic outer continental shelf, implying that the Arctic is less hazardous.

There's no question, conditions in the Arctic are different, but in many ways those differences are far more daunting.

Some lessons of the Gulf disaster will apply, and some won't. But the Arctic possesses a distinct set of challenges that can only be addressed by Arctic-specific rules and precautions.

As stated earlier by various people, that we do not have the deepwater challenge of the Gulf of Mexico, but for most of the year we experience conditions of extreme cold and months and months of darkness.

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During this time the ocean freezes, and in the shorter seasons, the spring and fall, the ice breaks up and moves around in various forms.

So extreme cold, ice, and extended darkness are three of the unique challenges that must be considered separately from the challenges in any other parts of the United States waters.

We are also vastly removed from sources of assistance that are taken for granted in the U.S. waters. We don't have a port up here, large or small. The nearest Coast Guard station is 800 miles away.

When I watched the pictures of hundreds of vessels joining the Gulf response, I was impressed. But I knew that this scale of disaster response could never, could never happen in the Arctic. We lack the basic infrastructure to support it, much less connected by road to the rest of Alaska.

If the plan is to move forward with Arctic oil and gas activity, you should know that responding to a small spill will be hard enough. Responding to a massive spill is impossible.

So our concerns are a little different, and

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they beg for a different kind of preparation.

CO-CHAIR REILLY: Would you summarize --

MAYOR ITTA: For example, federal laws and regulations governing offshore operations are geared toward the lower 48 waters. Up here, everything revolves around the constraints of the season when the ice retreats -- recedes. That's known as the open water season, as stated earlier.

CO-CHAIR REILLY: May I ask you to summarize?

MAYOR ITTA: Pardon me?

CO-CHAIR REILLY: May I ask you to summarize. Your time has run out.

MAYOR ITTA: Okay. And we need to change the permitting system as it is. We need to slow down and measure the impacts as we move out into the ocean, and the current plan is a race against the clock, when it's not necessary or productive.

In closing, successful oil production in the Arctic must include a federal requirement for pipelines to offshore. And the last thing we need is another tanker disaster up here.

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The Arctic OCS needs a leasing, exploration, and production regime that is tailored to the extreme conditions in which we live. And I urge you to keep this in mind as you recommend revisions to the legal and regulatory framework for the nation's OCS program. Thank you very much.

CO-CHAIR REILLY: Thank you very much.

Dr. Takahashi-Kelso, please.

DR. TAKAHASHI-KELSO: Thank you, Co-Chairman Reilly, Co-Chairman Graham, and members of the commission. My name is Dennis Takahashi-Kelso, and I am executive vice-president of Ocean Conservancy.

I was Alaska Commissioner of Environmental Conservation when the Exxon Valdez ran aground in Prince William Sound, and I was responsible for ensuring that the state's clean-up standards were met. For two years I worked either on the spill in the field or on policy reforms to strengthen spill prevention and response. More recently I have assisted communities affected by the BP spill in the Gulf of Mexico.

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Both the Exxon and BP accidents underscore how crucial it is to take seriously the hazard; that is, the types and magnitudes of harm that ecosystems and communities would bear if the risk matures into a spill event.

That kind of assessment is needed even when the probability of any single event is low. Planning for a worst case is a key tool for dealing with the hazard.

In the Arctic, however, the government has not engaged in worst-case planning. As a concrete example, in preparing its environmental analyses for Shell's 2010 exploration plans, the Minerals Management Service explicitly concluded that, quote: A very large spill from a well-controlled incident is not a reasonably foreseeable event, and therefore this environmental assessment does not analyze the impacts of such a worst-case scenario. Close quote.

Both the Exxon and BP spills demonstrate powerfully that a gap often exists between the stated response capacity and the adequacy of the response under actual conditions. Consequently, it is

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essential not only to plan for a worst case, but also to evaluate the response gap in order to be realistic about our ability to deal with a major spill.

Whenever environmental conditions or other variables exceed the operating limits of oil spill clean-up equipment or any element of the spill response system, there's a response gap.

The severe conditions of the Arctic make it likely that a substantial response gap exists during much of the year.

Operations in the Arctic are subject to sea ice, extreme cold, fog, and limited visibility, high winds, seasonal darkness, as Mayor Itta described. Rapid changes in weather and ice conditions may impose significant down times on any response operation.

The studies show the mechanical oil spill response technologies do not work well in the presence of sea ice, even at relatively low ice concentrations. In situ burning may not be effective in certain ice conditions and may place at risk animals that use open leads in the ice.

Questions persist about the effects of

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dispersants on Arctic ecosystems, especially the benthic environment. And the Arctic lacks well-developed infrastructure in it's remote from large population centers, which will hinder mobilization of equipment and personnel, logistical challenges that could slow or stop response efforts.

In short, analysis of the response gap is especially crucial in the Arctic, with the severe physical conditions in which operations have to take place.

Two fundamental problems underlie everything about Arctic OCS oil and gas activities, and in my view they are the crux issues. First, despite broad claims about mobilizing equipment and personnel to respond if a discharge occurs, there has never been a successful test of spill response capability under realistic arctic conditions.

Although we may argue the fine points of equipment specifications, staging locations, and other details, the shadow looming over Arctic OCS decisions is that we are not in a position to protect either the ocean ecosystem or the Arctic's human communities from

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a worst-case spill.

The second crux issue is that the body of Arctic marine science is so limited and so out of date that we neither understand the key functions at ecosystem scale nor the site-specific dynamics necessary to make wise decisions about oil and gas activities.

Science is urgently needed to address questions at these scales and to document the uses that human communities make of the areas likely to be affected.

Secretary Salazar has taken a valuable step by initiating USGS science gap analysis. But the USGS does not have a history of engagement and expertise on ocean ecosystem science questions. Consequently, an independent entity such as the National Research Council, with its high credibility and multi-disciplinary approach, should conduct a comprehensive gap analysis from which an integrated, targeted science research program should flow.

And finally, oil and gas activities in the OCS should be part of a broader, multi-sector planning

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effort, such as the processes to be implemented by the new National Ocean Council.

The National Ocean Policy and its coastal and marine spacial planning commitment provide a framework within which to reduce conflicts and to ensure long-term ecological sustainability. In the Chukchi and Beaufort Seas in particular, the National Ocean Council's strategic planning efforts in the Arctic provides an opportunity to see OCS oil and gas in a larger, multi-sectoral context that leads to more robust outcomes. Thank you.

CO-CHAIR REILLY: Thank you, Dr. Takahashi-Kelso.

I will return now to our lead questioner, Francis Beinecke.

Commissioner Beinecke.

QUESTIONS FROM THE COMMISSIONERS

COMMISSIONER BEINECKE: Thank you, Chairman Reilly.

Mr. Slaiby, you've heard from your fellow panel members, each of whom in a different way has talked about the need to slow down and put various

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things in place before drilling in the Arctic should proceed; contingency planning, infrastructure, science, taking into consideration the local communities that live there.

How do you respond to that, and what has Shell done, and what is required of you by the Interior Department to address those specific issues?

MR. SLAIBY: Thank you, Commissioner.

We have been actually in slow-down mode for a number of years now. We have been working in the Arctic for over half a decade to do many of the things that we talked about. But let me address this systematically.

With respect to the Coast Guard, we, too, support the Coast Guard presence more proximal to drilling. However, we do believe that with their role -- and their role is spelled out under OPA-90 -- they can discharge that role right now with their base in Kodiak. They are just three or four hours away by plane. And the assets, as they were in the Gulf of Mexico, belong to the individuals and the companies. We have our assets under contract and ready to start.

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With respect to Mayor Itta's concerns, we work very closely with the Mayor. We have, indeed, slowed our program down. We've significantly cut back so that we can literally get in and prove that we can do what we've done in the 1980s and 1990s. We drilled 30 wells in the Beaufort Sea in the 1980s and five wells in the Chukchi. We want to demonstrate that we can come in there with low-impact, low-footprint programs. Our oil spill response program actually has a larger impact.

But we have listened to the Mayor when he talked about too much, too soon, too fast, and pulled our program back.

With respect to existing science, we agree that to put a development in will require more science. That's why we're out this year, and you look at 2011, we'll continue to gather science. However, we very firmly believe that the existing science, the half a billion dollars spent, supports exploration drilling.

Final comment I would make is, from the engineering side, although one always wishes to have

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the big wells and have the productivity, we will not see the worst-case discharges that we've seen in the Gulf of Mexico with the Macondo well.

We believe that our assets are actually more than adequately sized, and that the State of Alaska's planning standards do, indeed, encompass a broad range, over 3,000 wells drilled in the north slope with these standards.

Now, that said, we will fully comply with NTL 6 and are ready to do so immediately with respect to designing our oil spill equipment to meet that worst-case discharge that will be detailed in NTL 6.

For 2011, we have capacity that's extra.

COMMISSIONER BEINECKE: Could you just respond to the response gap issue that we all looked at. The clean-up operation in the Gulf of Mexico, the technology there, fully deployed, was barely adequate to deal with the consequences. And it's the same technology; the booms, the skimmers, the burning, that you are proposing in the Arctic.

So how can you assert that those technologies which we've had speaker after speaker

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tell us that we need more research and development in the clean-up area, how can you assert that that's adequate for the conditions in the Arctic?

MR. SLAIBY: Well, I think there's a historical basis for this, and one needs to take into account what's a really important physical difference of 150 feet versus 5,000 feet and the difference that will make on the initial dispersion.

So first of all, I think there is a very big difference when we looked at a spill the size of Macondo at the water depth with the volumes.

We have, indeed, designed our program to, in fact, tackle the oil spill at the source. Which is why we will have our vessels and our equipment ready to go. 150 feet of water in itself presents less challenge than 5,000, much smaller spill dispersion.

With respect to ice, there have, indeed, been a series of ice tests, oil and ice. Unfortunately not in this country, in Norway, in an outfit with a group called SINTEF. And that shows you that there are some swings and roundabouts. Clearly broken ice is a problem. If we were to ever have this

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very unlikely event, all gloves would come off with respect to managing the ice.

In general, Commissioner, we are not in the business of making a lot of noise where we work. If we were to have one of these untoward events, all bets are off. We would deploy all of our oil spill technology as well as our ice management, and let's just call it icebreaker technology, to push the oil away, to keep the oil away from the area, to keep marine mammals away, and we would employ booms when applicable. When not, we believe burning provides a really good alternative.

Colder temperatures in the Arctic means less spill, thicker pads. It means that the volatiles stay with the oil, which provides a much easier way to ignite the oil.

COMMISSIONER BEINECKE: Thank you.

Captain Caplis, could you expand a little bit on your description of ecological risk assessments, and have those taken place to date in the Arctic, or is that something that's in the planning stage?

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CAPTAIN CAPLIS: Yes, ma'am. The ecological risk assessments is essentially a series of workshops that brings together state, local, federal partners in any given region. And it allows them to look at all the science involved with each response alternative, to look at the fate and effects of the oil, and also on -- on the ecosystem that would be involved, and then to start to develop strategies.

What we found is that this is really a critical foundation that needs to be in place for a community to actually make good decisions based on science.

We have done ecological risk assessments in different locations in the country, starting about 15 years ago. We have not done one in the Arctic yet. We were looking at doing one in the Arctic, but for a number of reasons we've kind of slowed that process down, one of them being we need more science.

But as --

COMMISSIONER BEINECKE: So are you on a timetable to do that, or not really yet?

CAPTAIN CAPLIS: We're trying to move

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forward as aggressively as we can.

COMMISSIONER BEINECKE: Thank you.

CAPTAIN CAPLIS: Yes, ma'am.

COMMISSIONER BEINECKE: Mayor, thank you so much for being with us from the north slope. We appreciate it so much.

Can you just talk a little bit about the interaction that you have had with Shell and their plans to develop up there and whether the issues that you raised in your testimony you've been able to address satisfactorily with them, or if there are other issues you would like resolved before they proceed?

MAYOR ITTA: Thank you, Commissioner Beinecke.

The overriding concern up here continues to be the possibility of an oil spill and the resulting recovery work that would need to get done.

Our problem is that the oil spill equipment and technology that are mentioned have never been tested up here in the Arctic in real-life situations, due to the, obviously, the rules of the United States.

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And that continues to be the biggest concern. Because there has never been any real exercise up here in the Arctic involving broken ice conditions and their recovery of oil.

Neither any of the -- the burning in situ that's being mentioned, the technology that's being used in warmer waters, it has never been done up here. And that continues to be our concern.

And it's difficult to take the words of industry and agencies just at their word. So I hope -- that's the overriding condition. The lease/sale provisions that I mentioned earlier continue to be focused for the lower 48 waters, and the time frame for us to comment adequately is very, very short. And I think that's an area that needs to be looked into, also, on the leasing program. Thank you.

COMMISSIONER BEINECKE: Thank you very much.

Dr. Takahashi-Kelso, there have been proposals that there be three years of baseline data before proceeding in frontier areas. Could you just

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comment on whether that amount of baseline data is available in the Arctic or how much more work you would assess needs to be done in that area.

DR. TAKAHASHI-KELSO: Thank you, Commissioner.

That amount of baseline data focused on ecosystem functions, that scale, and also the dynamics of particular areas for activities, organized activities, is not available.

Now, some of the work that's being done seems appropriate and germane. But it has tended to be focused on the needs of the leasing and exploratory drilling process rather than understanding how the system works, how the resources that are most important to coastal villages are distributed, and how those dynamics operate.

The last serious, sustained research program was 30 years ago on the outer continental shelf environmental assessment program. Which was a good program. But it's hardly up to date now.

So the work that Shell's been doing, that's a good thing. The work that others have been doing we

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should be supportive of. The problem is it's not tailored to answer the fundamental questions that I've suggested and that Mayor Itta referred to.

So to deal with it, we see a three-step. Let's see what the USGS gap analysis shows. There should be an independent entity, the National Research Council we think is the right one. It should do a focused gap analysis that then leads into a research program.

This doesn't have to be open-ended. This doesn't have to be 30 years of work. It needs to be focused on the key issues in order to answer those questions at the proper scale.

Ironically, the BP spill has shown a kind of model for how the right interests get brought to the table to really focus on what we need to know. And that is Coast Guard, industry, university scientists, agency scientists, have been sort of driven together by this tragedy. And out of that has actually come a fairly useful model for how we need to go forward.

And the natural resource damage assessment

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and the restoration plan, which I know you'll be talking about tomorrow, is an example of how those interests pressed together actually produce a result over a reasonable time frame.

But three years of baseline data, not available, at least not three years of current data, and it's absolutely essential.

That's important, actually, for two quick reasons. One is so that the decisions about oil and gas activities in the Arctic OCS are better. And also if there is an accident, then we have a basis for evaluating the damage.

COMMISSIONER BEINECKE: Thank you.

CO-CHAIR REILLY: Any questions? Commissioner Garcia.

COMMISSIONER GARCIA: Captain Caplis, you said that the public expects the federal government to play a leading role in the spill response, and I think that's been borne out with the events in the Gulf.

What is it going to take, how long is it going to take for you to feel comfortable that you could say that in Alaska, the federal government could

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play a leading role in a response?

CAPTAIN CAPLIS: Well, you've raised a great question. And I will say first, I agree that -- one of the other panelists said, It's not just the Coast Guard that responds out there. Really, it's going to be a joint effort. And industry has to have that baseline and capability in place in order to respond.

The Coast Guard is kind of designed so that it can rapidly flow to a region. We have air lift, you know. So I feel we can respond when called. That is the Coast Guard's role, to be ready to respond to an oil spill up there.

We have been doing a number of things in the past three years through something called Operation Arctic Crossroads, which has been looking at forward operating locations throughout the state. In 2008 we looked at Barrow, in 2009 we looked at Nome. In 2010 we looked at Kutzebue. We've been testing our H-60s up there. We've been seeing how our C-130s perform up there. So we do have tools, and we are actively testing those to see how they perform. And

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as I mentioned before, we also have this high-latitudes mission analysis study that we've completed and is in the process of finishing its review within the agency.

So we are moving forward. We are leaning forward pretty hard and working to get that infrastructure in place.

COMMISSIONER GARCIA: But it's not in place yet, and it will take some time.

CAPTAIN CAPLIS: Yes, sir. One thing about Alaska is, you know, if you put Anchorage and North Slope on the U.S. east coast, you're talking about the distance from D.C. to Maine. And if you took Alaska east to west and put it on the lower 48, you're talking about a distance from D.C. to Los Angeles. So we're talking about huge distances here. And, obviously, you know, resources is a critical thing.

COMMISSIONER GARCIA: So then, Mr. Slaiby, the response capability and your proposal, it's impressive, it goes beyond what we've seen from other companies. But given what the captain said, and given the experience that we've had now in the Gulf, that

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clearly there's a higher standard and that the public, regardless of how capable you might be, the public expects the federal government to be able to play a leading role, and given that it does not appear that the federal government is ready to play that leading role in the event of a major spill in Alaska, what do you say to that? How do you assure the public that we're not taking an unnecessary risk?

MR. SLAIBY: Well, with all due respect to the captain, the Coast Guard has reviewed and approved these plans. They have drilled with Shell when we have drilled our equipment.

So they have, indeed, been involved in all of this work from the beginning. They have been instrumental in helping us design the plans.

So the assets are in place. We don't envision nor would we ever call success a plan like we saw in the Gulf of Mexico, with 5 or 6,000 vessels of opportunity out back and forth. Mayor Itta would be unhappy with that. We would be unhappy.

We have designed our response for operations within one hour, and to contain the spill

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in the area so that there's not a need to go beyond that particular base.

We work in probably 50 other ENP, in 50 other countries in ENP. Many of those countries have regulations, many do not.

The fact that there is not the Coast Guard there for the first few hours does not actually mean that we would shy away from this development. We know that the Coast Guard will be ready to come in and take their place at the center of the unified command structure. In the interim, we would marshal our assets to begin to contain the flow and begin the relief well and any other particular areas that would come.

It is not different, and significantly different, than other areas that we work.

Understanding the public, and the public's expectation, is one thing. But we have a responsibility to the public as well.

So, yes, we are asking for that measure of faith that we have a handle on what's going on, as we do in many other countries that aren't blessed with

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the resources than the U.S.

COMMISSIONER GARCIA: Dr. Takahashi-Kelso and Mayor Itta, would you care to respond.

DR. TAKAHASHI-KELSO: I think it's important not to confuse a response with dealing successfully with spilled oil, especially a very large spill. That is, I don't think anybody should raise a question about the good faith or commitment of Shell. Certainly the response plans -- and I brought both Beaufort and Chukchi with me -- list a substantial amount of equipment, a substantial commitment. I have no problem with that.

The issue, though, is what does it actually do in the field? If you have a major spill, you still have a fundamental problem of going beyond just deploying and actually producing recovery.

In the Exxon Valdez spill, whatever people would say about Exxon from a culpability standpoint, the reality is they committed a substantial amount of resources to the effort. What did we get? Ten percent of the oil? I submit that we will get actually recovered less than 20 percent of the oil in

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the Gulf of Mexico.

The point is not that Shell is doing a bad job of designing the plan. The point is, what can we actually expect in realistic result. And that is the place where I submit we are not in a position to handle the worst case.

COMMISSIONER GARCIA: Mayor, did you want to comment?

Mayor, did you want to comment on the last exchange?

MAYOR ITTA: I -- well, you know, the comment that Mr. Slaiby alluded to that I had made in moments of frustration some years ago, it's been at least three years ago when I said it was too much, too soon, too fast.

I think that's a part of that dilemma that we are facing up here because of the compressed windows that we've been forced to deal with.

We do not have a level of comfort that I feel that we should need, mainly because this is a frontier, this has never been done up here on this scale before, although I acknowledge that prior

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offshore work has been done.

But I have eight points as policy points that I've been pointing out to as many people as I can. Not the least of which is the Coast Guard presence, oil spill recovery, et cetera. But to get a little more specific, there's a lot of work that still needs to get done. But I want to qualify that with recognizing that we understand, as U.S. citizens up here, the energy needs of the United States. But we're just saying, let's do this right this time around. And that's the only comment I have to this point. Thank you.

COMMISSIONER GARCIA: Okay. Thank you.

Mr. Slaiby, real quickly, would you agree that the -- you called them world-class standards, that that should now be the minimum for companies that are operating in the Arctic?

MR. SLAIBY: We believe we have set the standard, in working with the Mayor. He talks about lifting the bar, and we believe we've done that. Our commitment to build a containment system further exemplifies that.

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COMMISSIONER GARCIA: Okay. Thanks.

CO-CHAIR REILLY: Are there any other questions?

I have a question for I think for the Mayor. Mayor Itta.

First of all, do you distinguish, in your own opposition to offshore oil and gas on the north slope, between the Beaufort Sea and the Chukchi sea? Do you find one more acceptable or less acceptable than the other?

MAYOR ITTA: The differentiating points that I would make between the Beaufort and the Chukchi Sea is that a lot more science has been done on the Beaufort side of the sea and of the Arctic Ocean, but virtually none on the Chukchi Sea side.

And our concern is that we don't have baseline science to measure any impending changes that may happen as a result of activity in it.

I will use one specific example, and that is the bowhead whale migration route.

The whales' migration route to the west goes right over the proposed area that's of the

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biggest interest out there. So we don't know how many animals are out there besides the whales. We have a pretty good count on the whales. But we don't know how many walrus, how many bearded seal, how many ring seal, how much fish, what are the currents.

So a lot of lack of information to make any good decisions on the Chukchi Sea side is the differentiating point that I would make, Commissioner Reilly. Thank you.

CO-CHAIR REILLY: Let me ask Dr. Takahashi-Kelso, if you think about a scenario for Alaskan oil and gas development, ANWR couldn't be opened up in the Bush administration, certainly won't be opened up for oil and gas in the Obama administration. Natural Petroleum Reserve development is currently being held up by a permit denial, I gather, for a stream crossing by the Corps of Engineers, and there's some implication that there may be less promising oil there than previously had been thought.

If there is a delay with respect to drilling in the Beaufort and the Chukchi Sea, it looks

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like we're probably talking 15, 20 years before there's serious oil. And everything we know would suggest -- and Senator Begich made this clear -- that the trans-Alaska pipeline by that time will have been rendered unusable.

Is that a reasonable scenario, and is that an acceptable one from the point of view of the economic circumstances in Alaska?

DR. TAKAHASHI-KELSO: Co-chairman Reilly, I think the last part of your question is one that I think really people in Alaska and leadership in Alaska need to address. But let me say about that -- with respect to what's acceptable economically.

But let me say that the National Petroleum Reserve Alaska with some exceptions, like the Teshekpuk Lake, which have extraordinary value, and value that was recognized in previous administrations as well, that that seems likely to go forward unless the industry chooses not to pursue the leases for their own reasons.

So that seems to me not to have been taken off the table, at least not by objection, but rather

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because of the choices that industry makes for a variety of reasons that most of us don't have access to.

There will certainly be continuing activity in leases that are already under production. We see that as a reality, and something that the industry is committed to, and so are both the state and federal government. There will be some on-shore production.

I think it starts to get the question backward if we say that the issue of whether to pursue exploration depends only on the economics. If that were the case, there would always be the choice simply to proceed. Because the economics of short-term need, whether it's the State of Alaska's flow of revenue and other benefits, or the issues of maintaining the trans-Alaska pipeline in appropriate condition, all of those would trump the longer term vulnerability of North Slope village people and of the functions of the ecosystem.

So I think the way to answer your question -- and it's a fair question -- is to say how much and how soon can we have the information to make

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no-regrets choices. How can we get the benefits of this region from an energy standpoint, but to make those choices with real data that allows us to make --

CO-CHAIR REILLY: Do you have any idea how long that would be, you're talking about the scientific baseline data for the Beaufort and the Chukchi, and how long it would take to get that information?

DR. TAKAHASHI-KELSO: I think Mayor Itta is right that the Beaufort has more information than the Chukchi.

I would say that the way to pursue that and to determine the length of time is to finish the USGS process, do the -- what we are proposing is --

CO-CHAIR REILLY: And that's to be finished in March, as I recall. Right?

DR. TAKAHASHI-KELSO: That's right. I think that's what Secretary Salazar said today. And his colleagues.

And then I would say that a National Research Council review should, depending on if it were put into place relatively quickly, could be

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turned around in a period of some months. I would guess a year.

And then what we need to come out of that is really targeted, a really targeted research process; that is, not everything has to run for decades. I'm not suggesting that it should. It would be more than one year, though; it would be multi-year, in order to get a feel for the entire round of seasonal conditions and the way those ecosystems function.

And then as the information is available that are pertinent to specific oil and gas activities, you make your decisions and go forward. That's where I think the key is, getting all the interests at the table, and drive it together with a deadline.

CO-CHAIR REILLY: It sounds like two to five years? Is that a reasonable number?

DR. TAKAHASHI-KELSO: I think that's a reasonable time. Some research will take longer than that, but not all of that research would take longer than that. If you don't start it until four years from now, of course, then you're talking about a

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different scenario.
CO-CHAIR REILLY: Mr. Slaiby, you are in the third year, I believe, of your ten-year lease.
Is that correct?
MR. SLAIBY: Four years, six in the Beaufort, and three of ten in the Chukchi.
CO-CHAIR REILLY: Three in the Chukchi. So three to five years.
What is the status of a lease that is suspended indefinitely as is currently the case, based on the Secretary's decision? Do you get an extension at the other end, or do you have to reapply and re-bid?
MR. SLAIBY: Not necessarily. We would have to have discussions with Interior about that.
CO-CHAIR REILLY: And meanwhile, you have over $2 billion invested.
MR. SLAIBY: We have over three and three-quarter billion invested in it.
CO-CHAIR REILLY: And you're getting paid good interest on that, no doubt.
MR. SLAIBY: We are losing probably

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three-quarters of a million dollars a day on what that money could be returning.
I need to, if I might, you know, there is -- and obviously I'm in no position to argue about the volume of study. But there has, indeed, been, over a prolonged period of time, and yes, certain things will probably be subject to change, and we are going back and looking at the volume of data that's been done, but there's been over 5,000 studies done on the Beaufort and the Chukchi. And the problem has been, and I do agree that it has been a bit difficult to synthesize what's out there and what's not. I think the Minerals Management Service did a good job of working that.
I do support where you're going -- where the USGS is going in the gap analysis. I don't necessarily believe it takes to March to do the work, but I think that's -- that is a valid approach. But I do, I do really want to draw the commission's attention to the fact that there is a large body of work out there.
CO-CHAIR REILLY: All right. Any final

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words, Mayor Itta? You're on scene up there.
MAYOR ITTA: Yeah. I just want to again thank you on behalf of the farthest north citizens in the United States of America, and encourage you to continue your thoughtful deliberations. And again, just appreciate that you have taken us into consideration and given us this opportunity. And I thank you again.
CO-CHAIR REILLY: We appreciate it very much, your participating in this conversation.
And all of you, our thanks for this very constructive exchange. And I think the meeting is adjourned. We're now going to move to public comment period. Thank you all.
PUBLIC COMMENT
MS. MELCHERT: Can we please have the public commenters come forward?
Do we have public commenters?
Do we have a list of the public commenters, please.
CO-CHAIR GRAHAM: I am not certain that the public commenters are in the order listed on this

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sheet. So if you would please introduce yourself by name and your association, and then you have three minutes. Starting with the young lady.
MS. KORDICK: Hi. My name is Jenny Cordick, and I'm with the Sierra Club. Thank you for giving me the opportunity to speak today.
Last week the Sierra Club brought a delegation of Gulf coast residents impacted by the spill to Washington D.C. These individuals included Sierra Club staff and volunteers working on the oil spill response, fishermen, and coastal business owners. The group met with Professor Lazarus with the commission, Director Bromwich, representatives from NOAA, and members of Congress, with a clear message that the BP oil disaster is not over.
Although the BP well may be capped, the Gulf coast and its residents are still recovering from the disaster, with job losses in fishing and tourism, and massive fish kills as oil finds its way into our shores and ocean bottoms. The environmental, economic, and social impacts from this spill will be felt in years to come.

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The Gulf of Mexico and affected coastal communities need federal resources for restoration and recovery. Funding these resources can come from Clean Water Act penalties, creating a Gulf Coast fund whereby penalties from the BP spill go directly towards restoration projects, and securing immediate funding from the natural resource damage assessment projects.

We also support the creation of a permanent regional community council to guide recovery efforts and ensure continued community-driven oversight of the offshore oil industry.

In wake of the disaster we must ensure full accountability by the oil industry. A portion of oil and gas industry profits should be directed towards ocean protection and restoration.

Long-term funding can be provided for independent peer-reviewed science to supplement federal and state research to obtain a full assessment of the BP spill's impacts on Gulf of Mexico resources like fisheries and marshes, as well as seafood and public health monitoring.

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One of the individuals we brought last week was a third-generation Alabama fisherman. And I know you're going to talk about this tomorrow, but he expressed concern about the safety of the seafood industry as fishing waters reopened for the first time following the spill.

The industry faces challenges ahead not only to restore the fishing stock but also to restore public perception about the safety of Gulf seafood.

The BP disaster reinforces the need to move America beyond oil dependence towards a cleaner, more sustainable, energy future. The BP spill demonstrates the certainty that there will be adverse economic and environmental outcomes as drilling continues.

Instead of more offshore drilling, we should be building a 21st century transportation system and work to end our dependence on oil in the next 20 years. We can do this by investing in the kind of clean energy that will create jobs and infuse new life into our economy. Thank you.

CO-CHAIR REILLY: Jen, what's your last name?

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MS. KORDICK: Kordick.

CO-CHAIR REILLY: C-O-R ...

MS. KORDICK: K-O-R-D-I-C-K.

CO-CHAIR REILLY: Is Atha Manuel not appearing --

MS. KORDICK: No.

CO-CHAIR REILLY: -- representing the Sierra?

MS. KORDICK: Yes.

CO-CHAIR REILLY: Okay. Thank you.

Yes, sir. Mr. Gravitz?

MR. GRAVITZ: Yes. My name is Michael Gravitz, and I am the oceans advocate for Environmental America, and I have worked extensively on the issue of offshore drilling for about four or five years.

CO-CHAIR GRAHAM: Excuse me. Mr. Gravitz, would you bring the microphone closer?

MR. GRAVITZ: Yes, sir.

How does that sound?

I want to discuss two things this afternoon: how risky offshore drilling really is, the

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degree to which the work of this commission, the Bureau of Ocean Energy Management, Congress and other bodies can really hope to improve the safety record, and whether, with this level of improvement, expanded offshore drilling to other coasts makes sense.

I would also like to take a quick look at what is at stake economically, if future accidents of the BP scale should occur in the Gulf or along other coasts.

So the risks of catastrophic spills are not trivial. Approximately 4500 deepwater wells have been drilled to date in the Gulf. Therefore on its face, the BP spill is a one-in-4500 event, which is a very far cry from a one-in-a-million event or black swan, two of the words or phrases that have been used to describe what happened in the Gulf. In fact, it's 200 times more likely than a one-in-a-million event.

In four years from 2006 to 2009, MMS reported 21 loss-of-well-control events, in this period. It's about five per year. The loss of well control is what led to the blowout that preceded the Deepwater Horizon explosion on April 20. And so I

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would say that's not infrequent.

Given all that, how big an improvement in the odds of an offshore drilling catastrophe can we expect from the combined efforts of all the entities working on oil spill reform. Can we get an order of magnitude improvement that makes drilling ten times safer? Is that achievable? I don't know. I'm not a drilling engineer. But if we did that, there would still be one BP-sized spill for every 45,000 wells that we drilled. I think that's too many.

The scale of economic damage from spills can be very large. So in addition to damaging the environment and the Gulf's wildlife, we now know that large spills can also be job and business killers.

Each business and person has a unique story. And you've read about many of those stories in newspapers, and they're all pretty sad.

Using government data from NOAA, we estimate for only coastal counties and only in the Gulf, conservatively we estimate the value of tourism and fishing in the Gulf, commercial and recreational fishing, to be $39 billion per year. Quite a lot of

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money. So when a reputable economics consulting firm called Oxford Economics looked at the question of damages to the tourism business in the Gulf from the BP spill, it made sense to us that they calculated a damage range of from seven-and-a-half billion to 22-and-a-half billion in damage tourism business over a one- to three-year period.

To make this point real, let me point out that BP and the Gulf claims facility, led by Mr. Feinberg, have already paid out close to $1 billion in emergency payments. Sometimes those payments are just cents on the dollar.

So what would we expect if we had a -- thank you. Let me just reach one conclusion, which is that this commission is trying to make offshore drilling safer. I think that it's incumbent on this commission's part to advise the President about whether it can ever be safe enough to spread this practice to other coasts. I submit that it will not be. Thank you very much.

CO-CHAIR REILLY: Thank you, sir.

Mr. Grace? Greg?

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MR. GREG: Right, Greg. Richard Greg.

CO-CHAIR REILLY: Richard Greg.

MR. GREG: Good afternoon, commissioners. My name is Richard Greg. I'm from the Florida A&M University Environmental Science Institute and Center for Environmental Equity and Justice, and I'm here today sharing the thoughts and perspectives of the historically black colleges and universities Gulf Coast Sustainability, Public Policy, and Research Consortium.

As you well know, low-income populations and communities of color in the Gulf Coast region are disproportionally exposed to an array of environmental stressors, with the Katrina and Deepwater Horizon oil disasters being acute examples of a pervasive situation.

The consortium met on September 8th at Dillard University in New Orleans, and engaged the NAACP, NAFIO, federal agencies, community stakeholders, and BP. And we concluded that trust is an issue to the research agenda in the Gulf, which you've heard earlier today. Community participatory

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models are integral to the success and integration of sustainability of public policy research in the Gulf. Human dimensions and impacts of the oil spill and other environmental and health threats in the Gulf region must be addressed and serve as the objective end point of the research agenda.

Most affected communities are missing from the decision-making forums. And you've heard that earlier. And institutions holding the trust and respect of impacted communities must be prominently engaged in developing and executing the Gulf research agenda.

Therefore, the consortium looks forward to working with you to ensure that these issues are featured prominently in your recommendations, and our report will be provided to you tomorrow.

CO-CHAIR REILLY: Thank you.

CO-CHAIR GRAHAM: Will that report identify the specific environmental justice issues that you believe we should attend to?

MR. GREG: Yes.

CO-CHAIR REILLY: Nancy Sopko?

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MS. SOPKO: Yes.

Good afternoon, Chairman Graham, Chairman Reilly, and distinguished members of the commission.

My name is Nancy Sopko, and I am speaking today on behalf of Oceania, the largest international organization focused solely on ocean conservation.

Oceania has been an opponent of offshore oil and gas drilling since long before the Deepwater Horizon drilling disaster. Especially offshore drilling in those areas that were protected by a Congressional moratorium until 2008.

The Deepwater Horizon drilling disaster has now exposed the dangers of offshore drilling to our ocean ecosystems, coastal economies, and worker safety. It is time for the United States to recognize that the risks of offshore drilling far outweigh any benefits. Despite the oil industry's statements, events like this will happen again unless we act to prevent them.

The Deepwater Horizon drilling disaster is not an isolated incident, and offshore oil drilling is extremely dangerous. For instance, since 2006, there

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have been at least 21 offshore rig blowouts, 513 fires or explosions offshore, and 30 fatalities from offshore oil and gas activities in the Gulf of Mexico. As we can glean from the Deepwater Horizon oil spill, safety measures and so-called failsafe mechanisms can fail. And when they do, we do not have the technology to stop ongoing oil releases, nor are we capable of effectively cleaning them up.

As a response to the oil spill, the Obama administration instituted a six-month moratorium on deepwater offshore oil drilling. The administration has said that it would not lift this moratorium unless three criteria concerning drilling safety, containment, and spill response were met. Even though the moratorium is set to expire on November 30th, no one can prove that three criteria have been met, or that offshore oil drilling can be done a hundred percent safely at this time.

Because it cannot be shown that offshore drilling can be performed in a 100 percent safe way, we need to think about getting our country off of oil and transition to a clean energy future. In our

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pursuit of energy independence, our oceans can be part of the solution. Offshore wind development is the best, most viable, substitution for offshore oil and gas drilling, especially on the East Coast.

The United States does not need to cling to the dirty jobs supplied by offshore oil drilling. We can create new, clean energy jobs in such fields as manufacturing and construction of clean energy technologies. And we can develop a clean energy manufacturing hub in the Gulf region to transition workers to clean energy jobs so that jobs from offshore oil drilling aren't the only option there.

We can seize this moment in time to finally transition our country from a dirty energy past to a clean energy future. Thank you.

CO-CHAIR REILLY: Thank you.

Michelle Roberts.

MS. ROBERTS: Good afternoon, Chairmans Graham and Reilly. My name is Michelle Roberts. I am the campaign and policy coordinator in the Washington D.C. office for Advocates for Environmental Human Rights, a public-interest law firm dedicated to

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upholding the human right that we all have to live in a healthy environment. AEHR is headquartered in New Orleans, Louisiana.

On August 26th, AEHR hosted a meeting in New Orleans that brought together the legal counsel of this very commission, and environmental justice advocates in the Gulf region.

At this meeting, AEHR recommended vigorous enforcement of Section 2704(c) of the Oil Pollution Act in order to ensure full recovery from the BP oil disaster and to prevent further damage.

In enacting the Oil Pollution Act, Congress made it very clear that it did not want to reward a bad actor with a liability cap. Section 2704(c) provides five exceptions, any one of which removes the statutory limitation on the liability of a party responsible for an oil incident or disaster.

One of these exceptions involves the violation of an applicable federal safety construction or operating regulation by a responsible party.

It is clear from the congressional testimony of people who survived the BP oil rig

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explosion that BP meets this exception and likely others.

For example, federal regulations require periodic inspections of the blowout preventer devices, but inspection of the blowout preventer on the Deepwater Horizon rig was years past due. However, no federal regulatory agency has issued an administrative enforcement order against BP for violating this or any other federal regulation. The people of the Gulf coast deserve a determination right now by the government that BP is, indeed, liable for all of the damages caused by its massive disaster.

Section 2704(c) of the Oil Pollution Act also provides authority to federal regulatory agencies like EPA and OSHA to establish precautionary measures in the removal of oil from the Gulf of Mexico and coastal areas. But instead of exercising this authority, the agencies have acquiesced to BP's refusal of their initial request for reducing the use of toxic oil dispersants and providing protective gear to people involved in the oil removal work.

The authority must be exercised to protect

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the health of people involved in the oil clean-up and containment work as well as environment. We urge you, the commission, to call for the issuance of this federal agency administrative enforcement order against BP, which would establish the full liability of this company for all its damages in the Gulf region, and call on EPA and OSHA to ensure safety precautions in the oil removal work that are protective of people and the environment.

Thank you, and I can leave my statement for the record, please.

CO-CHAIR REILLY: Thank you. Thank you.

Micah McCorby?

MR. McCORBY: Thank you, co-chairs, distinguished members of this commission. We appreciate your extra time to hear public comment.

I'm addressing on a government-to-government basis as a member of the Makah tribal council. And given this current discussion, the Makah tribal council is proud of the work we've accomplished with the United States Coast Guard by supporting and commenting on the Gulf spill

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of national significance temporary rule-making by asking for government-to-government consultation, to recommend means of improvement to the oil spill planning. I have an attached copy of a letter that we used, with the Chairman's signature, requesting this government-to-government.

Through our continued oil spill pollution prevention and response work with the Coast Guard, Makah tribal council understands that there is no more qualified entity, either federal, state, local or at the industry level, to coordinate and respond to a spill of such magnitude as the Gulf. Makah has experienced over 3 million gallons of oil in our treaty-protected area and marine waters of the Pacific Northwest. This has prompted us to create an office of marine affairs to assist the Makah tribal council to create an effective ocean and oil pollution policy with federal, state, and local governments.

Through the EPA's state tribal response program funding, the council has put together an effective spill response program with the U.S. Coast Guard, EPA, Washington State Department of Ecology,

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and the industry. The Makah Tribe would like to offer our policy efforts to include tribal interest in the oil pollution arena as a positive model of success for other state and local governments, as well as other tribes to review.

The Makah has a history of commenting on numerous oil spill related Coast Guard rule-makings from a treaty tribe perspective. One of which the salvage and firefighting rule clarified Washington State's ability to station a Neah Bay response tug, which we are very proud of our participation in that accomplishment.

Also, in addition, the Makah Tribe has become a voting member of Region 10 ROT. From our perspective, Gulf coast oil spill lessons learned. Our tribe is working with Coast Guard District 13 and MSRC to put together a fishing vessels spill response program. This program will equip our tribal fishing fleet with response equipment appropriate for their operating environment and train our fishing fleet to Coast Guard certification as a vessel of opportunity.

The tribe has also been working with Navy

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Region Northwest and oil spill work group to determine the need to deploy a Navy sub salvage equipment, and strategically located at the Port of Neah Bay, to improve the service of oil spill response assets to the other coast of Washington State. This working group has been convened over the authority of the Region 10 response team and the northwest area committee.

The main lesson from the Gulf spill that we take is drill, drill, drill, which translates to us as drill and exercise air equipment and personnel often in a manner that requires all spill response authorities and assets to drill together. This action we believe will ground-truth the area response plans in an absolute meaningful way in a way to determine the relative strengths and weaknesses of each area plan.

In closing, I would like to thank Admiral Thad Allen and the Coast Guard District 13 for their work in the Gulf Coast, for working so effectively with tribal governments in the Pacific Northwest.

Thank you.

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CO-CHAIR REILLY: Thank you, sir.

Dan Fraser.

MR. FRASER: Honorable members of the committee, as I mentioned last time, I think your effort in comparing the work that's going on with the nuclear industry is exactly on the right track.

And Senator Graham, this morning you mentioned bringing science back to the table. And I have a proposal here that I think will do just that in an area that has been overlooked. And furthermore, it's an area that directly addresses one of the problems that was highlighted in spades at the last meeting, and that is the problem of how do the regulators keep up with such a fast-moving industry.

And the key to this is really something called a probabilistic risk analysis, of which Wash 1400 was the pioneer for this. And this risk analysis has been part of the nuclear industry now for the past 20 years. And still, even today, they recognize that they get a minimum of a two-to-one payback for every dollar that they put into this type of an analysis. And of course if they're still getting that kind of

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payback after 20 years, you can imagine how much better it is in the first few years when you first start to implement it. And this has been one of the keys to the success of the nuclear industry, at least in terms of low failure rate.

I've been working with my team at Argonne National Laboratory for the past few months. And we've been looking at probabilistic risk analysis. My team are experts in this area. And the question is could this be transitioned to the oil industry. And if it was transitioned, would it be beneficial. And the answer that my team has come up with is that absolutely, a resounding yes. Not only from the regulatory side of things, but also from the industry side. Both can benefit. This is a double-win.

The probabilistic risk analysis sets the high bar. It provides an analysis that is verifiable, can be, you know, looked at by an independent entity as well as the regulators. They can take these analyses, and then they can compare side by side with what happens with the other -- what's on the other rigs. And they can come to a conclusion and start to,

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you know, share and disseminate best practices.

The probabilistic risk analysis allows regulators to really monitor and evaluate the new technologies as they come online. When a new technology comes on, they have to put it together to say how does this fit in with all the analysis that's been done. So the regulator gets a hand to say, Here's how this fits into the scheme, and here's the impact that it has on the risk.

Furthermore, a probabilistic risk analysis takes into account operational procedures. And as such, it is unique in the ability to deal with the operational things that happen with other subcontractors. And it's a relatively fast ramp-up time for regulators to catch up.

So in securing the future safety, I'm asking and we hope that you will actually include the mention of a probabilistic risk analysis in your concluding report. Thank you very much.

CO-CHAIR REILLY: Thank you, sir.

Destry Jarvis.

MR. JARVIS: Thank you Mr. Chairman,

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members of the commission. I'm here today representing the Public Alliance Service Coalition, an organization that comprises the corps network, 144 youth conservation service organizations across the country, the student conservation association which operates with young people in all 50 states, to ask you to include in your report a recommendation that would engage young people in the Gulf states as a part of the recovery effort.

The best example I can give you was the Greater Yellowstone Recovery Corps after the 1988 fires. Our two organizations and others put 1500 people to work immediately in fire recovery efforts. We continue to do those kinds of things. I don't want to sound like an ambulance chaser, but we do have the capacity to put young people to work very quickly in recovery efforts post disaster. We've worked after fires and after floods and so forth, hurricanes.

The Gulf states are particularly deficient in capacity for young people to serve the public in this fashion. There's a small corps in Florida, there's a small corps in Texas. The states in between

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have almost no capacity in this area.

Our organizations have the ability to engage in new corps development where there's opportunity. There is no question that there are young people ready, willing, and able to serve. There's no question as to the need. The question is can the funding be made available through public agencies and private charities.

Currently, though we are the modern embodiment of the Civilian Conservation Corps that operated in the Great Depression, we are barely 10 percent of that size. There were hundreds of thousands of young men -- men at the time, that served in the depression era. This past year there were about 40,000 young people that served in our programs, men and women equally, 50 percent. About 70 percent public funding, 30 percent philanthropic or fee-for-service revenues. And the young people, the organizations that the coalition represents, have the capacity to do all of the youth service, social service, GED when young people don't have their high-school diplomas, and other things that public

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agencies do not. We would not want to see a replication of the Youth Conservation Corps of the '60s, which was a federally run program, in this era of partnership government. We think our organizations partnered with public agencies can do this and have a role to play in the Gulf.

Thank you very much.

CO-CHAIR REILLY: Thank you, sir.

Earl Comstock.

MR. COMSTOCK: Thank you. Thank you for the opportunity to provide some public testimony.

My name is Earl Comstock, and I was actually the lead staffer for Senator Ted Stevens on the Oil Pollution Act of 1990. So it's interesting to look at this process from the outside now. I'm also an attorney for the Alaska Eskimo Whaling Commission. So I'm very involved in looking at the impacts of potential spills on the Arctic.

The Alaska Eskimo Whaling Commission is tasked by the local community with protecting the subsistence resources, particularly the bowhead whale. That is a primary source of food for the communities

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of the north slope, and they spend a considerable amount of time each year working with industry on a collaborative process to try to work out mitigation measures to ensure that oil industry operations don't adversely impact the subsistence hunt.

What I wanted to observe was that the Macondo spill was a full-scale test of the response provisions in OPA-90. And I think basically -- leave it to the commission, but I think you'll find roughly they worked. A lot of the dissatisfaction that you hear from folks is the fact that really -- and this is of concern that Mayor Itta was pointing out -- response, if you get to that stage, never is going to be adequate. You've got a problem, in the case of a full-scale spill, where people's lives are disrupted, economies are disrupted, and you're going to have a lot of problems.

What I think gets overlooked in the whole discussion of contingency planning and response is that there was a whole other part of OPA-90, and it's the part that we say, frankly, you should focus more on. And that part was prevention. There were double

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hulls. There were tanker escorts. There was drug testing, all designed to prevent a repeat of what had happened in the case of the Exxon Valdez. And by and large, I think those provisions worked.

Now, what was interesting was that industry objected vigorously to all of those provisions, they were too expensive, they couldn't be done, et cetera, et cetera, et cetera. The reality is prevention is what's the most important thing government can do.

You're in the position, the government is in the position, to impose requirements equally across industry so no one is disadvantaged. They all operate under the same set of rules. And that's where we would urge you to focus. The Alaska Eskimo Whaling Commission tries to be -- in its small way, impose that same process. Say, Look, here are the measures that all companies need to comply with, all actors need to comply with, so that you don't interfere with our subsistence hunts. We do rolling closures, we do time area closures, all to protect the subsistence hunt.

So I would urge you to really take a hard

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look at what prevention measures could be imposed, because that's what's important. That's what local communities cannot do. We don't have that power, but the government does. So I hope you take a hard look at that. Thank you very much.

CO-CHAIR REILLY: Thank you.

I think we have reached the end of the day. Thank you all for being here, those that I still see. We will resume tomorrow morning at 9 a.m. Thank you.

(The proceedings were adjourned at 5:53 p.m.)

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CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

I, Debra Ann Whitehead, the officer before whom the foregoing proceedings were taken, do hereby certify that the foregoing transcript is a true and correct record of the proceedings; that said proceedings were taken by me stenographically and thereafter reduced to typewriting under my supervision; and that I am neither counsel for, related to, nor employed by any of the parties to this case and have no interest, financial or otherwise, in its outcome.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal this 4th day of October, 2010.

My commission expires September 14, 2013.

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NOTARY PUBLIC IN AND FOR
THE DISTRICT OF COLUMBIA

NATIONAL COMMISSION ON THE
BP DEEPWATER HORIZON OIL SPILL
AND OFFSHORE DRILLING
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THIRD MEETING, DAY TWO :
Transcript of Proceedings :
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SENATOR BOB GRAHAM, CO-CHAIR
WILLIAM K. REILLY, CO-CHAIR
FRANCES G. BEINECKE, MEMBER
DONALD BOESCH, MEMBER
TERRY D. GARCIA, MEMBER
CHERRY A. MURRAY, MEMBER
FRANCES ULMER, MEMBER

Pursuant to Notice, before Debra A. Whitehead, Notary Public in and for the District of Columbia.

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PROCEEDINGS

MR. SMITH: Good morning. My name is Christopher Smith, and I'm the Deputy Assistant Secretary for Oil and Natural Gas at the U.S. Department of Energy, and I'm also the designated federal official for this oil spill commission. So I'm hereby calling this third meeting of the National Commission on BP Deepwater Horizon Oil Spill and Offshore Drilling to order.

The President established this bipartisan commission to examine the root causes of the BP Deepwater Horizon oil disaster, to provide recommendations on how a future accident can be prevented, and recommendations on how to mitigate impact if such an accident should happen again.

The President appointed two co-chairs to lead this commission, the former Senator, Bob Graham of Florida, and the Honorable William Reilly, who led the Environmental Protection Agency under President George H.W. Bush. The commission is rounded out by five other distinguished Americans who were selected based on their extensive scientific, legal,

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engineering, and environmental expertise, and their knowledge of issues pertaining to offshore operations. They are Frances Beinecke, President of the Natural Resources Defense Council; Dr. Donald Boesch, President of the University of Maryland Center for Environmental Science; Terry Garcia, Executive Vice-President of the National Geographic Society; Dr. Cherry Murray, Dean of the Harvard School of Engineering and Applied Sciences; and Fran Ulmer, Chancellor of the University of Alaska at Anchorage.

This commission is conducting its work consistent with the Federal Advisory Committee Act, which sets a high standard for openness and transparency. And as such, today's hearing is being held in this public forum and is being broadcast live via video feed.

Before I hand the meeting over to our two distinguished co-chairs, I'd like to review today's agenda. The first panel will be on the spill recovery and legacy of the Mississippi delta management, and we'll be hearing from panelists from the National Geographic and from the author of Rising Tide.

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The second panel is on impacts, environmental and economic, and we'll be hearing from panelists from the University of Massachusetts and from the Department of the Interior and from the State of Louisiana.

After a break the next panel we will be hearing from elected officials from the region, and we'll be hearing from the Honorable Mary Landrieu, U.S. Senator from Louisiana, and the honorable Haley Barbour, Governor of Mississippi.

The next panel will be on impacts, the Gulf and seafood safety, and we will be hearing from panelists from NOAA, from the Mississippi Department of Marine Resources and from the Environmental Defense Fund. After lunch we will continue with Panel V, which will be on legal authorities for funding and restoration management, and we will be hearing from panelists from New York University, from the Environmental Defense Fund, and from the Ocean Conservancy.

Panel VI will be on "The states and the federal government, defining a shared path for Gulf

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restoration," and we'll be hearing from panelists from the Louisiana Office of Coastal Activities, and from the Secretary of the Army for Civil Works. And we'll also be hearing from the Honorable Tom Strickland, Assistant Secretary for Fish and Wildlife and Parks, from the Department of the Interior.

Our final panelist will be Mr. Brian McPeek, from The Nature Conservancy.

So with that, I'd like to hand the chair over to our two distinguished co-chairs.

CO-CHAIRMAN REILLY: Thank you, Chris.

Good morning. It appears that thanks to accommodation of good fortune and hard work, the most immediate and damaging gusher has been contained, and the catastrophic destruction that many had feared would result from the Deepwater Horizon spill has been tempered.

Questions remain about the extent of the harm that is not visible. The honest answer is there is still simply much that we do not know.

It might have taken this spill to remind some of us of how much we value the natural heritage

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of the Gulf, a unique national treasure.

While we're focused on this precious land and waterscape, it's worth noting that it remains in peril, both from the oil that spilled, and other forces.

Louisiana continues to face catastrophic wetland loss, threatening delta communities, navigation, oil and gas infrastructure, fishing, conservation, and many other economic, social, and environmental priorities.

The land at the foot of the Mississippi River is different because, simply, it is not like its neighbors. It is physically different. A fact that is at the core of catastrophic wetland loss. And I am astonished, no matter how frequently I see the numbers of wetland losses, by their magnitude.

The underlying rock in that physical environment is hundreds of feet below the surface, buried by centuries of Mississippi mud. River sediment creates the land, the sea takes it away.

Over the years this natural process has been compromised by projects designed for flood

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control and improved navigation of the Mississippi River. The oil and gas industry has had a role in this as well. Industry has dredged thousands of miles of canals through wetlands, leaving narrow, straight shoots, often at unnatural perpendiculars for navigation or for pipelines.

Their artificial banks change water flow and prevent sediment from renourishing the land. Water pools up behind them, submerging the marsh. The channels also let saltwater flow into freshwater environments, further jeopardizing the ecosystem.

The oil and gas industry has a part to play in the wetlands' revitalization, as revenues from offshore drilling are dedicated by law in Louisiana to restoration efforts.

Ironically, one consequence of the drilling moratorium is to reduce the flow of money for improving wetland health.

As the commission considers the question of restoration, we must therefore ask, What should be the goal? Is it simply to return the ecosystem to where it was prior to April 20th? Speaking only for myself,

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I submit that it is not. Instead, I think we should focus on beginning down the path of creating a resilient and healthy Gulf.

The Deepwater Horizon disaster unifies these three conversations about restoration into one. How to clean up the oil, how to make the wetlands and marshes whole again, and how to keep the Gulf of Mexico healthy so that future generations can prosper by it.

I understand that later this morning Secretary Mabus will release his report on restoration of the Gulf, something to which we look forward with great excitement. Senator Graham and I have met with Secretary Mabus on several occasions and believe that the efforts that he is making and those that we will take into account should contribute toward a much energized sense of urgency and policy priority for restoration of this treasure which is the Gulf of Mexico and the Gulf region.

We will begin our part with respect to restoration today. Thank you.

CO-CHAIRMAN GRAHAM: Thank you, Mr. Reilly.

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Theodore Roosevelt said that it was each generation of Americans' responsibility to transfer a better America to successor generations.

During the 20th century this was largely done by adding to our marvelous treasure of national parks, wildlife refuges, wilderness areas, recreational areas, other lands that are preserved for public use and enjoyment. And as the country grew by two-and-a-half times during the 20th century, this legacy serves us well.

I suggest that in the 21 century, where again the estimate is that our population will grow by two-and-a-half times, that rather than the 20th century plan of meeting our legacy responsibilities by additions to our public inventory, that it will be significantly met by restoring lands that have been damaged by previous actions.

The tragedy that occurred on April 21st has put the Gulf in a premiere position in terms of that potential of meeting our heritage obligation through restoration.

The people of the Gulf are foremost in our

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minds as we do our work today. Of course we are aware of the human tragedy at the center of this disaster, the livelihoods that have been imperiled and, most profoundly, the loss of 11 lives.

The Gulf is one of the most treasured regions in our country. It is enormously productive; productive in terms of its natural wealth, productive in terms of the energy that we extract, productive in terms of the 40 percent of our seafood which is provided from the Gulf.

Americans have enjoyed the benefits of these natural treasures, but in the course of that enjoyment have inflicted considerable pain and damage on the Gulf.

The question today is will we use this tragedy as an opportunity to begin a serious effort at restoration, and thus leave the Gulf a better place for future generations of Americans.

There are some significant questions. Chairman Reilly has mentioned the threshold question, which is, what is restoration in the Gulf? Is it to restore to the condition that existed on the 19th of

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April, 2010; or is it an opportunity to restore to a condition that is more like what nature had intended and more like what will be a sustaining circumstance for the future.

The second question is, is there a plan or how to craft a plan that will accomplish these objectives.

Another is how much will it cost, and how will it be funded.

Finally, how will the effort for restoration be organized, particularly given the fact that this area covers five of our states, and two of the three largest states and population in the country are among those five.

Recently, Commissioner Terry Garcia and I were in Louisiana. We met with the Governor and others. One message that we heard loud and clear was the importance of assuring the long-term viability of the seafood industry in the Gulf. It is an industry which has now been damaged by a bad brand. Restoring confidence is absolutely essential not only for the region's recovery, but also so that Americans can

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continue to enjoy this special nutritional product.

We will be addressing this specific issue as part of our consideration today.

We have the opportunity to begin healing the Gulf's economy and natural environment so that it will be stronger than before, but we also have a time to make America stronger than before.

We were in a period in which many Americans are concerned about things like the gridlock of excessive partisanship and insularity. We believe that the Gulf may be a laboratory for national unity and a legacy that we will be proud to transfer to our children.

Our first panel today gives us an opportunity to see these issues in a broader context; the spill, the recovery and the legacy of Mississippi delta management.

We are honored today to have two distinguished Americans and students of this region, Mr. Chris John, editor-in-chief of National Geographic -- and Mr. Johns, I was wanting to commend you for the current issue of National Geographic, it

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is a beautiful and moving statement to the Gulf, and I'm certain will play a significant role in public awareness of what we are about -- and Mr. John Barry, who in his book Rising Tide, has given us the history of a critical period of this region, which history helps us better understand what is happening today.

In addition to his scholarship, Mr. Barry is also a member of the Louisiana Coastal Protection and Restoration Authority. We look forward to your comments.

Our lead questioner, and I'm afraid that means a five-minute period, will be Mr. Don Boesch, who also is a Louisianan, and understands these from his own life.

Mr. Johns.

MR. JOHNS: Thank you, Senator Graham, Administrator Reilly, commissioners, ladies and gentlemen. Thank you very much for this opportunity to speak before you.

National Geographic magazine has been a long witness to the Gulf region. In its September 1927 issue of National Geographic magazine, we covered

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the most disastrous flood in the history of the lower Mississippi River valley. The story was entitled The Great Mississippi Flood of 1927.

The sub head read, "Since white man's discovery, this mighty river has served him well, yet it has brought widespread devastation along its lower reaches."

And now in the issue you so kindly mentioned, Senator Graham, the October issue of National Geographic magazine, we address the devastation brought on by human beings to one of the most productive ecosystems in the world.

But in our more than 20 stories on the Gulf coast, we make it clear that the devastation of the Gulf region did not start with the Deepwater Horizon; it began with our well-intentioned desire to control the Mississippi River.

In the October 2004 issue, we continued to report on the unintended consequences of this desire to control the Mississippi. Here Peter Luchovich, Jr., holds a picture of what once was his grandparents' home near Empire, Louisiana.

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Louisiana wetlands are disappearing at a rate of 33 football fields a day.

Pipelines, canals for those pipelines, slice through a marsh near Leesville, Louisiana. More than 8,000 miles of pipelines crisscross the state's wetlands, fueling erosion and saltwater intrusion.

In this graphic, the most telling portion is in the lower right. You can see from the red arrow up at the top where the two photographs in the lower right were taken. One in 1945, and we can see the loss in 1998.

Many computer models suggest that by 2100 New Orleans is destined to become an island. That was covered in the August 2007 issue of National Geographic magazine.

Eighty-year-old Elward Stevens says, "When I was a kid, you could walk through the swamp in summer dress shoes." And of course now that is simply not the case. This swamp is inundated in many cases by saltwater. The saltwater has killed cypress trees, and of course buried pipelines are often now exposed and marked to keep them from being struck by boats.

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Our October 2004 story opened with a Louisiana State University and NOAA computer model that generated a hurricane scenario that was eerily familiar to the August 29th, 2005, Hurricane Katrina tragedy.

Within two weeks, we produced this popular newsstand special, one of our best-selling efforts. We donated all profits to hurricane relief.

Here local volunteers rescue a family near Bay Street, St. Louis. Floodwaters drain out of the New Orleans 9th ward, a breach in the industrial canal on the day after the storm.

And this speaks to your opening comments, Administrator Reilly, Senator Graham, of how the defenses are slowly but surely being broken down along the Louisiana coast as the barriers are vanishing.

This is seen graphically here at Dauphin Island. The top photograph is July 7th -- 8th, 2001. The middle photograph September 17, 2004, after Hurricane Ivan. And after Katrina on August 31, these barrier islands have disappeared.

So given our longstanding commitment to

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covering the Gulf of Mexico, this highly stressed ecosystem, when the Deepwater Horizon blew on April 20th, within hours we had a team of photographers, writers, cartographers and graphic artists working on the story.

Surface oil being burned off, June 13. A black drum on your left, a pelican that survived, its ultimate fate today we don't know.

Shrimp the size of a staple swim amid dark pools of globules of oil. The effect of the spill on the eggs and larvae of shrimp, crabs, and fish, all key, as you say, to the local economy, are unknown.

Bottlenose dolphins. And we don't know if the oil in this photograph is broken down by dispersants or by natural processes.

On May 1st, these fishermen in St. Bernard Parish gather together and bow their heads, praying with an archbishop's impromptu prayer. They were looking for work for BP.

April 21, the day before the Deepwater Horizon sank.

And here we see that the United States is

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hardly alone in exploration of deepwater oil. The United States, Brazil, Angola, are three of the leading nations. Nigeria is fourth in deepwater exploration.

We did a story in February of 2007 on the effect of oil in the Niger delta. Stories in Angola and Brazil are in the works.

In 1971, shallow oil peaked in the Gulf, resulting in movement to deeper and deeper drilling.

As you can see in the graphic on the left, U.S. oil production has declined since 1985, but ultra deep drilling has increased dramatically since 2004.

As you can see on the graphic, the sea floor is a gently sloping shelf, but it's a jumbled basin and range of terrain.

As Joel Bourne writes, "More than 2000 barrels of oil a day seep from the scattered natural vents, but the commercial deposits lie deeply buried, often beneath layers of shifting salt that are prone to undersea earthquakes. Temperatures at the seafloor are freezing, while the oil reservoirs can hit 400 degrees. They're like hot, shaken soda bottles just

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waiting for someone to pop the top."

Orange Beach, Alabama, July 1. In the lower left, three formaldehyde jars tell a tail of diminishing life in a water column 90 miles north of the Macondo well.

The May 4th sample on the far left, collected by the Dauphin Island sea lab in Alabama, shows a normal amount of plankton. The June 2 jar from the same site holds only 40 percent of the plankton of the first. The June 28th jar has 10 percent of the plankton.

Water samples on the right from about 35 feet deep, show a thriving -- on June 28, a thriving population of crustaceans, copapods. Twenty feet below in a hypoxic level they're almost devoid of life, as you can see in the picture in the lower right.

The key to this graphic is where real estate's being developed. It's being developed in the yellow areas, it's decreasing in the rest of the Gulf. The yellow areas, because those are free-flowing rivers, naturally flowing into the Gulf.

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And of course here is the battered coastline in the context of the Macondo well.

The sea turtle, 500 sea turtles died. This is at Barataria Bay.

Barataria Bay again.

Booms at the mouth of the Mississippi River.

Workers wiping blades of grass in the crab at Wright Island State Park.

Brown pelicans at Fort Jackson Rehabilitation Center.

And then we close our article with a large supplement map that shows how the Gulf works and what is at stake. And then I think we are finding our readers are surprised to see the extensive development of wells, pipelines, and leasing in the Gulf region.

Thank you very much.

CO-CHAIRMAN GRAHAM: Mr. Barry.

MR. BARRY: Thank you, Mr. Chairman and commission members. I greatly appreciate the opportunity to present my views.

I would like to step back from the spill

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itself, and even the Gulf itself, and take a somewhat broader perspective.

As everybody in this room probably knows, Louisiana has lost 2300 square miles of barrier islands, coastal marsh, and once seemingly solid land. That's an area larger than Delaware.

If you put Delaware between New Orleans and the sea, New Orleans wouldn't need any levies whatsoever. That land loss, that 2300 square miles, has made populated areas in Louisiana much more vulnerable to hurricanes than they were naturally.

I want to cover four points: How we got to this situation, what can be accomplished, how to accomplish it, and what happens if we fail.

Taking the last point first, what happens if we fail.

The majority of all domestic oil and gas offshore production is in Louisiana. Fifteen percent of the nation's refining capacity is in Louisiana, all of it within reach of the storm surge by hurricanes.

At some point in their life cycle, 90 percent of all the fish and 98 percent of all the

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commercial fish in the Gulf of Mexico, the species in the Gulf of Mexico, depend on Louisiana marshes.

By weight, 40 percent of all commercial fish in the U.S. is caught in Louisiana waters. Five of the 15 largest ports in the United States are in Louisiana. Eighteen percent of all water-borne commerce in the country moves through Louisiana waters.

Twenty percent of U.S. exports go down the Mississippi River, and 60 percent of all grain exports.

The continued erosion of the Louisiana coast threatens all of that. The national economy and national security depends on protecting and preserving the economic infrastructure currently in place. The proof of that assertion, right after Katrina, when Gulf refineries were interrupted and oil supplies were interrupted, gasoline prices jumped a dollar a barrel. And that's just the energy issue.

And incidentally, Katrina knocked out access to the Strategic Petroleum Reserve. Again, continued erosion threatens all that infrastructure.

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And there is no substitute for Louisiana's port system. Tulsa is a port with direct access to the ocean because of the Mississippi River. Pittsburgh is a port with direct access to the ocean. That's all part of the Louisiana port system.

400 years ago John Donne described what is in effect our situation when he wrote, quote: "No man is an island, entire of itself. Every man is a piece of a continent, a part of the main. If a clod be washed away by the sea, Europe is the less, as well as if a promontory were, as well as if a manor of thy friends or of thine own were. Any man's death diminishes me because I am involved in mankind, and therefore never send to know for whom the bell tolls; it tolls for thee."

How we got here. To understand the problem you first need to understand the role of the Mississippi River.

The Gulf of Mexico once went north to Cape Gerardo, Missouri. So all the land from Cape Gerardo to the present mouth of the river was created by the deposit of sediment of the Mississippi River. In

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addition, coastal currents carried sediment from the mouth of the river east and west, so a total of roughly 40,000 square miles in seven states was created by the deposit of sediment in the Mississippi River.

As Mr. Reilly said, engineering has reversed this natural process and transformed land-making into land loss.

And there are several factors behind this land loss, some of which are not normally thought of.

First is the decline of sediment in the Mississippi River. The river once carried about 400 million cubic tons of -- 400 million tons of sediment a year. Now it carries about 125 million tons of sediment a year.

The decline is a major factor in land loss. And more than half of the total decline is caused by just six dams built on the Upper Missouri River in Montana, North Dakota, and South Dakota. These dams were built to provide electricity, irritation, and flood protection along the Missouri River.

According to the Corps of Engineers, upon

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the completion of these dams, the amount of sediment coming out of that region dropped from 175 million tons annually to 25 million tons. So there's actually more sediment retained by these six dams in the high plains than currently is delivered to the Gulf by the rest of the entire Mississippi River system.

In addition, at least half the sediment that is still available in the Mississippi River is now wasted. It's prevented from replenishing land. This is because the land-making process starts off by building sand bars. These sand bars were a great obstacle to navigation. And to solve that problem, the Corps of Engineers built jetties that carry the main channel of the river, and with it most of the sediment, two-and-a-half miles out into the Gulf, where the sediment is dropped into deep water, so it's unavailable to replenish the land.

A third factor, levies that prevent river flooding in Louisiana and Mississippi also prevent the replenishment of the land from the natural flooding process.

However, anyone who looks at a map of where

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the greatest land loss is occurring, they will notice that it's occurring downriver from New Orleans in an up populated area.

There are levies in this region, but they're not there to protect population. There is no population. They are there to protect the shipping channel. So, again, that's a benefit. These are all benefits that accrue to the entire United States, even though all the cost is born by Louisiana and the rest of the Gulf coast.

Other benefits to the shipping industry, which means interstate commerce, national security, international commerce, have damaged the region. And this includes the Mississippi River Gulf outlet, which has gotten a lot of publicity because of its direct role in the storm surge in Katrina and because of its proximity to the populated areas.

But probably a greater factor in land loss is actually the Gulf intercoastal waterway, which was originally built for national security to protect shipping from German submarines prior to World War II.

It continues to play a major national

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security role. It runs from Texas to Florida. And again -- once again, a major benefit to the nation and to other regional states; a major disaster in terms of land loss to Louisiana and other parts of the Gulf coast that are dependent on that sediment-making land.

A fifth factor, which Chairman Reilly has already referred to, and so has Mr. Johns, is the oil industry.

The extraction itself may have caused some subsidence. But in addition, the thousands of miles -- Mr. Johns used the number of 8,000 miles, I've heard other numbers that are higher that go above 10,000 miles of canals that are dredged through the marsh, every inch of those thousands of miles brings saltwater intrusion. And of course that destroys the marsh.

So that's a problem that's been presented. And, you know, what can be accomplished?

We can't kid ourselves. The bulk of the land loss cannot be rebuilt. There is very simply not enough sediment in the river to rebuild the land that has been lost.

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Nonetheless, the scientific community does support the proposition that if the right decisions are made, we can achieve no net loss of further land. We can rebuild land in strategic places to protect populated areas, and we can do so in a sustainable way.

We do have a chance to succeed, even with rising sea level. And the reason is that the delta of the Mississippi is a living, dynamic system. It's alive. And things that are alive fight for life.

If you give the marsh fresh water and sediment, then the marsh will rise with sea level. It's a gradual process, it's not suddenly inundated by another two or three feet of water. And it can adjust if it's given sediment and fresh water. Without that, frankly, I don't know that we'd have much chance.

How do we accomplish the goal? You know, do I believe that the dams in the Upper Missouri River should come down and oil production in the Gulf should cease and international shipping be interrupted? Of course not. I think the nation needs all those things. But I do believe that educating the nation

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about the trade-offs and about the unintended consequences of these things which have endangered the Gulf, I think that education process is absolutely essential. Otherwise restoration efforts will not get sustained support from the nation in the future.

Right now we've got a lot of attention, but in the future that is going to evaporate.

But I also think people in the Dakotas and Nebraska and Montana, if they recognize that when they turn the light on they have actually endangered the Gulf Coast, and that benefit their agricultural industry, you know, has actually endangered the Gulf Coast, if they understand that, then I think that there's a reasonable possibility, instead of thinking of help to Louisiana and the rest of the Gulf as a handout, they recognize it as a responsibility and part of the price of their cheap electricity.

There is urgency. A couple of years ago a group of coastal scientists, highly respected, made the statement that if we didn't get serious within the next decade, we would reach a tipping point, and it would be too late to really accomplish the goal of a

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sustainable Gulf Coast.

We have started on the process. The easy part, maybe, of fixing the coast is to identify a few specific policies that need to be addressed or changed and to try to take care of that.

I'll give you one example of a whole set of possible -- just one example deals with dredging.

You know, one thing, the Corps of Engineers dredges the river now. A lot of that dredge material, according to the Corps' interpretation of the law is, in effect, wasted, because they have to get rid of it in the cheapest possible way.

I think the beneficial use of dredge material is important. And I think all of the dredge material that can be used should be used, even if it increases the cost of dredging.

Also, foreign dredges operate on an entirely different scale than the U.S. dredging industry. Where they were building land in Dubai and in Holland, other places around the world dwarf the capabilities of the U.S. fleet.

And I think if this does require

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adjustments in the Jones Act, those changes need to be made.

Other things. You know, river diversions. You know, one of the solutions is going to be cutting a levy to let some of the river run out so that the land is rebuilt naturally in the way it was originally created. But this creates dredging costs.

You know, right now the Corps of Engineers seems to be thinking that any of these dredging costs, Louisiana has to pay its share for these. I think that's ludicrous, frankly. I think it's kind of like having a tractor-trailer drive through your -- over your lawn, crash through your living room, and then you get a bill from the trucking company not only to fix your own lawn and house, but to fix the truck. It just doesn't make sense to me.

But identifying a few specific things which need to be done is really the easy part. The harder part is to figure out a governance structure that is going to take care of this in an effective way.

And later today Secretary Mabus is going to announce a governing structure, at least a temporary

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one, pending legislation. I hope that works. There are a couple of things that I think that it needs to include. Obviously it has to in a decisive way coordinate the efforts of federal agencies to get a rapid response. It has to involve the states. I hope it also involves local government entities and nonprofits.

I think whatever governing structure is set up, it should function in a way that solicits ideas. Maybe like the grant-making process at the National Institutes of Health, the Small Business Innovation and Research Act, where people with good ideas or entities, whether it's a levy district or a state, can go there, or possibly a nonprofit, and compete for funds.

In Louisiana we do have the Coastal Protection Restoration authority that has prepared a master plan, and I think that's an excellent plan, even if conceptual at this point. The State of Louisiana also has a wide number, a large number of projects which have been authorized and are ready to go and lack only money.

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And so on that -- and I hope, frankly, that BP becomes a source of money. There is a lot of money out there.

So my last point is, I know some of the funds need legislation, the fines that EPA will impose, that needs legislation to go to Louisiana. The White House has said that it supports giving a significant chunk of that money to Louisiana and the Gulf Coast. And I certainly support that and hope that happens. Thank you very much.

CO-CHAIRMAN GRAHAM: Thank you very much, Mr. Johns and Mr. Barry.

Commissioner Boesch.

QUESTIONS FROM THE COMMISSIONERS

COMMISSIONER BOESCH: Chairman Graham, I think we are kind of late on time. So maybe in lieu of asking questions, I just want to thank the witnesses and also to underscore I think a point that Mr. Barry presented in a very thorough and eloquent way that kind of escapes us in many ways. And this is the central importance of this region to the whole nation, both in terms of oil and gas production, which

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is the subject of our panel, but also the navigation issues. I think that's underappreciated by many. And also, part of that is the need to rethink how we navigate through this great highway called the Mississippi River to continue to provide that service while we're restoring the coast. So thanks.

CO-CHAIRMAN GRAHAM: Thank you.

Chairman Reilly.

CO-CHAIRMAN REILLY: These are splendid contributions this morning, and I don't want to prolong the meeting here. But simply to ask you, Mr. Barry, with respect to dredge material and your reference to the Jones Act, is the issue with dredge material an environmental issue that it cannot be deposited because of concerns for contamination? Is that what you were getting at?

MR. BARRY: No. There are a couple of factors. You know, one is just money. The corps, you know, thinks the law and maybe -- I'm not saying they're wrong, you know, requires them in certain situations to take the cheapest avenue to deposit the material. And it's more expensive to use the dredge

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material.

In terms of the Jones Act, which limits foreign-flagged vessels' operations in U.S. waters, there seems to have been some question during the spill, for example, and the sand berm issues, whether or not you could use foreign-flagged vessels or not. Whether whatever the case was in the sand berm construction, going forward we're certainly going to needy enormous dredging capacity.

Building those sand berms required the use of more than 80 percent of the entire U.S. dredging fleet, and you can't do that on a long-term sustained basis. We're going to have to have either built more dredges or bring in foreign fleets, or both.

CO-CHAIRMAN REILLY: Thank you.

CO-CHAIRMAN GRAHAM: Thank you very much. You've set us on a good course for today.

CO-CHAIRMAN REILLY: High standard.

MR. BARRY: Thank you.

PANEL II

IMPACTS: ENVIRONMENTAL AND ECONOMIC

CO-CHAIRMAN GRAHAM: Panel Number II on the

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impacts, environmental and economic.

The lead questioner for this panel will be Commissioner Cherry Murray. The three panelists will be Dr. John Farrington, Interim Dean, School of Marine Science and Technology, University of Massachusetts at Dartmouth; Jane Lyder, Deputy Assistant Secretary, Fish and Wildlife and Parks, Department of the Interior; and Lieutenant Governor Scott Angelle, Lieutenant Governor of Louisiana.

Dr. Farrington.

DR. FARRINGTON: Good morning, Senator Graham, Administrator Reilly, commissioners. My name is John Farrington. I'm the interim dean and professor of the School of Marine Science, University of Massachusetts Dartmouth. I'm a scientist emeritus at Woods Hole Oceanographic Institution. Thank you for the opportunity to contribute to the very important work of this commission.

My comments of course are those of my own, and they do not represent the comments or positions of the organizations where I'm employed or where I'm affiliated woods hole ocean graphic institution.

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I've been asked to testify on three particular points. And I've submitted my recent testimony and written testimony in response. And these topics are, the scientific findings in the aftermath of the Ixtoc I one well blowout in 1979, research on other applicable oil releases, and direct experience related to and scientific recommendations regarding the Deepwater Horizon oil spill.

And I will summarize my written testimony with a few key points.

First, the Pemex oil well blowout, June 3rd, 1979, through March 23rd, 1980. It occurs in 50 meters of water depth. There was an explosion, fire, and release of oil and gas at the sediment/water interface, and an estimated approximate 475,000 metric tons of oil and gas were released.

I participated in a research cruise to that particular site. The cruise track of the NOAA ship Researcher and the contract vessel G.W. Pierce from Tracore Marine, as shown in the next slide, extended from Miami to the well site in the Bay of Campeche and then along the Mexican coast to the coast of Texas and

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into Galveston.

The next slide is an up -- I'm sorry, I've gone too far. But this is -- back up here. Okay. A blowup of the well site. When we arrived at the well site, this is the picture we saw from the helicopter operating from the Researcher.

The slick is coming at as from the southwest towards the northeast. On either side of the slick in this misty day you can see the two platforms which were drilling the relief wells which were eventually used to kill this particular well.

On the next day, the sun was out a little bit better, and you can see the flames and the oil bubbling up towards the surface. The flames were between 3 and 7 meters height. The platform nearby was a platform constructed by Pemex that was put in place with the eventual plan of installing a sombrero, an inverted steel cone, to contain the oil and gas. That did not work. In the end it had to be removed.

Underneath the slick we sampled the oil and gas. And I will show you a transect from the well site. At the top you will see the scale of

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kilometers, zero to 100 kilometers. And you can see that the gas concentrations are elevated down-current from the well site underneath the oil slick.

Similarly, when we measured the oil concentrations, you can see that the oil was elevated in concentration underneath the oil slick moving from the well at zero out to about 40 kilometers.

At about the 40-kilometer mark there was a freshwater plume of water coming off the coast of Mexico that resulted from the intense rainfall accompanying a hurricane and tropical storms that had gone through the area before our cruise.

There was an underwater horizontal plume moving with the current away from the vertical plume and under the surface slick.

With respect to the second point I was asked to address, knowledge of oil pollution in the marine environment, I would call the attention of the commission -- and I know you're aware of this -- to the National Academy of Science's report, Oil in the Sea III, in 2003. I believe it's an excellent compilation.

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My colleague Judy McDowell and I wrote an article based on that report, and it was published in Oceanus magazine. It was for the layperson.

We had a quote in that, and I would like to quote. "We also need to expand research on oil pollution in deep waters. Most concerns and research have traditionally focused on coastal waters, yet new concerns arise as oil production moves offshore. We can only speculate on the impact of oil exploration and production in deeper waters, until we have more detailed knowledge of the biological organisms in these habitats and the biogeochemical processes that govern their lives."

I believe that that still holds today, commissioners.

Concluding from my experience in previous oil spills and what I've heard from my involvement in advising and interacting with people who have been out in the Gulf, and I have not, scientific research often gets tangled with debates about who is to blame, who will get credit for being the lead federal agency, and the legal requirements of the natural resource damage

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assessment.

There are delays and confusion within our government about allocations of the research funding, although I understand in the last few days that this has been rectified.

Too little attention had been given to the well potential, to the real potential for deepwater oil blowout. And, in fact, the National Academy of Science's report did provide a discussion of just such an occurrence in their 2003 report.

My overarching recommendation is very straightforward: The nation shouldn't let the lessons from this oil spill fade from memory, as has often happened to the oil spills in the past. And for a number of reasons, not the least of which, as has been pointed out numerous times, and we should not forget, 11 people perished.

The funds from research set aside by BP should be released as soon as practicable by the responsible government agencies. Unfortunately, I believe that we have lost many opportunities for a very good scientific research because of the delay in

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the release of those funds.

I believe the awards of the funds should be expedited, and it should be done through a peer-review process.

Thank you very much, commissioners, for hearing my testimony.

CO-CHAIRMAN GRAHAM: Ms. Lyder.

MS. LYDER: Thank you, Mr. Chairman, and members of the commission, for giving me the opportunity to appear today.

I'm going to need the clicker. Okay.

I brought with me some photographs to illustrate my statement. I spent the last part of April and the month of May in Houma, Louisiana, working at the incident command on the spill.

And the resources of the Gulf, the wildlife resources of the Gulf, are so magnificent that I wanted to share some of the pictures with you so you can see what we're considering and the impact that has occurred.

I have with me today Dr. Roger Helm from the U.S. Fish and Wildlife Service. He is the chief

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of the services division of environmental quality.

Over the course of the response, we at Interior have worked with many partners to minimize impacts to wildlife and their habitat.

We manage 36 national wildlife refuges and eight national park units along the Gulf Coast, covering nearly 3 million acres. There are 38 federally listed species protected under the Endangered Species Act throughout this area. Approximately 1,000 miles of shoreline was impacted, including about 275 miles of lands that Interior manages.

Gulf Islands National Seashore was the only park unit oiled. Most of the affected area here was sandy shore, and a small part was marsh.

Approximately 95 percent of this shoreline saw oil. About half of it was heavily oiled, and much of it was oiled twice.

Soon after the spill occurred, oil washed ashore at Breton National Wildlife Refuge. Just as Royal Terns, Brown Pelicans, and Lease Terns had begun nesting.

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The impacts so far have been significant. Oil can affect wildlife and their habitats in many ways. Oil causes harm to wildlife through physical contact, ingestion, inhalation, and absorption.

Floating oil can contaminate plankton, including algae, fish eggs, and larvae of various invertebrates. Fish and some sea birds can become contaminated by feeding on these organisms.

Larger animals in the food chain can consume contaminated organisms as they feed on fish and other prey, thus impacting the entire ecosystem through a cascading effect.

Preliminary data as of the middle of last week tell us that 8,180 birds have been collected or captured so far. Of those, 2,076 were visibly oiled and alive. Of those 2,076, 1,225 birds have been released into the wild.

6,054 birds were collected dead. Of that number, 2,262 were visibly oiled.

During the spill hundreds of species were at the peak of their breeding or spawning period.

With more than 60 percent of our wildlife

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data verified, we can say that the three most affected species appear to be Brown Pelicans, Northern Ganets, and Laughing Gulls. To give you a sense of the value of these coastal habitats, consider that the northern Gulf coast is home to one of every four Laughing Gulls.

Nearly half of the southeastern population of Brown Pelicans, the Louisiana state bird, lives along the northern Gulf Coast, and generally nests on protected coastal islands.

The orange line in the back of that photo is a boom. When I was in Houma, I showed this photograph at a general meeting of the incident command, to give the Coast Guard and the Navy and all the people from NOAA who were working there so hard, an idea of what they were protecting. Because this is what was happening at the time of the spill.

In early September, Fish and Wildlife Service biologists and biologists with the Louisiana Department of Wildlife and Fisheries began survey work of nearly a hundred bird-nesting colonies along the coast. The results of those surveys are currently

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being analyzed.

Right now, the fall migration is underway. This is a map of the flyways that converge on the Gulf. Songbirds and shorebirds began their migration in July. Waterfowl began arriving in late August and early September.

We know there are significant impacts to marsh and coastal wetland habitats along sections of the Louisiana coast, particularly near Grand Isle, Louisiana.

We don't yet know what the full impact will be to migratory birds and other wildlife.

Oil has a potential to endure in the environment long after a spill and has been found in sediment for 30 years after a spill.

The Fish and Wildlife Service has joined with the Natural Resources Conservation Service to implement a migratory bird habitat initiative aimed at creating additional habitat on the ground by asking some farmers to flood their fields. We hope this will reduce the probability of migrating birds coming into contact with oil-impacted areas.

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In mid-June biologists began considering what could be done to limit potential impacts to emerging sea turtles. Among the early fears was a concern that surface oil could saturate sargassum pads that young turtles depend on for shelter and food.

What resulted was an historic translocation of sea turtles nests from the northern Gulf coast of Florida and Alabama to the Atlantic coast of central Florida at the Kennedy Space Center.

Biologists from federal and state government, conservation groups, and private supporters, came together to do this. In all, 278 nests were moved, and so far nearly 15,000 hatchlings have been released in the Atlantic along 25 miles of coast in Florida. We are continuing to monitor these habitats as the end of nesting season approaches in early October.

Many of the long-term impacts from the oil spill are unknown and may not manifest themselves for years. To address this we are working with NOAA, the States of Texas, Louisiana, Mississippi, Alabama, and Florida, and the Department of Defense as part of the

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Natural Resources Damage Assessment and Restoration Program to complete a natural resource damage assessment and restoration blueprint. The Department of Agricultural and Tribal Governments also has been invited to participate.

We have documented significant impacts to fish and wildlife and their habitat, but there is still much we do not know.

We are learning a great deal from the ongoing work of our nation's best biologists and other scientists.

Thank you for the opportunity to testify.

CO-CHAIRMAN GRAHAM: Thank you, Ms. Lyder.

Lieutenant Governor Angelle, on behalf of Commissioner Garcia and myself, I wish to thank you for your great hospitality and high level of information and insight that you provided us on our recent visit to Louisiana. Thank you.

LT. GOVERNOR ANGELLE: Thank you, Senator Graham, and to Administrator Reilly and distinguished members of the commission.

Thank you for inviting me here, and thank

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you all for your public service. And I do appreciate the time that we've had to visit in Louisiana, and thank you for making the sacrifices to be there. I bring greetings to you today from Governor Jindal and the men and women of Louisiana who have been working now for the past 162 days to restore our way of life in the Gulf Coast. I realize that you have a robust agenda today, so I will only offer brief remarks and supplement with written comments.

Our region of the Gulf of Mexico is different, much different from our sister states, and it has often been referred to as America's energy coast. Certainly we are and we realize that we are a unique slice of America that has embraced the development of all of our natural resources simultaneously. We are not an either/or province, but absolutely respect those regions of our nation that wish to be.

For the last 75 years, through governors of different political parties, from different geographic regions of the state, we have always embraced a management philosophy that encouraged the exploration

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of oil and gas alongside a robust fisheries industry. And this coexistence has worked well. In fact, we even celebrate each Labor Day weekend the shrimp and petroleum festival in Morgan City, Louisiana.

At the same time we explore, store, produce, refine, process, and transport a third of the nation's oil and gas consumption. We provide one-fifth of the nation's commercial fisheries' catch for the lower 48 states.

We believe these efforts can be summed up best as nation-building, and what we do has contributed to make America stronger and more secure as so we and it should.

The three most impacted areas of the Louisiana economy that I've been asked to speak to today about that have shown a weakness since the oil spill are our seafood industry, our tourist industry, and our oil and gas exploration industry; the latter is particularly due to the moratorium.

Approximately 23 million people visit our state annually. Our tourist industry is about $8 billion in size annually, generating about a billion

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dollars in tax revenues and employing 124,000 people, about seven percent of our state's work force. It is absolutely huge for us. And, like other places in America, people come to Louisiana for a variety of reasons. They come for our music, our culture, our sporting events, our entertainment, our outdoor recreation, like all across America, visiting family and friends. But the Number 1 historic reason, the Number 1 historic reason that people come to Louisiana, is for our food.

Our cuisine is our Number 1 tourism asset, and it is tied to the availability and the confidence the market has in our seafood. Take either availability or confidence away, and you cripple our most unique selling point.

The oil spill has done both. While availability should be able to come back in a short term and appears that it is coming back in a short term, confidence is something we will have to earn in the marketplace. And that will take a serious investment of the responsible party, a process that BP has refused to engage in up until last week when they

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became aware of your invitation for our testimony today. The commercial fishing industry has a $3 billion economic impact and has been one of our most reliable industries.

But the LSU ACT Center reports shrimp landings were down 52 percent in the months of May, June, and July versus a three-year average from 2007 to 2009. Down by 92 percent in Mississippi, Alabama by 82 percent, and Texas by 16.

Realizing safety should be our first priority, we were very aggressive protecting public health by imposing a totaling of 58 emergency actions of the management of our fishing areas. The lack of any documented case of tainted Louisiana seafood clearly indicates these efforts were effective in protecting the public. To date nearly 30,000 oysters, shrimp, crab, and fish have been collected. Tested at independent labs have revealed no findings of significance. And yet restaurants continue to reveal that they have less demand by their customers for seafood.

In Louisiana we don't have the option of

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showing a picture of a clean beach and declaring victory. Common sense tells us we will need a long-term seafood testing and monitoring program, along with a marketing strategy complete with tracking surveys, to determine when consumer confidence is restored. We have asked for both from the responsible party, and got neither.

But rather than relying just on common sense, we engaged professionals to conduct national and regional perception studies. I wish to make the results of these three studies part of the public record today. In summary, the studies indicate the following: Our May 28th report says that of the 23 percent of respondents who had plans to visit Louisiana prior to the oil spill, a quarter had either postponed or completely cancelled their trip. Fifty-five percent stated they believed the restaurants serving Louisiana seafood put customers at risk. Our most recent study, released on August 16th, confirmed that despite the passage of time, the nation's perception has not much improved. Twenty-eight percent of the respondents believe the

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oil spill is just as bad or worse than Hurricanes Katrina and Rita. Eighty believe the oil spill will affect Louisiana for at least two years. Twenty-nine percent believe -- I am sorry. Twenty-nine percent of the respondents who had planned to visit Louisiana have cancelled purely because of the oil spill. But most devastating, 48 percent still believe restaurants that serve Louisiana seafood across America are putting customers at risk.

Again, until the responsible party learned of our invitation to testify at this meeting, they had for 50 days ignored two letters on seafood promotion and tourism marketing. I would like to make those letters part of the public record today. I am hopeful today is a new beginning of a new attitude from the responsible party, and I respectfully request that you require the responsible party to file a weekly report with this commission on their efforts to restore the image and brand of the Gulf coast states. I think that will add to the transparency and accountability we need. It is offensive at best to watch television ads nightly indicating that they will make this right,

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when they refuse to even respond to the letters requesting engagement on these significant issues.

Turning to the other major impacted area of our economy is oil and gas exploration. I know you had a great tell of testimony on the moratorium, so I will keep it very brief. I will tell you that the oil spill made us sad; the moratorium makes us mad. We understand it can't be business as usual and that a time-out was and is appropriate. But there has not been one shred of evidence of a systemic failure, and yet we have a one-size-fits-all response from the government. The courts have declared the moratorium arbitrary and capricious. Several of the Secretary's own experts have publicly disagreed with him on the imposition of a moratorium, and the national bipartisan commission believes that the new rules that have been imposed are sufficient to lift the moratorium.

We are now in the fourth month of that moratorium. Following the tragedy of the 9/11 disaster we shut down the airline industry for four days. An obvious systemic failure of catastrophic

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proportions. Worse than all of that is the de facto moratorium in the shallow waters, an area that the President and Secretary have both publicly indicated are, in fact, open for business.

The lack of permits being issued is at a critical level. We have had over 11,000 shallow-water wells drilled in America in the last 15 years, with 20 well-control events and a total of 15 barrels of oil spilled. The risk in shallow waters is significantly less, but it remains a one-size-fits-all response.

I'm afraid the oil and gas industry, because it may be popular, is being held to a higher standard than other industries. We are meeting with Director Bromwich today to offer suggestions on how we might streamline, but we have got to get past punishing the innocent companies and workers. It is like having a problem with a Boeing aircraft, but requiring Cessna to pay the price.

By the end of October 70 percent of the shallow-water rigs will be idle, a quarter of our jack-up rigs are already idle. Being smart and efficient in the permitting process doesn't have to

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mean we are cutting corners.

Again, for a full transparency I ask that you ask the Bureau of Ocean Energy to file with you a weekly report on how they are doing with shallow-water permitting.

Thank you for your service. And again, we will submit the documents we have.

We believe in Louisiana that we will drill again, we will fish again, and we will continue to be a slice of America that fuels and feeds the nation. I invite you to the sportsman's paradise, and I ask that you consume Louisiana seafood every chance you can.

Thank you very much.

CO-CHAIRMAN GRAHAM: Thank you very much to each of the members of the panel.

Chairman Reilly is going to commence the questioning.

QUESTIONS FROM THE COMMISSIONERS

CO-CHAIRMAN REILLY: I have a question for Dr. Farrington. With respect to the Ixtoc spill, the continuing effects of that are known, are measured, are demonstrable, and to what extent; if you can

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comment on that? I know that there were not baseline studies done and research done at the time. But what do we know about the persistence of the oil from that very large spill?

DR. FARRINGTON: Well, to my knowledge, Commissioner, there were limited studies on the biological effects. And I have not been able to find in the literature, nor have reviews written by experts from the United Nations been able to identify in the literature any studies on long-term biological effects. To my knowledge.

There are areas where, for example, Dr. Wes Tunnel of Texas A&M University at Corpus Christi, has resampled pieces of tar and areas in lagoons where the tar came ashore, and it is still present. But as far as the larger area initially impacted by the spill, unfortunately there are no scientific studies of which I'm aware.

CO-CHAIRMAN REILLY: Ms. Lyder, as a former President of the World Worldwide Fund, I have to ask you, do we expect the turtles to adopt those new beaches on the Atlantic coast of Florida?

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MS. LYDER: I believe that we do expect the turtles that were hatched there to adopt those beaches as their homes.

CO-CHAIRMAN REILLY: I didn't realize it was that simple.

MS. LYDER: Roger, do you have anything to add?

CO-CHAIRMAN GRAHAM: This is Mr. Roger Helm.

MS. LYDER: Dr. Helm, yes.

CO-CHAIRMAN GRAHAM: Doctor, would you give your title?

DR. HELM: Yes, sir. I'm the chief for environmental quality for the U.S. Fish and Wildlife Service, but in this event I'm serving as the scientific advisor to the Department of Interior as authorized official for the damage assessment.

Mr. Reilly, I'm not an expert on the turtles. The expectation is, as I understand it, that the turtles will return to the beach. But as in many of the situations for this particular event, this is an experiment that's being conducted right now; a real

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time experiment as a trade-off for the best chance for those turtles to survive versus them being released into the Gulf at that particular time.

CO-CHAIRMAN REILLY: Can you comment, either of you, on the impact on the sea turtles of the berm projects?

MS. LYDER: My understanding is that initially there were a small number of turtles taken as a result of the hopper dredges. But I think that that issue was corrected. And I have heard from NOAA, because NOAA is responsible for the sea turtles when they're in the water, Fish and Wildlife Services is responsible when they're on the beaches, that the sea turtles are not being negatively affected by the sand berm project.

CO-CHAIRMAN REILLY: You have previously testified, Ms. Lyder, for the house Natural Resources Subcommittee on June 10th, 2010, that you, quote, "expect wildlife impacts to be subtle and chronic and persist for years and could possibly have population-level impacts."

Is that still your view?

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MS. LYDER: Yes. In terms of population-level impacts, I think we're somewhat more hopeful that those impacts will not be as significant as we feared in the midst of the spill, although we don't know.

I think in my testimony I pointed out that because of the cascading food chain and the impacts on wildlife of ingesting contaminated organisms and then resultant organ failure, we really don't -- we don't know what we're going to see. But we will be monitoring the population affected by this spill.

CO-CHAIRMAN REILLY: Based on observations so far, are there specific species particularly at risk right now?

MS. LYDER: Birds. Migratory birds are particularly at risk because there are still oiled areas. And I think we all have seen the pelican. We've seen many pictures of oiled pelicans. In part that's because of the way that pelicans feed.

Pelicans, if you've watched them when you've gone to the beach, they fly along and they, you know, they go up high, and then they dive when they

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see what they think is a group of fish, food.
Well, they've been mistaking these oil mousse patties, because they're discolorations in the water, as food. And so they've been diving right into the oil and then coming back up through the oil, the way they do when they feed, and being covered.
So the largest bird impact has been with the Laughing Gull, and then with pelicans.
DR. HELM: I would just add that in certain species such as the marsh birds that are very -- the populations are very local and they stay there and the marsh still has oil in it, those species, like a Clapper Rail or Seaside Sparrow are of special concern. And we have ongoing studies of telemetry to try to understand the impacts.
CO-CHAIRMAN REILLY: Just a quick question before I turn it over to Dean Murray.
Governor, do you have a sense of the situation with respect to the rigs today? You referred to them as to which are likely to be able to resume drilling as soon as the moratorium is lifted? There was some suggestion yesterday from the Interior

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Department spokespeople that it won't be an immediate resumption, depending on the adequacy of compliance with NTLs 5 and 6 and other new rules that are being prescribed.
LT. GOVERNOR ANGELLE: Well, certainly I believe the industry has responded very well to NTL 5. NTL 6 is, by all accounts, a very difficult regulation to maneuver through. And, quite frankly, I don't believe the Bureau of Ocean Energy clearly understands what they're asking in NTL 6. I'm confident the industry has the ability to respond to a clearer set of rules. If the rules are such that it's going to take ten yards to make a first down, I certainly believe that if we're now changing it to 15 yards to make a first down, that the industry will respond.
But the regulator has a responsibility to make it very, very clear to the regulated community what it is that they want. And by their own admission they don't have enough employees, they are having to go through a tremendous amount of reviewing permits, as so they should.
But I'm very concerned that the industry

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is, although willing to respond, just has not got a clear indication from the Bureau. And that's with all due respect to the Bureau. I realize that Director Bromwich has his hands full. I believe he is a great American, trying to do everything he can. I will be visiting with him this afternoon. But I have my concerns that he has the resources he needs and there's a clear indication that what it is they want energy companies to do.
CO-CHAIRMAN REILLY: Thank you.
Dean Murray?
COMMISSIONER MURRAY: Thank you.
Lieutenant Governor Angelle, can you tell us a little bit more about your plan for how the public perception of seafood could be improved, and what it is you got -- what indications you got from BP that they are now listening?
LT. GOVERNOR ANGELLE: Well, after it became public that I was invited to testify today, BP scrambled a few F-16s up and came to see me in Baton Rouge -- and that's my analogy. And we had a very, very candid conversation about the fact that we had

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submitted on July the 26th perception studies that they had not even acknowledged, had not responded to, had not even answered the mail.
We followed that up with a latter I believe on September the 15th as a second letter, and then transmitted the third report that we have, which was done in August. And we simply are putting out what we believe, again, are scientific facts. We've noticed that BP has done a tremendous job advertising with regards to their own image. And we believe that it will take a serious investment to overcome the perception issues that Americans throughout the country are indicating that they don't have any confidence in the quality of the Louisiana seafood brand that at one time was the Number 1 seafood brand in the nation.
So how do we do it? I think first of all we have to get to the point where we engage, we have to acknowledge that there is a problem, we have to acknowledge that the responsible party is responsible for the problem, and we need to go through a series of investments, including things like incentivizing. I'm

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aware of when one of the auto manufacturers had a problem this year with brakes, they had to double down on the rebates that they were offering. We are going to need to incentivize people to come to Louisiana with, you know, and just by example, either gasoline travel cards or, you know, three hotel rooms for the price of one. It is perhaps gift cards on restaurants. It is doing all the things that we are going to have to do. And those are just some very in-the-weeds type responses that are going to get people to take a chance, if you would, to come and be a part of it.

You know, we feel like we've gone from a new car to becoming a used car. And we're going to need incentives to get folks to come and visit and be a part of it.

COMMISSIONER MURRAY: Have you suggested a testing campaign, a very rigorous testing campaign, scientific? I mean, marketing is one thing; but actually giving people data is rather important.

LT. GOVERNOR ANGELLE: Well, certainly what we've indicated to BP is that there ought to be an

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investment in the marketplace. There ought to be tracking polls. BP does not owe the State of Louisiana a response, a baseline that is -- to get us past our baseline prior to the BP oil spill. We ought to have an investment that simultaneously tracks what consumers are -- the consumer confidence that is coming back across the nation.

In addition to that, we have separately requested -- the Department of Wildlife and Fisheries has requested an investment I think of $173 million in a seafood testing and monitoring program to use that as the continued confidence. I mean, it's one thing -- you're exactly right. It's one thing to tell our story. But the story that we have to tell has to be based on science. And we have asked for that. Actually, it was a 20-year program that's been scaled down to a five-year program. And it is my opinion that recently BP had said they're not sure if they're willing to invest in that either.

So it is creating the story. We believe our tests already show that we do have a story. It's expanding on that story, getting confirmation, if you

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would, belts and suspenders on that story, and then, you know, telling that story to America.

COMMISSIONER MURRAY: Is this purely a Louisiana plan, or is this all five states, or what's the --

LT. GOVERNOR ANGELLE: Actually, each one of us has our own individual asks, but I haven't reached out in my capacity to Florida, Alabama, and Mississippi from a tourism standpoint. And I'm trying to gather the four of us with BP officials in New Orleans next week. Because we believe there is -- you know, part of it is a regional response, and part of it is an individual response.

COMMISSIONER MURRAY: Thank you.

LT. GOVERNOR ANGELLE: Thank you, ma'am. Thank you, commissioners.

COMMISSIONER GARCIA: Dr. Farrington, you indicated in your presentation that more long-term studies are going to be necessary, and the need for investment in that area.

Why is it that we don't have long-term studies and information about Ixtoc; is it because

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there wasn't the willingness to invest? Did people forget about it after the oil stopped flowing? What happened?

DR. FARRINGTON: Well, I believe, Commissioner, primarily there's a tendency to forget about the oil spills after the visible appearance of the oil slick disappears. Which, of course, scientifically we know to be a major mistake.

As far as the long-term effects on Ixtoc, that spill took place in Mexican waters, and the Mexican government made it very clear that they would do the biological effects studies. And to my knowledge, no U.S. scientists were allowed to go there. There are -- other scientists from the United Nations were invited in to do assessments after the fact. Their reports, which I referred to in my written testimony, are the basis for me saying that I don't know of any long-term biological-effect studies.

I believe the issue at stake is that they are expensive, and there are other competing priorities. And it's as simple as that.

COMMISSIONER GARCIA: Thank you.

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Lieutenant Governor, it's good to see you again. Could you tell us again what you have done up to this point in terms of testing seafood safety, what information you have available?

LT. GOVERNOR ANGELLE: Yes. I appreciate that question. I'd have to defer an answer, and I would be able to get that to you in writing. The Department of Wildlife and Fisheries I know has engaged, along with the federal partners, on a variety of testing. I'm aware that the samples are large samples. I'm aware that independent laboratories have been used. I'm aware that those reports have been made public and posted on the Internet sites. I'm aware that we have requested more robust testing, again to make sure that we are telling the exact story that we need to be telling to the American people. But the details on that, I would have to respectfully request that you give me an opportunity to provide that to you in writing.

COMMISSIONER GARCIA: Okay. But is there any indication at this point from those tests, to your knowledge, of increased levels of toxicity in seafood?

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LT. GOVERNOR ANGELLE: The information I've been briefed of by the Louisiana Department of Wildlife and Fisheries indicate that there has not been one finding of any level that concerns FDA above a -- what would be a health standard that they would approve.

COMMISSIONER GARCIA: Okay. And what kind of -- how would you characterize the relationship with the federal government, the testing agencies, NOAA, FDA, as well as the state authorities that are charged with this?

LT. GOVERNOR ANGELLE: You know, I think it's cooperative. I think that the responsible party needs to get in the game.

COMMISSIONER GARCIA: Thank you.

CO-CHAIRMAN GRAHAM: The -- oh, I'm sorry.

COMMISSIONER BEINECKE: Can I just ask --

CO-CHAIRMAN GRAHAM: Yes. Commissioner Beinecke.

COMMISSIONER BEINECKE: Thank you.

Dr. Farrington, a question: You were very strong in your recommendation that there needed to be

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more research done in the deepwater environment because of the expansion there. Are you familiar with the environmental studies and the research that MMS, now BOEM, has invested in in the deepwater environment? And in your opinion is that adequate, or there needs to be a more robust research program? If you could just make a comment on what has taken place so far.

DR. FARRINGTON: Certainly. Commissioner, I've tried to stay up to date on this. Many years ago I chaired the national research council committee that reviewed the environmental studies program of MMS. And as I indicate in my written testimony, unfortunately at that time, once we had submitted our reports saying there needed to be more studies, since there were moratoriums in place, in many instances around the coast, but not in the Gulf, the actual budget for MMS and the environmental studies program was reduced.

I don't think that there is enough funding right now in the deepwater areas to understand even the biota that are there.

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We do not have a very good understanding of the midwater regions of the deepwater biota of the Gulf coast, despite the very best efforts of scientists not only in the Gulf Coast but elsewhere.

COMMISSIONER BEINECKE: So would it be your recommendation that in the restoration and the natural resource damage assessment recommendations, that one of the areas they ought to look at is in that deepwater environment? Because a lot of the focus, obviously, for obvious reasons, is on the coastal and near shore environment.

DR. FARRINGTON: Yes. I would recommend that. But I would recommend it with the understanding that unfortunately because of the delays in the allocation of the funding, that many of the opportunities to really understand what happened in the deep water have gone by.

But that doesn't mean we shouldn't go out and take a look now. And I would be only speculating to say what actually was happening. But I do think we need more offshore studies. But that's not to say that it isn't important to do the studies in the near

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shore region, as has been pointed out by the panelists here and other scientists.

COMMISSIONER BEINECKE: Right. Thank you very much.

CO-CHAIRMAN GRAHAM: Dr. Farrington, you made a suggestion that the manner in which the funds that might be available for restoration should be distributed either in whole or in substantial part, would be by a grant program with those grant requests then peer-reviewed.

Did I accurately capture your concept?

DR. FARRINGTON: Expedited peer-review process.

CO-CHAIRMAN GRAHAM: Expedited.

If you heard the first panel of Mr. Johns and Mr. Barry, they were talking about the large issues of deterioration of the -- particularly the central upper Gulf, and the need to use this tragedy as a jump-start to move forward on a large-scale restoration program.

I think your comments and theirs sort of pose the tension of how we should approach

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restoration. Should we approach it as a series of individually generated ideas, or should we approach it as a strategic plan, and how to support that strategic effort for long-term upper Gulf restoration.

I think although the Lieutenant Governor didn't discuss this particularly, I know from our previous personal conversations that this is an issue of great interest to his.

I'd like comments of the two of you as to these alternatives, or do you have some suggestions of how the different approaches might be melded together?

DR. FARRINGTON: Thank you, Governor.

I appreciate the opportunity to go first, because, in fact, I am not suggesting that the funding should be taken away from restoration. What I'm simply talking about is funding for research to understand the science behind the inputs, fates, and effects of oil on the marine environments, and specifically this oil spill.

I wasn't clear enough, Senator, and I apologize for that, that what I'm talking about is understanding the fundamental science and getting that

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funding for that.

There is clearly a major effort that needs to be done with respect to the science applied to restoration. And that does need the coordinated plan. And I do support wholeheartedly the comments of the first panel with respect to looking at that within the larger context of what's happened in the Gulf Coast region.

So I hope that clarifies my particular statement, Senator.

LT. GOVERNOR ANGELLE: And certainly, Senator, you and I had a chance to visit. I know this afternoon you will hear from Gary Briggs, who is the Governor's executive director of coastal activities.

Certainly in the state we have invested heavily in development of a master plan, a master plan that has been recognized by EPA. We believe it's appropriate for this nation to take a portion, the first of the fruits, if you would, from the development of its oil and gas offshore resources, and dedicate those resources to the protection of our coastal resources and development of our -- protection

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of our fishery resources.

So we would certainly be a part of a team that believes in a overall strategic approach. However, we would also say that several projects have already been approved by the Corps of Engineers that are awaiting funding, and we believe that in time some of the oil and gas revenue from offshore to these kind of projects would allow those projects to move forward in an expedited way. Thank you.

CO-CHAIRMAN GRAHAM: I apologize, but our next panel members are under some time pressure, and to the commissioners, I'm afraid we are going to have to lose our break. I understand Governor Barbour is here. If he would be willing to come forward, we can start with Panel III. And then as Senator Landrieu, who is en route and must leave at 11:15 to make a Senate vote at 11:30, arrives, we will then follow Governor Barbour with Senator Landrieu's presentation.

Is Governor Barbour here? Oh, they're both here. Okay. Good. This is not a break. This is just a pause as we wait for our next panel to arrive.

PANEL III

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ELECTED OFFICIALS: THE VIEW FROM THE REGION

CO-CHAIRMAN REILLY: Good morning.

We are very pleased to have you both here representing the region. We are focusing today very closely on the region, and particularly on the subject of restoration, in which you both have demonstrated leadership and vision. We would be very pleased to have you present to us, and look forward to the conversation with you.

I think that you are under time pressure for a Senate vote. Is that what I understand, Senator Landrieu?

THE HONORABLE MARY LANDRIEU: I believe the vote is in an hour. Yes.

CO-CHAIRMAN REILLY: Okay. So we're all right. Please.

THE HONORABLE MARY LANDRIEU: Do you want me to proceed?

CO-CHAIRMAN REILLY: Yes, please.

THE HONORABLE MARY LANDRIEU: Thank you, Mr. Chairman. I really appreciate the opportunity to testify. This will be my second time, and I'm

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grateful for the opportunity and grateful to this commission for the work that you're doing and the seriousness in which you're pursuing this task and mission. And I'm very sincere about that.

Each one of you brings a different perspective and experience to this. But it's a great work that we have to do to secure and stabilize and revitalize this special coast, and to provide a way forward for a very important and essential industry in our country -- or industries. It's offshore drilling and near shore drilling, shallow water drilling, deepwater drilling. But there are also other industries that depend on this coast as well. And we appreciate your work.

I'm thankful to be here with my friend, Governor Barbour, who has been a partner in many ways building this coast over the last many decades, but particularly in the last five years since our coast was so devastatingly struck by a number of storms, Katrina, Rita, Gustav, and Ike.

We have been rebuilding it home by home, section by section, hospital by hospital, library by

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library, neighborhood by neighborhood together for a while now, and now to have this challenge is particularly difficult.

I want to ask the chairman how much time I have. I'd like to work, Senator, from my prepared remarks if I could, summarizing as much. But do I have five minutes at least?

CO-CHAIRMAN REILLY: I'm not sure how much time you have, but we've allocated an hour for this.

THE HONORABLE MARY LANDRIEU: Oh, perfect. Okay. Then I have some time to go through what I've prepared. Because I think it's a very, very important testimony that I'd like to get on the record.

And Senator Graham, it's wonderful to see you again, and thank you for your longstanding interest in this issue. We worked together on the energy committee for years, and your efforts to lead the restoration of the Everglades and your efforts on behalf of the whole coast is greatly appreciated, I want you to know.

Let me just say for the record that for more than a century the federal government has, in our

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view, mismanaged critical water projects, placing a delicate ecosystem like the Mississippi River delta at extreme risk of complete and utter collapse.

I'm going to focus my remarks on the federal government today. I want to say that our state government, Louisiana, has not done all that it should do over time and can do, but it's not the purpose of this discussion. The purpose is what the federal government can do, and we'll leave that for another day.

In the decade since our federal government first pursued the channelization of the Mississippi River to promote trade commerce, the world's seventh largest delta has been largely deprived of nourishment from sediments carried by the river which drains two-thirds of the continental United States. Instead of rebuilding the delta, these sediments are now redirected and carried out to the Gulf of Mexico, where they are dispersed.

And in most of the area where it's dispersed, we know this dispersant area as the dead zone. And you all may be familiar with that largest

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zone in the oceans anywhere that we know of.

The effect of the delta is a constant and debilitating land subsidence and sustained coastal erosion. The strangulation of the natural process is compounded by the ravages of coastal erosion and further aggravated by regular storms and hurricanes that batter our barrier islands and coastal plains.

Sustainability of life in the delta is under dire threat in coastal Louisiana, a rapidly eroding landscape that loses 25 to 35 square miles of wetlands each year. At the current rate of land loss, an area the size of Rhode Island will be lost by 2050.

I want to remind this commission that we've already lost the size of Delaware in the last 50 years. We don't have a lot of time to get to the end of this -- or the beginning of our restoration efforts.

And with the loss of this unique area goes our nation's only true working energy coast, a coast that we're very proud of, I might say. It is an economic engine that contributes 90 percent of America's offshore energy production, 30 percent of

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the nation's overall oil and gas supply, and 30 percent of the seafood produced in the entire lower 48.

Our working energy coast also caters to one of the most unique and vibrant tourism industries in the nation. It is also home, in Louisiana alone, to more than 2.5 million citizens, who operate the great port systems of the Mississippi River and in addition to all the other industries that we operate.

At the heart of this special coast is a massive river system, stretching 2,500 miles from the Great Plains to the Gulf of Mexico.

The Mississippi River has the third largest drainage basin on the entire planet, exceeded only by the watersheds of the Amazon River and the Congo.

And you have in the audience today one of the key experts in this subject, John Barry. I hope he's testified before your committee.

Sitting at the mouth of this vast river system is my home, the City of New Orleans, a city that was almost completely lost in 2005, and is still struggling to recover from Hurricanes Katrina and

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Rita.

Katrina was not a natural disaster; it was a man-made disaster, when the levy systems holding this great river and water back failed and collapsed in multiple places. And we almost lost a great American city.

While this bears strategic and cultural importance to the nation, New Orleans is not the only vulnerable area that requires protection. The entire Louisiana coast and, of course, the whole Gulf coast, but as a senator from Louisiana, let me use my time to advocate for cities like Lake Charles and New Iberia and Houma and Thibodaux and Lafayette, places where thousands and hundreds of thousands of people live, and I might say, intend to live. They intend to raise their grandchildren in these cities. And they deserve to be protected.

As we have seen during the current oil spill, these cities form the backbone of our nation's fisheries, port system, and offshore oil and gas industry. All of these tremendous assets are at risk of being literally wiped off the map.

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With persistent and rapid loss in Louisiana, communities are more vulnerable to the storm surge of massive storms and the inevitable impacts of sea level rise due to changing climates.

There is a solution, one that is doable and affordable. To help this region undo decades of coastal loss and respond to the effects of the current oil spill, it's critical, essential, to secure a permanent and robust and immediate source of revenue for coastal restoration.

I was thrilled today to hear Secretary Mabus's report that the administration has agreed to such a dedicated and robust stream of revenue. They have said, just within the hour, that 80 percent of the penalty money from this spill should be dedicated to this purpose.

In addition, there are other potential sources of revenue, accelerated revenue sharing being one. But with the fines associated with this spill, which could be anywhere from 10 to 30 billion dollars, this is a good start.

We could accelerate Domenici-Landrieu Gulf

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of Mexico Energy Security. As you know, the Gulf coast states are the only oil-producing states that don't receive a portion of their severance and royalties. Interior states have received them since 1927. The State of Wyoming last year got 50 percent of its oil revenues. They have 500,000 people. They kept a billion dollars.

Louisiana produces four times the amount of oil and gas Wyoming has, we had 4.5 million people, and we didn't keep penny.

No less than 80 percent of the civil and criminal penalties should be directed our way. We hope that that will happen, and we're excited about the report this morning.

I also want to recommend that the congressional action to create the Gulf Coast recovery council to manage the dedicated clean water funds, the council should closely coordinate with the ongoing natural resource damage assessment, which is going to be another source of revenue that is hard to predict now, but it was fairly substantial under the Alaska Valdez spill.

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So we think with a great portion of the penalty money, accelerating the Domenici-Landrieu Gulf of Mexico Energy Security Act, and coordinating that carefully with the NRDA funds, that there are clearly funds to accomplish what we need to accomplish. And we don't have to just let this coast go by the way of terrible subsidence and erosion.

We believe that this creation that was done this morning, Mr. Chairman, of the Gulf Coast Ecosystem Restoration Task Force is a good start. We also realize and want to say that it's not just the rebuilding and restoration, but laying the groundwork for future economic growth of this region.

So this problem is real, it is fixable. We have the money and the resources now right before us to do it. And I hope that this commission in its work will consider that this is now an extremely serious situation. And we do have the resources now available to help not only fix what was damaged, stop the land loss, but invest smartly in the future of not just Louisiana and Mississippi, but the entire Gulf Coast, a region that is extremely important to the -- to our

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nation.

And I will conclude with this, that not only is this region important to our nation, but the model of how this Gulf Coast works, that we don't run away from our industry, we embrace it, we are proud of it, we are proud of our oil and gas industry. On a good day when things are going well, we couldn't be prouder of the men and women that work onshore and offshore. We're proud of our fishing industry. We're proud of our commercial shrimpers. We're proud of our recreational fisherman. We're proud that we drill and swim and recreate in the same water.

We don't live in one place and vacation in another, at least in Louisiana and for the most part in Mississippi. And in some parts of the coastal part of Texas. We kind of live and play in one spot.

And we like that. We don't like having to get on a plane and go miles away for vacation. We usually are in the woods in our back yards or in our skiffs. We spend a lot of time out there in this environment.

And our people have been so shortchanged

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over the time by the federal government taking so much money out of this Gulf Coast. 165 billion has been taken out of the Gulf Coast since the 1950s, when we started drilling. And very little of that money has come back to us.

We create a tremendous amount of wealth for this nation, and we're proud of it. But Mr. Chairman, now is the time to get this industry back up and operating safely. Invest a portion of the money that we generate for this nation to protect and preserve this coast, and to create a model not only that we can be proud of in the United States of America, but a model for the world.

Because we think we do it pretty well in the old USA. I will put our teams up against China or, you know, Niger or Venezuela any day of the week. And I think it's time to get the Gulf Coast back to work, get these moratoriums lifted, get the industry back doing what they know how to do, which is keep the lights on in rooms like this all over the world, and show that we can save a delta, we can protect people that live there, we can restore our wetlands if we do

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it in a balanced and thoughtful and, you know, an appropriate approach.

And I thank you so much. And I'm happy to share this podium with Governor Barbour.

CO-CHAIRMAN GRAHAM: Thank you very much, Senator.

Governor?

THE HONORABLE HALEY BARBOUR: Thank you, Senator, and everybody on the commission. Senator, it's nice to be with you.

I'm not going to go through my testimony. You got it to look at if you choose.

A couple of things that Senator Landrieu said that I think need to be touched on.

Like Katrina, we in Mississippi had a different catastrophe with the BP oil spill than Louisiana. With Katrina, as Senator Landrieu said, we bore the brunt of the hurricane, and Louisiana, because the levies failed, had a rising water flood, a terrible, terrible thing, but a very different calamity from what we went through in Mississippi.

It was similar here. Because parts of

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Louisiana are so much closer to the well site, they had damage that we simply didn't have. We didn't have brown oil coming up in marshes or onto our beaches like they did for so many days in a row in Louisiana.

That brown pelican that was on TV every hour on six or eight or ten channels that looked like he had been soaked in chocolate and was on so many times, Senator, that I -- if he were an actor, I can't imagine what his residuals would be for all the appearances he made on television. Well, we didn't have that.

The oil got to us because Gulfport, Mississippi, is 108 miles from the well site. And by the time the oil got to us, it was very depleted. And I'm sure this has been talked about. The water temperature, the distance, often the agitation in the water made what finally got to us at least had deteriorated to be kind of an orange -- "mousse" they call it, but we refer to it as glop. And we had a little bit of the oil got to us in that condition. But the vast majority of what got to us were tar balls and tar patties.

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Now, some of you know that the Gulf of Mexico has oil that seeps into it all the time. Seeps through the floor, and I've heard scientists say 250,000 barrels a year and scientists say more than a million barrels a year. I have no idea how many barrels a year of oil seep into the Gulf of Mexico.

But I can tell you, we're used to having tar balls on our beaches. When we were kids we threw them at each other. And I expect the same thing is true in Florida, on the West Coast of Florida, Senator.

So this was not -- what actually happened to us was much more manageable, it was -- I don't want to say it was minimal, because it wasn't minimal. But the reaction and response that was set up meant that on my approximately 80 miles of coastline, that we closed one stretch of beach, about three miles long, for two days. We never had another occasion where we closed any beach.

We would go out and clean up the beaches while there were still people there, unfortunately not very many people because of the sensationization of

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the news coverage. But we were two very different events, and I think that's very important. Because Louisiana had effects that we simply didn't have.

Now, I should tell you that the park service which owns most of the barrier islands off of Mississippi's coast -- and our barrier islands are anywhere from eight to 12 miles off the coast -- they got a lot more tar balls than the coastline did, with very little onshore, on the main shore.

And the park service, and I think in a very rational decision, they made the decision not to put as many people out on the islands cleaning up as we did on the mainland, because they didn't want people out there tromping around, stepping on grass, that sort of stuff. And it is a park. And so we salute that decision. They still are doing some cleaning up. We haven't had anything to clean up in weeks in Mississippi.

So if you take -- if you look at Mississippi today physically, there's really not any residual damage right now that we know of.

We have been testing since April water

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quality, air quality, diving on the oyster reefs to check there, to check on the floor. And the fish that you get out of the Gulf of Mexico are the most tested seafood that's ever been eaten by mankind anywhere in the history of the world; by the states, by the feds. We have yet to find a sample of fish in Mississippi waters or to know of any being found anywhere else that was tainted or polluted or had any effect from the oil spill.

Now, there could have been some that weren't in our waters, but we're unaware of it. And we have shrimp, oysters, crabs, and fin fish, and a very -- with Louisiana we share one of the richest fishing grounds in the United States.

Having said all that, the fiscal effects on our state has been enormous. Our tourist season was essentially wiped out because everybody in the country thought that the whole Gulf Coast was ankle deep in oil. And they didn't want their grandchildren going to the beach down there because they thought it was dangerous or unhealthy or would be unpleasant.

Our schools get out in early May. So this

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couldn't have come at a worse time for us. And so our tourist season was very badly hurt. It has effects on real estate values. Senator, we don't have as many high-rise condominia as you all do in Florida, but we have enough that people who lose their rental income, it jeopardizes some people's ability to pay. And we have a lot of that.

So it affected not only incomes; it affected valuations. Because some people were put in a position where they couldn't afford to have the place without the rental income, and they got put on the market at distressed prices.

Our fishermen, despite the fact that we haven't had any finding yet, a lot of our fishermen were hurt very badly. Fishing grounds were closed out of an abundance of caution, which we agree with it. A lot of those fisherman made it up through the vessels of opportunity, VOOs as we call them, and some of them made some pretty good money. We had a lot of people that lost jobs. Not as many as Louisiana, we don't have as many people that work offshore in our state, but we have a considerable number.

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But we have some other people that got jobs cleaning up. There were several thousand wage and hour people hired to work to clean up the beaches by the various contractors.

So the known effect today is kind of a mixed bag. But we also know that we don't know a lot of things. And we don't know what may get pushed up from the bottom by a hurricane close in. We don't know if there's some subsea problems that we're just ignorant of.

And so I'm not here to judge that. We're going to have to learn about that. But I will tell you, despite the fact that we don't know the physical damage yet, like Senator Landrieu, we know there are a lot of things that need to be done because they needed to be done before the oil spill.

In terms of hurricane hazard mitigation, Congress has appropriated $439 million to rebuild our barrier islands. Louisiana's got levies to protect them. The barrier islands for us are the speed bumps that knock down the hurricane, reduce the storm surge.

We have asked Congress, based on a U.S.

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Army Corps of Engineers' report, for additional funds to restore coastal wetlands and forest lands. Again, the scientists tell us, when a storm hits, the forest lands knock down the winds, the marsh lands knock down the storm surge, and they have a very important protective effect.

The Corps of Engineers recommended about $1.3 billion be spent on programs to rebuild the barrier islands, the coastal marsh lands, the forest lands, and other things after Katrina.

For us, about a third of that has been appropriated. About two thirds is not. We call this the Mississippi Coast Improvement Plan, MCIP. And clearly, those things need to be funded either out of congressional appropriations or other appropriate ways.

And just between us girls, we need to speed it up, too. We asked Congress November 1st, 2005, to fund our hurricane hazard mitigation and coastal restoration plan. Congress rightly, and I take no issue with it, said they thought we ought to be a Corps of Engineers' study first. So we saluted. But

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by the time the study was over, Katrina wasn't quite as important in people's priorities as it had been when Louisiana got, what, $12 billion for their levies, when it was fresh on everybody's mind.

We need to go on and get this funded in some appropriate way. And frankly we'd like to see the Corps speed up their permitting of what we want done.

Let me make a couple points that I think are important even within the context of this.

The thing that's hurting us the worst today is the moratorium. It costs us jobs, not only people who work offshore, but the service industries, the boats. We build boats that service oil rigs. We build oil rigs. This is a very big, integrated industry.

But more important for us, America needs the oil. Twenty-five percent of all petroleum produced in the United States is deepwater Gulf production.

Now, I'm older than Senator Landrieu. But all of my adult life we've been drilling for oil and

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gas in the Gulf of Mexico. I am told 31,000 wells have been drilled in the last 50 years or so. And this is the first time anything like this ever happened. This is a terrible thing. But I think when we finish the investigation, we're going to find that it simply came about because corners were cut, regular protocols and regular procedures weren't followed. And we would never shut down the airline industry for months and months because an airplane crashed because of pilot error.

But I think what we've got here pretty clearly was pilot error. And I'm not competent to say which one of the pilots, whether BP or any of its contractors, it is. But I think that's pretty evident to everybody. And so we are anxious to get the moratorium lifted. We are equally anxious that the moratorium is not succeeded by a regulatory regime that has the effect of slowing things down so much that it significantly reduces production in the Gulf. Employment we're worried about locally. Production we're worried about nationally.

I said all of my adult life we've been

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drilling for oil in the Gulf of Mexico. But also all of my adult life we've had policies under Democrat and Republican administrations that said we want to reduce the amount of foreign oil we import. And obviously if we produce less American oil, we import more foreign oil.

A couple of last little points that I want to make plain.

There is talk about states settling with BP on oil spill acts violations. And I would just suggest to you that we make sure that any such settlements are subject to the findings that are completed later. That if there is a -- if there is a regime of settlements, it should be Louisiana gets X, but we will review it after the final studies are done. Not that we will have a final settlement. Because we're not going to know what we're going to find until we're finished.

We would be willing to participate in that, but not to participate in any binding final settlement before all the facts are known.

Senator Landrieu has rightly said and a

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number of governors on the coast have advocated, that GOMESA, that is the program that would allow the Gulf of Mexico states to share in the royalties which is now supposed to go into effect in 2017, if I'm right, go into effect as close to immediately as possible.

We all are involved in taking the risks of offshore production, and it certainly has some benefits. But if we're going to try to be in a position to change things for the better, that is a huge revenue stream that every other state that has federal production already gets.

I would also say that Senator Landrieu is right, that any fines that arise out of this ought to go to the states, or at least a portion of this ought to go to the states.

Finally, and very importantly, whatever structures are set up in the wake of this to implement what we do need to be dominated by the state governments, not by the federal government.

As a region, under the Gulf of Mexico Alliance, we've been working together on a number of the same kind of projects we're talking about here,

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among the five Gulf states. And when we had Katrina, I told people in my state, we're going to get all the resources we can get. But Washington, D.C., is not going to tell the Mississippi Gulf coast how to build the Mississippi Gulf Coast. And neither is Jackson, our state capitol. We're going to get you resources, but people on the coast are going to decide how to rebuild the coast. And that's what we've done for five years.

And that's what I think should be the model here. That these five states, and their universities, their scientists, know more about the Gulf of Mexico than anywhere else. They've been working on this in good partnerships with the federal government. Don't get me wrong, important partnerships. But we don't think the shots ought to be called from Washington. We think that the structure that sets this up should be a structure that includes all five states, and that those five states in concert have more power, if you will, than the federal government; that the federal government not be able to come in and impose on the Gulf what the five Gulf states don't want to be

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imposed on the Gulf.

Thank you. I'm sorry I ran over.

THE HONORABLE MARY LANDRIEU: Can I just add two points before the questions.

First of all, I agree with everything that the Governor said. I would just like to clarify that, yes, the federal government provided $14 billion to fix the levies, their own levies that broke that helped to, you know -- that destroyed part of the city. But levies are not right now protecting all of south Louisiana. In fact, the New Orleans region is the only region in that whole southern part of our state that has a levy system.

And as we can tell from what happened in Katrina, it's not exactly fail-proof. So we're fixing it as fast as we can. We're grateful for the $14 billion that we received to do so. But south Louisiana is not protected by levies. We're protected by the same thing that the Mississippi coast is protected from, which is our barrier islands, which have been terribly eroded, many of you have seen them close-up and I think from helicopter views. Our

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wetlands we've lost, as I said in my testimony, the size of the State of Delaware already. And part of our wetlands moves from the southern -- western part of Mississippi, southwestern part of Mississippi, to the southeastern part of Texas. So that delta is pretty, you know -- technically I guess it's just the Mississippi River, it doesn't go all the way to the Acchapalia. I'm being liberal here. Parts of the Mississippi coast, and even a little bit of the Texas coast, is very similar to the Louisiana coast. It doesn't have beaches. It's just marshes. It's just marshes and barrier islands. And those are eroding, where our oyster beds are, et cetera.

So that is a very special piece of the coast. And then to Texas to the west and then to Florida, Bob, to your state and to Alabama, it's mostly beaches. So you all understand that this coast is made up of about half beaches that people would be familiar with, and then half a beautiful coast that people don't even see because you can't get there by automobile. And you can't walk there. The only way you get there is by boat, or the only place you can

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see it is by air. Because you can't -- it's just inaccessible.

But it's just because it's inaccessible doesn't mean, A, it's not there, that it's not valuable and that it's not beautiful. It's actually exquisite. And we are losing it at an alarming rate.

So I just want to clarify that. And the second point is, we can't fix this coast for the long term, the short term, or the intermediate until we get our people back to work. Our fisheries are still in some parts closed down, although it is the safest, you know, seafood you'll ever eat because, as the Governor said, it's the most tested.

But this moratorium is doing almost more damage, and I think more damage, than the spill itself.

We have an official moratorium in our deepwater rigs that are anywhere from 33 to 40 rigs out in the Gulf. We have a whole city that works out of the Gulf every day. They haven't really been able to work. Those wells are producing, but we're not exploring.

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And then we have a de facto moratorium on shallow water drilling which is, you know, a big bone of contention right now because we're not even supposed to be under a moratorium, but we are.

So I hope this commission has been very forceful on this. And I appreciate your support of our efforts to get this moratorium lifted, Mr. Chairman, as quickly as possible, get our people back to work, get it done safely, and let's get on with the business of restoring this great coast, which was in danger before the spill, now is in serious danger. And I thank you, and I'll take your questions.

CO-CHAIRMAN GRAHAM: Thank you very much, Senator and Governor. We very much appreciate, knowing all the demands on your schedule, that you would be here.

And Senator, I understand you have a vote at 11:30. So I'm going to ask our lead questioner, Commissioner Fran Ulmer, if she would direct her questions at Senator Landrieu. And if there are others who have questions to the Senator, if they

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would let me know so that we can use -- well, really only about the remaining six or seven minutes that she has to spend with us, as effectively as possible.

QUESTIONS FROM THE COMMISSIONERS

COMMISSIONER ULMER: Senator and Governor, thank you so much for being with us today and sharing your knowledge of the region and your passion for your states.

I would like to go right to the heart of what I think would be one of the most difficult things as we move forward with restoration, and that is how the money gets allocated.

Both from the standpoint of the governments and the standpoint of who gets to make decisions and what criteria might apply, restoration means different things to different people. And you have, both of you, talked about the differences in terms of how not only the oil spill, but the years and years of erosion and concerns in the Gulf impact your states differently.

So I'm looking at the tension between the states' individual needs and the smaller communities

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and regions, and the region as a whole, its need for restoration and funding and smart decision-making about how that investment works.

And because I come from Alaska where the Exxon Valdez trustee's council struggled for many years in trying to strike that right balance between research and reinvestment in communities and restoration and the purchase of land, I know how difficult it can be.

We only had one state, with a few communities and a few agencies. You have a much more challenging situation.

I'd just like you to share your thoughts, actually both of you, but we'll start with the Senator, about how those decisions could, should be made, what criteria, and how to balance those needs.

THE HONORABLE MARY LANDRIEU: Thank you, Ms. Ulmer. That's an excellent question. We've spent actually a lot of time thinking about this the last many years. This thinking didn't start just with the BP spill, because we've been thinking about this coastal restoration plan and dreaming of it, actually,

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for decades now.

So a couple of principles. One, I believe it should actually be a federal/state partnership. I think it's important to have a federal perspective. I do agree with the Governor that it's very important to hear from the states, but I think that we could achieve that by having the right state and federal partnership.

Number 2, I do think we have to be sensitive to the different not only needs, but the actual difference in geography of the different states. I mean, the Texas coast is very different than the Louisiana coast. And we have differences, similarities with differences, with Mississippi. And then, of course, Alabama and Florida.

Number 3, Louisiana has an already very sophisticated vetted, well thought out coastal restoration plan that's actually been proposed by our last four governors, Republicans and Democrats alike, that the environmental community and the industry has been really working together.

I think Mississippi has -- and the Governor

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can correct me if I'm wrong -- has a plan that's similar, it's not as longstanding, not as comprehensive, but I think Mississippi has really started on something that is going to be, I'm sure, very good.

I know that the Florida Everglades has struggled with their Everglades situation, how -- if there's a Florida coastal plan I'm not aware of it completely, or Texas or Alabama.

But Louisiana's plan, because our situation is the worst for any number of reasons, we had to start on it awhile ago and we're pretty much there.

I would think that the third and final thing I would say is that our states have been pretty cooperative as towards each other. There's a little tension over the Katrina situation, but that's another story, another chapter. But when we did GOMESA, the four states -- now, Florida wasn't included because they're not a producing states. But the four producing states, which are Alabama, Mississippi, Louisiana, and Texas, it took us awhile, but we actually came up with a formula that everybody was

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pretty happy with and felt comfortable with the sharing of those GOMESA revenues.

So I think given some time, the five states could actually really work well together. Now, I may be optimistic. But I think that if we can continue to work well together, respect our own differences, and then rely on the good expertise of some of these federal agencies, because clearly there's a significant amount of money here. We're not going to be fighting over pennies.

And so there's no need to really fight. Because these penalties could be anywhere from 10 to $30 billion. That's more money than this coast has seen in a long time. So if everybody is patient and thoughtful and considerate of each other, I think we could get an awful lot done.

And that's not counting the NRDA money, which is a separate pot. And that's not counting the 20 billion of economic trust fund money that's been set aside.

So there's no sense to start off fighting. Let's start off acknowledging the great opportunity,

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working respectfully with each other.

And I'm very optimistic, Governor. I don't know your perspective. But -- and we have clearly interests between Louisiana, because this, our border, we share the river, you know. And we have very similar needs with the Gulf Coast of Mississippi.

And most of our people kind of count Mississippi as almost our own, you know? I mean, we -- our people go -- I don't know if they like that or not, but our people go back and forth, you know, like it's just the next neighborhood right over for the Gulf Coast of Mississippi.

THE HONORABLE HALEY BARBOUR: If you want to ask Mary questions, I don't mind waiting.

COMMISSIONER ULMER: Just to follow up on your answer, I think it's a great place to start with, optimism, and build on the kind of cooperation that's gone on for a long time. But are you envisioning different mechanisms, different organizations for the NRDA distribution? Are you thinking that the coastal restoration pot that will come from the fines? You're seeing those things as separate?

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THE HONORABLE MARY LANDRIEU: I am. I see it separate in this way, separate but coordinated.

I think NRDA is fairly established under the law as it is today. And there are trustees that are established, and that's a very scientific-based estimate relative to the environmental damage.

Penalty money, though, is not clearly defined as to, A, what it's supposed to be used for, where it's supposed to go, how it's supposed to be allocated.

So I think what Secretary Mabus is recommending in his report is to establish this task force that would be both federal and state, which I actually agree with, and have a coordination with NRDA. But it may be different in the sense that NRDA is really, under the current law -- now, the law could be changed, but under NRDA it's really an environmental restoration. Penalty money could be used for anything I guess you and the Congress, particularly us, decide it should be used for.

Now, my view is it should be used for things relative to what we're speaking of today;

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education related to the oceans, you know, energy infrastructure, coastal restoration, levy protection, sustainable things for the community. Whether it should be spent on general university studies in our different states on other subjects, I don't know. My view would be that it should be specific to the injury and to the subject that we're dealing with.

But the final point on this is, it shouldn't just be about restoring what we had; it should be about building what we need in this region and what we deserve.

This region is a special place. With the right investment it could be sustainable for generations to come. And I think that is what our leaders are saying across party lines.

COMMISSIONER ULMER: Senator, I just want you to know that John Barry did speak to us this morning. He gave us a really eloquent statement --

THE HONORABLE MARY LANDRIEU: He's phenomenal.

COMMISSIONER ULMER: -- of how important to the entire United States, really, that we have a

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vested interest in your region. He said it in a way that I think linked emotionally for all of us.

THE HONORABLE MARY LANDRIEU: He is tremendous. And the final thing, and I'll go leave for the vote. Our coast is so important to us. But we do recognize that this Mississippi River, it's very important that some of this money be allocated to the way that this water flows through our whole country. Because what comes out at us, you know, to us, the quality of it, the quantity of it, where that sediment goes, is important.

So some thought I think, Governor, needs to be given to the flow of that Mississippi River as we think about how to solve this coastal issue. Thank you.

CO-CHAIRMAN GRAHAM: Senator, I apologize to you. I have to mention to you it's now 11:22.

THE HONORABLE MARY LANDRIEU: As an experienced former senator, he knows that if we're away from that hill, they'll close that vote in 20 minutes.

CO-CHAIRMAN GRAHAM: Thank you very much,

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Senator.

CO-CHAIRMAN REILLY: Thank you, Senator.

CO-CHAIRMAN GRAHAM: Ms. Ulmer, continue with your questions.

THE HONORABLE HALEY BARBOUR: Ma'am, if I understand the question, it goes back to my concern about structure. There needs to be some sort of structure that's going to govern what we do. And like Senator Landrieu, and I think anybody else, it should be a federal, state, local, private, participatory process.

But the question is at the end of the day, those of us who have been in state government understand federal/state programs mean the federal government tells the state what to do. And we don't think that's the way this should proceed.

And the reason is, since 2004, the Gulf of Mexico Alliance has been working on these very same issues, nutrients in the Gulf, how to improve the fisheries, how do we coexist the fisheries and the oil and gas industry.

The river, you know, the river is what made

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us a community down there. And Senator Landrieu is right, there are untold numbers of New Orleans families that have summer places on the Mississippi Gulf coast that, believe it or not, it actually is cooler on the Gulf Coast in the summer than in New Orleans, because of the breeze. I mean, they don't have much breeze down in New Orleans in August.

So you would be surprised how many people who live in New Orleans have homes in Mississippi, and their friendships and family connections are ancient. I mean, they go back to the 19th century. In fact, the same two fellows that founded New Orleans in 1718 founded the Mississippi Gulf Coast communities in 1799 -- 1699, d'Iberville and Bienville.

And so there's an ancient connection there, and our friendship greatly overweighs our rivalries. I would just say that. But I think every governor on the coast will tell you there's a great concern that if you have 14 federal agencies on a commission, and five states, that the federal government is going to run the commission.

We are very different states, great warm

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ties, but Senator Landrieu has described for you the difference in the geography of south Louisiana. And issues that they have that we don't have, and vice versa.

So that's why I am very -- and I believe most governors on the coast agree with me -- very concerned that we do not get a top-down structure where the federal government tells the states, Here's what you got to do.

We really believe it ought to be state-centric; not unilateral, but state-centric. And let us create the structure that brings in the private sector, brings in the local governments.

I think it's the central point of going forward. Does NRDA work that way, the oil spill fines work that way, to the degree that there are other fines, civil penalties, we think there really needs to be one structure that directs.

COMMISSIONER ULMER: For what it's worth, Governor, in Alaska we had one structure, equal number of feds and state, and it required a unanimous decision before funds were spent. And all of the

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money got lumped together from all of the funds. And I would have to say although nothing is perfect, it has worked quite well in Alaska, both from the standpoint of requiring overall comprehensive research agendas, but also in terms of trying to direct regional needs.

I realize everybody's is different. But it is a very important thing for the region to think through not only who gets to sit on it, but what criteria should be used in the allocation of resources.

And that seems, from an outside perspective, a little challenging, given the number of entities and how different your states are. So --

THE HONORABLE HALEY BARBOUR: Ma'am, I'm sure it is challenging. I would suggest to you, though, because there are five states, that's why it's all the more important that the structure be state-centric. One state, Alaska, it's a whole lot easier to defend your interests against the federal government than if five states are trying to defend their interests against the federal government and

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balance between each other.

COMMISSIONER ULMER: One final question. The Gulf of Mexico Alliance, which has been operational for awhile, to what extent has that entity perhaps provided some guidance, or perhaps it's something to build on? I'm just trying to learn a little bit about the various organizations in the region.

THE HONORABLE HALEY BARBOUR: Let me get you, each one, a report on the Gulf of Mexico Alliance, including its work pre-oil spill and what the work has been done.

I formed a commission in Mississippi to help guide us forward. And it's chaired by the Mississippi Chairman of the Gulf of Mexico Alliance, Bill Walker, who I think you've already heard from.

CO-CHAIRMAN REILLY: We hear from next.

THE HONORABLE HALEY BARBOUR: You hear from next. Okay. And Bill represents Mississippi on the Gulf of Mexico Alliance.

We have been in touch with the GOMA people from each one of the other states to talk through

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this. Good relationships. Obviously we're not down to where the rubber meets the road yet. That doesn't mean there won't be disagreements. But I'll get Bill to get you information about GOMA pre-oil spill and then what we've done since then. In fact, I think I can do that. Thank you.

COMMISSIONER ULMER: Thank you.

CO-CHAIRMAN GRAHAM: Chairman Reilly, and then Commissioner Boesch.

CO-CHAIRMAN REILLY: Governor, I appreciated the education I received courtesy of you and Bill Walker when I was in your state. Very much learned from that. I have a question with respect to the administration of decision-making in the restoration.

Do you have a concept or is there any incipient agreement among the governors about how you will relate to the allocation of resources and work with the Congress and the 30 or so congressional districts to try to resolve some of those questions yourselves, which it seems to me would make a better case for state oversight than leaving it up to the

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Congress, recognizing that for the penalty money, in any case, it will have to be approved by the Congress if it's to be spent largely in the state.

THE HONORABLE HALEY BARBOUR: I think most of the states have views. But we have been waiting to see the Mabus report. Because, you know, obviously we're going to have to work within the confines or the context of that report.

A number of us have talked, a number of the governors, about the idea that GOMESA or something similar ought to be the lynchpin of the structure that controls the process going forward. But we are not far enough along, frankly, because I think everybody is waiting to see what this report said.

And as I understand the report -- I haven't read it today, but as I understand it, it essentially says the President will first appoint a commission, and that if Congress subsequently by legislation creates a follow-on commission, the President's commission would go out of business or be replaced by the other one.

But that in every one of those cases, most

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of the seats would be taken by federal agencies. Like 14 federal agencies and five states. That gives me great concern. I mean, none of you all have been governor, but they have this supremacy clause in the Constitution that the federal government takes -- they take it kind of seriously, don't they, back when you used to be governor, Senator?

And that's just a concern for us. Our states are different. We have a great working relationship. I mean, we don't agree on everything. But we have a great working relationship. But Florida's needs are not the same as Mississippi's. Our states are very, very different. But we've got to coordinate and agree on what happens out in the middle of the Gulf of Mexico, at the same time while we have more control over what happens onshore in Mississippi.

CO-CHAIRMAN REILLY: Thank you.

COMMISSIONER BOESCH: Yes. I'll just follow up, Governor, I'm one of those New Orleans boys who actually spent summers on the Mississippi Gulf Coast, so I understand the close relationship. And just to follow up on Commissioner Reilly's question

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and comment and your observation of the Mabus report. It calls for the congressional -- creation by Congress of a Gulf Coast recovery council. So although this process may initially start off with this large number of federal agencies, it's up to Congress to determine how this is going to be structured.

And obviously you're the Governor of Mississippi, but I think you know a fair amount about the politics of Washington. And I'm wondering whether you would have any thoughts about the probability that Congress could work across party lines to come up with some legislation early in this process, perhaps next session of Congress. And in that context, what kinds of recommendations by this commission do you think would be most helpful and productive.

THE HONORABLE HALEY BARBOUR: I would be surprised if Congress can't and doesn't create this commission in the next few months, regardless of outcome of the elections. I think it will be a lot of bipartisan support in the Gulf, in both the House and Senate side.

If you look at the whole Gulf issues, one

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of the things that we've got to hold our fire on is there's some sort of environmental damages not apparent right now that should take the first precedent. And there could be. I mean, I'm not -- I'm a recovering lawyer. I'm not any kind of scientist.

And the scientists may determine that there is, and that it's going to cost a whole lot of money to deal with that problem. And if it does, that's where the money ought to go first. I mean, that's the reason we are all here.

After that, then I think what you'll see are efforts to do the sorts of things that Mary Landrieu was talking about, in Louisiana where they have different issues from us, mostly, with our Mississippi plan. But also we've got to be sure we're nurturing the fisheries. We have to make sure we're managing the dead zone, that we're learning more about what needs to be done and how it needs to be done.

There are a variety of serious issues upon which even today there are federal, state projects that are underway to study the Gulf and the close-in

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lands to the Gulf that predate the BP oil spill.

But obviously the -- it's incumbent that the first thing is, anything that resulted from this oil spill has got to be the first priority, it seems to me.

Ultimately we see commerce as an important part of this. Senator Landrieu was talking about quality of life and jobs. You know, there is a tremendous amount of commerce that's involved in the Gulf of Mexico. The oil industry we've talked about a lot. Fishing employs a lot of people in our state, the seafood industry. But New Orleans is one of the biggest ports in the world. Mississippi's Port of Gulfport, Pascagoula, Port of Mobile.

Now, with the expansion of the Panama Canal, these Gulf ports are going to have to grow, because you're going to see a lot of container traffic that is now going to the West Coast that's going to determine that it's better business to go through the canal and either come up into the Gulf or go around Florida to Jacksonville, Savannah, Wilmington, or wherever.

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That's a very important thing for us. It gets into channels, channelization, and keeping channels open; permitting from the Corps of Engineers for these ports growing.

If you triple or quadruple the number of containers that come into the United States through the Gulf of Mexico rather than California, then you've got to have a bunch of infrastructure. But it also would throw off a tremendous number of jobs. So we would be thinking that far down the road as well.

CO-CHAIRMAN GRAHAM: Commissioner Garcia.

COMMISSIONER GARCIA: Governor, you've made the point that the economic impact has been enormous on your state. And so one of the questions is, how do we address the consequences of an event like this and its impact on the regional economy? There are a number of statutes, obviously, and regulations addressing injury to natural resources. At we look to the future, do you have recommendations on what needs to be changed in the law to allow us to address those economic consequences of such an event? And if you prefer to submit something in writing to us later,

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that would be fine.

THE HONORABLE HALEY BARBOUR: It has just been a great blessing that the responsible party was BP and had such deep pockets. Because, in my study, and I think generally across the Gulf, they have tried to pay. I am not saying they've done everything perfectly or that anybody could do everything perfectly.

One of the things I learned when we got hit by Katrina, if you get hit by an unprecedented, unforeseeable megadisaster, anybody that thinks everything is going to go great just doesn't know what they're talking about. The government's had problems with this oil spill, the industry's had problems. But BP, at least in my state, appears to have tried to pay the claims, they have tried to be responsive. And we are preparing, based on the data we will have in a few weeks, a claim from the state. Here is how much state tax that we lost. We are going to help each one of the local governments do the same thing. We're helping our private citizens.

As long as the responsible party pays, then

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really, that's the best result. The problem comes is, you know, how often is the responsible party going to have pockets as deep at BP does? And that's when you get into I guess what the Oil Spill Trust Fund is set up for. And if the government has to come in and pay what the responsible party can't pay. And I hope, sir, that we don't learn anything about that on this disaster.

COMMISSIONER GARCIA: Thank you.

CO-CHAIRMAN GRAHAM: Are there any other questions?

Governor, thank you very much for your presentation, your contributory comments.

THE HONORABLE HALEY BARBOUR: Thank you all for inviting me.

CO-CHAIRMAN REILLY: Thank you, Your Honor.

CO-CHAIRMAN GRAHAM: It is now 11:39. I suggest we take a six-minute break, reconvene at 11:45, and we'll ask the indulgence of the next panel to start slightly later, and we'll probably go until 12:45.

(Short recess.)

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PANEL IV
IMPACTS: THE GULF AND SEAFOOD SAFETY

CO-CHAIRMAN GRAHAM: I call the meeting to order. Panel IV, Impacts: The Gulf and Seafood Safety. Mr. Steven Murawski, Director of Scientific Programs and Chief Science Advisor to the National Marine Fisheries Service, NOAA; Dr. Bill Walker, Director of the Mississippi Department of Marine Resources; and Timothy Fitzgerald, Marine Scientist, Oceans Program, Environmental Defense Fund.

After the three presentations, the lead questioner will be Commissioner Don Boesch.

Dr. Murawski.

DR. MURAWSKI: Thank you, Governor Graham, Administrator Reilly, and all the other commissioners and staff, for inviting testimony from the Department of Commerce's National Oceanic and Atmospheric Administration. My name is Steven Murawski, and I'm the director of scientific programs and the Chief Science Advisor for NOAA's National Marine Fisheries Service.

During the oil spill I've also been

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involved in a number of the interagency working groups that have been coordinating science relative to the spill.

In my testimony today I'll discuss some scientific findings of the Gulf of Mexico in relation to the BP oil spill, ongoing impact research, and long-term monitoring plans, as well as the administration's science coordination with industry, academia, and other state and private agencies.

Science has been a critical component of all three major phases of the oil spill response recovery effort. Number 1, response to the presence of vast quantities of Deepwater Horizon oil with respect to the environment and the human communities. Number 2 the natural resource damages assessment, or NRDA, identifying direct and indirect impacts of the spill on productivity, abundance, and the use of ecosystem services in the Gulf. And number three, on long-term recovery of the Gulf's ecosystems and communities that are dependent on these natural resources.

Early in this spill it was recognized that

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the scale and scope of the event would be so vast that it would touch virtually every aspect of life in and surrounding the Gulf. Admiral Allen has used the phrase omnidirectional and multidimensional to describe the response to the spill, and, two, it describes the nature of science programs that has supported the three phases of this event.

As the spill scenarios evolve, so too have the nature and emphasis areas for science supporting the spill efforts. For example, initial sampling was aimed at quantifying surface oil and predicting its movements as an aid to first responders and cleanup crews. Within hours of the spill the first surface trajectory models were being run to predict where the oil may be found.

Over the course of the spill the modeling of oil trajectories became more complex and robust with the development of six different independent surface tracking models, and the addition of models predicting the fate of oil particles in the sub-surface.

Similarly, issues of seafood safety

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testing, worker health and safety, impacts on salt marsh, beach, and deep-ocean habitats, living marine resources, air quality and socioeconomic impacts, have emerged as priority areas for science related to the spill.

I have a short PowerPoint which I would like to use to recap some of the significant science and technological challenges and results as well as some long-term science and monitoring issues currently being discussed. So the slides, please.

What I'd like to do is to briefly touch on a few aspects of this. Number 1, big-picture science questions. Obviously, we respond to questions as they arise. The nature of this spill, because it's so omnidirectional and multidimensional, it's basically forced all of science components, not only the federal government but the academic researchers, to focus on several large-picture questions.

Secondly, where was the surface oil? This was certainly important as it related to the response. It's equally important as it relates to our responses now in terms of monitoring for seafood safety and

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environmental quality and other things.

Third, what are the findings on seafood safety and also living marine resources, particularly in the offshore federal waters.

I wanted to speak a little bit about the loop current dynamics and the importance of monitoring surface and subsurface oceanography. Obviously, the subsurface oil and dispersants search is an ongoing science question. We've got dissolved oxygen scenario is an interesting one, and I think worthy of note. And the last, what do we have for needs for long-term science support in the Gulf.

So there's a list of six questions here. I won't go through them individually, but they try to capture some sense of not only responding to issues as they arise, but what are the big picture issues that we, Number 1, needed to respond to as things developed, Number 2 as we look at the scenarios, so for example in Exxon Valdez, what are the decadal-scale questions that we've got. Obviously understanding the impacts not only of the oil and dispersant products, but also the recovery rates of

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various living marine resources that may have been impacted by the spill. And as well the human communities on the Gulf.

And so it's very comprehensive in terms of these questions. And clearly different parts of the science enterprise are focusing on different aspects.

In terms of where the surface oil was, this is a composite of satellite imagery, aircraft imagery, and surface vessel observations, as well as a composite of daily 48-hour forecasts of where the oil was likely to be.

This was important during the spill because again, vectoring things like oil spill cleanup, the use of dispersants, the burning and the skimming of oil was equally dependent on these forecasts.

The red line that outlines the spill, primary spill area, is the largest area of fishery closures. That's the fullest extent. It represented about 80,000 square miles, which is 37 percent of the Gulf at its maximum. And this is important because this defined the nature of the sampling domain that we would use when we were monitoring seafood for safety

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and quality.

In terms of the sampling plan that was put together in order to monitor particularly in federal waters, this was an agreement between the FDA, NOAA, and the five states that were involved in terms of the criteria under which we would look at keeping areas closed or opening them.

The graphic that you have in front of you, the gray areas are parts of that red line that have been opened based on the scientific sampling that's been done for dispersants and for oil. And the colored areas represent those areas yet to be opened that are the subject of the sampling that's ongoing.

I wanted to point out a little bit about what the sampling actually entails.

This diagram indicates two sets of sampling that were done. Number 1, during the various phases of the spill, nobody knew what the final scenario would be; that is, how far the oil would actually get. So the large crosses that you see, you know, extending all the way from the Mexico/Texas border to the Florida Keys represent baseline samples that were

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taken before oil reached there, so that we would have some way to gauge the relative impact of the spill.

And then inside the area that's enclosed by the red line, you see a number of samples outlined in green. Those were the samples that were taken as samples for reopening. And so there's a combination of both baseline and reopening samples that the various agencies and states have taken.

I wanted to point out our results here.

And this is significant. We're sampling for 12 polycyclic aromatic hydrocarbons, or PAHs. These are the toxic and in some cases carcinogenic compounds that are in oil, and represent the most significant environmental threat. These 12 substances, the red dots represent the agreed-upon levels of concern between FDA, NOAA, and the states. And so they're ranked from the most carcinogenic and toxic at the bottom, to the least at the top.

And so the red dots are representing the levels at which we would be concerned and likely keep an area open.

The bars represent the average of both the

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baseline samples and the reopening samples relative to those red dots. And you can see that in most cases, the averages are one to five orders of magnitude lower than the levels of concern. And the black dots in this diagram represent the maximum samples that we've seen.

And in all cases, the maximum sample that we've seen is one to four orders of magnitude below the levels of concern that are established.

The point is that -- and we have not seen any what we would consider hot samples relative to these levels of concern.

I wanted to discuss the loop current just very briefly. In its normal configuration, the sort of extended configuration, the loop current is a transport system for water that originates at the Yucatán, goes up towards New Orleans, and comes back down through the Florida Keys. And that was the configuration of the loop current as the well exploded.

But almost precisely with the coincident of the well exploding, there was a large eddy that formed

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that actually brought it into a different configuration where it retracted and most of the water actually flows from the Yucatán, past Cuba, and straight out the Gulf.

The reason I bring this up is that early on in the spill a number of institutions put together what they thought were potential impact models that showed that oil could be delivered to the Florida coast, in fact up the East Coast of the United States. And in fact, that didn't happen. And what it actually shows is that many of those models were based on what we call the climatological average; that is, average conditions. And it points out that not only do we need models, but we need a robust ocean observing system that actually can tune those models to the conditions as they exist rather than using the average conditions.

In terms of the subsurface, the subsurface oil search and assessment have been based on sort of three different modes. Number 1, the use of dispersants. In the use of dispersants by BP, a requirement was that there was subsurface monitoring

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that had to be there continually as the dispersant was applied. And so there are contractor vessels that were assisted by NOAA and EPA staff to monitor that.

The second set of research expeditions was NOAA and NOAA-sponsored cruises including academics. And the third, National Science Foundation, other academics. This has been a very, very robust sampling set of technologies. It's been based on -- we've collected over 28,000 water samples so far.

In terms of the sampling that we've got, originally it started out in about a 100-kilometer bulls-eye around the wellhead. And you can see the stations that are sampled out there for oil and dispersants. This has morphed into a much more robust sampling regime as the well has been capped. And you can see that in some cases we're sampling 300 kilometers to the southwest of the wellhead. And this is a predominant area where we've got a trajectory.

The issue here is that as the well has been capped, the signal has diminished very rapidly in terms of oil and dispersants, and it's been very difficult to detect and has necessitated that we

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actually shift the technology to much more sensitive technologies to actually see an oil spill signal.

One of the issues that I wanted to highlight was the dissolved oxygen levels in the deep water around the wellhead. This graphic is a compilation of data taken over time relative to what we would consider hypoxic level. And you can see all the samples that we've taken over the extent of the spill have indicated oxygen levels well in excess of hypoxic levels.

Just to recap some of the science issues that we've got, there are lots of long-term science issues that we have to fully understand and comprehend of nature of this spill. And you can see some of them listed here.

In conclusion, I'd liked to say that responding to the oil spill has necessitated an agile, robust, and coordinated approach emphasizing interagency and academic and private partnerships. Coordinating the massive use of ships, satellites, laboratories, aircraft and personnel has required logistics on a scale rarely seen outside of wartime.

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No one agency has had enough capacity to fulfill the requirements necessitated in the response. And ad hoc mechanisms set up to coordinate among the agencies have been, in my opinion, very successful, resulting in a more focused response.

Last, I would like to acknowledge the enormous contribution that's been made by scientists at various agencies, in the universities, and research institutions. Our understanding of the oil spill and dispersant fate and effects has increased exponentially from the initial days of the spill. And the information papers, studies, and other output that has been completed is ongoing and yet to be developed will significantly propel the science of oil spills forward as we search for ways to better be prepared for such disasters and, in fact, to decrease the probability that such events will, in fact, occur in the future.

Thank you.

CO-CHAIRMAN GRAHAM: Thank you very much, Doctor.

Dr. Walker?

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DR. WALKER: Thank you, Senator Graham, Administrator Reilly, and Commissioners. I thank all of you for having me here. Bill, it's especially good to see you. Thank you for visiting us back in July to speak with some of our local fishermen and processors and seafood house dealers.

I think at the time Administrator Reilly came to Mississippi he was expecting a lot different picture that what he actually saw. And I'll get to that a little later in my talk.

When the BP Deepwater Horizon oil rig exploded on April 20th, roughly 100 miles south and east of the Mississippi shore line, Governor Barbour went to work to create a partnership to develop a plan to first respond to the event and to protect Mississippi from the approaching oil, and then to recover from any adverse effects and restore those damages.

Partners in this effort included the Mississippi Department Of Environmental Quality, Mississippi Department of Marine Resources, Mississippi Department of Health, Mississippi

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Emergency Management Agency, Mississippi National Guard, National Oceanic and Atmospheric Administration, U.S. Food and Drug Administration, U.S. Environmental Protection Agency, the U.S. Coast Guard, and BP, the responsible party.

That plan called for our team to fight the oil as far away from the Mississippi shoreline as possible. Heroic efforts at the spill site to collect, skim, and burn the leaking oil, together with using dispersants to make the crude more available to microbial metabolism succeeded in keeping as much as 75 percent of the crude and degraded oil away from the mainland of the northern Gulf.

And as Governor Barbour indicated earlier, essentially very little oil other than tar balls made it on to Mississippi's mainland.

Together we conducted many aerial inspections and collected and analyzed many water tissue and sediment samples. These activities did eventually result in the precautionary closing of nearly all Mississippi waters to harvesting fish, crab, shrimp, and oysters.

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As Steve's data indicated, while these chemical analyses on tissues, these species, failed to detect any level of concern of any oil-related organics, we voluntarily closed our waters in compliance with closing protocols agreed to by all affected states and federal agencies.

As the threat from oil began to diminish, we began reopening our waters, again in accordance with a comprehensive reopening protocol to which all states and federal agencies agreed.

This protocol required, one, that the area to be opened be free of visible oil; two, that there's no threat of oil from adjacent areas entering previously closed areas. Number three, extensive samples must be collected for each species to be harvested. And number four, these samples must pass sentry evaluation and extensive analytical evaluation for all chemical components of the crude oil.

Only after passing all requirements of this rigorous reopening protocol could our waters be opened.

And I'm not going to go through all the

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different chemicals that were in Steve's slides that we analyzed for, as well as the feds.

We did collect 73 shrimp samples, 49 crab samples, 85 finfish samples, and 40 oyster samples. And sent to NOAA and ultimately to FDA for analysis.

And I'm very proud to say, as was reflected in the previous discussion, that all tissue samples analyzed as part of the reopening requirements or collected at any other time tested negative for the above analytes or showed only trace levels far, far below the levels of concern established by federal regulations. In other words, based on credible scientific data collected using federally approved sampling and analytical techniques, Mississippi seafood has been safe and healthy to eat throughout the entirety of this event.

To ensure its continued safety, Mississippi will continue to sample and analyze fish, shrimp, crab and oyster tissue at monthly intervals for the foreseeable future.

As has been the case for all sampling activities to date, we will continue to engage NOAA

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and FDA and utilize protocols and sampling designs acceptable to those agencies.

Mississippi also coordinated with the Unified Command, NOAA, and FDA to develop and implement a sampling regime to look for submerged oil within 15 miles of the coastlines of Mississippi and Alabama.

This survey divided the entire area into grids, 159 for the Mississippi waters. In each grid section, white sorbant pads were lowered to near the bottom and retrieved. If any of the retrieved pads showed suspicious discolored areas or other evidence of oil, water samples were collected throughout the water column, and sediment samples were taken.

Results of this survey showed one water sample collected due to the presence of sheen on the water tested positive for diesel fuel. All other water samples tested nondetect on all related organics, and none of the sediments collected were determined to contain oil by Fourier transform infrared spectroscopy.

So where are we now?

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No new oil has entered the Gulf of Mexico from this event. Certainly there are isolated patches in hardest hit Louisiana marshes, and there are incredible reports that submerged oil product may remain in the vicinity of the spill site. Scientists from Mississippi and elsewhere are and will continue to study this area of the Gulf to determine exactly what, if anything, is there and, if oil material is present, what steps to take.

Whether tar balls continue to impact our barrier islands and our coastline, we can expect that to continue for many months. Cleanup activities on our islands and shoreline beaches continue and will continue until the tar balls stop.

Short-term effects from this event in Mississippi, while serious, have been minimal, and we are moving from response to recovery and restoration.

BP has pledged $500 million for academic research to quantify long-term effects and to monitor ecosystem recovery and the condition of population of marine species. The resulting data will in part inform the natural resource damage assessment, which

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will determine appropriate compensation levels for damages from this event.

So the good news is that based on credible scientific information, seafood from Mississippi and the Gulf in general is safe to eat. In Mississippi and likely throughout the Gulf, population of finfish, shrimp, and crabs are plentiful and healthy. Oysters in Mississippi have suffered above normal mortalities, we think primarily due to extended periods of very hot water and depressed dissolved oxygen levels. We have no scientific evidence to support oyster mortalities due to the presence of oil material.

Unfortunately, with absolutely no credible science to support them, a small but very vocal group of commercial fishermen continue to say that oil remains in Mississippi waters, that these waters are not safe for recreational purposes, and the seafood harvested from these waters is not safe to eat. While some of these protesters are actually shrimping commercially and catching nice, healthy shrimp and selling them to Mississippi processors or directly to consumers, they continue to declare their own product

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unsafe. Such statements are irresponsible, untrue, and unsupported by credible scientific data.

Unfortunately, and in large part due to the actions of these few individuals and the press that continues to broadcast this inaccurate information, there is a perception, in areas of our nation away from the Gulf, that Gulf seafood may not be safe to eat. As a result of that perception, our seafood processors cannot sell to the buyers in Chicago, New York, Boston, and elsewhere that have historically regarded Mississippi and Gulf seafood as safe, high-quality product.

Clearly, all citizens of this great nation have the right to speak freely. I only ask that they base their statement on credible scientific information, which they certainly have not done to date.

The message I would like to leave with you today is that the team effort following this event has been a huge success, the best success story you'll never see on CNN. Thank you.

CO-CHAIRMAN GRAHAM: Thank you, Dr. Walker.

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Mr. Fitzgerald.

MR. FITZGERALD: Good afternoon. First I'd like to thank the commission for the opportunity to testify today on this critically important topic.

I'm a senior policy specialist in the oceans program of Environmental Defense Fund, with a scientific background in marine ecology and physiology. For the last seven years I've worked specifically on issues of seafood sustainability and safety.

I was asked to testify today about the public perception of Gulf seafood safety as it pertains to this disaster and the work we've begun to do with fishermen to help address and potentially alleviate these concerns.

Environmental Defense Fund is a leading national nonprofit organization representing 700,000 members that link science, economics, and law to create innovative, equitable, and cost-effective solutions to society's most urgent environmental problems.

As you may already know, the seafood market

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is an inherently confusing place for consumers. Most people have very little connection to or even understanding of the seafood that they buy and eat.

This is highlighted by the fact that more than 80 percent of seafood that Americans consume is imported, and coming from nearly every country on earth, caught or farmed under dozens of different regulatory schemes and environmental conditions.

Given this complexity, there are numerous opinions, often conflicting, over what seafood is, quote/unquote, good or bad.

Regardless, opinion polls, focus groups, and other studies have continually showed that quality and safety are usually the top two concerns for consumers when they buy fish. This might explain at least partially why seafood safety has remained such a prominent issue in the wake of the BP oil disaster.

The 87-day event resulted in the release of almost 200 million gallons of crude oil into the Gulf marine ecosystem, and the use of almost 2 million gallons of Corexit dispersant to mitigate the damage.

Despite the reopening of state and federal

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waters to fishing, these are figures that seafood consumers are not likely to forget anytime soon.

Based on federal and state testing, the public has been repeatedly reassured that Gulf seafood is safe to eat. However, sales remain depressed in the region and, as Dr. Walker alluded to, around the country. Some fishermen are even hesitant to return to work, given poor markets and concerns over lingering oil toxins and dispersants in the environment.

On August 17th an Associated Press poll showed that one month after the well was capped, more than half of survey respondents still lacked confidence in the safety of seafood from Gulf areas affected by the oil spill.

And as you have likely seen, we continue to see coverage in regional and national media to this day that fishermen and consumer skepticism remains at an elevated level.

For Gulf fishermen and other members of the seafood industry, this lack of consumer confidence can be devastating. They not only face the pain of

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immediate financial losses, but must also struggle with the uncertainty of trying to regain the business they once had.

That's why Environmental Defense Fund is working closely with an association of fishermen, primarily for snapper and grouper in the Gulf of Mexico called the Reef Fish Shareholders' Alliance to help them preserve their markets in the face of this disaster. These fishermen have faced many challenges already. Years of overfishing and ineffective fishery management have brought the fishery to the brink of collapse. At its low point their fishing season had been shrunk to just 54 days, and regulations forced them to throw back dead much of the fish they caught. But by working together and with federal regulators, these fishermen led the charge in transitioning their fishery to an innovative management program called Catch Shares, which soon allowed the fishermen to fish year-round while fish populations recovered. This brought them better prices and more economic stability to fishing ports.

Unfortunately, and as we've heard from

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several people, low consumer confidence in Gulf seafood post oil disaster threatens to undermine the progress to date made by these fishermen and others like them. Therefore, our partnership seeks to do everything possible to ensure that markets support them through the following four-part campaign.

First, we are working with fishermen to continue to strive for a more sustainable fishery with fewer ecological impacts over time.

Second, we are working in conjunction to develop a third-party seafood testing program that not takes the place of but supplements the efforts of NOAA and FDA. We are beginning to implement a rigorous chain-of-custody system to track fish throughout the supply chain.

And fourth, as has been the case with seafood and other natural and man-made disasters, we are compiling an aggressive public relations and marketing effort to highlight these efforts which I've just outlined.

This approach can serve as a model as the commission considers how federal and state agencies

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can restore confidence in Gulf of Mexico seafood.

In closing, I will highlight a few key challenges and corresponding recommendations that can help this campaign and similar efforts to achieve success.

First, empower fishermen to conduct more targeting testing of their catch. The government alone can't solve this problem for fishermen, nor do the fishermen want them to or expect them to. But what the government can do is work in partnership with them to work towards their own solution.

Making the financial and technical resources available to do this would go a long way towards complementing existing traceability and marketing efforts.

Second, and which has also been alluded to earlier, articulate and make public the details of a long-term testing plan. Seafood consumers and buyers not only need to better understand what has been done and why it's sufficient, but they also need reassurances and specifics about how the government is in this for the long haul.

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Government testing to date is currently focused on toxic polycyclic aromatic hydrocarbons, and to a lesser extent dispersants. But there are other contaminants, such as heavy metals like arsenic, cadmium, and mercury, which may become a health risk further down the road, or even recontamination events from unfound sources of oil, which warrant formal evaluation.

Third, provide updated information to the public about dispersants in seafood. This issue remains high on consumers' list of concerns, despite continued assurances from FDA that they post no health risk to consumers via seafood.

However, NOAA has recently developed a test to protect them in seafood, so the agency should provide clear guidance about their latest findings as well as offer recommendations for future government and independent testing.

And finally -- and this gets back to the consumer perception issue directly -- make a concerted effort to reach out to consumers to actually understand what is needed to regain their confidence

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in Gulf seafood. Bombarding them with marketing and dismissing their concerns as illegitimate only exacerbates the current situation.

NOAA's recent series of dockside chats provides a good example and could be expanded to educate local stakeholders about seafood safety issues.

With that I will conclude, and thank you very much for your time. I'm happy to answer any questions the commissioners might have.

CO-CHAIRMAN GRAHAM: Thank you, Mr. Fitzgerald. The lead questioner for this panel will be Commissioner Don Boesch.

Don?

QUESTIONING BY THE COMMISSIONERS

COMMISSIONER BOESCH: Thank you, Senator Graham.

My first line of questioning has to do with the seafood safety issue, picking up on the point -- and I have questions for each of you, but picking up on the point that Mr. Fitzgerald made about transparency.

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It strikes me, you know, we are in a different age, where people want information to make their own decisions. More people than you might imagine want to go to the Internet, want to find out things about where the samples were taken, what were the levels, in order to draw their own judgments.

And so Dr. Murawski, could you tell us what is being done to make this consolidated information available to the public?

DR. MURAWSKI: That's a very good point, and one we've heard over and over, about the transparency of all the scientific evidence that's being collected here.

In terms of the reopening packages for each of those areas that I outlined, each one of them has a set of information that's collected, you know, where the sample was, what the findings were for each PAH, a map associated with it, et cetera.

And as the reopening proceeds through and then the opening occurs, those are actually posted online. And so the information is there.

We've heard that there's so much

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information on the part of all the different agencies that collecting the URLs is difficult. And we've actually responded to a number of the academics who said they couldn't find information that actually was on the web.

And I think in some cases there's such an overwhelming amount of information in different domains that it's hard to, you know, sort of have a menu to select from that. And I think the agencies are trying to simplify that.

But as far as the federal government's sampling, all of the data are made available when the announcement occurs.

COMMISSIONER BOESCH: Dr. Walker, you mentioned the same protocols are being used for testing seafood in state waters as well as federal waters. But it also strikes me that, you know, in the states of Louisiana and Mississippi that I'm familiar with, they weren't -- the openings -- openings weren't all made in concert with the federal decisions. And of course you've got a more complex situation, different areas.

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What is the level of coordination between what you're doing at the state level and what the federal government is doing with respect to decisions on opening waters?

DR. WALKER: Well, all of the affected states sat down with the FDA and with NOAA, and I believe EPA was also at the table, and worked through some specific closing and opening protocols that we've alluded to in both of our talks. And so we followed those protocols to the letter. To my knowledge, all the states that have opened -- reopened closed waters have done that. So that we were consistent through -- among the states or between the states, and we were complying with all the federal rules and regulations when we reopened our waters.

COMMISSIONER BOESCH: Are you doing in Mississippi anything like Mr. Fitzgerald suggested with respect to understanding consumers' concerns and the decisions, as well as dealing with the marketing issue, which I think you heard Lieutenant Governor Angelle talk about from Louisiana's perspective.

DR. WALKER: We are, Dr. Boesch. Thank you

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for that question.

On the local level we are following suit, kind of coming behind NOAA with their dockside chats, and having public hearings and different -- in all of the different cities, the 13 different communities that populate our gulf; public meetings just to tell our -- what -- to provide the data that we have on hand and to listen to the concerns of the folks who live locally there and try to alleviate those concerns to the best of our abilities.

Further away, we're actually -- we actually have worked quite well with BP in developing a seafood safety, seafood marketing, program. We've put out local brochures, brochures and posters and things that restaurants can post in their -- and seafood shops can post in their windows. And we try to get that information out in a more regional basis.

But beyond that, we are actually in the process of selecting a professional marketing firm that will help us market not only Mississippi seafood, but Gulf seafood as well. And I visited with Scott Angelle as he was leaving today, and I'm going to

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attend the meeting he talked about next week in Louisiana, to see if we can't pull together some sort of a more regional response to the marketing side of this.

COMMISSIONER BOESCH: Mr. Fitzgerald, you followed all of this pretty carefully, looking at what the -- both the federal agency NOAA has done, as well as the states. And you're probably also aware of some of the controversies by individuals who have alleged they've gotten samples that are contaminated, both in Louisiana and Mississippi.

From your judgment, based upon all this evidence, were the decisions, the opening decisions, were they well-founded, were they suitably protective of health? Do you have any questions or concerns about those as opening decisions?

MR. FITZGERALD: Well, we did not come here today to, you know, be critical of the opening protocol or the protocol established by FDA. That's not where we've been active in this issue.

But I think the point to take home, which is a very important one, is perhaps that despite all

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the efforts of both the federal and the state agencies, this perception of the seafood safety not being -- excuse me, the seafood not being safe, is still out there, whether it's founded or unfounded. And that's -- you know, that's for scientists who are working on this more directly than myself to determine.

But I think that the takeaway is that people are still concerned about this. And being told that everything is fine, while potentially scientifically valid, is not bringing people back to buying Gulf seafood. And that's --

COMMISSIONER BOESCH: Right. I understand that. But you're not suggesting that there is some substantial obvious reason of concern about the opening decisions.

MR. FITZGERALD: Based on the data that has been released that we've seen and the levels of concern -- excuse me, the testing levels being below the level of concern, that is certainly -- those are certainly welcome results.

COMMISSIONER BOESCH: Great.

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My second line of questioning and last line of questioning, has to do with the lingering risks and effects.

Yesterday we heard testimony from the scientist who, in his written testimony, suggested -- it was in the news -- suggested that as much as 50 percent of the oil may still be out there, residing in sediments somewhere. And not only in the deep water area, but also on the shelf and in coastal areas. And I think he and others have alluded to the possibility of some transport of submerged oil or oil up onto the shelf, the DeSoto Canyon. And then there are occasional reports where oil, at least from near shore sources that may be in sediments, has been remobilized and come up on the beach.

In Mississippi, Dr. Walker you're aware of researchers who found droplets of oil in crab larvae. These sorts of things. So these are concerns out there about lingering effects.

Could you tell us, Dr. Murawski, what the federal government is doing with respect to sampling of those, looking for those potentially contaminated

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sediments, and when you think you might have an answer about whether that risk is out there and serious.

DR. MURAWSKI: Very good. So the week before last Admiral Allen and Dr. Lubchenco announced a new subsurface sampling plan that would extend what we've done so far and add an element of the potential for looking for oil in the sediments.

There have been a number of reports that have indicated that there's at least some oil on the bottom. We haven't yet seen any confirmed oil analysis that would indicate that.

But based on that set of samples, we also went through a thought process of how oil could actually get to the sediments. And it's not obvious how that would actually happen. And there are scenarios, for example, that it becomes entrained on marine snow and that it would deposit there.

So under this new sampling regime, we've proposed to BP and the Coast Guard that we undertake about 450 different sampling locations, near the wellhead of course, but also far afield, based on these sort of different delivery hypotheses that we've

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got. So over the next few weeks we will be implementing hopefully that plan, to reassure us that we know the extent of oil that remains in the environment.

I can tell you that in looking at the fate of oil, you know, particularly as it's transported, that the signal we're seeing is very much attenuated. And it's attenuated due to two factors. Number 1, the dilution, obviously, in the water. But also, as your witnesses indicated yesterday, there is a significant microbial dissolution of a number of these components.

And so while, you know, it was certainly apparent in the environment early on, that the signal is harder and harder to identify.

I don't think it represents a substantial public health risk for deep water, you know, oil at 3,000 feet upwelling in any significant way that would pose a threat, based on the degraded nature of that.

We are concerned about small pockets of oil that may be at the toes of beaches that may be remobilized by storms and cast on the beach. This program will go basically from the beach to the deep

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water.

COMMISSIONER BOESCH: Dr. Walker, Mr. Fitzgerald, do you have any comments about this lingering contamination, what it might mean in terms of -- I think Mr. Fitzgerald you mentioned recontamination. Is this a serious concern, and what's the basis of the concern about?

MR. FITZGERALD: Well, I would echo Dr. Murawski's comments that it's hugely important to be -- to keep this on the radar screen, and to keep looking for it, given the fact that it could potentially reenter the environment from unaccounted-for lodes of oil. I think that no one is saying that we found every last drop of this oil. And having a system in place that allows for continual evaluation and reevaluation of public health risks that may be posed is very important.

So the fact that NOAA is thinking along those lines I think is very important.

COMMISSIONER BOESCH: Great. Well, thank you all for your answers.

CO-CHAIRMAN GRAHAM: Chairman Reilly?

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CO-CHAIRMAN REILLY: I have just a question, Dr. Murawski. We were advised by scientists in Prince William Sound not to use dispersants because the salmon fry were about to be released from their hatcheries, and it was expected that if the water column had the dispersants and oil that they could not escape it. But if it didn't, they could swim under it. And by all accounts that's what they did.

It's counterintuitive to imagine there is all this oil out there, particularly this very large plume of undersurface water and oil mixed, without it being in the fish. I've read so many of these reports that say it's not been detected. Can you explain just to a layperson how that might happen?

DR. MURAWSKI: Sure. I think there's two aspects of your question. Number 1, what's the toxicology issues, in particular to early life stages. And those studies undergoing funded by the natural resource damages are still, you know, yet to reveal the true extent of toxicology.

The issue about the persistence of oil compounds in particular finfish and larger vertebrates

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is that they metabolize, very quickly, oil products; in fact, in a matter of days to a week or so. And so it's not unexpected that we would have this result in adult fishes.

What we do see is that the lower you are in the trophic scheme, the more likely you are to retain these products. And so we would look for more residual in things like oysters and filter feeders as opposed to the higher vertebrates, which again, as I said, metabolize these compounds rather quickly.

CO-CHAIRMAN REILLY: But you've not found it in the oysters.

DR. MURAWSKI: We have not looked directly in oysters. That's a state responsibility.

CO-CHAIRMAN REILLY: Do you have any comment on that, Dr. Walker?

DR. WALKER: We have looked directly at oysters. We've run quite a bit of oyster tissue samples. And Dr. Murawski is correct, that's where you would expect to find any material that's in the water that the oyster is filtering. And we have found trace levels of oil-related hydrocarbons in our

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oysters, well below any levels of concern.

CO-CHAIRMAN REILLY: Levels or goals of concern are set by EPA -- FDA?

DR. WALKER: Yes, sir.

CO-CHAIRMAN REILLY: FDA?

DR. WALKER: Yes, sir.

And so what that tells me is that, you know, we didn't have any significant levels of oil material near our oysters or in the water that our oysters were filtering.

I'm sure that degraded oil, tar balls, tar patties probably rolled across our oyster reef, but were not cyblast in the water column so as the oysters would actually take that material in as they filter the water, and the tar bars just simply passed across the top of the oyster beds on the way to the, of those that did reach our shore land, mainland beaches.

CO-CHAIRMAN REILLY: Thank you.

CO-CHAIRMAN GRAHAM: Commissioner Ulmer.

COMMISSIONER ULMER: Thank you, Mr. Chairman. I have a question for Dr. Murawski.

First of all, I want to thank NOAA for the

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amazing work you do on everything from weather predictions to fisheries.

I was very impressed by your slide presentation today showing the amount of sampling in the Gulf and the extent to which you are continuing to keep track of not only where residue oil might be, but also what kind of impact it might be having over the long term. I think that kind of continued sampling and research is very important for many reasons.

I couldn't help but reflect, while you were talking about that, on our discussions here as a commission yesterday about the Arctic and about drilling in the Chukchi and the Beaufort.

Just wondering, could you do that kind of work in the Chukchi and the Beaufort if we were faced with a similar situation? I mean, when you were describing the ships and the satellites and planes and all of the effort that is going into the monitoring right now, and I was trying to visualize the ability to do that sort of thing in the Arctic, I don't know, would you care to comment on that?

DR. MURAWSKI: Let me comment tangentially

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and say that it has taken basically the entire capability that NOAA has on the Atlantic coast to respond to this. So all the ships, save the ones in the shipyard on the Atlantic coast, were involved in one fashion or another in this response.

And so if you have an event that occurs of this magnitude and scale, you know, in a place that's even more inaccessible, it's going to require, as I said in my testimony, something akin to the mobilization in wartime. You know, where you just -- you know these resources are not slack capability. Those resources are deployed to other missions. And so it takes a tremendous amount of capability to respond on this level.

And I would say that Dr. Farrington talked a little bit about Ixtoc and the one cruise that was done there. We've done over 120 cruises so far in the spill, and we have many more to go. That capability just isn't sitting around waiting for an oil spill like this. And certainly mobilizing in a very difficult environment which is highly seasonal, of course would be an extreme challenge.

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COMMISSIONER ULMER: I would want to also join Don in encouraging you to make the information as available as possible in a user-friendly way to the extent that is possible. Because there is a tremendous hunger, not only in connection with fisheries, but just in terms of trying to understand our environment and trying to understand what's going on in the Gulf.

So I encourage you to continue to spend resources to make the information that is available, making it available in a way that people can understand. Thank you.

CO-CHAIRMAN REILLY: Commissioner Beinecke?

COMMISSIONER BEINECKE: Thank you. I have two questions regarding seafood safety. The first has to do with the amount of sampling that's been done.

I believe, Dr. Walker, you were listing that there were between 40 and 80 samples tested for each of the fish, shrimp, crabs, and oysters. And yet when I was down in the Gulf ten days ago, the people on the Seafood Safety Board told me that there had been 40,000 samples. And earlier Lieutenant Governor

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Angelle I believe said there were 30,000 samples, and I think this is one of the reasons the public is confused.

If the sample numbers are, you know, 30, 40 individual samples and that is supposed to ensure -- assure people that the seafood is safe, it seems like the sample number is very low. And yet these other numbers are so high that it's very confusing to the public about what the actual sampling regime is.

Could you two, Dr. Murawski and Dr. Walker, just comment on that confusion, and is there a way to -- is there a protocol on the number of samples that have been taken, that are going to be taken, that are routinely taken, that the public could be sure of?

DR. WALKER: I'll start. And just the numbers that I talked about were Mississippi samples only, and they were Mississippi samples associated with reopening protocols for those four specific species of -- for finfish, crab, shrimp, and oysters.

I think that the number of samples for the area that we were looking at was adequate to render -- or to demonstrate that fish, crab, shrimp, and

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shellfish from Mississippi are, indeed, safe to eat.

The fact that we got essentially no hot samples from any of those samples is pretty compelling in my mind that those -- that seafood is safe.

The points of collection of those seafood -- of that seafood was from state line to state line, both east and west and north and south. Other than oysters, which come from one area in Mississippi.

So for Mississippi I think, yes, the sampling protocol was sufficient to indicate that the material is safe.

Now, there -- what I don't know is that -- none of us really have a good idea about what each other are doing. And that's across the states and across the agencies, I think. So, yes, I think we need to do a better job of corralling all of this information together in one place so we can talk about one number and lessen the confusion.

COMMISSIONER BEINECKE: And you, Dr. Murawski?

DR. MURAWSKI: Yes. I would like to add

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some of the samples you see are composite samples. That is, for shrimp, for example, instead of analyzing each shrimp individually, that you would put them in a blender, and they would be multiples of that, and so you would analyze the blend as opposed to individual samples.

The protocols are fairly straightforward.

For the offshore areas, the whole grid is a 30-minute-by-30-minute grid. And at least five samples are taken from each grid, you know, and they're distributed across it. And those are stations. So within that you've got a number of individuals, some of which are analyzed as individuals; large fish, for example. And then, you know, the smaller fish and the shrimp would be in these composites.

So I understand it's confusing when you try to add up the numbers and try to emphasize that. And we've tried to redouble our efforts to explain this protocol and how it actually works.

COMMISSIONER BEINECKE: Thank you.

Mr. Fitzgerald?

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MR. FITZGERALD: If I could just make one comment to that. This is an area where the fisherman I work with have really looked to us for help in understanding this information of composites versus samples, 20,000 versus 200, et cetera. And what we've tried to do is give them a breakdown of the testing from NOAA, from FDA, from the sniff test or the organoleptic evaluation versus the chemical evaluation.

But they are obviously most concerned about the fish they catch, the snapper and grouper, and relatively few chemical tests, or ones in the lab, have been done on their fish, which is one of the reasons why they've wanted to do this additional supplemental testing, to get much greater resolution on the fish that their businesses are based on. But they have a lot of confusion over the sample question as well.

COMMISSIONER BEINECKE: Thank you. Another question has to do with sort of the health, I guess this would be from FDA, the health standards that are based on adult males such as yourself eating one or

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two portions of seafood a week. And yet I know there's concern, because many have spoken to me in the Gulf Coast of people whose diet really is based principally on seafood, and particularly how those health levels are set on the average male and don't take into consideration children, vulnerable populations.

Can you just comment on that as another area of concern and how to perhaps change those protocols to at least account for different diets across the country and seafood consumption.

DR. MURAWSKI: So let me just say that at the outset of this, there was a substantial discussion between the states and FDA, NOAA, and others about what the levels of concern should be set at.

And part of this is what's the average consumption level of a person. And as you said, you know, the larger the person, potentially the larger the average daily consumption rate is.

In the United States, the average daily consumption rate of the entire population is about 20 grams per person per day. And that works out to

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around 16 pounds per person per year.

These standards were set on average daily consumption rates three times the national level -- greater than three times, to actually take account of subpopulations that may be consuming more.

So I think there is an abundance of caution, at least my FDA colleagues and NOAA colleagues that worked on this, in actually setting these levels of concern so that subpopulations wouldn't be inadvertently put at risk.

What we don't want to do is issue different levels of concern for different subpopulations, because then you do really confuse a family going out, you know, for a restaurant meal, for example. And so I think it's worthwhile to actually delve a little deeper into how those levels of concern were actually set.

COMMISSIONER BEINECKE: Thank you.

CO-CHAIRMAN GRAHAM: Commissioner Garcia?

COMMISSIONER GARCIA: I will try to do this quickly. Dr. Murawski, why are there still some areas closed, and what's going to have to happen in order to

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open them?

DR. MURAWSKI: Right. So what we -- our modus operandi here was to try to work the edges of the area impacted. First graphic I showed you was where was the surface oil. And that really set closures, and also set our strategy for opening. And so we wanted to work from the areas that were potentially least contaminated, the ones where we would expect to see animals, you know, that would be free of contamination, and open them first.

So you notice the color scheme, we've left the areas around the wellhead for last. And those are the areas that we're working now in terms of gathering the samples.

So it's a matter of -- it's a very substantial effort to vector a ship out there, to get the requisite samples per block, to get them back to Pascagoula, Mississippi, which is the base that we're sampling them, to send them both to the organoleptic testing, and then if they pass, to various laboratories, including our laboratory in Seattle where the contamination work is done, and then get the

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results back.
So it's a matter of our strategy, and then the timing to get all this done.
COMMISSIONER GARCIA: Do you have a projection on timing?
DR. MURAWSKI: Well, it will be contingent on what we find. And so all of those blocks are being worked right now in terms of -- so it will be a matter of weeks to months.
COMMISSIONER GARCIA: One other question. There was a lot of concern about bluefin tuna because projections showed that the spill was in the spawning area for the Atlantic bluefin. Any information?
DR. MURAWSKI: Well, you're exactly right. The spill happened in space and time coincident with the annual spawning of bluefin, and the western Atlantic population only spawns in the northern Gulf of Mexico once per year, from April to June.
And so as it happened, one of the NOAA ships was on its annual egg and larvae survey to actually understand the successive spawning of that.
And so we've collected, over the course of

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the summer, we've monitored the larvae of the bluefin tuna to see if we can see genetic damage, mortality, and all those things. And all those data will go into the natural resource damage assessment.
I can also say that some of our academic colleagues had some tagged animals that were, in fact, around the wellhead when it exploded. And they subsequently left the Gulf. These are large adult animals. And the tags popped off. So we know that animals that were near that wellhead survived, large adults.
COMMISSIONER GARCIA: Thank you.
CO-CHAIRMAN GRAHAM: Dr. Walker, you commented about a program in Mississippi in conjunction with BP to try to deal with some of these public perceptions about the quality of seafood.
Have you had any statistical analysis of how effective that program has been? Has the level of public disinclination to buy Mississippi seafood been lessened as a result of this campaign?
DR. WALKER: Well, the regional or national campaign, Senator Graham, is not yet started. We are

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working with a professional marketing firm to work out a process to have them do that for us.
The local town hall meetings and dockside chats have improved things locally. And even -- even a little bit regionally, as the word gets out. More people are coming to Mississippi now, more people are eating in the restaurants. The seafood -- the seafood shops are selling more seafood than they were a month ago, for example.
So locally just getting the word out to the local folks, it is helping quite a bit. And we look forward to taking this approach to a more national level.
CO-CHAIRMAN GRAHAM: How large a budget will you have for your national effort?
DR. WALKER: Well, we're negotiating that with the responsible party. I can say that they have been very receptive to what we want. But we're looking probably at something in the at least 2 to 3 million dollars range, something along those lines.
CO-CHAIRMAN GRAHAM: That's quite a bit lower than what the Louisiana people have been talking

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about for a Louisiana-only effort at education.
DR. WALKER: I don't know exactly how to answer that other than to say that numbers in Mississippi are generally a little lower than what comes out of our sister state.
CO-CHAIRMAN GRAHAM: But you're getting together tomorrow in New Orleans with all the states to think about a collective Gulf promotion campaign to reverse this bad image that Gulf seafood has gotten.
Is that right?
DR. WALKER: Yes, sir. That's what Scott Angelle was mentioning. And we had a conversation as he was leaving, and I'm going to attend that meeting with him.
CO-CHAIRMAN GRAHAM: Well, we'll be interested in what transpires in terms of the effort at collective action and then the scale of the action against the problem.
DR. WALKER: Sure.
CO-CHAIRMAN GRAHAM: Any other questions?
Thank you very much for a very informative panel on an important dimension of this overall

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challenge that we're facing, you're particularly facing. We will reconvene at 1:30 for Panel V. Thank you.

CO-CHAIRMAN REILLY: Thank you. Thank you all.

(Luncheon recess.)

PANEL V

CO-CHAIRMAN REILLY: All right. We will call the afternoon session to order. We will be looking at Legal Authorities for Funding and Restoration Management.

And our presenters will be Richard Stewart, professor of law, New York University, who was the Assistant Attorney General for Lands and Environment, who played a critical role with respect to these issues after the Exxon Valdez in allocating settlement money to Prince William Sound; Jim Tripp, Senior Counsel for the Environmental Defense Fund, who has spent his career on Gulf restoration issues and now maybe will have some serious money to address some of them; and Stan Senner, Director of Conservation science for the Ocean Conservancy.

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Welcome back, Mr. Senner.

We will begin with Mr. Stewart.

MR. STEWART: Thank you, Chairs. It is a pleasure to be here. And especially to see my former client and chief Bill Reilly up there.

I am going to try to draw on my experience with the Exxon Valdez case and the settlement to identify some of the key legal building blocks in the BP spill, the statutory provisions that the federal government and state trustees can invoke, the brief review of the settlement in the Exxon case, the NRD assessment process from a legal viewpoint, and the sort of dynamics of achieving a potential global settlement of government claims in the BP spill, and the disposition and management of the resources that would be generated.

I have sketched at the beginning of my statement the various criminal statutes that the federal government might invoke in this case against one or more corporate or individual defendants.

And most notably the Clean Water Act makes criminal discharges and the circumstances of this case

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in two provisions.

One, negligent violations of the prohibition of such a discharge, and knowing violations. Former is a misdemeanor.

Migratory Bird Treaty Act, killing migratory birds, that's a strict liability offense. The government doesn't have to show any purpose, intent.

Rivers and Harbors Act, discharge without a permit of refuse, which includes even commercially valuable oil. Another strict liability statute.

The Endangered Species Act, prohibiting taking of any species. Just what the intent would have to be shown here is a little unclear at this point. But there is an armory of statutes, some of which are strict liability and clearly can, and I expect will, be brought.

Each of these provisions has different provisions for prison fines and criminal fines. A sort of wild card in the deck is the Alternative Fines Act that provides for the imposition, in lieu of fines otherwise provided for by specific statutes, of an

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amount equal to twice the gross pecuniary loss to a person other than the defendant from a violation, or twice the gross gain to the defendant.

This was adopted in response to need, felt need with respect to securities and financial fraud and other violations. And there is an issue whether it applies to an environmental violation; and whether, say, removal costs or natural resource damages or economic losses due to injury to natural resources from a spill would be a pecuniary loss within the meaning of the statute.

But this could really be the kicker that would escalate the criminal part of the case greatly. There is no authoritative court decision on that issue.

Clean Water Act, civil penalties for discharges. During the Exxon case, this was a minor tool in the government's armory because there was a per-day violation, and in the Exxon case it was only one day.

But that was amended following the Exxon spill in 1991 to provide per-barrel penalties.

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Inflation adjusted now, $1,100 per barrel spilled; or in the case of gross negligence or willful misconduct $4300 per barrel. That adds up pretty fast in this case.

There are also penalties under the Endangered Species Act, but they are minor compared to that.

Then the third element beyond the criminal and the civil penalties, are the natural resource damages, which encompass removal costs; both the actual removal of oil, but also the protection of resources against contamination.

And then sort of after removal is completed, there's additional provision for natural resource damages, for the impairment of natural resources due to the spill even when the oil has been cleaned up as best one can.

The natural resource damages and other enumerated damages to private parties, to states and municipalities, are subject to a cap of $75 million. That's received a lot of attention, including in Congress.

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The cap can be -- it's not applicable to the removal costs, but it would apply to all types of damages authorized under the Oil Pollution Act unless the governments could show that it was -- the discharge was proximally caused by gross negligence or willful misconduct, then the cap would then be lifted.

Natural resource damages are assessed and recovered on behalf of natural resource trustees that have agencies, federal and state, and tribal authorities, that have management and regulatory responsibility over natural resources.

In the case of the federal agencies, those trustee agencies are designated by the President. They are to develop an assessment of the damages, a plan for restoration, and then to activate that plan.

The recoveries which can be retained and spent by the federal trustees without further appropriation by Congress are to be spent only to restore the injured resources and for incidental costs, assessed -- studies to assess the damage, legal fees, and so forth.

In the Exxon case, there was an umbrella

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settlement of criminal charges and civil penalties and NRD with a total of $150 million in fines, against Exxon, 125 forgiven.

So in recognition of its efforts in the cleanup, cooperation, 25 million net. Of which 12 went to the North American Wetlands Conservation Act. $100 million in criminal restitution split between the federal governments and the states. And 900 million, essentially, for some removal costs and then restoration of natural resources.

The conceptual basis of the natural resource damage provisions is that one identifies the injury to the resource relative to baseline; that is, the condition that would have existed without the spill. And the purpose of restoration is to return those resources to their prespill condition.

But in the interim, there will be lost -- impairment of resources and lost, we call it termed services and economic, maybe a physical concept to the public; while beaches are unusable, fishing is impaired, wildlife viewing is impaired.

And so restoration must not only get the

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injured resources back to their prespill baseline, but there's compensatory restoration, additional restoration or enhancement of resources to compensate for the interim losses.

And those interim losses include not only lost uses, but so-called lost nonuses. Not a very elegant term. But the fact that the public puts a value on the preservation of resources as such, even though individuals may not use it.

And what's the value of the interim impaired preservation value? And there is no accepted way, public surveys, contingent evaluation methods, to do this that's been upheld in court as sufficiently reliable to be a basis for imposing damages. But the issue has not been litigated.

This is another wild card. These so-called CVM surveys can yield very high values. And if admitted as a basis for liability, that could be another wild card.

So you have a panoply of very powerful claims by the government here for very, very large sums of money.

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But there is also, at least parts of it are subject to very large uncertainties. And this should help drive a global settlement of this case, and particularly the criminal case.

Because if the NRD claims were litigated fully to judgment, appeal, et cetera, that would take I think at least 20 years in this case. And the acquisition of restoration monies would be delayed until that was done. And defendants could use discovery and motions and so forth to postpone the day of reckoning. But the criminal case goes on a fast track. There is no discovery to speak of, there is a speedy trial process.

And so wanting to avoid the publicity and other adverse effects of a criminal trial, where it would seem that at least some of these defendants can be clearly convicted of misdemeanors, that's a very powerful driver for settlement, as it was in the Exxon case, and would help promote a global settlement.

And in this case, the large civil penalty sums where you can calculate it per barrel may also drive an early settlement. In contrast to the NRD

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claims, which are inherently very fact-specific and would take a long time to resolve.

Now, what would be done with the recoveries here, and how would they be spent?

In the Exxon case, a Trustee Council was established with three federal trustees and three state trustees. The monies were essentially spent together. There was no way to decide were the fish or the birds or the otters, did they belong to Alaska, did they belong to the federal government.

Just as the lawyers in the case had to work together in the litigation strategy and the settlement to avoid a divide-and-conquer strategy by Exxon, so the trustees had to work together to spend these monies under an MOU that provides for unanimous agreement on any decisions with no real dispute settlement process.

I had been concerned, when the settlement was coming through, that we needed a single, at least on the federal side, supervisory trustee. Because there is -- with all respect, and I do have admiration and respect for the agencies, their scientists --

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there's a tendency in the situation, you have three or six agencies, that each will have their own expertise and their own favored way of dealing things to sort of divide up the monies, and each will do its thing; but no sufficient structural management assurance that the monies are going to be spent in a more -- in a coordinated and targeted way to achieve the best overall restoration.

And that problem of, you know, many trustees, each with their own agendas, is here in spades in this BP spill. Because we have five states, we may have some tribal claimants, we have the United States and its agencies. We are going to have, you know, 15, 20 trustees.

Now, in the case of the federal government, the President could designate a lead or supervisory trustee who would be somebody not from any of the regular trustee agencies. And that could be done. The President wouldn't have power with respect to states or tribes, and Congress would have to have legislation.

One approach would be to have a single

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federal super trustee, a single state and maybe tribal super trustee, and then a third trustee. That's one approach. There could be others.

The other final point -- and so I think this is something this commission should really explore.

Actually, I tried to promote such an idea for the Exxon case. But I am afraid some of my other clients than Mr. Reilly were strongly opposed to that, because they wanted to have control of those resources for their own -- themselves, without anybody overseeing those decisions.

Now, the other issue is, how are the restoration monies going to be spent in relation to the resources of the Gulf that have suffered degradation from many other activities over the years; including the navigation and flood control projects, the oil/gas development, onshore development, pollution runoff, and the fishing practices. A host of other activities.

In this context especially -- the Valdez spill was up where there was no other development

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going on, and there you could focus more directly on the effects of the spill. It's going to be excruciatingly difficult to figure out just what the impacts of this spill are, with all these other stresses and impacts on the ecosystem, and determine a baseline. And just have restoration, well, we are going to achieve, get them back to that baseline whatever it was before the spill.

It's going to have to be a much looser and more general exercise, I think.

CO-CHAIRMAN REILLY: Your time is up. We'll come back to you.

MR. STEWART: All right. One last point. And I think in my testimony I outline several ways of integrating the expenditures under the NRD recoveries with other efforts to address the restoration enhancement of the Gulf resources.

Thank you very much.

CO-CHAIRMAN REILLY: We'll come back to those questions with you in Q&A.

Mr. Tripp.

MR. TRIPP: Mr. Reilly, Senator Graham,

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members of the Commission, thank you very much for asking me to be here.

In the 1970s and '80s I did wetland, coastal wetland protection work in all of the Gulf states, including the coast of Florida. But my special focus continuing since then until today has been on coastal Louisiana, the delta of the Mississippi River.

It is a magnificent national and world ecological asset. And the collapse of the delta, the loss of 2,300 square miles out of 7,000 square miles of coastal wetlands over the last 80 years, is a national, economic, and environmental catastrophe. And I am absolutely thrilled to my core that this commission is dealing with that issue. It falls well within your mandate.

I think you all know there are two major causes to the collapse of the Mississippi delta. One is the management of the Mississippi River dating back particularly to the 1928 Flood Control Act for navigation and flood control, resulting in all the construction of the levies going down to the mouth so

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that the sediment of the river doesn't get out into the wetlands anymore except incidentally.

And the other major cause is the footprint of the oil and gas industry, both onshore and offshore.

John Day, a distinguished wetlands ecologist, calculated in one paper that almost ten percent of the land mass of the delta is made up of canals, oil and gas canals, and dredge spoil piles. And the onland impact of the offshore oil and gas industry is also large because of their need for pipeline canals, equipment canals moving equipment around.

What took me down to Louisiana in the first place in early 1974 was a navigation project to service the offshore oil and gas industry.

So the causes point the way to the solution. And the solution is reengineering the river so that the sediments of the Mississippi River can get out into the wetlands, where nature would have them; and in effect, relandscaping, doing some major recontouring of the landscape to eliminate some of the

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dredge spoil piles.

This is a national emergency. I think there was reference earlier to the Corps of Engineers' upgrading of the New Orleans levy system, a 14 or 15 billion dollar project. It will have been designed and completed within a period of four or five years. It was declared as an emergency by CEQ and OMB and the President. The President, OMB, and CEQ should treat this similarly. Otherwise, if the Corps continues to be in charge, it will take 20, 30, 50, a hundred years at a snail's pace. And that is simply unacceptable.

Where is the funding for this going to come from? Well, my colleague, Dick Stewart, mentioned, of course, Natural Resource Damage Act dollars. It seems to me -- I can't imagine what could be done physically to undo a lot of the insidious damage that this oil is doing in the Gulf, either at very low concentrations, and there is no way of getting it out of the Gulf, or you have large amounts of oil in sediments. I don't know how you're going to get it there. So that those dollars could be much better directed to restoring coastal Louisiana.

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And there is a powerful nexus. Why is that? Because the delta is the major, or a very major source of food energy for the entire Gulf, this vast wetland system.

So all the biological resources, juveniles, and so on that may be damaged, benthic organisms at the bottom, one way of trying to make amends is by bringing this delta back to life.

And, obviously, another tool for EPA would be to set up a supplemental environmental program project. It would be of a very different dimension from any SEP that we have seen before. But it would be a very good use of or a good way for BP and other responsible parties to fulfill their responsibilities. Mary Landrieu has proposed legislation -- that's what could be done administratively.

Mary Landrieu has proposed legislation that 80 percent of Clean Water Act civil penalty monies go to Gulf restoration. We strongly support that.

But in my view, there is going to be a need for long-term continuing federal funding if this $20 billion, to name a figure, delta restoration program

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is to be completed.

So I have proposed a per-barrel oil and gas restoration fee on Gulf OCS production of $2 a barrel. One could come up with different kinds of schemes.

There is some question, however this is done, how is this money going to be allocated among the five states?

The problems of coastal Louisiana are sui generis. They are unlike the other Gulf states. Governor Barbour here this morning was talking about wanting to restore some of the barrier islands off of Mississippi. Everyone knows how to do that.

New Jersey, the Corps spends millions of dollars every year doing beach nourishment in New Jersey. That's not the issue in coastal Louisiana.

The issue in coastal Louisiana is we have a national asset that serves national economic and environmental purposes, where the degradation has resulted from national policies that are going to be very complicated and difficult from an engineering, let alone a technical, political, or any other, point of view to undo.

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So there is good reason to devote a lot of the money that goes to Gulf coastal restoration to coastal Louisiana. And all the other Gulf states are going to suffer if this delta continues to collapse. And the fisheries of the Gulf are going to eventually suffer.

It's estimated that the delta wetlands of coastal Louisiana make up about 60 percent of the total estuarine and coastal wetlands of all the Gulf. In addition, in my view the permitting programs, particularly the Clean Water Act, Section 404 program, can do a whole lot to protect all those wetlands; but that program by itself is not enough to bring back and protect and restore the delta.

So there are special reasons from a national point of view to focus a whole lot of attention and to dedicate a good part of any funding that goes to Gulf coastal restoration to coastal Louisiana restoration.

And if I were going to name a figure, I'd say that 75 percent of the money that is made available should go to that purpose. That may not

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find favor in Texas or Florida or other states; but I would say that's the national need, and that's what I hope you will focus on.

In terms of the overall structure, you've heard about the Gulf of Mexico Alliance. But if I were looking for an existing administrative structure, particularly for coastal Louisiana restoration, I would look to the Breaux Act task force of the Coastal Wetland Planning, Protection, and Research Act.

That is an existing structure, using existing flows of money, representing all the federal and state agencies that would be involved in coastal Louisiana restoration.

But the representation has been at a very low level. You know, OMB, the White House, hasn't paid any attention to that. But an executive order from the President really establishing the goals for that task force, given additional funding coming in, setting a goal for completing the near-term program for restoration that Congress has already authorized at five years, and a longer-term program with major diversions in recontouring the landscape of ten years,

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this is a man-on-the-moon mission. This is not simply trying to put some sand on the beaches of Texas and Florida and New Jersey.

We have to address, and it is time, and you have an opportunity to help us address this national -- inexcusable national catastrophe.

I don't think just the sheer magnitude of the problem there, the engineering challenges, the challenges of bringing science to bear, figuring out what to do, dealing with these -- with navigation, dealing with the energy industry, it's unlike anything else along the Gulf Coast, and it simply has to be viewed separately. The Gulf of Mexico Alliance cannot do it.

So with that said, I hope that you find the way of making sure that a lot of the administrative penalty money that may become available will be dedicated to this purpose, that 80 percent of the Clean Water Act civil penalty revenues will be directed to this purpose, very large portion goes to coastal Louisiana restoration, and that the President directs that this happen in a timely manner.

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Thank you.

CO-CHAIRMAN REILLY: Thank you.

Mr. Senner.

MR. SENNER: Thank you, Mr. Chairman, and members of the commission. I am Stan Senner, Director of Conservation Science for Ocean Conservancy. Thank you for the opportunity to address this topic of restoration following the BP oil disaster.

I am going to be speaking as one who was engaged in planning and implementing a restoration program following the Exxon Valdez experience. I'm a biologist, I'm sitting here with distinguished attorneys, but I'll bring you a different perspective.

Ocean Conservancy has worked for more than two decades to protect and restore depleted fish and wildlife resources in Gulf of Mexico. And we support the President's call for a Gulf Coast restoration plan that addresses not only the harm caused by the spill, but also addresses the environmental degradation that has compromised the Gulf's coastal and marine ecosystem. Emphasis on coastal and marine as one system.

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I'll focus most of my comments on Exxon Valdez and implementation of that settlement agreement.

Probably the most operative terminology for your consideration is that the terms of the settlement required that trustees shall jointly use all natural resource management damage assessment recoveries for purposes of restoring, replacing, enhancing, rehabilitating, or acquiring the equivalent of natural resources injured as a result of the oil spill and the reduced or lost services provided by such resources.

I think I used to be able to recite that in my sleep. I had to read a little bit of it now.

I want to focus first on the word "enhancing." That's not a standard part of the NRDA vocabulary. And its inclusion, as a practical matter, meant that restoration did not have to be strictly limited to the return of injured natural resources to a poorly known prespill baseline condition.

It also facilitated a focus not only just on individual resources, but on the ecosystem more broadly.

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And indeed, the Exxon Valdez Oil Spill Trustee Council -- that's the last time I'll use that long name -- defined its mission as no less than restoration of a healthy, productive, world-renowned ecosystem. And that's sounding rather similar to some of the needs expressed for the Gulf of Mexico.

One result of this focus on the ecosystem in Alaska was GEM, the Gulf Ecosystem Monitoring Plan, which was developed and approved as a permanent ecological research and monitoring program in the northern Gulf of Alaska. And the idea was that it was to be supported by a revenue stream from an endowment.

Although research and monitoring per se clearly could be justified as necessary to retract recovery of individual resources, the idea here was that the trustees believed that these activities were necessary to support the healthy functioning of the ecosystem over the long term. And, hence, their intent was to make this a permanent program, and again supported by an endowment.

It would seem that this concept of enhancement is one that is relevant to the Gulf of

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Mexico situation.

Second observation is that Exxon Valdez restoration funds could only be spent on injured publicly owned natural resources. These were important sideboards as we sought the public's ideas about restoration.

And we anticipate that the restoration plan released by Secretary Mabus -- and I have not had an opportunity to read it, but we anticipate that that plan will call for addressing environmental restoration, but also economic and health issues. And those are entirely appropriate, and we would not argue otherwise.

But we are concerned that funds to be used for environmental restoration be earmarked as such so there is not really set up a competition between economic development and environment, for example. And so whether fines come from NRDA claims, Clean Water Act fines, or other sources, we think there need to be some earmarked funds for the natural resources work and appropriate guidelines.

Third, the restoration funds obtained

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through the Exxon Valdez civil settlement were jointly held. And they were allocated by a six-member state/federal trustee council. Professor Stewart mentioned it already. These trustees could only make decisions unanimously.

Trustee council staff members worked for the whole council, not individual agencies or governments. And all recommendations of the trustees were subjected to external peer review. So we had a check-and-balance system there.

In combination, this approach ensured a balanced, science-based plan. And it was an integrated plan, not a piecemeal series of individual actions.

And I think there are lessons there for the Gulf. And so Ocean Conservancy strongly favors a science-based, Gulf-wide approach to restoration. And this will require, we think, funds that are held jointly and an appropriate structure and process for making decisions.

Fourth, although the NRDA work is not intended to be a long-term research program, it's

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critical that field and lab work in the Gulf of Mexico continue as long as is necessary to tell the full story of impact and recovery and to ensure fully compensatory restoration.

I'll move ahead quickly here. The Exxon Valdez assessment did, in fact, provide for ongoing injury and recovery, surveys and research. It also included a reopener clause in the event that there were unanticipated effects.

And my hope and assumption would be that if there is some sort of a settlement emerging from this Gulf situation, that there would be some version of a reopener clause in there as well.

Finally, the Exxon Valdez settlement required meaningful public participation in the injury assessment and restoration process.

Indeed, there was vigorous public participation throughout the restoration program even prior to settlement. And the feedback and suggestions from the public had a huge impact on trustee council decisions.

In the Gulf of Mexico, Ocean Conservancy

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advocates maximum public transparency, consistent with maintaining the government's ability to obtain funds for a fully compensatory restoration program.

There's talk of creation of a public advisory group, perhaps modeled along the lines of the Prince William Sound Regional Citizens Advisory Council in Alaska. And that could be one mechanism for facilitating public involvement in restoration planning, but also in ensuring and encouraging industry accountability down the road.

So briefly, looking forward, Ocean Conservancy envisions a Gulf of Mexico ecosystem, including again, coastal and marine habitats, that is fully restored to a healthy and resilient status, with its physical and biological processes intact, a full complement of native fish and wildlife present, and abundant and ample opportunity for sustainably managed human uses.

To fulfill this vision, just suggest a few components in a Gulf restoration program.

First, again, since the effects of the BP spill may not be fully known for several years, there

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must be ongoing support to assess injury and recovery.

Second, recovery from injuries to natural resources from the BP disaster, as well as the decades of environmental degradation that Mr. Tripp, for example, has described so well, this will require more intensive management and investment in tools, technologies, and information that will restore and enhance fisheries and protect marine wildlife.

I am often asked what can be done for the deepwater injuries, the injuries now that are probably out of sight and may or may not be revealed here in the coming years. But what even can you do in the way of restoration? Well, I can give you one example from the Exxon Valdez experience.

In that case, we invested restoration funds in a new way of mass marking hatchery-reared salmon. And I won't go into the technology there. But this breakthrough in fact enabled commercial fishermen to harvest hatchery-reared salmon at times and places when the fishery otherwise would have been shut down in order to protect returning wild stocks that had been harmed by the spill.

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Just one example of where we were able to use information and technology to achieve a breakthrough in fisheries management. And that mass marking technology continues to be used today to enhance the fishery in Prince William Sound.

Third, biologically significant coastal and offshore habitats impacted by the spill deserve to be identified and protected.

Fourth, an event like the BP disaster should be a catalyst to improve understanding of how the Gulf's ecosystem works and how it is influenced by natural factors and human activities.

We recommend, in fact, establishment of a Gulf of Mexico ecosystem monitoring research and adaptive management program modeled after Alaska's GEM, with the aim of understanding change in a dynamic system. And again, we suggest this kind of a program should be supported by an endowment.

Lastly, we do support restoration of coastal wetlands, recognize the scale of effort that is required there, as again Mr. Tripp has outlined.

I'll leave it at that. And thank you for

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the opportunity to present this testimony.

CO-CHAIRMAN REILLY: Thank you, sir.

This panel has presented a very rich table of information and provocative, I think, considerations for us to take into account. And I will look forward -- I think we all will look forward, to some amplification that probably there won't be enough time to fully cover now.

But I would certainly like to plunge in and begin with our lead questioner, Commissioner Garcia.

QUESTIONS FROM THE COMMISSIONERS

COMMISSIONER GARCIA: Thank you.

Professor Stewart, you've been listening to the comments from the other panelists and no doubt some of the comments that have been made today and prior to today about the need to connect the NRD damages and restoration process to other restoration programs that have been ongoing.

What are the steps that are going to be necessary in order to allow that to happen? Is it going to require statutory change? Can this be addressed through the settlement? Can there be an

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executive order? What will be needed in order to allow for a coordinated approach?

MR. STEWART: Well, I think in terms of the statute, I think the provisions for how the funds are to be spent are sufficiently elastic or general; that, you know, use of restoration recoveries, NRD recoveries, in conjunction with these specialized or broader efforts I think would fall -- would be within the legal ambit.

COMMISSIONER GARCIA: So is the enhancement language --

MR. STEWART: That enhancement language --

COMMISSIONER GARCIA: -- that Mr. Senner referred to, is that necessary?

MR. STEWART: It's sort of a virtue of necessity. Because they came up to the practical problem of, how do you identify the prespill condition and what can you practically do? And I think we're unlikely to have this issue litigated.

You know, for now the trustees are probably going to have to follow the NOAA, OPA damage assessment regulations. Because if the thing's

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litigated, they have to follow, use that for rebuttal of presumption. Those are more constraining. But I don't think the statute is that constraining. So let's just put that aside.

Then the question is, all right, what about other resources? And part of my testimony I didn't get to was something that Mr. Tripp mentioned, the supplemental environmental projects, which is well recognized under the Clean Water Act, where EPA can approve, essentially, remission of penalties otherwise due if the money is spent for an environmentally beneficial project that has a nexus to the violation. All right? And then again, that's somewhat elastic.

So that would be a way to mobilize monies that are not NRD monies and could be used I think more broadly even than the rather generous NRD provision. And that --

COMMISSIONER GARCIA: So excuse me. Would that concept then allow you to take the Clean Water Act penalties, which ordinarily would go to the treasury, right?

MR. STEWART: Yes.

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COMMISSIONER GARCIA: And use them for those projects?

MR. STEWART: Exactly.

COMMISSIONER GARCIA: All right. So without having to amend the statute?

MR. STEWART: Exactly. And the Justice Department reviews this. We want to make sure there is adequate nexus, you're not going off and doing something unrelated.

Also I would point out -- Mr. Reilly may be interested in this -- that gives EPA a seat at the table. Because EPA is not a trustee here, it doesn't have direct management responsibility in the way some of the other agencies. But it does administer the Clean Water Act and is in charge of the SEP program. So that would give, I think, a more general environmental perspective in a sort of bureaucratic sense here, which I think would be desirable.

So the third point about what can be done without a statute is, the President could designate a lead or supervisory or a super trustee on the federal side. Can't do that on the states. Maybe the states

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could be led to do something similar.

Those are the things that could be done without legislation.

COMMISSIONER GARCIA: Mr. Tripp, Mr. Senner, what do you think of the super trustee idea?

MR. TRIPP: I like it. You know, there are -- certainly if you're looking at the -- if you're thinking of it Gulf-wide, you have the federal trustee agencies, four or five of them, I guess, and then five states.

And I think Professor Stewart's idea from his paper is that there be one super federal, but one super state -- I mean a super chair or something to, you know, coordinate and make it work. So I think it is a good idea.

MR. SENNER: I think that has merit as well. And the Exxon Valdez settlement had six trustees, and we have five states and the federal government. That adds up to six.

And so, you know, there may be several ways to deal with that.

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COMMISSIONER GARCIA: You know, there has been a lot of attention -- and you raised this in your presentation, Mr. Senner -- there has been a lot of attention to the harm that's been done to the coastal areas. And rightly so.

But the spill, the incident occurred in federal waters at 5,000 feet. And so the question -- and I would like you to elaborates on your comments -- the question is, what do you do about the resources in the deep ocean? What are some of the other options? You mentioned a few, but it has been suggested that one thing that could be done would be to take a look at the possibility of creating a marine protected area or marine protected areas that would serve as nurseries, as places where marine resources could be replenished as part of building a resilient system.

What do you think of that?

MR. SENNER: Well, first of all, we are all going to be waiting to see what kind of results are reported for the impacts in the deep water. But certainly there is a great deal of concern about what we may be learning about that harm.

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I think that there are a variety of things, actions that can be taken that benefit the deepwater ecosystem and its fish and wildlife.

I think one thing, though, I want to be clear that no one should be talking about is hatcheries for bluefin tuna or raising sperm whale in captivity or anything like that.

And those suggestions were made following the Exxon Valdez, and they were taken off the list pretty quickly.

But I think that as we look at that deepwater environment, there is an enormous amount of information that can be gathered that will help us fine-tune management in the future.

The Gulf of Mexico Fishery Management Council is making decisions all the time on grouper and red snapper and other fish in federal waters. They are working often with incomplete information with which to make those management decisions. So there is an opportunity for science there that will greatly improve management.

There is also much work to be done, for

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example, in reducing bycatch. There has been a lot of concern about all the dead turtles, the Kemp's Ridleys and others.

Well, have we done the best we can with turtle-excluder devices and making them work in a way that's effective for the turtles, but also doesn't compromise the shrimp fishermen and the others who are trying to make a living.

So I think, Mr. Garcia, there are an array or is an array of options there, including habitat protection on a strategic basis. I think that we need some of the -- we need more science to do a better job of identifying the most sensitive and important places.

Once we have those places identified, then we can talk about, well, what are the appropriate management actions. In some cases perhaps they are protected areas. In others maybe it's time and season restrictions. A variety of opportunities.

COMMISSIONER GARCIA: Mr. Tripp, did you want to comment on any of this?

MR. TRIPP: Well, I guess in terms of the

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question that you've directed at Professor Stewart and the super trustees and all that kind of thing, I would sort of reiterate my point that I would, you know, urge the trustees and EPA through the SEP program to think about a, you know, specially dedicated structure and funding source for coastal Louisiana restoration.

Now, that may be a wholly owned subsidiary of some kind of a larger structure. But I think there is a very special need there, and that needs a special structure of its own.

COMMISSIONER GARCIA: Professor Stewart, is there any impediment to using some portion, not a huge amount, but some portion of funds, whether from the Clean Water Act or NRD, for the kind of long-term monitoring that has been suggested is going to be necessary?

MR. STEWART: Not at all. That's well established, even under the NRD program.

I think what's different here, as my colleagues have indicated, is the scale of the spill here, and the affected resources is so far beyond any oil pollution case or any CERCLA case on land. And we

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have to think systemically here. We can't just think this resource, that resource, and this location. And the law is certainly able to accommodate that.

COMMISSIONER GARCIA: And finally, what do you think the chances are that that $75 million cap will be lifted?

MR. STEWART: From the facts I have seen -- you know, I don't have any inside information. But do you mean lifted by Congress or by litigation?

COMMISSIONER GARCIA: Just --

MR. STEWART: Do you want me to predict what Congress would might do or what might be done if it was litigated? I think it will be lifted one way or another.

COMMISSIONER GARCIA: Okay. Thanks.

CO-CHAIRMAN REILLY: Other questions? Commissioner Beinecke.

COMMISSIONER BEINECKE: Thank you. Fascinating panel.

Could all of you comment on both the timeline that was experienced in the Exxon Valdez case to actually get the NRD awards and the settlement

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agreed to, and then the money spent; and what your vision is for a timeline that would resolve these issues in the Gulf and actually get the money flowing?

MR. STEWART: Well, in the Exxon case we actually had to settle it three times.

Once it came apart by some differences between the federal government and the state. A second time we presented to the judge, and Mr. Rawl, the chairman of Exxon, the afternoon before had a press release in Houston saying Exxon had taken reserves, this disposition would have no impact on Exxon whatsoever. Somebody put that clipping on the judge. The next morning he threw the thing out.

So we had three -- even three settlements we got it done in two years, with the criminal trial driving the process.

It's when we started calling the jury in -- and that takes four or five days up in Alaska from some of the remote parts -- things got serious.

The difficulty here is, you've got multiple defendants. That will complicate things. But I think with the criminal trial driving things, you can get a

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settlement -- it's a much more complicated settlement, but it can be gotten done in several years once the government is ready to go.

And then in this case, the monies were available almost immediately after the settlement. Right? Yeah. Starting in 1991 or '2.

MR. SENNER: Yes.

MR. STEWART: Yeah. Now, if the government -- you know, there's always a negotiation. And they're getting the money sooner. And, you know, you're going to have to adjust the figures. And it will be a meta-negotiation.

COMMISSIONER BEINECKE: So, I mean, it would have to be a negotiation to develop a mechanism that would front load some of the money. I mean, we heard Senator Landrieu this morning, and also when we were in Louisiana, and then Mr. Tripp and Mr. Barry.

I mean, there is tremendous urgency to get these projects going; and many projects are in the pipeline, but without money. So you would have to have a specific arrangement to jump ahead of the process.

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MR. STEWART: Yeah. Well, that, again, is negotiation. For a corporation that is earning 20, 25 percent return, you know, paying in five years is a lot less costly than paying today. So it is a question if you want to front load it, then you may get less later.

COMMISSIONER BEINECKE: Thank you.

CO-CHAIRMAN REILLY: Commissioner Boesch.

COMMISSIONER BOESCH: Yes. Mr. Tripp, since you're long familiar with the efforts to try to restore coastal Louisiana, and you commented on a potential model being the Breaux Act or CWPPRA model, which includes, I think, what, four or five federal agencies and the state making decisions on that particular --

MR. TRIPP: Interior, EPA, NOAA, Corps of Engineers, and agriculture. And then the state.

COMMISSIONER BOESCH: So if you can envision, as I'm sure you thought about, this new potential source of funding from the penalties or whatever resource damage assessments and so on, but also pursuant to the Secretary Mabus's suggestion,

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administered at some level that source of money, administered and apportioned at some level on a Gulf-wide basis with federal partnership, but at a state level, doesn't the State of Louisiana have multiple programs and funding sources, including the Corps of Engineers, the LCA Ecosystem Restoration Plan program, the Coastal Energy Impact funding, and the potential revenue-sharing funds that Senator Landrieu talked about?

Can you help us think about some mechanism that would bring that on a state level together in harmony so that those funds can be blended to some sort of more comprehensive purpose? And recognizing that some of those resources would be state resources, some would be from various federal programs, how might that be managed in a comprehensive way?

MR. TRIPP: Well, when I talk about CWPPRA and the Breaux Act task force, you know, I mentioned that that's an existing administrative structure. And to beef it up and make it really work, you know, effectively, wouldn't require any new authorization legislation. Congress might be able to do a better

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job, so I don't want to stop Congress from doing that.

The President in his February 2011 budget asked to have -- and we worked diligently with the State of Louisiana, which has an extremely gifted, talented, dedicated group of people in the governor's office, and in OCPR -- on getting the President to recognize or propose coastal Louisiana restoration as a new start, with $19 million in funding, construction funding, also some planning money.

The Senate Appropriation Subcommittee has approved it; the House hasn't. $19 million. We are never, in my view, going to get through the Corps of Engineers' appropriation process the hundreds of millions of dollars or billions of dollars a year, you know, needed for this.

Coastal Impact Assistance Project money, CIAP, has been a one-time grant of money to the state. Has to be approved by Interior, but basically the state puts it together. Most of that money has been allocated, you know, by the state. It's a limited amount of money. I think 250, 300 million dollars goes to Louisiana, or $500 million.

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CWPPRA money is $80 million a year. That ought to be folded in with all this. That goes to the Breaux Act task force.

You know, the state cost share all along. But there is -- and then there is the GOMESA funding that would start in 2017. That could be, you know, moved up. That could generate for Louisiana I believe something in excess of $500 million a year. But that money can be used for both protection and restoration. So half of that or 90 percent of it could go to levies.

So here -- I don't want to belittle the importance of upgrading the New Orleans levies and other urban levy systems in Louisiana, but here we're talking about restoration.

So there is a desperate need for very major infusion of dollars, either as a result of the BP oil spill or a new source of funding, to make this work.

And in my testimony what I envision is $2 billion a year for the restoration program once we gear up, if we're going to do this in ten to 12 years.

COMMISSIONER BOESCH: I think you heard

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Governor Barbour talk about his concern about not being outnumbered by the multiple federal agencies on these governing mechanisms. And of course in CWPPRA, the mechanism, Breaux Act, essentially does that. I mean, because there are four federal agencies and then one state representative.

So how might you deal with this concern and Governor Barbour's assertion that this ought to be surely a state/federal effort; but state centered, if you will, state-centric in its orientation and management?

MR. TRIPP: Well, I mean, in general, I wouldn't necessarily recommend the Breaux Act structure for the other Gulf states. I don't even know whether to what a degree it is really doing anything in the other four states. Maybe it is; I just don't know.

COMMISSIONER BOESCH: No, it's not.

But as far as Louisiana is concerned -- and Garret Graves is going to be here testifying later on, so you can ask him. But the state has an effective voice on the Breaux Act task force, and it has

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enormous technical capability, and it is a structure that could be made to work effectively.

As far as the other four Gulf states are concerned, it seems to me that you could have much more of a state-oriented, you know, arrangement. If you're thinking about some beach nourishment for the barrier islands, that could be much more state-centered.

In my testimony, if I were talking to the other four Gulf coastal states where I would like to see this kind of money go, it would be to protect some of the flood plain forests of the Apalachicola, the Suwannee, I mean, some of these great rivers that are very important to the Gulf. And it's those resources, almost more than the Gulf coastal resources, that are -- that are not protected as well as they should be. But I think that could be much more state focused.

The delta is a national asset, and the federal government necessarily has to be a major federal player. You can't reengineer the Mississippi River without the federal government -- and navigation

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is going to be affected -- being a major party.
COMMISSIONER BOESCH: Thank you.
CO-CHAIRMAN REILLY: Commissioner Ulmer.
COMMISSIONER ULMER: First of all, I want to thank Professor Stewart and Senner for the work that you did on the eve of settlement and the trustee council, which is overall, although not perfect, has worked out very, very well for Alaska and I think does give us something to learn from as things like the Gulf of Mexico tragedy occur.
I want to return for just a moment to the word "enhancement." Because we kind of went over that a little quickly.
But as you point out, it is not -- it is actually not in the statute. And so for purposes of the settlement in Alaska -- and perhaps I'm not recollecting this correctly -- it was a pretty important term that allowed things like the acquisition of habitat, land purchases, et cetera, that we didn't think probably otherwise would have been permitted.
So I want to return to this question of how

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important that might be in a settlement or perhaps some sort of structural whatever we haven't imagined yet, in terms of how that is either in a congressional action or in a legal settlement.
And who will get to decide? Will it be the Department of Justice that gets to sort of rubber stamp whatever the trustees come up with and decide whether it falls within the "enhancement" term or not? Or should there be greater clarity in the settlement itself about what enhancement covers?
MR. STEWART: That's a tough exam question.
You know, one way of dealing with this problem is to get a little technical and talk about the concept of restoration, especially as it's developed in both the CERCLA and the OPA damage assessment regulations.
It's not so much resources that are being restored, as resource services. All right? So that's a broader sort of a concept. And it is not necessarily the individual physical resources that you have to get back to baseline condition, but -- and some of them never will probably. Right?

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So -- and there is "acquire the equivalent of" in the statute. So the idea is to restore the resource services that were lost. And that doesn't necessarily go on an individual, resource-by-resource basis.
One can I think take a general inventory of resources, and especially in the Gulf, as a target. And that could be accomplished in many different ways.
So I think that concept may give you enough flexibility here to -- you enhance maybe some physical resources in order to return -- to have the overall level of services for the fish, for marine mammals, for the services that wetlands provide. And I think that provides a rationale.
The Justice Department presumably would have to review this. But on the other hand, under the famous Chevron principle and administrative law, it would be up to the agencies, the trustee agencies that administer this statute, and they have the primary interpretive authority here.
And if this were ever litigated, which is unlikely in the case of an overall settlement, I

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think it would -- I would be happy to defend them.
COMMISSIONER ULMER: Thank you.
CO-CHAIRMAN REILLY: Chairman Graham.
CO-CHAIRMAN GRAHAM: Thank you, Mr. Chairman.
From my experience with restoration in the Everglades, a couple of major issues have emerged. And I'd like your thoughts as to how we might try to mitigate against those in this Mississippi delta area. One is what's called WRDA, the Water Resource Development Act.
Almost inevitably the Corps of Engineers is going to end up playing a significant role, if you're going to have major structural either affirmative or corrective measures. In here there's talk about breaching some of the levies in order to allow fresh water and sediment flow back into the wetlands type thing.
As you know, the Corps of Engineers has a very orderly process. And one of the key points in that, that requires congressional action, is the actual authorization of a specific set of activities.

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The Everglades restoration project is technically 60-plus specific Corps projects, all of which are staged in order to accomplish an ultimate objective.

The problem we have encountered is that when Congress, as it has done several times in the last ten years, for reasons totally unrelated to restoration, fails to pass a WRDA bill, then you have a hiatus in your ability to go forward because you don't have any authorization upon which you can then get an appropriation. I probably have told you more about the WRDS bill than you want to know.

Do you have any suggestions of how we might facilitate in avoiding that becoming the inhibitant to cohesive action in the Mississippi that it has already become in the Everglades.

MR. TRIPP: Well, I could attempt to answer that question, at least in part.

First of all, the -- what -- the near-term Louisiana coastal area, LCA, restoration program that consists of 17 projects has already been authorized by Congress for construction. In some cases contingently.

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But Congress said in 2007, after Katrina, this is so important, this is so much of an emergency, we're going to authorize it.

In some cases they respected six projects, the Corps still has to come in with reports, but it's authorized.

That's not true with the longer term projects that haven't been designed yet, really larger diversions and so on. So there could be an authorization project.

But unless and until the -- well, I'm not too sure that I would have coastal Louisiana restoration done through that process. I've suggested an alternative administrative structure, which is the Breaux Act. Because that brings together the major federal agencies that have a profound interest in coastal Louisiana.

Interior has a lot of wildlife refuges and National Parks. EPA is interested in the dead zone. And if you're going to solve the dead zone problem, you've got to reintroduce the water and sediment of the Mississippi River into these wetlands, and so on.

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You also will have a structure that will facilitate engaging world-class engineering firms. My colleague, Paul Harrison, is working on an idea for a design competition. But we can't wait, you know, 10, 20, 30, you know, 50 years. We have to come up with a process which is much more competitive, brings in private firms, gives the state a major role, gives the other federal agencies a major role. And hopefully the Corps will start thinking in terms of doing for restoration what it has already done for the New Orleans upgrade.

MR. STEWART: Senator, you raised a very intriguing question. Just parenthetically, the federal litigation to protect the Everglades was initiated under my watch at the Justice Department, so I followed that with interest.

The trustees under the Oil Pollution Act by executive order include the Secretary of Defense, which includes the Army Corps of Engineers. And OPA is an authorization to spend NRD without further appropriation by Congress.

So, I mean, I would have to think about

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this some more, but I hadn't thought about the Corps being a trustee. But under the executive order they could effectively function as one. And it's unclear what resources they would be responsible with. We would have to work this out. But they could spend NRD without special authorization or appropriation from Congress.

That's my at least initial take on it.

MR. TRIPP: The Corps, by the way, chairs the Breaux Act task force. The Corps is a member of that task force.

CO-CHAIRMAN GRAHAM: Thank you.

CO-CHAIRMAN REILLY: Let me ask you a couple of questions that your testimony prompts.

One is, we now have satellite data that indicates that about 40 percent of the nutrients reaching the Gulf of Mexico come from 16 counties located in the Midwest mostly.

Can we reasonably say that significant SEP money -- which some of us used to hope would come from the Farm Bill -- might be diverted, might be deployed to address setbacks, plantings, various kinds of earth

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works and things to prevent the intrusion of nutrients from that far away?

MR. TRIPP: Well, there are programs in the farm belt, and I am not really an expert in all these programs.

CO-CHAIRMAN REILLY: Well, I'm talking about these monies that would come from the Gulf, from this spill.

MR. TRIPP: Oh, these monies? Personally, I would not use these monies, you know, for that purpose. It's important.

But, gee whiz, we have farm programs. And there are all kinds of reasons, you know, to have -- do more buffering, rebuild some of the wetlands that have been converted to cropland back to wetlands.

But, boy, we're going to need every dollar we can get to do, you know, the reengineering of the Mississippi, you know, River and the recontour of the landscape.

CO-CHAIRMAN REILLY: And re-engineering of the river, you see no issue there? That's a candidate for SEP?

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MR. TRIPP: Sure. I mean --

CO-CHAIRMAN REILLY: Well, there is no causal nexus with the spill, I mean. But you see --

MR. TRIPP: Well, the causal nexus is -- and you've heard it, I mean, if you are -- you know, in my view -- I'm a lawyer, not a scientist, but I just have a hard time thinking about how are we going to directly undo the damage done by this oil to Gulf biological resources. And I think in terms of very low concentrations all over the place or a lot of oil.

CO-CHAIRMAN REILLY: Okay.

MR. TRIPP: Okay. But I could think of, for example, doing something about the dead zone might be a way of compensating for or offsetting some of the damage of --

CO-CHAIRMAN REILLY: Well, that's --

MR. TRIPP: -- and enhancing, you know -- why is the Gulf productive? One of the major reasons is because the wetland estuaries of the Gulf produce food energy for the Gulf. And that is concentrated in the delta.

So if you want to maintain the biological

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health of the Gulf, we have to restore the delta.

CO-CHAIRMAN REILLY: Let me ask a question about the way in which the restoration of wetlands, which may happen to be privately owned, is envisaged with spill money.

How do you see that occurring? Will the private owners be compensated, encouraged to fill in canals and things of that sort, rebuild levies?

MR. TRIPP: Well, that's a complicated issue. And I talk about it very briefly in my, you know, written statement.

But the Supreme Court of the State of Louisiana has made it quite clear that the state has a right to reintroduce water and sediment into this wetland, coastal wetland system. It has a responsibility to do so, without having to compensate property owners in any way.

The major interests of the -- 90 percent of coastal Louisiana is privately owned, a lot of it by big oil and gas companies.

The major interest today, and probably for the foreseeable future, of the private land owners is

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oil and gas extraction. So one can envision conceptually severing surface rights from subsurface rights. And that's, in fact, what Louisiana state law calls for; setting up, in effect, a nonprofit land trust, with the thoughts that the large private landowners would donate for certain purposes their surface rights so that the restoration program won't be impeded by having to deal with a lot of different you know, coastal landowners.

CO-CHAIRMAN REILLY: Let me ask a final question of Professor Stewart. The issue of the $75 million cap and why it matters, we've heard criticism of it from -- the proposal to raise it from Senator Landrieu and others who are concerned that it will preclude relatively small lessees, of which there are something like 280, I think, our staff counted, in the Gulf.

And the cap doesn't apply, as I understand it, to the costs that are incurred by the states and the localities. It doesn't apply to the fines under the Clean Water Act, Migratory Bird Act, Endangered Species Act, and so forth. And of course the

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settlement would obviate any concern about it generally.

So my question is, why does it matter that much?

MR. STEWART: Well, it does apply to the NRD. And we might have a case where --

CO-CHAIRMAN REILLY: Where that's all you get?

MR. STEWART: Yeah. And so, you know, I think it could make an important difference.

And then if you're saying the overdeterrence of small folks. Maybe you could have some sort of reinsurance scheme. If a private market can't insure against that risk, the reinsurers, then maybe the government has to. I think that's a better solution than just saying, you know, we're going to limit NRD recoveries that are necessary to clean up the environment.

CO-CHAIRMAN REILLY: Do you have a sense of where you would put it?

MR. STEWART: Where I would put what?

CO-CHAIRMAN REILLY: Where you would raise

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it, how far you would raise it?

MR. STEWART: I don't have a number, no.

CO-CHAIRMAN REILLY: Do you give any --

MR. STEWART: Yes.

CO-CHAIRMAN REILLY: -- any credence to one argument we have heard that, given that the 12 or 13 largest energy companies in the world are not American, it would give them a differential advantage, a disproportionate advantage vis-à-vis U.S. companies?

MR. STEWART: Because?

CO-CHAIRMAN REILLY: Because they simply have deeper pockets and can undertake things with greater potential liabilities.

MR. STEWART: That's -- if they're better equipped to deal with the consequences of their actions --

CO-CHAIRMAN REILLY: Well, financially --

MR. STEWART: -- then we should discourage that. We ought to taken environmental risk into account in our overall view of competitiveness.

And if the American firms can't compete, then we ought to have the foreign firms. I hope the

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American firms could get up to compete.

CO-CHAIRMAN REILLY: Those are arguments that we have had made.

Okay. I quite like your term, was it yours, "resource services"?

MR. STEWART: Yes.

CO-CHAIRMAN REILLY: That's elegant, I think. A nice way of thinking about all this.

You have been imaginative and constructive and creative and very informative. We really appreciate your help here. Many thanks to all three of you.

MR. STEWART: Thank you.

CO-CHAIRMAN REILLY: We will now take a ten-minute break. So 3 o'clock it looks like.

(Short recess.)

PANEL VI

THE STATES & THE FEDERAL GOVERNMENT: DEFINING A SHARED PATH FOR GULF RESTORATION

CO-CHAIRMAN REILLY: I ask that -- Mr. Graves, Mr. Salt, Mr. Strickland, are there. All right. Welcome.

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This panel is titled States and the federal Government: Defining a Shared Path for Gulf Restoration. We will hear from Garret Graves, who is the Director of Louisiana Office of Coastal Activities; Terrence "Rock" Salt, Principal Deputy Assistant Secretary of the Army for Civil Works; and The Honorable Thomas Strickland, Assistant Secretary for Fish and Wildlife and Parks, of the Department of the Interior.

Begin with Mr. Graves. Welcome.

DIRECTOR GRAVES: Mr. Chairman, members of the Commission, thank you very much for the opportunity to testify today. I think I have a PowerPoint somewhere. There we go. Great.

I know that you have had a lot of witnesses on Louisiana today. And I just want to recap some of the issues that folks have gone over.

Coastal Louisiana is very unique, in that many folks call it a working coast. We don't have a lot of beaches and recreation like you have in many other areas.

We have five of the top 15 ports in the

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nation today. We provide maritime commerce for about 30 states, including about 19 percent of all water-borne commerce in the United States. And we have the largest port cargo complex between Baton Rouge and New Orleans, one of the largest ones in the world. And again, 30 states depend upon our port system for maritime commerce.

Going over to the seafood side. U.S. Fish and Wildlife Services indicated that coastal Louisiana is one of the most productive ecosystems in North America; not in Louisiana, not in the nation, but in North America. An incredibly productive, diverse ecosystem with many species.

And as a matter of fact, U.S. Fish indicated that about 98 percent of the commercial seafood harvested in the Gulf of Mexico is dependent upon the unique estuary that coastal Louisiana provides.

In addition, about 70 percent of the commercial seafood harvested in the Gulf of Mexico comes from coastal Louisiana.

In addition, on the energy side, I heard

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Senator Landrieu earlier today note that coastal Louisiana and the resources it has provided have provided a deposit of in excess of $160 billion for the federal treasury -- that represents one of the largest revenue streams for the United States Treasury after income taxes -- as a result of the oil and gas production offshore of our coast.

To give you an indication of the national implications of those three things, the maritime, the seafood, and the energy, just after Hurricane Katrina we saw the Mississippi River shut down. You had, again, 30 states who depend upon that river system for maritime commerce.

Imports and experts shut down. Over 75 percent of the grain from the Midwest didn't have access to market; and many, many other products experienced similar challenges.

On the seafood side, the commercial seafood industry was devastated, both the infrastructure and the fisheries. And as a result, you saw extraordinary spikes in imports of various types of species, including shrimp, coming in from other countries, and

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in many cases aquaculture species.

Lastly, on the energy side. Following Hurricanes Katrina and Rita, you saw gasoline price spikes about 75 cents a gallon, nationwide. Every consumer in the country paid that.

In addition, after Hurricanes Gustav and Ike in 2008, you saw gasoline prices spike approximately $1 a gallon. Again, every consumer in the nation paid that price spike. Extraordinary national implications as a result of coastal Louisiana.

Here is a picture of coastal Florida. And it indicates a smooth barrier island there, with sandy beaches. Coastal Alabama, you see a similar scenario with Mobile Bay.

And coastal Mississippi, you began to see the transition, particularly in the left or the western side, of the more recent influences of the Mississippi River; where you can just begin to see the changes in that deltate system.

Now, take a good look at this, and remember what those three states looked like. And look what

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happens in coastal Louisiana. Extraordinary difference. Extraordinary deltate changes have occurred in this area.

And if you look at this chart, this table real quick, it shows that coastal Louisiana, if you measure smoothly from Texas to Mississippi, you get just under 400 miles.

If you actually measured the tidal shoreline -- I'll go back and show you that again -- the tidal shoreline, going through that entire shoreline, and measuring every foot that's tidally influenced, you get in excess of 7,700 miles.

So we were trying to protect during the oil spill about 7,700 miles of our shoreline. Extraordinary challenges.

And you can see the fractional differences and fractional comparisons in the other states. Of course Florida has a unique situation because of their east and west coast, and a fraction of that distance was actually threatened from the spill.

You can see how water permeates this entire

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area of south Louisiana, where over 2 million people live today. This shows you some of the other changes.

Now, I remind you of the productivity, the ecosystem, the economic activity. And at the same time this map here shows about 1,900 square miles lost in that red area. 1,900 square miles of coastal wetlands lots.

I remind you we have a no net loss wetlands policy in the United States. I remind you, if you impact a tenth of an acre of wetlands, you have to apply for a 404 permit.

We have lost in total today -- again that map goes to about 2000 -- in total today, in excess of 2,300 square miles, and virtually no permits were issued.

The levies were installed on the Mississippi River beginning in the 1930s. That severed the relationship between the coastal wetlands and that important river that provided the fresh water and the nutrients that actually had our state accruing or growing in land annually.

We grew to the tune of almost 1 square mile

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per year prior to the installation of those levies, and it immediately flipped. Since the 1930s, we have lost on average 28 square miles of land per year. Again, we have a no net loss wetlands policy in the United States.

What this has done is this has caused the encroachment of the Gulf of Mexico upon our coastal communities. It has caused communities like New Orleans to be more vulnerable today than they were before.

Today -- and I heard Senator Landrieu and Governor Barbour talking about the investment of the billions of dollars in the repairs and revisions to the greater New Orleans hurricane protection system.

Today we are building to a 100-year storm level. Meaning that basically designed to flood once every hundred years, to be exceeded once every hundred years.

Before Hurricane Katrina, the system that we were building that was authorized in the 1960s and 1970s, was supposed to provide a 300-year level of storm protection.

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The difference is largely attributable to the encroachment of the Gulf, the Gulf of Mexico lapping up against your levies and your coastal communities.

This is continuing on a daily basis. And as a matter of fact, in the last five years we've lost on average somewhere between 80 -- excuse me, 70 and 80 square miles of coastal land in our state. Every single year in the last five years.

To zoom in on it and give you an intimate feeling of what this is like, this is lower Terrebonne Parish. These are towns, Cocodrie, Dulac, Chauvin, Point Aux Chene. Folks live here. Thousands of people live right here in this area.

And watch what happens. And I really want to emphasize, this is a 17-year period. Seventeen years it goes -- let me see if I can do that again. It goes from here to there in 17 years. And again, people live here; this isn't just some wetlands. People live here, thousands of people.

So I have two more slides. One of them is funding, and one of them is implementation. They are

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two critical components I think that we ask your consideration of as you move forward with your report and recommendations in January.

And a lot of these things have been talked about. And I hope that we're able to add a bit of nuances to some of these issues.

Number 1, the Clean Water Act funds. Obviously, the state fully supports the dedication of those dollars to coastal restoration and ecosystem sustainability efforts.

The State of Louisiana, I'm here to tell you that we will fully commit those dollars to ecosystem restoration and to fisheries restoration in the State of Louisiana, every penny of the dollars that would be provided under these programs.

As a matter of fact, our state Constitution requires that all monies coming in related to oil and gas be dedicated to coastal resiliency efforts in our state, ecosystem sustainability efforts in our state.

The one thing about the Clean Water Act fines that I think is notable in this case is that the -- I think it's very, very important that the EPA

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and the Department of Justice remain very vigilant in the collection of these fines.

Based upon some of the preliminary research we have done to date, you've heard estimates of anywhere from 5 billion to in excess of 20 billion dollars, if negligence is proven, could be associated with this Deepwater Horizon spill.

However, the success rate in terms of the percentage collected of those fines, using the strict barrel computation, apparently has been very, very low.

And so I think we need to be very clear that if we are going to dedicate these fines, that we're talking about the full fines. Whether it's 5 billion, 20 billion or in excess, that those full fines should be dedicated.

I understand we are going to have statutory changes for that. So I think perhaps, in the development of those laws, ensuring that the full fines are actually collected and dedicated may be something worth considering.

Secondly, under the Natural Resources

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Damage Assessment. I serve as the lead trustee for the State of Louisiana and have enjoyed the opportunity to dialogue with the other federal and state trustees.

However, I don't think that OPA contemplated a situation where you have five states all sitting at the table. Guess how you allocate that money when you operate on a consensus basis? Equally. That's the only way to do it, when you have consensus.

Which totally ignores any type of criteria or any type of allocation based upon needs. And that's very, very concerning. And we do have some thoughts on that. And I went into a little bit more detail in my testimony, written testimony, on that. And I would be happy to discuss that further.

Gulf of Mexico Energy Security Act funding, which is the offshore energy revenue sharing that Senator Landrieu spoke about today, I heard previous witness tables discuss it as well.

I think it is very, very important that those funds be expedited. We need the funds prior to 2017. As you know, for onshore production, 50 percent

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of those monies go -- for energy production on federal lands, 50 percent of those monies go directly to the states. An additional 40 percent goes into the Reclamation Fund for water-related projects in those same states. In effect, 90 percent of the money goes to the states.

In the case of offshore production, we're getting nothing, and that's simply not fair. The policy disparity is inappropriate.

I'm going to skip Number 4. I go over it in the testimony. I'm going to skip Number 5 because I'm getting the Stop sign.

Implementation. I just want to note, Mr. Chairman and members of the commission, the State of Louisiana has a master plan for our coast. After Katrina, one of the painful lessons learned is that we needed a comprehensive approach to sustainability in our state. Protection, restoration of the ecosystem, flood control, everything integrated. Economic, cultural sustainability, all those factors integrated.

I can tell you it was unanimously approved by our state legislature, it is recognized in federal

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law, and it is supported by all involved. Much public participation. And we're even updating it now, following the same regime right now.

The implementation of that plan, using some of the oil spill dollars indicated in the previous slide, should include a joint state/federal decision-making process.

I don't think it would make sense for us to ignore the CWPPRA, or Breaux Act, process, where five federal agencies are at the table and the state participates as well. We think that you should have rotating chairs from the federal agencies and a state co-chair. I think it's important to look at alternative NEPA arrangements to ensure these remediation or recovery efforts can be expedited.

And lastly, programmatic authority for all of these sustainability and resiliency efforts, which I note in the previous panel there was discussion that perhaps OPA provides that. To where this can be managed as a program, rather than dozens of individual projects.

Thank you very much for the opportunity to

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testify.

CO-CHAIRMAN REILLY: Thank you, Mr. Graves. Mr. Salt.

MR. SALT: Mr. Chairman, Mr. Chairman, and members of the panel, thank you. I am afraid I don't have a prepared statement. We misunderstood your desire for our participation, and so it was only very recently that I was picked.

I was asked to come and talk about the Corps' role in the post-spill recovery. And I would simply say -- we can perhaps talk about this more in the questions -- that the Corps is the engineer. We have certain river and coastal expertise and experience.

And we turn to my colleagues on the panel, Garret, Tom, and Brian, to sort of lay out the priorities. And then we put forward our ideas on how to move forward.

I was also asked to talk about sort of relevant experience from the Everglades restoration. I would be happy to do that as well, during the questions, if the panel would like to pursue that.

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But because I wasn't able to get a testimony cleared in a timely fashion, I will await your questions for that.

CO-CHAIRMAN REILLY: Some people would have seen that as an opportunity.

Mr. Strickland.

THE HONORABLE THOMAS STRICKLAND: Thank you, Chairman Reilly, Chairman Graham. We all know, those of us that know Rock -- and a lot of us do know -- how wily he is, so there is more to come, I'm sure.

Good afternoon. And let me start off by thanking you for your service to the country on this commission. It is a great privilege to appear before you, and the experience represented on this panel is extraordinary. So thank you for your public service.

I am the Assistant Secretary of the Interior for Fish, Wildlife and Parks. Which mean I oversee the Fish and Wildlife Service and the National Park Service.

Following Secretary Salazar and other Department of Interior witnesses before you in the

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last couple of days, I am very pleased to be here today to convey the Department of Interior's views on the importance of a restored Gulf Coast ecosystem to the entire country. You've heard that from other testimony as well.

We are at a historic moment of opportunity to not only repair the damage inflicted on this ecosystem from the BP oil spill, but also to work towards long-term restoration.

This is going to require an unprecedented coordinated effort involving numerous federal agencies, state and local governments, tribes, parishes, and other diverse stakeholders.

But the good news is, by and large we have quite a roadmap already prepared and developed. And that's been a work in progress for many years. So in large part we know what we need to do; we just have to have the funding and the organizational discipline to implement what's there.

I grew up in the Gulf Coast of Texas. I attended college in Louisiana. I worked on an oil rig; in fact, off the coast of Louisiana, Dulac, one

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of the little towns that Garret showed a moment ago on his slide.

I have a deep appreciation for the Gulf Coast and its people and culture. I understand as well the significant contributions to the nation's commerce, seafood supply, and energy security that comes out of the Gulf Coast.

Since the April 20 blowout, I have made numerous trips down to the Gulf on behalf of Secretary Salazar, leading the Department of Interior's onshore response to the spill. We have over 2,000 employees from the Department of Interior over those -- the last four-and-a-half months, deployed in spill response along the coast.

From the air, from boats, and on foot I saw firsthand the ecological devastation and disruption in livelihood caused by the spill. I also saw and met with literally hundreds of dedicated federal, state and local officials, volunteers, and community leaders.

As a result of this unprecedented response effort, we were able to mitigate some of the oil that

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appeared on the shore along much of the coast. Nonetheless, oil appeared on approximately 1,000 miles of coastline. Of about that, about 275 miles were Department of Interior lands.

With the successful initial kill of the well on July 15, new oil stopped flowing into the Gulf, but the millions of gallons that were already spilled continued to impact the ecosystem. And at this point the appearance of oil on the coastline has diminished considerably, but there remains much uncertainty about the longer-term impacts.

We are now shifting, appropriately, our attention from oil spill response to recovery and restoration, which requires a significant partnership between the federal government and the Gulf Coast states.

Along with the Department of Commerce, and the states of Alabama, Florida, Louisiana, Mississippi, and Texas, we at DOI will shortly be formally initiating full damage assessment and long-term restoration planning under the Oil Pollution Act's NRDA process, which you've heard a lot about

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from your earlier speakers today.

This is the second phase in the NRDA process. The initial preassessment phase is well underway. The Department of Defense, by the way, will be soon joining this effort formally.

Together the federal agencies and the states involved in this effort comprise the Trustee Council, which will address recovery and restoration actions under OPA in response to the spill. The U.S. Fish and Wildlife Service, on behalf of the Department of Interior, serves as the federal lead administrative trustee for this effort.

The Trustee Council is working to identify injuries to natural resources resulting from the spill, provide for restoration of the injured resources to prespill baseline conditions, and obtain compensation from responsible parties for losses that continue until baseline conditions are restored.

The Council has commissioned 13 separate technical working groups to develop studies to evaluate the effects of this spill on important resources, such as birds, fish, marshlands, and marine

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life. But also to evaluate the impacts from the spill on the overall Gulf ecosystem and on human use of those resources, such as hiking, fishing, birding, and camping.

Even before this formal assessment began, the state and federal trustees were working literally from Day 1 with overflights, baseline measurements, learning from the experience in Alaska where we know about the Exxon Valdez.

I know there is significant experience on this panel regarding the lack of baseline information, and how that became a point of contention when we were trying to recover from the responsible there. I think we have much better information as a result of kicking into gear right out of the box.

Because the spill took place 50 miles offshore, we had a couple of weeks of lead time before any oil hit the shore, and we made good use of that.

The natural resource assessment efforts are intended to quantify the injuries to natural resources caused by the spill. The cost of those injuries is then sought from responsible parties under OPA. All

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money obtained from responsible parties as natural resource damages must be used for purposes of assessment and ecosystem restoration.

The trustees intend to be strategic about these restoration efforts so as to ensure that they are coordinated with local and regional planning efforts that are already underway. And public input is going to be a critical element of this.

The trustees are going to draw on the expertise of NGOs. You've heard some of that in your testimony over the last couple of days. We will hear some more from the Nature Conservancy here in a few moments.

As you've heard, even before the devastating effects of the BP oil spill, the Gulf Coast has been and continues to be degraded by a combination of human activities.

Jim Tripp talked about the management of the river, coupled with the extensive development of energy resources crisscrossing the Gulf Coast in ways that exacerbated the deterioration of the wetlands and allowed for saltwater intrusion. All of these

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developments made that ecosystem that much more vulnerable to the oil that has come onshore.

In the process of repairing and restoring these lands from the damage caused by the spill, we have both an opportunity, a challenge, and a responsibility to do so in a way which is consistent with long-term restoration that's really at the heart of this.

And that's really, I guess, the central message. I know you all are focused on it. I think it is a theme that's emerged from virtually every speaker. Which is, we had an ecosystem really in collapse before the spill. We had one of the most dramatic environmental events in the history of this country layered on top of that.

We are going to have a lot of resources, appropriately through the trustee process, come into this ecosystem. If we can be strategic enough, prudent enough, efficient enough to direct those resources in a way that's consistent with long-term restoration, but yet qualify under the law for the NRDA compensation process, then I think we can really

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take a very significant leap forward.

Because what's been lacking to date, even before the spill, has been the organizational structure and the dollars to implement the plans that were on the books. That's really been what has thwarted us from moving forward.

Rock and I are veterans -- he much longer than I -- of the Everglades restoration. I think there are some lessons we can learn. I would be happy to speak about that in the question-and-answer period.

But I think we like to look at this as a tragedy of untold proportions, but it is a tremendous opportunity to pivot off this tragedy. And especially which with the Mabus report coming out today.

And I know you all have been briefed on it. I've got a copy of it that was just released online. I've been perusing it as fast as I could before my testimony. I think I am conversant with the main thrust of it.

But I think what Secretary Mabus proposes in terms of both a governance structure, with immediate action by the President to create a task

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force, plus calling on Congress to divert additional dollars into this process from the Clean Water Act penalties, and then to create a congressionally set governing structure, those would really put us in a position to make the kind of dramatic progress that we need to make.

So with that, I will defer on the rest of my statement. And I will be happy to respond to questions. Thank you.

CO-CHAIRMAN REILLY: Thank you.

Brian McPeek is the North American Regional Director of the Nature Conservancy. I neglected to mention you when I announced the list of the people here. I apologize here. I look forward to your presentation.

MR. McPEEK: Thank you.

Senator Graham, Administrator Reilly, and distinguished members of the commission, thanks for your service, and thanks for inviting the Nature Conservancy to share our views on environmental restoration across the Gulf of Mexico.

As you may know, the Nature Conservancy is

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an international, not-for-profit organization working around the world to protect ecologically important lands and waters for nature and for people.

We have been part of the Gulf Coast community for over 35 years, and we have field offices, people, and projects in all the states along the Gulf of Mexico and in the Caribbean islands that are dependent upon the Gulf.

Working with our partners, the Conservancy has protected more than 3 million acres along the Gulf during that time. In the Texas coastal counties alone, we have protected and restored over 200,000 acres of critical habitat along the coast.

If you visited Grand Isle, Louisiana, Topsail Hill in Florida, the Florida panhandle, you've seen the results of our work. And at the time of spill, we had billions of dollars of oyster reefs and sea grass restoration projects in process, funded by the Stimulus Act, that we had to hold restoration on. But we are pleased to report that the work has recently resumed, and we are getting on with restoring the coast.

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The Deepwater Horizon Spill, the largest oil spill in U.S. history, has refocused the nation's attention on one of the most important and productive ecosystems on earth.

As others have said, coming on top of decades of degradation, really cleaning up the effects of spill will not be enough to restore all the benefits the Gulf should be providing for the people of the region and our country.

We need a bold vision and a comprehensive plan for reversing a long trend of decline and restoring the Gulf to good health.

Long seen as a major producer of seafood, trade, and energy, the Gulf is also home to globally important biodiversity. Warmed by subtropical waters and harboring a complex suite of habitats that include barrier islands, hypersaline bays, coastal marshes, estuaries, mangrove forests, shell fish reefs, sea grass beds, coral reefs, deepwater open ocean, and the delta of the largest river on the North American continent, the Gulf of Mexico is one of the most productive places on the planet.

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The lives and livelihood of 24 million Americans living along the coast are linked to the health, resilience, and sustainability of the plants, animals, and natural communities that share the coast.

The economy of the United States as a whole is tightly linked to the energy, shipping, and other industries that operate in the Gulf region.

In a new, soon-to-be-released poll conducted by a coalition of Gulf-wide environmental business and social justice groups over the last couple of weeks, it is clear the restoration of the Gulf's natural places is a high priority of the region.

This poll, which is coming out tomorrow, shows that more than three-quarters of voters believe it is important for the federal government to take significant steps to restore the health of the Gulf.

So the public will is there. It is a matter of turning that into the mechanisms and the funding to make restoration a reality.

The full impact of the spill, as others have described, will not be known for some time.

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Scientists tell us that a spill of this magnitude would have profound effects on the healthiest of natural communities. But the risk to the Gulf habitats are greatly magnified by the decades of degradation that preceded it.

A host of disturbances affecting the Gulf include the alteration of critical freshwater and sediment inflows, as Peter described well; the construction of levies and canals in coastal wetlands; conversion and development of coastal forests and prairies; dredging and unsustainable harvest of shell fish beds; and damaging use of coral reefs and sea grass beds.

As a result, millions of acres of marshland and other habitat have been lost, fisheries and shellfish stocks have declined, and dozens of species have become threatened or endangered.

The resilience of these systems, in the face of future disasters man-made or otherwise, has been compromised.

BP must be held accountable for the full costs for the damages associated with this spill. But

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given what's at stake, the nation's response must go well beyond cleaning up merely this spill.

Our vision must be to reverse the long decline of the Gulf, to use this opportunity to rebuild healthy, natural productive places that continue to provide their benefits to future generations.

We need a robust, long-term effort to protect and restore these ecosystems across all five states in the Gulf. And we hope that's what will happen in the wake of the spill.

The value of the Gulf of Mexico begins in its bays and estuaries. These are the natural foundations contained in the marshes, sea grasses, fish, mangroves, coral reefs, and other plants and animals that make the Gulf so unique and important.

The causes of degradation in the Mississippi River delta are now well chronicled and understood by the members of this commission. But similar impacts exist at a smaller scale and can be seen in rivers and estuaries all across the Gulf.

The comprehensive restoration strategy

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should include protection and restoration of the fresh water inflows to estuaries that provide the fresh water and sediments to rebuild mashes and wetlands in Louisiana, but in other important estuaries across the Gulf as well.

Protection and restoration of estuaries and coastal habitats, such as oyster reefs, coral reefs, sea grass beds, tidal marshes, tidal flats, and other wetlands and barrier beaches and islands that provide habitats for migratory birds, nurseries for fisheries, and protection from coastal hazards like storm surge.

It should also include the protection and restoration of coastal marine biodiversity, including the populations of fish, shellfish, mammals, reptiles and birds, and the protection of water quality and the salinity regimes in the estuaries and coastal areas to help maintain a healthier and productive commercial and recreational fisheries.

Science shows us that there are places where we can begin now. Much planning has been done, and more planning is needed to get a start. Experts can point to key bays, estuaries, and rivers where

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investments can contribute to immediate recovery and demonstrate strategies for large-scale restoration.

A number of organizations from the nonprofit, public, and private sectors have been working across the Gulf for many years; but these individual efforts could also benefit from much greater region-wide support, coordination, and funding.

The comprehensive restoration strategy must also include a long-term environmental monitoring and research program to ensure that all of the restoration planned and completed adds up to meaningful improvement to the ecological functioning at a Gulf-wide scale.

Long-term monitoring is essential through an adaptive management process, and should be conducted to improve understanding of the overall physical, chemical, and biological conditions of the Gulf.

Without the commitment and corresponding investment in long-term environmental monitoring, decision-makers run the risk of investing in

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restoration projects that don't in the end provide the ecological benefits envisioned.

No single entity or agency at any level of government can successfully resolve the complex problems of the Gulf. A collaborative partnership is required that incorporates existing organizations and clear high-level accountability. The Mabus report speaks to a body like that. We are very supportive of that approach.

The Conservancy has recommended that a Gulf of Mexico restoration task force be established by Congress. The primary roles of the task force would be to create the agenda and coordinate the implementation of the many environmental restoration and protection programs carried out by federal agencies, state and local governments, and organizations in the private sector.

The restoration task force should also have a long-term role as the regional planning body under President Obama's recent executive order on ocean policy, to coordinate those efforts.

Compared to programs for the Chesapeake

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Bay, the Everglades, the Great Likes, the Gulf of Mexico has received very little direct funding. The Conservancy recommends appropriated funding consistent with the multi-agency budget prepared by the task force. And in addition, potential opportunities for restoration funding have emerged as a result of the Deepwater Horizon spill, but we need to act soon to take advantage of those.

Funding for penalties to be paid by the responsible parties for this spill could jump-start restoration projects across the Gulf. We have recommended that 80 percent of the Clean Water Act penalties for the Deepwater Horizon spill be dedicated to Gulf Coast recovery. I have heard that from other panelists as well.

Even though spill-related funding may be significant, it won't be sufficient to meet the comprehensive program and restoration that is needed. Therefore, we advocate that a share of the increase in per-barrel oil taxes currently being considered by Congress also be dedicated to long-term Gulf-wide restoration.

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A rough estimate for large-scale restoration of the Gulf is as much as $600 million a year, for 30-plus years, which could be provided by a tax on oil of less than one-quarter percent per gallon.

This dedicated funding would help conserve a resource that provides the nation with approximately 50 percent of our domestic oil and gas supply, along with a bounty of natural and cultural resources that have been brought to the nation's attention as a result of this spill.

The task force and the program we are recommending is a Gulf-wide application, similar to the concept that was intended under the Coastal Wetlands Planning Protection and Research Act since 1990.

We would expect a large majority of the funds recommended and invested by this new Gulf-wide program be devoted to the restoration activity described, in the Mississippi River delta around Louisiana. But all decisions of the task force should be framed by sound science and in the service of a

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comprehensive plan for restoration across the Gulf.

The Conservancy recommended the remaining 20 percent of the Clean Water Act penalties be used to create an endowment for the Gulf of Mexico, to be administered by an agency designated by the President, consistent with the plans and activities of the restoration task force.

The endowment would maintain this portion of the penalty fund in an account in perpetuity that would distribute annual income to state agencies, local governments, nonprofit organizations, and universities on a competitive basis.

As a sustained source of funding, the initiative would ensure that the people of the Gulf can benefit from the restoration projects across the Gulf, and it could help build support for long-term Gulf restoration that's needed to come from the Gulf and of the Gulf to build support.

Legislation pending in Congress to create an ocean trust fund from OCS revenues would also make resources available over the long run to carry out the planning and protection activities that are

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contemplated by the President's ocean policy executive order.

We hope that the Gulf Coast will be the first region in the nation to implement these new approaches, supported by resources from an ocean trust fund.

Mr. Chairman and members of the commission, on behalf of the more than 1 million members of the Nature Conservancy, I want to thank you for your service to our country that you are performing on your work to this commission. We know that your paramount responsibility is to recommend steps to improve the safety of offshore oil and gas protection, but we hope you will go one step further and make significant steps to the ecological restoration of the Gulf, as well. Thank you.

CO-CHAIRMAN REILLY: We will.

Let me turn to our lead questioner, Commissioner Beinecke.

QUESTIONS FROM THE COMMISSIONERS

COMMISSIONER BEINECKE: Thank you, Chairman Reilly.

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Mr. Salt, I would like to start with you. Particularly, you have had a lot of experience in the Everglades. And I think there was, you know, enormous hope when the Everglades plan was developed. And I think the implementation has been a lot slower than we originally expected.

So, you know, I'm just interested in what you have to offer from that experience, to offer us in designing a restoration program here. What were the things that worked, what were the things that we should be mindful of as we go forward.

And Secretary Strickland, if you would comment on that, too. Because I think, you know, let's look at some of the examples that are out there and figure out how to proceed.

MR. SALT: Thank you.

I think the things that worked -- and it was a bottoms-up process. The planning and the solutions were developed with our regional folks in the Corps, along with our state partners.

And I think that's really the only way that you can get effective solutions, is if you are working

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in -- get the good policy from above, but let the folks in the field develop the particular solutions.

It was science based. I think Senator Graham told us of the story on the Social Security commission, where you have to first settle on the facts. If you're arguing about the facts and the policies, you really have a hard time.

So it's really important to have a process to settle on the science, get as much consensus on science as you can; then you can work forward to develop the plans based on that. So having a solid science was incredibly important to what we were doing in the Everglades.

We were system focused. In the Everglades it was more of a watershed. I think in the Gulf Coast we're talking more of a coastal system. But certainly you have the Mississippi and the delta, so there is a watershed, huge watershed piece of this even in this coastal context.

When you think system focused in the Everglades, we also -- and it was the system of how do we integrate all of the agencies, with their programs

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and projects and portfolios, into some integrated, coherent way.

As messy as that was, I'm convinced that was the key to the progress we're having in the Everglades, in that there is an accountability. That every agency remains accountable for the parts that they have been asked to contribute to. And you can put your finger on that, and you can hold people accountable.

And on the funding you can see where the -- what the appropriations committees have done both on the state and the federal side. And you can work that.

We have called stakeholders broadly to develop a -- sort of the political consensus, literally political consensus, over what the answer was.

We could not have done it without having all the interests represented. But we kept a bright line between the process by which the interests provided their advice and wisdom to the process, and the accountability and responsibility of the

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government agencies that I mentioned before.

And when I say that, I mean local governments, tribes, state agencies, and federal agencies.

There is a role for coordinating amongst the governmental entities, and to be effective to get all of these things together under the system focus I mentioned before. But you have to have this process to get the input and the ownership of what you're about from a broad consensus of the affected interests.

Final thing I will say is that the agency coordination model works. That while it's -- it is messy and it is complicated, that after seeing some of these other models for doing it, I certainly can say that in the Everglades the model works.

You're right in that it did go -- it has gone slower than we all expected. I think that's another -- perhaps another question that we can talk about, was the whole Corps planning process and the way the Corps develops its project recommendations. But I think aside from the Corps planning process and

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the -- sort of the national planning process that the Corps uses, funding is the other piece.

And I would say even though right now the federal government is the one sort of leading the way on the funding, five years ago it was the state that had the funding. And now we're in the model, this coordination model that we have in the Everglades, allows for those kinds of sort of adjustments between the partners as the appropriations and the interest and the various sides sort of go through their federal and state political processes.

So actually, although we're going -- this has proceeded slower than we had hoped back in 2000, I think in the last few years, certainly in the time we have been up here, I'm very proud of the progress we have made on the Everglades.

The projects were authorized in the award of 2007. All of them have construction funding. And so we are planning for the construction start of all the specifically authorized projects.

We're working with -- better with the state in developing our game plans for all the rest of it.

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We're making progress on the various litigation for the water quality issues to resolve some of those very longstanding, tough issues. And in spite of this complicated legal and political framework, I think after this period of time, I think the Everglades is proceeding quite well.

And I certainly defer to Tom, if he wanted to add anything.

THE HONORABLE THOMAS STRICKLAND: Well, Rock has many years of experience, obviously. Senator Graham, your leadership in the Congress was instrumental, in going back to your time as Governor.

It's been my privilege the last two years to Chair the Everglades Restoration Task Force. But that's not a group that has any statutory authority; it operates by consensus.

And so the history of the Everglades is both one of litigation and negotiation and compromise and legislative. There was a role for major federal legislation, there was a role for NGOs. There has been a role for tribes.

But more than anything, it is when

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consensus was formed around a shared vision for what needed to be done, a recognition that you're not going to return it back to its original condition. You know, there are 4 million people living around the edges of the Everglades; and a lot of what has been done, you know, can't be undone.

Same thing with the Mississippi. I mean, you've got certain factors in terms of the way that people have built, have moved in around the Mississippi. You are not going to let that river return to its normal pattern of the last, you know, however many hundreds of thousands of years of just relocating itself from time to time.

So you've got to work with some realities, some good science, a trust-building process. And I spent a lot of time down there, and I spent a lot of time on the phone with the different interests.

The federal government is not coming down there with all the answers. We have a major stake down there. We own about 2 million acres down there. And it was litigation initiated by the United States against the State of Florida that kind of got this

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going in some respects.

But leadership from the legislature, from the Water Management District, the tribal interest, it's really been -- there are a lot of points of sovereignty and power there. But it was establishing a shared vision, getting a road map, and then staying the course.

And I am proud to say that since January 20 of last year, this administration has invested $600 million down there. And we have done a ground-breaking on six major projects, including one on the Tamiami Trail. I'll be going down with Rock at the end of October to cut the ribbon on a seventh project. So it has been in fits and starts.

But I think we have a good plan. I think we have a real challenge with the financial situation that we're in. But I do think there are some parallels here. And I think a shared vision and a recognition that this is not just, you know, Washington-dictated outcome. But having good science, a shared vision, and then the funding, that's been the key.

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COMMISSIONER BEINECKE: So if I could follow up on that. We heard, from Governor Barbour this morning and Senator Landrieu, a clear voice for state input. And you have, Mr. Graves, commented on that, too. So how do you envision a design of a structure here that would allow sort of a fair and equitable role for the states? The states have very different experiences. Mr. Graves presented that with the slides.

And so what would be the structure that you would envision, taking that experience of consensus that you've worked with in the Everglades, that where you get the state input, the state has a very involved approach; but that, you know, the projects actually move forward?

And the Exxon Valdez, there was a unanimous agreement among the trustees. That seems like that would be difficult to achieve among five different states.

THE HONORABLE THOMAS STRICKLAND: Well, I think we are going to have at least two processes running a parallel track. One will be the NRDA

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process. And that's established under Oil Pollution Act and the Trustee Council.

And I think it's important -- it's our position, the Administration's position, that we honor that process, at which we have two seats at the table. There are five states that have a seat at the table. And that process I think will work by consensus.

And that's going to be driven by the evidence of damage to natural resources and a burden of proof responsibility that's established by law. And the allocation of those dollars out will follow the facts. And so those entities that can show damage to their resources and loss of those resources will have a claim against the responsible party. So I think that process is going to be moving forward.

Now, parallel to that, if Congress does pass legislation and if there are other sources of revenue, for example, Clean Water Act penalties as is recommended by Secretary Mabus today, and those dollars make it -- and that's another source of funding over and above what the responsible party is going to bring to the table, that is a process which

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will be shaped by Congress in creating that entity.

And that's a process where I think our view is, in this administration, that we should give great deference to the states in terms of what needs to be done in and around the areas that affect their state.

Each of the states -- actually, some are further along in this process than others. But each of the states have substantial effort that have been underway, efforts for years, and have plans. And those plans will help us inform the NRDA process. But also if there is this separate funding, I think we're actually ready to go.

Let me just say one quick word about early restoration. A typical NRDA process can drag on for decades. We think there is an opportunity here to, if we can get all the trustees on the same page, to go to the responsible party and seek early funding for early restoration projects so we can get things going in a matter of weeks and months, not years.

And we're very much involved in those discussions right now amongst ourselves.

COMMISSIONER BEINECKE: Thank you.

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Yes, sir.

MR. SALT: Just with respect to the involvement of the states. On the normal Corps process it requires a local sponsor, generally a state or a local government. So our process by definition requires us to be involved with the state and prioritize things in conjunction with our nonfederal partners. So our process, our regular process, lends itself to that.

These new processes that, Secretary Strickland were talking about will have a little different flavor to it and will solve the state issue by having them there they way he described.

COMMISSIONER BEINECKE: Thank you.

Mr. Graves, do you have any comment on how to integrate the state involvement? Obviously you have a great interest in Louisiana, but there are other states as well. So how do you see that integration?

DIRECTOR GRAVES: Sure. Thank you for the opportunity.

In the recommendations we made, we looked

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at a modified structure of the CWPPRA, Coastal Wetlands Planning, Protection and Restoration Act, whereby you would have a state and federal co-chair, and then representation by the five federal agencies that are currently members of the CWPPRA task force.

That task force would make -- collectively make project decisions, funding allocation decisions for projects.

Now, of course, that would be for the Louisiana allocation, I guess, under NRDA and under Clean Water Act. So you first would have to allocate the funds under Clean Water Act and NRDA under one entity, and then in a sense they would be in charge of implementation of the actual projects.

I do think we have experienced a very different experience than the Florida Everglades has. And historically Louisiana, and certainly Hurricane Katrina I think exacerbated that situation. But Louisiana and the Corps of Engineers, we're healing -- is that a good term, Rock -- the relationship a little bit.

MR. SALT: A little bit.

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DIRECTOR GRAVES: So there has been some frustration. And I don't think that the State of Louisiana right now has quite the role that the State of Florida may have in the Everglades project. And I think it is important that that level of participation be restored.

COMMISSIONER BEINECKE: Thank you.

CO-CHAIRMAN REILLY: Other questions? Commissioner Boesch.

COMMISSIONER BOESCH: Yes. Mr. Salt, Colonel Salt, you mentioned earlier the focus on the Everglades being watershed, and then the Gulf Coast being more coastal. But then I think you caught yourself and recognized that there are big rivers upriver, upstream from not only the Mississippi, but other rivers; the Apalachicola system, for example. And I'm wondering whether this is an opportunity, with this focus on coastal restoration, to also not necessarily use resources that are generated from this, but to more appropriately align governmental policies so that we're achieving the end result.

Thinking of the Mississippi, for example;

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in terms of how we're managing the flood control and the sediment flow, thinking about upbasin riparian systems that are going to be important to help us deal, for example, with the excessive nutrients coming down to the coast that make this water too hot to divert, if you will. Because if we divert it, then we are going to introduce nutrient-laden waters in other areas.

So is there an opportunity for us to think not only with the states, but the federal agencies, more systemically about what it takes to restore the system, in terms of what's required not only on the Gulf Coast, but in the inland areas which determine its condition to a large extent?

MR. SALT: The short answer is yes.

And I think in the policy development that we're involved with in the Administration over water resource development, we tend to think in terms of watersheds, and system perspective in terms of a watershed. By just thinking watersheds, you don't get sort of the integrating notion of a coast. So we also have, as a part of our focus, coastal processes and

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looking at coasts as an integrating.

And as you pointed out, and as I sort of mentioned, caught myself to mention, that at some level they connect to each other. Obviously at the end of the watershed you often have a coast, or the delta like we have here.

And as we try and reflect on the policy, the appropriate policy guidance for the Corps, and working with the other agencies, for other agencies as you develop water resource projects, to think of that system in both dimensions, the watershed and the coastal processes, as you try and develop not -- and another part of this I guess is to focus less on specific projects, like the Corps has done for decades, but rather to think of pieces of a system solution. Which is a whole different criteria for thinking of the value of a particular activity than what we do now.

COMMISSIONER BOESCH: Mr. Graves, do you have a perception of this?

DIRECTOR GRAVES: I think the slides that I showed earlier indicating the coastal loss in

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Louisiana was indicative of the need to look into fundamentally changing management of the upper basin systems, like the Mississippi River.

There is no question that the levies on the river were incredibly successful from a flood control perspective and from maintaining a deep dock navigation channel there in between the levies.

However, the devastation to the ecosystem is extraordinary. And the river continues -- and its resources, the fresh water and the sediment, continue to be managed, from my perspective, only for navigation and for flood control. That third leg of the stool, the restoration of the ecosystem, is a critical component. And I do think that looking at a broader management regime is -- it's fundamental to our success in Louisiana.

COMMISSIONER BOESCH: A very specific item that was brought to our attention this morning by John Barry, who both of you know, a long-term student of the Mississippi River. And this was the case he made about dredging in the lower river for navigation purposes, largely for the national good, because it is

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an entrance to the port that leads to the whole of the United States; and the requirements for cost sharing of that dredging falling on the state, and therefore, thereby, limiting the constructive use of that dredge material.

Perhaps you can both tell us what you're working on trying to do to use this material constructively, build landscape rather than throw it in deeper water.

MR. SALT: Everybody agrees that we ought to, you know, make the most beneficial use of our dredge material that we can. Anything that's suitable, we ought to find the best place for it.

There are huge cost differentials, as you think of cost of putting it in one place that's, say, far away, and you incur all of the transportation costs of moving that material, versus nearer places that perhaps aren't as beneficial, but everyone would prefer that we do that.

Our current policy is that, when we're doing navigation dredging, that we put the dredge material in the most economically -- we deal with it

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in the most economically effective way. That's long-standing federal policy. That's -- I think the principles and guidelines generally were from 1983, when the Reagan Administration had set them.

We are relooking at those policies to try and examine and quantify the benefits better of scoring the benefits for putting them in more beneficial places.

Our current policy is is that the delta, the difference between the most cost-effective way of doing it to other places would be cost shared. We are working on a study that would give -- allow us to do a lot more beneficial use in the Mississippi for that. But it does have this cost-share piece to it.

That's the policy we use when we put sand on beaches in Florida. That's, you know, anyplace where we do this, that's the national policy for that. I think you get into cost and cost share kinds of policy questions, and we will be getting into that as we look at our policy and look at how to best move forward on this.

DIRECTOR GRAVES: It is important to keep

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in mind that much of the Midwest and virtually all the Gulf Coast was actually built from the Mississippi River, that sediment that we're now channelizing and putting into the deep water.

So to reestablish some type of relationship, and whether it's taking the dredge material and placing it out there or diverting it, reestablishing that relationship is critical.

We have looked at how the federal guidelines have been applied in other Corps of Engineers districts and believe that there is disparity in how it's done in Louisiana; and that we are being penalized in an area that we believe probably has the greatest need to mimic that natural process as best we can and to get that sediment back out into the wetlands.

So it is something that we strongly support. The state in some cases has put up funding to pay the incremental cost of getting the sediment out to those other areas.

The other related issued that John brought up, John Barry brought up this morning in regard to

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this, is the issue of induced shoaling. And this is a phenomenon that we've recently experienced, I guess starting about three or four years ago. And that's the scenario whereby if you cut a diversion in the Mississippi River, you slow down the velocity of the river in that diversion area because the water diverts and you disrupt currents.

In slowing the velocity, you have sediment dropping out prematurely. And under Corps policy, the state is responsible for all of those induced shoaling, or increased dredging costs.

Obviously, we have major problems with that, in that we are trying to mitigate further levies, and we are being told we need to mitigate for the mitigation project.

And Congress authorized about seven restoration -- excuse me, diversion projects and awarded in 2007, totaling billions of dollars. And this is a fundamental policy issue that has stopped us or prevented our ability to move forward because of the costs associated with that induced shoaling issue. So it certainly needs to be addressed.

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COMMISSIONER BOESCH: Thank you.
Mr. Chairman?
CO-CHAIRMAN REILLY: Chairman Graham.
CO-COMMISSIONER GRAHAM: Colonel Salt was very typically self-effacing in his listing of the positive things that contributed to the Everglades. He failed to place his own name on that list.
We were very fortunate with Colonel Salt and, frankly, those who preceded and followed him as the Corps engineer at Jacksonville, that we had not only highly competent people, but people who were emotionally -- maybe that's the wrong word for an Army Colonel, but who were -- who as a matter of good public policy were invested in the Everglades.
And so one thing that I would suggest, that there be an early dialogue with the Corps relative to the kind of leadership that's going to be engaged in these projects.
Because getting a person of Colonel Salt's orientation and ability, as opposed to some others that might have come there, was a tremendous advantage for the Everglades program. That's just an editorial

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statement.
In terms of this issue of state share, is there a -- on things like Clean Water fines, is the assumption that those will be a hundred percent federal funded, or is there some practice in terms of what the state's share will be?
THE HONORABLE THOMAS STRICKLAND: Let me speak to that.
I believe Secretary Mabus in his recommendations today to the President does indicate, does suggest that a significant portion of the Clean Water Act fines be directed back to this region for restoration and another portion be directed to the states directly for their use.
There is nothing in what he proposed that would preclude either of those shares from being used, you know, for those purposes, for example. I think there's a great deal of flexibility with respect to how those penalties might be used.
CO-COMMISSIONER GRAHAM: Yeah, I was using the word "state share" in a somewhat different context. That is, in the typical Corps project, the

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state -- this percentage changes over time. But I think at 70/30 is -- what is the current?
MR. SALT: Generally it's 65/35.
CO-COMMISSIONER GRAHAM: 65/35. In the Everglades, the legislated agreement was 50/50.
I might say I, personally, think that it is desirable to have some degree of state skin in the game, if I can use that phrase, as a means of assuring their seriousness of commitment to the project.
That becomes more so if they are going to be responsible, as is typically true, for the maintenance of the project once it's finished.
And also, it allows you to spread -- you can multiply to some degree the reach of the money that you have if you have a second source supplementing the money that comes directly from the federal source, even if that source is itself derived from Clean Water Act fines.
Do you know what is the legal status of requiring a federal -- excuse me, requiring a state commitment in order to draw down the federal share?
DIRECTOR GRAVES: Specific to the Clean

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Water Act?
CO-COMMISSIONER GRAHAM: Yeah, specifically at this point.
DIRECTOR GRAVES: Senator, under current law they are allowed to do -- or under current practice they are allowed to negotiate as part of a settlement offer their Supplemental Environmental Programs, or SEPs, whereby basically you can mitigate your fine by agreeing to do certain types of environmental projects.
This is outlined not in statute or regulation, but in policy. There are policy memorandums that date back to 1998 that outline this.
The policy memorandums clearly state that the funds may not be used to supplant or supplement federal funds. They must be used for outright efforts that are designed to remediate or mitigate the actual spill in this case.
And so I think that it would be good to have some type of statutory guidance in terms of the dedication of the Clean Water Act and the use of those funds.

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I would like to make one point, though. In regard to your request or your suggestion that the state match be added to those Clean Water Act dollars, I think it is important to keep in mind that these fines and funds are designed to mitigate the spill in this case, in which the state government had no part and the federal government had no part.

So to require or ask either entity in this case to supplement or share in those funds, I do think that the funds are designed to do mitigation work for an action that we didn't take part in.

THE HONORABLE THOMAS STRICKLAND: Just if I could underscore one point I think that was made there.

Because diverting or redirecting these fines into this ecosystem restoration will require federal legislation, I think all these issues could be addressed as part of that, to the extent that otherwise we're not going to get at the root of the problem.

I think that the fact is that this difficulty and the fact that we manage this river for

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navigation and flood control solely, and not with an eye towards the ecosystem impacts, is at the center of -- centerpiece of what's gone wrong there. That, coupled with the fact that we allowed the oil and gas development without regard to conditions that might have protected the ecosystem as those channelizations were done and pipelines were laid, et cetera.

Going forward, we can't just do business as usual. So we are going to need to have conditions on those activities going forward that are different than the past, otherwise we'll continue to recreate the dilemma we're in now.

CO-COMMISSIONER GRAHAM: And since those conditions as it relates to oil and gas are also within the ambit of the Department of Interior, do you see some steps being taken, maybe through conditions on the initial lease or other steps in the legal relationship that exists between you as landlord and the oil companies as the tenant, to see that there is recognition of the impact on the environment of oil and gas activities?

THE HONORABLE THOMAS STRICKLAND: Well, I

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think certainly with respect to that part of the offshore that we control, which is beyond the state lines.

Frankly, much or most of the activity here was permitted by the states, at least by the states within their three mile state line, three miles off the coast.

So I think we need to do that for sure. And I think you've heard other testimony from Mike Bromwich and David Hayes and the Secretary, that we are in the process of strengthening our environmental review, our analysis of the environmental impacts of this development.

I think the state needs -- all the states that are involved in this need to do it as well. But since most of this activity is taking place in Louisiana, I think that's properly something for Garret to speak to.

CO-COMMISSIONER GRAHAM: Just as a matter of information, is the State of Louisiana still actively leasing for oil and gas purposes within the state waters?

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DIRECTOR GRAVES: Yes, Senator. And Senator Landrieu noted this morning that the state has certainly made mistakes in the past, and I fully admit to that.

However, we have fundamentally restructured our coastal zone management permitting process and require a hundred percent beneficial -- in fact, I believe it was 125 percent beneficial use of dredge material for any types of impacts on the coastal area, and a number of other changes that I would be happy to provide to the commission.

CO-COMMISSIONER GRAHAM: Thank you.

CO-CHAIRMAN REILLY: Colonel Salt, did you have something you were about to add?

MR. SALT: Well, I just -- a couple of times it has been mentioned about the Corps's historic role of navigation and flood protection and its nonparticipation in the restoration. I think generally that's true.

I think in the early part of this century, early part of this decade, the state came up with a pretty grand plan, that if the timing came up, the

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decision was made that they would proceed with the LCA project, 17 of the elements. They were authorized and awarded in 2007.

I think the Corps' focus on getting the hundred-year protection done and others, certainly when we came in, that was their total focus.

We have spent a fair amount of time with state officials, Garret and even the Governor, to try and refocus the Corps on to the restoration piece.

Now, the 17 LCA parts are -- I think as Garret alluded to, are just fairly small, although some of them expensive. But they are pieces, and incomplete pieces, of a larger need to deal with the large issues that Garret briefed.

The solution to that is the comprehensive plan that was authorized -- the comprehensive study that was authorized in 2007, which we had never -- we haven't funded yet. And certainly we have expressed our commitment to that process. And we will participate, as we're able to, with -- I guess I am getting ahead of myself here in terms of budgets and the like. But certainly it is a priority of us to go

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ahead and initiate the federal part of that comprehensive plan, marry up with the states, so that we can proceed with the more comprehensive effort that Garret alluded to.

CO-CHAIRMAN REILLY: Mr. Garcia.

COMMISSIONER GARCIA: Mr. Graves, good to see you again.

DIRECTOR GRAVES: Nice to see you.

COMMISSIONER GARCIA: Could you comment on the construction of sand berms. And just update us on the state's plans and what information you have to share on the impact? As you know, there was a fair amount of controversy about the construction of these berms.

DIRECTOR GRAVES: Sure. Sure. Thank you.

The sand berms initially were proposed in the State of Louisiana by Deltares, a Dutch research institute, together with one of the top treasury companies in the world as an oil protection measure.

They also were a preapproved oil protection measure. NOAA, Coast Guard, and other entities have preapproved those.

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We presented that concept to the National Incident Commander, the Corps of Engineers in early May. Admiral Allen, then the National Incident Commander, hosted a science panel whereby we presented the proposal, science panel -- academic and federal scientists commented on it.

Ultimately, the Corps of Engineers recommended that six of the 19 segments we proposed be permitted. And they determined that, quote, the environmental benefits outweigh the risk. And the National Incident Commander, after the science panel meeting, also approved BP paying for those measures.

So those berms are under construction. In addition, we built another berm segment on our own. We quickly diverted a restoration project that was underway during the spill.

Collectively these berms have trapped anywhere from hundreds to thousands of barrels of oil. And if you recall the slides that I showed earlier, the very fragmented coast of Louisiana. What the berms do, or the concept behind them, instead of us having to come in and try and protect a thousand miles

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within a basin by putting boom and other types of measures, you bring the battle with the oil much further out. And in some cases the berms are 20 miles out, and in other cases even farther.

So the berms continue to be constructed. We were able to work out an agreement -- very much thankful to the Corps of Engineers for releasing a number of the dredges -- where I think collectively between the state and the Corps of Engineers had every domestic dredge vessel under contract working. And we again are continuing to focus on the Chandeleur Islands and three segments of the Barataria Bay.

COMMISSIONER GARCIA: All right. Just sticking with the berm issue for a minute.

Are the ones that have been constructed and the planned berms, are these permanent, or are they meant to be temporary?

DIRECTOR GRAVES: They were authorized as an oil protection measure, which is a temporary structure.

They are designed at a fairly steep slope, anywhere from 18 to 1, to 25 to 1, six feet high.

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Which if you've been in south Louisiana, we don't have anything over six feet high. And so they are designed to be temporary.

Our coastal engineers have been looking at ways to try to pivot those once the threat of the oil is fully over, how to pivot those more consistent with our restoration plans in the state.

As you know, the berms do follow the alignment of historic barrier islands, where barrier islands used to be in coastal Louisiana but have since eroded.

COMMISSIONER GARCIA: And what sort of monitoring are you doing to assess the impacts?

DIRECTOR GRAVES: We have monitoring underway for sea turtles, for birds, different types of fish. We are doing monitoring of oil.

We have a whole monitoring plan that we had to develop as part of the emergency approval process. And I would be happy to share that with the commission as well, if that's helpful.

COMMISSIONER GARCIA: Yes, please.

And I know that you all probably haven't

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had a chance to fully review or maybe haven't even seen it yet, the Mabus report, except for Assistant Secretary Strickland, who managed to leaf through it before he appeared here. Do any of you, if you've seen it, had a chance to review it, do you have any comments that you'd like to share with us about the report? Mr. Graves, Mr. McPeek?

MR. McPEEK: Sure. I'd like -- as with Secretary Strickland, I did not have a chance to review it in as much detail. We had a briefing on it earlier today, sort of heard a little bit about it.

We think it is very much in the direction of what we talked about today in our testimony. We are very pleased to see a Gulf-wide focus, the governing structure in place to do that.

Very critically, they focused on the funding needed and the use of the Clean Water Act funds to put those to Gulf restoration, to dedicate those to Gulf restoration. So all of the major elements of a restoration plan are in place, and so we're pleased with the report. Now it just takes Congress to take the next steps in terms of providing

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the funding needed to make it all happen.

COMMISSIONER GARCIA: Anyone else?

DIRECTOR GRAVES: Two quick comments. Thank you for the question.

We did meet with Secretary Mabus last night and had very good discussions with him, and certainly appreciate the recommendations.

There are two key things, and one of them I heard discussed earlier. I talked earlier about the challenges at working with the NRDA Trustee Council, and so many other states and federal trustees. I heard someone talk about the concept of a super board. And we have discussed other types of options.

I do think that having an entity look holistically at the Clean Water Act fines, the NRDA, and looking holistically at the allocation of those funds would make a lot of sense. And perhaps some additional thought to how you set up a leadership structure in a council like that, to where you can move forward on things that are both fair and equitable, instead of just equitable.

And then the other thing is, I think that

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looking at the --

COMMISSIONER GARCIA: Do you want to expand on that?

DIRECTOR GRAVES: I noted earlier that I think operating under the Trustee Council, we have five states represented equally, you have the federal government. I think there are about 60 or 70 people in the Trustee Council meetings. So you can imagine trying to get consensus in a meeting like that.

The only solutions that come up is, well, you know, we split the baby five ways. Well, that's great for Texas maybe, who hasn't had the impacts. But the states like Louisiana that have had disproportionate impacts, that are already in a coastal crisis, that's perhaps not the fairest way to allocate funds.

And so I think that establishing some type of criteria-based allocation, having a super board that is looking holistically again at the NRDA allocations and the Clean Water Act allocations, and ensuring that they are distributed or allocated under a fair allocation formula or scenario, would make a

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lot of sense.

And then the other thing is, if you look at the timelines associated with the NRDA process -- and Secretary Strickland noted it could go on for decades -- under the Clean Water Act, I believe that you have similar timelines in complex cases. And certainly this would be one.

We could use the money now. And I think anything in your recommendations that would help compel, at a minimum, a down payment under NRDA or under Clean Water Act would be very, very helpful in the case of Louisiana.

And certainly that's not something that all states would have to agree to. But should we choose to go that route, I think we certainly would be willing to offer some type of longer term credit for that. But it's critical that we move to the recovery and restoration as soon as possible.

COMMISSIONER GARCIA: Thank you.

Would anyone else care to comment on any of the points that Mr. Graves made?

THE HONORABLE THOMAS STRICKLAND: Perhaps I

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will just underscore a couple of points.

I mentioned, I think in my opening remarks, I think Secretary Mabus got at the two key issues; one is governance, and the other is funding. And I think he recognizes and recommends to the President and to Congress that the NRDA process won't be enough to get done what needs to get done, and the funds that will be forthcoming there aren't enough, and that because the penalties will be linked to the event itself, that there's a sense of fairness and equity that would suggest that a significant portion of those Clean Water Act penalties be redirected to that community that's had so much damage inflicted on it.

I think -- so those are key elements. I think asking Administrator Jackson to be the lead of an interim entity, the task force that he is going to create by executive order in the next couple of weeks, is a great move. The EPA has a major stake here, and certainly Administrator Jackson knows the community well, having grown up in New Orleans.

So I think it's a great step forward. I think the question of governance is one that the

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federal government cares about a lot.

As I mentioned, we are resource managers of perhaps as much as 25 percent of the land that was impacted. And so we have -- and we have numerous wildlife refuges, 36 wildlife refuges, I think eight national park units. So we are natural resource managers. We have a real interest in how that allocation goes as well. And so we share, you know, Garret's points about equity.

I think ultimately if this thing got litigated to its final conclusion, there would have to be a causal connection in the NRDA process between the money as it's allocated and the damage to natural resources. That's at the heart of the way that process works.

Most cases settle. They don't go all the way to trial. So in allocating that, I think those states -- and Louisiana certainly steps out. I mean, they have had a disproportionate part of the impact.

When you look at GOMESA and the funding allocations that are built into the statute -- and those don't have anything to do with this particular

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spill, but they do reflect the amount of oil and gas activity that take place offshore. And I think of the GOMESA funds in the Gulf, don't you all get north of 40 percent? 46, 48 percent?

DIRECTOR GRAVES: Under coastal impact assistance, it's 65 percent. Under GOMESA it's somewhere around 45 percent, depending on project areas.

THE HONORABLE THOMAS STRICKLAND: I think the ultimate allocation needs to reflect the impacts that were as a result of this event, and whatever governance structure is put into place needs to reflect that.

I guess one other point that's made by Secretary Mabus. This has got to be a state and local driven process, and not a top-down. And I just am here to underscore that.

COMMISSIONER GARCIA: Before they cut the mike off, I have no further questions.

CO-CHAIRMAN REILLY: Well, it strikes me apropos of that last point, in the whole likelihood that we will see a movement, momentum accelerate

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toward resolution of some of these questions, that the priority among the states must be to develop a single forum that can produce a unified position in which to relate to the federal agencies and to the question of funding.

Is that in prospect? Are those conversations underway? Are Texas, Florida engaged with Mississippi and Louisiana on this, Alabama?

DIRECTOR GRAVES: There are conversations that are underway. I don't think that they are progressing as quickly as we'd like, in the case of Louisiana. The federal government has been great. In fact, Secretary Strickland has been very, very helpful in trying to progress those discussions.

I -- ultimately it boils down to the causation issue that Secretary Strickland brought up. Our ability to fully tie back the impacts of the states to the oil spill is going to be a lengthy process.

And I think that what makes sense, you know, some of the ideas that we have discussed internally, is having some type of preliminary

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assessment process take place, where you have the National Academies or someone do a preliminary assessment and compel a preliminary allocation, a much smaller percentage of the ultimate NRDA or Clean Water Act liabilities. Just, we have some criteria-based decision, instead of states sitting in there, which becomes a relatively political discussion.

CO-CHAIRMAN REILLY: I think we got that point from your various comments.

Well, this has been a very productive and informative panel. We appreciate very much your contributions, all of you. It has been a great two days.

In fact, I was musing, listening this morning, I heard so many things that I didn't know before. But we heard John Barry say that the Gulf of Mexico actually extended as far as Cape Girardeau, Missouri. And I grew up in downstate Illinois. And I was imagining that if I had grown up a little earlier, I might have had an ocean view or even ocean sea-front property. That's a charming idea. I did not know that the Gulf had once been so far north.

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This is very much appreciated. The commission will engage the issues further that we have already developed here, with the substantial help that we have received and the advice. The comments that you've made, the written submissions, will be taken seriously. And we will continue to march.

We look forward to collaborating with you, perhaps asking you further questions that occur to us as we move forward, and hope that you will be responsive, if we do.

Thank you all very much. Thanks to those of you who are here still with us at the end of these two days.

And do I have a list? We're going to have a public comment period. I propose we not take a break, if that's agreeable to the commission.

PUBLIC COMMENT

MR. SMITH: I believe we have seven public commenters. Can I have all the public commenters come to the front of the room. And we'll have the first three commenters come to the table.

May we ask the commentators to come up and

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take positions at the table.

All right. I guess you're out of order, I am told, at least according to the list we have. So let me begin on the right here.

Please introduce yourself and begin.

MS. FISHER: Good afternoon. My name is Allison Fisher. I'm providing comments on behalf of Public Citizens, which is a national public interest organization representing over a hundred thousand members across the country.

First, thank you for the opportunity to address the commission. Due to the limited time, I'll summarize three main recommendations and then submit our extended comments and supporting documentation in writing.

Our first recommendation is to urge the commission to clarify the government's role and authority pursuant to the oil commission act. We feel that interpretation of the act should have prompted the government to federalize the collection of the oil and cleanup operations within the coastal areas impacted by the spill, doing so without federalizing

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the operational priority of stopping the flow of oil.

Instead, the responsible party, who approached the full scale operations with the question of legal risk and with an objective to limit financial impact, was allowed to call all the shots.

As a result, BP underestimated the size of the spill, they overestimated its ability to stop the gusher, and was allowed to override directives from the EPA regarding use and selection of chemical dispersants.

Related to this recommendation, we urge that the commission fully investigate -- call for an investigation of BP's assumed authority to control information around the spill and its clean-up operations. There is abundant information related to BP's efforts to thwart documentation of the disaster by keeping media and independent researchers away from the most visibly impacted areas and by intimidating clean-up workers from speaking about their experience.

To this end, the commission should review application of the safety zone regulation, other governance provisions that allowed BP, with full

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compliance by local, state, and federal agencies, to police public spaces, confiscate research samples in some cases, and effectively censor and control information related to the spill and the clean-up.

Lastly, we urge passage of the legislation. I know this is a little bit out of the scope of what you're entitled to do, but we'd like to see passage of legislation that specifically responds to the oil spill disaster. To date, only the House has passed this type of legislation. And as Governor Barbour pointed out earlier today in his critique of the federal response to Katrina, the farther that we get away from this crisis, the less likely that there is going to be a comprehensive federal response.

There's key provisions in both the House and Senate bill that would address the root causes of the Deepwater Horizon explosion, the botched response, and lack of industry accountability.

So we urge passage of the regulatory reforms of these bills, the strengthening of environmental standards, elimination of the liability cap for offshore oil spills, and, specific to this

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incident, the establishment of a regional citizens advisory council to ensure that public involvement is in the restoration process moving forward.

Thank you for your consideration and your service.

CO-CHAIRMAN REILLY: Thank you.

Madam?

MS. EDO: Hello. My name is Jasmine Edo, and I'm an oceans intern at Environment America. Thank you for allowing me to speak before you today. So today I'm just going to talk about the scale and scope of the biological impacts, and I will also be submitting a longer piece.

The scale of the BP Deepwater Horizon spill is like nothing we've seen before, as it is the largest on record. At its peak over 600 miles of the Gulf Coast were oiled by 4.1 million barrels of oil. Robert Barnum, Secretary of Louisiana's Department of Wildlife and Fisheries, reported that in Louisiana, 200 square miles of the coast has been oiled. At the peak there were 88,000 square miles of the Gulf closed to fishing, and this has since been dropped down to

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32,000 square miles. Accumatively, the oil spill covered over 40,000 squares miles of the Gulf.

The spill being located along 31 national wildlife refuges along the Gulf Coast is quite worrisome, because the refuges provide habitat for and protect juvenile species of fish, shark, and shrimp populations.

Currently the U.S. Fish and Wildlife Service reports that Breton, Bon Secour, Grand Bay, and Delta National Wildlife Refuges are currently most at risk from the spill. And additionally, there are two national marine sanctuaries, Flower Gardens and Florida Keys, in proximity to the source of the spill. In total there are 38 federally listed species in the Gulf that protected by the Endangered Species Act, and 29 of those species, including West Indian Manatees, Kemp's Ridley turtles, whooping cranes and bluefin tuna, are listed as endangered.

The immediate impacts of the crude oil spilling into this already fragile environment are hard to miss. We have all seen pictures of oil-soaked birds in marshes covered with oil, and the light crude

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oil released into the ocean from BP's broken well is moderately volatile and has a potential to cause long-term harm.

While it is hard to calculate the full effect of this spill because of the unknown long-term effects, we can make some assumptions based on other large oil spills. The BP Deepwater Horizon spill released almost 20 times more oil than the Exxon Valdez spill of 1989, and currently many species that were affected by the Exxon Valdez spill are not fully recovered. For example, orcas and herrings have yet to see a normal comeback.

From the volume of the BP Deepwater Horizon spill and the information we know from the Exxon Valdez, the biological consequences of this oil spill may be far graver. Additionally, the use of dispersants and sinking agents have caused further problems.

As I have previously stated, the full effects of the oil spill may not be known for years to come. For that reason alone, BP and its partners should be held liable for all of the damage incurred

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from this accident. Responsible parties should be liable for the funding, the monitoring of biological impacts to the Gulf over an extensive period of time.

BP and its partners should set up a fund similar to the one BP has promised to the National Institutes of Health for a study of the long-term health effects of the spill on workers exposed to oil and dispersants, but the magnitude of the study and funding should be much larger. Thank you.

CO-CHAIRMAN REILLY: Thank you.

MS. SARTHOU: My name is Cynthia Sarthou. I'm the executive director of the Gulf Restoration Network, the only environmental group focused exclusively on the health of the Gulf of Mexico.

I only have a few points to talk to you all today. I don't have formal testimony, but I continue to be concerned. I, like my brethren in Louisiana, are concerned about -- you know, I'm concerned about the coastal restoration of the wetlands. But my concern from Day 1 of the BP Horizon is that everybody seems to be focused on the coastal wetlands, and nobody seems to be really caring about the marine

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environment.

CO-CHAIRMAN REILLY: The what environment?

MS. SARTHOU: The marine environment.

Although you cannot see it, the biggest impact of this spill was on the marine environment. And in fact, because of the desire to protect coastal wetlands, millions of gallons of dispersant were dumped, in the largest science experiment in the world. And for me it is very difficult and concerning that we are having all these processes that focus on coastal restoration, but really failed to mention in any significant way marine restoration.

And so I believe, as does the Center, that a significant portion of any monies that go to any task force or otherwise related to this disaster, need to be separately allocated to the study and addressing marine impacts to the Gulf. That does not mean that I don't think money should go to coastal restoration. I think that's very important, but the marine impacts need to be studied. There are many species we knew too little about before the spill, including the whales, many of the marine mammals that may not have

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come to shore but have sunk and are dead, shark populations that were already harmed. So I have significant issues with that.

Second of all, I think governance of this process is extremely important. I was heartened by the Mabus plan. I think it goes a long way to going the right way. I was very concerned when I heard about discussions about GOMA. I do not feel the Gulf of Mexico Alliance is a good process for this. They are very good at science, they are very good at discussion, they are not very good at decision-making on difficult issues. And so I would hope that this commission would not recommend that.

Finally, I believe that we really are in need in our region for a regional citizens advisory council that represents all the citizens. Not to stop oil and gas development, which is what I keep hearing, but to actually ensure that the industry is vigilant, that as it moves forward it is conscious in its decisions, that the federal government continues vigorous oversight of that industry, and that the response or capability of response to an oil spill is

there; that there is actually equipment on the ground as the group does in Alaska, that there is equipment that can be deployed quickly, and that the industry is pushed to actually do development of technology to make response possible.

And so those are the points I would like to make. Thank you.

CO-CHAIRMAN REILLY: Thanks very much.

Next. Anyone else?

That's it. All right. With that, I will adjourn today's session. Thanks very much.

(The proceedings were adjourned at 4:37 p.m.)

CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

I, Debra Ann Whitehead, the officer before whom the foregoing proceedings were taken, do hereby certify that the foregoing transcript is a true and correct record of the proceedings; that said proceedings were taken by me stenographically and thereafter reduced to typewriting under my supervision; and that I am neither counsel for, related to, nor employed by any of the parties to this case and have no interest, financial or otherwise, in its outcome.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal this 5th day of October, 2010.

My commission expires September 14, 2013.

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NOTARY PUBLIC IN AND FOR
THE DISTRICT OF COLUMBIA

National Commission on the

BP DEEPWATER HORIZON OIL SPILL AND OFFSHORE DRILLING

Attachment 3

Opening Statements of Robert Graham

Commission Co-Chair

(taken from transcript)

The following statement of Senator Robert Graham was taken from the transcript of the Commission meeting on September 27, 2010 and is not a written statement from Senator Graham:

Thank you, Ms. Melchert. I appreciate your presence and the leadership which we have received from the Department of Energy throughout this commission's work. Winston Churchill described a signal event in World War II as being not the end, not the beginning of the end, but perhaps the end of the beginning.

Today I would describe the commission as ending the first phase of our work. We have been in an information-gathering mode, hearing from people of the Gulf, government officials, scholars, and experts from industry, nonprofit organizations, and academia. Next we will turn to presenting our findings and beginning our deliberations. In early November our chief counsel, Fred Bartlett, will give a detailed presentation about what happened on the Deepwater Horizon rig and provide us what we trust will be the most comprehensive, clear, and impartial accounting that the American people have received. But for today and tomorrow, the end of the beginning. We will be learning about very crucial issues that will inform future offshore drilling efforts, the response to spills, and the restoration of damaged ecosystems.

In the course of our investigation we have learned about the tremendous transformation in how we exploit our domestic energy resources. The growth of drilling in the deep water off our coast has been rapid and with profound implications for our energy supply and the integrity of the fragile environments in which that exploitation occurs. In our meetings last month it was clear that our regulatory approach did not adapt to the new reality. I remain concerned that science still does not have an appropriate place at the table. We live in a world of rapidly changing technology. Not just in terms of energy, but in many other areas; in finance, in cybersecurity, in food production, in weapons of mass destruction, and many others. If we are not vigilant, our laws and response capabilities will not keep pace with changes in technology. We ignore science and what it can tell us about how to manage risk and respond to it, at our peril.

Just five years ago, just five years after the Gulf suffered the devastation of Hurricane Katrina, many have the same question about whether the government moved quickly enough and was effective enough in its activities, its communication, and its partnership with state and local governments. We need to look at this response in the broader context of how our federal, state, and local government mobilize against disasters. Much was done well in responding to this spill. Other things, not so. I look forward to hearing from our panelists today, getting their thoughts on what they have learned and where we go from here, the end of the beginning to the end. Thank you.

The following statement of Senator Robert Graham was taken from the transcript of the Commission meeting on September 28, 2010 and is not a written statement from Senator Graham:

Thank you, Mr. Reilly. Theodore Roosevelt said that it was each generation of Americans' responsibility to transfer a better America to successor generations. During the 20th century this was largely done by adding to our marvelous treasure of national parks, wildlife refuges, wilderness areas, recreational areas, other lands that are preserved for public use and enjoyment. And as the country grew by two-and-a-half times during the 20th century, this legacy serves us well.

I suggest that in the 21 century, where again the estimate is that our population will grow by two-and-a-half times, that rather than the 20th century plan of meeting our legacy responsibilities by additions to our public inventory, that it will be significantly met by restoring lands that have been damaged by previous actions. The tragedy that occurred on April 21st has put the Gulf in a premiere position in terms of that potential of meeting our heritage obligation through restoration.

The people of the Gulf are foremost in our minds as we do our work today. Of course we are aware of the human tragedy at the center of this disaster, the livelihoods that have been imperiled and, most profoundly, the loss of 11 lives. The Gulf is one of the most treasured regions in our country. It is enormously productive; productive in terms of its natural wealth, productive in terms of the energy that we extract, productive in terms of the 40 percent of our seafood which is provided from the Gulf. Americans have enjoyed the benefits of these natural treasures, but in the course of that enjoyment have inflicted considerable pain and damage on the Gulf.

The question today is will we use this tragedy as an opportunity to begin a serious effort at restoration, and thus leave the Gulf a better place for future generations of Americans. There are some significant questions. Chairman Reilly has mentioned the threshold question, which is, what is restoration in the Gulf? Is it to restore to the condition that existed on the 19th of April, 2010; or is it an opportunity to restore to a condition that is more like what nature had intended and more like what will be a sustaining circumstance for the future. The second question is, is there a plan or how to craft a plan that will accomplish these objectives. Another is how much will it cost, and how will it be funded. Finally, how will the effort for restoration be organized, particularly given the fact that this area covers five of our states, and two of the three largest states and population in the country are among those five.

Recently, Commissioner Terry Garcia and I were in Louisiana. We met with the Governor and others. One message that we heard loud and clear was the importance of assuring the long-term viability of the seafood industry in the Gulf. It is an industry

which has now been damaged by a bad brand. Restoring confidence is absolutely essential not only for the region's recovery, but also so that Americans can continue to enjoy this special nutritional product. We will be addressing this specific issue as part of our consideration today.

We have the opportunity to begin healing the Gulf's economy and natural environment so that it will be stronger than before, but we also have a time to make America stronger than before. We were in a period in which many Americans are concerned about things like the gridlock of excessive partisanship and insularity. We believe that the Gulf may be a laboratory for national unity and a legacy that we will be proud to transfer to our children.

Our first panel today gives us an opportunity to see these issues in a broader context; the spill, the recovery and the legacy of Mississippi delta management. We are honored today to have two distinguished Americans and students of this region, Mr. Chris John, editor-in-chief of National Geographic -- and Mr. Johns, I was wanting to commend you for the current issue of National Geographic, it is a beautiful and moving statement to the Gulf, and I'm certain will play a significant role in public awareness of what we are about -- and Mr. John Barry who in his book Rising Tide, has given us the history of a critical period of this region, which history helps us better understand what is happening today. In addition to his scholarship, Mr. Barry is also a member of the Louisiana Coastal Protection and Restoration Authority. We look forward to your comments.

Our lead questioner, and I'm afraid that means a five-minute period, will be Mr. Don Boesch, who also is a Louisianan, and understands these from his own life. Mr. Johns.

National Commission on the

BP DEEPWATER HORIZON OIL SPILL AND OFFSHORE DRILLING

Attachment 4

Opening Statements of William Reilly

Commission Co-Chair

(taken from transcript)

The following statement of Mr. William Reilly was taken from the transcript of the Commission meeting on September 28, 2010 and is not a written statement from Mr. Reilly:

Thank you, Chris. Good morning. It appears that thanks to accommodation of good fortune and hard work, the most immediate and damaging gusher has been contained, and the catastrophic destruction that many had feared would result from the Deepwater Horizon spill has been tempered.

Questions remain about the extent of the harm that is not visible. The honest answer is there is still simply much that we do not know. It might have taken this spill to remind some of us of how much we value the natural heritage of the Gulf, a unique national treasure. While we're focused on this precious land and waterscape, it's worth noting that it remains in peril, both from the oil that spilled, and other forces.

Louisiana continues to face catastrophic wetland loss, threatening delta communities, navigation, oil and gas infrastructure, fishing, conservation, and many other economic, social, and environmental priorities. The land at the foot of the Mississippi River is different because, simply, it is not like its neighbors. It is physically different. A fact that is at the core of catastrophic wetland loss. And I am astonished, no matter how frequently I see the numbers of wetland losses, by their magnitude. The underlying rock in that physical environment is hundreds of feet below the surface, buried by centuries of Mississippi mud. River sediment creates the land, the sea takes it away. Over the years this natural process has been compromised by projects designed for flood control and improved navigation of the Mississippi River.

The oil and gas industry has had a role in this as well. Industry has dredged thousands of miles of canals through wetlands, leaving narrow, straight shoots, often at unnatural perpendiculars for navigation or for pipelines. Their artificial banks change water flow and prevent sediment from renourishing the land. Water pools up behind them, submerging the marsh. The channels also let saltwater flow into freshwater environments, further jeopardizing the ecosystem. The oil and gas industry has a part to play in the wetlands' revitalization, as revenues from offshore drilling are dedicated by law in Louisiana to restoration efforts.

Ironically, one consequence of the drilling moratorium is to reduce the flow of money for improving wetland health. As the commission considers the question of restoration, we must therefore ask, What should be the goal? Is it simply to return the ecosystem to where it was prior to April 20th? Speaking only for myself, I submit that it is not. Instead, I think we should focus on beginning down the path of creating a resilient and healthy Gulf. The Deepwater Horizon disaster unifies these three conversations about restoration into one. How to clean up the oil, how to make the wetlands and marshes

whole again, and how to keep the Gulf of Mexico healthy so that future generations can prosper by it.

I understand that later this morning Secretary Mabus will release his report on restoration of the Gulf, something to which we look forward with great excitement. Senator Graham and I have met with Secretary Mabus on several occasions and believe that the efforts that he is making and those that we will take into account should contribute toward a much energized sense of urgency and policy priority for restoration of this treasure which is the Gulf of Mexico and the Gulf region. We will begin our part with respect to restoration today. Thank you.

The following statement of Mr. William Reilly was taken from the transcript of the Commission meeting on September 27, 2010 and is not a written statement from Mr. Reilly:

Thank you, Bob. Good morning. Since our inception, this commission has been very intensely engaged in examining the causes, including the root cause, of the catastrophe of the Macondo well and blowout. We have interviewed experts, we have met with government officials at the highest levels, we have had extensive interviews and briefings from industry. We have completed one phase of information-gathering, though we will continue to gather information in the weeks ahead. We have, as many of you know, a very abbreviated schedule. It's probably the shortest of any commission that has had the mission of investigating a disaster. And in this case we suffered the peculiar consequence of investigating a disaster that was ongoing even as we researched it.

We spent a good deal of time at the last hearings examining the role of industry, and particularly reflecting on the way in which the experience and the research that we had developed suggested a profound need for reform of the culture of industry, and for better attention to process safety, particularly as industry explores in what is the most promising area for the future of offshore oil and gas development, the very deep water. That, of course, poses more risks, more challenges, than previous drilling in shallow water ever did. But we have considered industry culture and attention to process safety. And so today we turn to the government itself, to its priorities and processes, the quality of its primary regulatory entity for overseeing safety, enforcement of environmental laws in the offshore environment, which is the Department of the Interior.

The effectiveness of the response to the spill affects more than the interior department; that involves many agencies of the government, several of which will be represented in the presentations this morning, and many of whose officials we have talked to already. I have to say that as someone intimately familiar with the experience in Prince William Sound after Exxon Valdez, that I continue to be amazed and disappointed at the failure of the technology of response to evolve more than it has, particularly in view of the tremendous advances made in the technology of drilling itself. The skimmers we are informed by NOAA of --I saw a flotilla of them when I flew out to the rig -- succeeded in gathering up 3 percent of the total amount of the spill. Burning accounted for 5 percent more, and I think dispersants got that up to about 13. Given the enormous effort, it seems to me a very disappointing result, frankly. It's the consequence of a lot of things; one of which is the failure of technology, the skimmers, the booms, the dispersants themselves, I think, to evolve and to be developed. We will raise some of those questions today.

We will also consider the use of dispersants. And we will discuss how and why they were employed in the Gulf and in such quantities and at such depths, both of which represent novel uses of dispersants and suggest that there was enormous confidence placed in dispersants, more confidence than certainly I allowed in Prince William Sound when the dispersants arguably were more troublesome and possibly more toxic than they are today. We will learn more about that. I guess looking at the quality of specific decisions, while I think it is very important, misses what I think is a fundamental question: How did we get here? How did we get into a situation where the need to improvise was so great? In many cases the response demonstrated a tremendous dedication and ingenuity that is a credit to the many thousands, the tens of thousands of people who participated in this cleanup. But from where I sit, it's very, very difficult to make the case that we were well-prepared.

Oil exploration continues in frontier environments, and these areas offer enormous promise for returns, as well as the risk of catastrophe. How would we respond if a similar disaster occurred under the sea ice in the Arctic today or tomorrow? The Macondo blowout and its consequences created a situation where the party responsible for the spill had by necessity to play an important, even a central role, in responding to it. And we should be happy that they did and have and are. This uneasy partnership between the government and the responsible party raises important questions about decision-making power, about the flow of information, and about proper oversight. And in our political system there is also partnership, sometimes uneasy, between the federal government and the states and communities.

We are all aware of the issues that arose in the aftermath of the spill, concerns about the speed of the response and about some efforts that were not pursued. While overall looking back I think – I think we need to learn from this spill. And that's part of what this commission is about. We learned from the Exxon Valdez disaster, too. Tanker operations are much safer than they were 20 years ago. But the Oil Pollution Act of 1990 has been criticized for having us really respond to the last war. And it's my hope that the lessons we learn from the response this time did not just fix what went wrong in the past, but created culture that eliminates complacency in industry and also in government. Thank you.