

**NOMINATIONS TO THE
EXECUTIVE OFFICE OF THE PRESIDENT,
DEPARTMENT OF TRANSPORTATION,
DEPARTMENT OF COMMERCE, AND
THE MARINE MAMMAL COMMISSION**

HEARING

BEFORE THE

**COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE**

ONE HUNDRED TWELFTH CONGRESS

FIRST SESSION

MARCH 10, 2011

Printed for the use of the Committee on Commerce, Science, and Transportation



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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED TWELFTH CONGRESS

FIRST SESSION

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**NOMINATIONS TO THE
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THURSDAY, MARCH 10, 2011

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 10:07 a.m. in room SR-253, Russell Senate Office Building, Hon. John D. Rockefeller IV, Chairman of the Committee, presiding.

**OPENING STATEMENT OF HON. JOHN D. ROCKEFELLER IV,
U.S. SENATOR FROM WEST VIRGINIA**

The CHAIRMAN. This hearing is opened.

This is not the regular order, but Senator Klobuchar has to go to a hearing and wants to make a statement about something which could be a game-changer.

**STATEMENT OF HON. AMY KLOBUCHAR,
U.S. SENATOR FROM MINNESOTA**

Senator KLOBUCHAR. No, you can go first.

The CHAIRMAN. No.

Senator KLOBUCHAR. And I know you have a guest. Senator Portman's here. That's fine. I just need to leave in 10, 15 minutes.

The CHAIRMAN. I know, but you need to speak.

Senator KLOBUCHAR. Of course.

The CHAIRMAN. Senator Portman told me that you have to speak.

Senator KLOBUCHAR. Oh, OK. Well, very good.

Well, thank you very much, Mr. Chairman, for holding this hearing. And I join you in welcoming the four nominees to the Committee. We do consider numerous nominees, but it's not too often that we welcome one of our own before us. We did so when Debbie Hersman was nominated to the Chair of the NTSB and when David Strickland was nominated to be the NHTSA Administrator.

Now we have Ann Begeman, who is nominated to be a Member of the Surface Transportation Board.

As everyone knows well, she has been an important member of the Commerce Committee staff for over a decade, and we welcome her nomination. She helped craft the Surface Transportation Board Reauthorization Act, which would address long-time concerns by

shippers about predatory pricing and practices, increase competition, and establish a level playing field.

And the reason I wanted to speak, Mr. Chairman, was I wanted to emphasize, since I won't be here for her questioning—I'll be at the Judiciary Committee—how important that bill is and the work that must continue for our captive shippers. Whenever I say that word at home, my 15-year-old daughter asks me if I'm talking about pirates. But I want to make clear that we still have a number of businesses in my state and farmers who are very concerned about what's happening.

When I first came to the Senate, they would tell me that the STB would simply not listen to their concerns. Well, under new leadership, the STB is now listening to our shippers, examining anti-competitive issues, and considering next steps to ensure that America's freight rail customers receive fair rates and good service.

Given Ms. Begeman's experience, once confirmed, I know she'll be ready to consider these very important issues.

I also would like to mention Dr. Kathryn Sullivan, who's nominated to be the Assistant Secretary for Environmental Observation and Prediction of NOAA at the U.S. Department of Commerce. NOAA's North Central River Forecast Center is vital to helping communities along the Red River in Minnesota and North Dakota and other rivers in the upper Midwest prepare for flooding, with reports of water levels and rates of flow. We're very concerned about all of the snow we've had and what may happen in the next months with the Red River, and having these flood predictions is incredibly important for us. I literally know them every other day. I check in to see what it is. And that's because of the good work of NOAA.

So, I want to congratulate all the nominees.

And, thank you, Chairman Rockefeller.

The CHAIRMAN. Thank you, Senator Klobuchar.

I'll proceed now to my opening statement, followed by Senator Hutchison, and I think Senator Thune wants to make some remarks.

We have four nominations today. And I apologize to Senator Portman for holding him up here.

[Laughter.]

The CHAIRMAN. I mean, her statement was a game-changer.

We start with the nomination of Ms. Begeman to be a Member of the Surface Transportation Board. As you all know, Ms. Begeman is the Committee's Minority Staff Director. Beloved by all, respected by all, she's a virtual institution on this committee, and in the Senate. She's also a consummate professional, ever ready to come together to find solutions to complex issues, and an expert on surface transportation issues.

I know Ms. Begeman will be able to dive right into the complicated issues that come before the STB. It is a very controversial type situation there, as Senator Klobuchar indicated. These are very important issues, both for the captive shippers and for the entire rail industry.

I have to say that I'm very sad to lose her intellect. All of us on the Democratic side are, as well as on the Republican side. She has great expertise. She has total dedication to this committee. But on

the other hand, I'm pleased that she's headed into a new position where the nation can benefit from her tremendous talent. So, she's a terrific choice. Otherwise, I don't lean one way or another.

[Laughter.]

The CHAIRMAN. Our next nominee, Mr. Philip Coyle, has been here before. He's an expert on national security policy, military research and development of military space systems. The fact that this committee is again considering Mr. Coyle's nomination to be Associate Director for National Security and International Affairs at the Office of Science and Technology Policy, OSTP, is a testament to the need for such an expert in this post.

I think most of you know that we reported Mr. Coyle in the last Congress. When there wasn't floor time for discussion on the matter, that became impossible, and then we couldn't move him by unanimous consent, so President Obama recess-appointed him. That's not the wrong thing to do if you really need somebody.

For the past 8 months Mr. Coyle has served as an advisor to the administration on issues of critical national security importance, such as cybersecurity, emergency communications, and international science diplomacy.

We welcome you, Mr. Coyle. We look forward to hearing more about your work.

Dr. Kathryn Sullivan has been nominated to be Assistant Secretary of Commerce for Observation and Prediction. This is a new position created by Administrator Lubchenco. If confirmed, Dr. Sullivan will be responsible for driving policy and program initiatives for weather and water, integrative mapping, and observation systems.

Dr. Sullivan is no stranger to Presidential appointments. Her current nomination marks the fifth time she has been called to public service by five different administrations. She is also a woman of "firsts." She was the first American woman to walk in space.

[Laughter.]

The CHAIRMAN. It doesn't make any difference if she's Afro-American or not.

[Laughter.]

The CHAIRMAN. And you were all just kind of tweeting in the background.

[Laughter.]

The CHAIRMAN. It's very embarrassing to those of us, up here on the dais.

[Laughter.]

The CHAIRMAN. She was one of the first six women selected to join the NASA astronauts corps in 1978. From 1992 to 1996, she served as Chief Scientist to NOAA. Her leadership skills and extensive scientific knowledge will help provide needed direction to NOAA's programs.

Dr. Sullivan, we thank you very much for being willing to do this and for your continued potential service to this Nation.

Our final nominee, Dr. Frances Gulland, has demonstrated a strong commitment to marine mammal conservation. She spent many years providing veterinary care and rehabilitation to stranded marine mammals, and is no stranger to the good work of the

Marine Mammal Commission, MMC. For the last decade, Dr. Gulland has served on the MMC's Committee of Scientific Advisors. She pushed to make sure science serves as the guide and bases for its policies.

She is just the kind of person we need to bridge the gap between research and the hard realities of management, and would be a welcome addition to the Marine Mammal Commission.

Dr. Gulland, we congratulate you on your nomination, and I'm very interested in hearing your ideas, as well as those of the other nominees.

And I now turn to Senator Hutchison.

**STATEMENT OF HON. KAY BAILEY HUTCHISON,
U.S. SENATOR FROM TEXAS**

Senator HUTCHISON. Thank you, Mr. Chairman.

Well, I feel like I don't need to say anything about Ann Begeman. But I am very pleased to be able to introduce her as the nominee for membership on the Surface Transportation Board.

I think that the previous two statements from the majority side of the aisle show that Ann Begeman is effective. She is in the category of nominee that no introduction to this committee is required because we have worked with her for so long.

Ann has served in the Senate for over 21 years as a Professional Staff Member. She currently is the Staff Director of our side of the Committee. She previously served the Committee as Deputy Staff Director and Professional Staff Member on surface transportation issues for many years. Between her tours of service on the Committee, she also served as Legislative Director and Acting Chief of Staff for Senator John McCain. She has a well-earned reputation as an expert in transportation issues and is one of the go-to people in the Senate for anything related to surface transportation.

I have relied on Ann's advice and counsel for nearly 18 years since my earliest days in the Senate as a member of this committee. When you do such good work, that work is recognized and appreciated.

The recently passed FAA Reauthorization Bill stands as a perfect example of Ann's steadfastness and perseverance. In the last year alone, this committee has had victories large and small, ranging from the America COMPETES Act, the NASA Reauthorization Act, to the first movement in many years on Surface Transportation Board reauthorization. I think that speaks well of both of our staffs, Mr. Chairman, and how well they have worked together to move our committee, really, into the forefront of committees that have been active and effective, and sent bills to the floor that passed the Senate.

In each of these areas and countless others, Ann has been a strong leader and a creative force for the public's interest. We don't often pause to recognize that type of humble service, but the country has been the fortunate beneficiary of people like Ann Begeman. And I know that we will benefit from her service in her new role.

If you ask anyone who has worked with Ann Begeman how best to describe her, they will inevitably say that she is focused on detail and is an excellent manager. She will be missed. I will miss her. The rest of the Committee will. But I know that her knowl-

edge, her experience, and her unwavering attention to detail will soon be focused on complex surface transportation issues as a Member of the STB. I have no doubt that Ann will make an immediate impact on the crucial rail issues facing our Nation.

I also want to welcome Dr. Kathryn Sullivan, who has been nominated to serve as Assistant Secretary. As the Chairman has said, NOAA is one of our nation's premier scientific agencies. It provides services such as hurricane forecasting that are essential to the protection of life and property. When Hurricane Ike hit the Texas coast in 2008, I saw first-hand NOAA's advanced warning system work. They pinpointed where it was going and when it was going to hit, and allowed the protection of so much of the property that was involved in that hurricane. It's such an important asset for our country.

Dr. Sullivan has a long career of public service that includes serving as the Chief Scientist at NOAA, a Naval Reservist, and a NASA astronaut. She is the first American woman to walk in space. And I am very pleased with her nomination.

In her current role at Ohio State University, she works to improve STEM education for our nation's youth, and it was this committee that passed the America COMPETES Act, which encourages STEM education and authorizes it. So, I'm looking forward to hearing from her.

On the Marine Mammal Commission nomination, Dr. Frances Gulland, I look forward to her priorities. This is a Commission that provides the oversight of marine mammal conservation policies carried out by the federal agencies.

And I would like to welcome Mr. Philip Coyle, who is currently serving as a recess appointee in the position for which he has been nominated, Associate Director of National Security and International Affairs at OSTP. Mr. Coyle has a long record of public service, and I look forward to hearing from him.

Mr. Chairman, I will just end by saying that I hope very much that we will be able to mark up and go to the floor, and get these nominees acted on so that they can carry on, hopefully, in their respective positions. I know Ann was nominated last December and I would certainly like to see her move on out, and I think we know her. And I think the others have experience and we would be able to make decisions on them very quickly, I hope.

Thank you.

The CHAIRMAN. I join her.
Senator Thune?

**STATEMENT OF HON. JOHN THUNE,
U.S. SENATOR FROM SOUTH DAKOTA**

Senator THUNE. Thank you, Mr. Chairman.

And I am pleased to join this morning's nomination hearing and want to welcome all of the nominees to the Committee. And at the risk of echoing what my colleagues have said—we're not ignoring the other members that are here for nomination today. But I am here particularly, too, because Ann Begeman is appearing before this committee to serve as one of the three members of the Surface Transportation Board.

Many of us have had the opportunity not just to work with Ann over the years as a Professional Staff Member on this committee and her years of work, on behalf of various colleagues. But I've also had the pleasure of knowing her due to our mutual South Dakota connection. Ann Begeman is a small-town South Dakota girl who has brought her South Dakota work ethic and professionalism to Washington, D.C., and to the work of the U.S. Senate. Ann has, as has already been mentioned by you, Mr. Chairman, by Senator Hutchison, an extraordinary record of accomplishment over a long period of time. She is someone who I think has proven and demonstrated the ability to immerse herself into the technical details of the complex legislation that we deal with in front of this committee but, at the same time, still able to see the public policy implications of what we do from the 30,000 foot level. And that's a unique combination of skills, in the realm in which we deal on a daily basis. And I can't think of anybody that is more qualified or would be better equipped to serve as a Member of the Surface Transportation Board. And I say that as a former State Rail Director in South Dakota and someone who has worked not only on this committee, but in the in House of Representatives on the relevant committees that have jurisdiction over the nation's rail carriers.

Ann is incredibly capable and talented and, when it comes to the rate and service issues that are going to come before the Surface Transportation Board, is going to be extremely well-equipped to deal with those issues. And I have a high level of confidence that the Surface Transportation Board is going to be extraordinarily well-served by her presence there.

I will miss, I have to say, looking behind me to get answers to questions, as we often do look to her for her expertise. But I know she is looking forward to the service that she will provide the country at the STB, as are we. And so, I am delighted to be able to be here today to support a fellow South Dakotan and someone who comes from a small town called Humboldt, South Dakota, and has been a very humble public servant in her time here in Washington.

And I hope that we can speed these nominations, as Senator Hutchison said, along through the Committee process and get them to the floor so we can get folks into the positions where they can begin making a difference for us.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, Senator Thune.

And Senator Portman, I'm glad to say that we welcome you, as we did at the beginning. And you had a little chance to relax a little bit and think over your testimony, and we look forward to hearing it.

**STATEMENT OF HON. ROB PORTMAN,
U.S. SENATOR FROM OHIO**

Senator PORTMAN. Thank you, Mr. Chairman. It was a pleasure to get to hear about some of the other nominees as well.

But, as you know, I'm here, Chairman Rockefeller and Ranking Member Hutchison, and Senator Thune, to talk about an Ohioan. And I'm honored to have been asked.

From the Wright Brothers Bicycle Shop in Dayton, Ohio, to John Glenn's first orbit, your former colleague, Neil Armstrong's first

step on the moon, Ohio has been at the forefront and has had a rich history in flight and a tradition in flight, science and aerospace. So, today it's my honor to introduce a fellow Ohioan who's continuing that tradition—excelling as an oceanographer, an astronaut, an educator, and a lot more.

Dr. Sullivan has a very impressive record of service to her country. She's a military commander, serving as a Captain in the Naval Reserves since 1988. She's a NASA astronaut and a veteran of three shuttle missions, including one where, as has been noted this morning, she was indeed the first woman to walk in space. She was not, however, the first Ohioan. As she told me a minute ago, Neil Armstrong walking on the Moon probably makes him first among Ohioans walking outside a spacecraft. But she is someone we're so proud of. She's a member of the United States Astronauts Hall of Fame, a member of the Ohio Women's Hall of Fame, the Veterans Hall of Fame. She has given so much already. But now she's willing to allow her experience, expertise and passion to be used here in Washington, and we're proud that she is stepping up to serve.

For the last few years until last year, I was teaching at the John Glenn School of Public Affairs at Ohio State, and on their Board, their Advisory Committee, and she is there as well. She's actually Director of the Glenn School's Battelle Center for Mathematics and Science Education, serving as a nexus between good science and good public policy—something this committee cares a lot about.

In 1996, after she served as Chief Scientist at NOAA, Dr. Sullivan moved to Ohio to be the CEO of a terrific interactive science museum in Columbus called COSI. And she has lived in Columbus ever since. And in fact, this morning she has confirmed to me that she will continue to be a Buckeye. She's going to keep her home in Ohio and do the commute that many of us are used to. We're very happy about that as well.

Now, this museum is where I first met Dr. Sullivan. And I saw her interact with three children who happened to be my kids. And in doing so, I saw her convey to them her passion for science and its application in our daily lives. And I want to tell Dr. Sullivan this morning that my daughter Sally, who was 4 or 5 at the time and is now 16, seems to have an acute interest in science for some reason. And I hope she will be following up on that interest, and looking to you as she does as her role model.

In an age where partisanship and politics too often cloud what we do here in Washington, it is really an honor to welcome her. She's got a history of praise and respect from both sides of the aisle. Mr. Chairman, she has been nominated to positions, as I count it, by five presidents already—George Herbert Walker Bush, President Reagan, President Clinton twice, President George W. Bush, and now, of course, President Obama, this time as Assistant Secretary for Environmental Observation and Prediction at NOAA.

Ohio has its rich tradition of leaders who have reached for the stars, and as you consider the nomination of Dr. Sullivan, I hope you will allow one of Ohio's stars to continue her tradition of leading.

Mr. Chairman, again, I thank you for allowing me to be with you today.

And to members of the Committee, I hope you will welcome Dr. Kathryn Sullivan.

The CHAIRMAN. We certainly will, and we thank you very much, Senator.

Senator PORTMAN. Thank you.

The CHAIRMAN. And we apologize for making you wait.

Senator PORTMAN. Not at all.

The CHAIRMAN. Would the witnesses come forward, please?

Mr. Coyle is without a chair.

Ms. Begeman, maybe it would be appropriate to start with you.

**STATEMENT OF ANN D. BEGEMAN, MEMBER-DESIGNATE,
SURFACE TRANSPORTATION BOARD,
U.S. DEPARTMENT OF TRANSPORTATION**

Ms. BEGEMAN. Thank you very much.

I know, Chairman Rockefeller, you usually start by recognizing family members of nominees. And although my family couldn't be here today, my Senate family is here all around me, next to you, and in the audience. And a large number of McCain staffers are here proving that, as Senator McCain would say, "they would do anything to leave their workstations."

[Laughter.]

Ms. BEGEMAN. But I'm very happy that they're here. They have rubber bands to hit me in the head in case I need it. But I hope that I don't.

Before I begin my statement, I just wanted to thank you for the kind words that all of the members have said, and just to quickly thank a few of the, really, key members in—the three that had just been most recently speaking, for giving me such a great experience here these last few years. Senator Thune—when I first returned to the Committee, he welcomed me to be a part of his team. And even today, although I do not staff him, he makes me feel like I'm a part of his office and his staff, and I greatly appreciate that.

Chairman Rockefeller, your staff—thank you for your leadership in running this committee in a way that promotes bipartisanship. You know, for committee staffers, kind of juggling the views of 25 members and their staffs can be interesting every day. But because of the tone and example that you and Senator Hutchison have set with this committee to be bipartisan, we've managed to have some great legislative accomplishments. And at times we surprise even ourselves, and, I think, you, too, with bills such as NASA and COMPETES. And I know that that will continue in the future.

And finally, Senator Hutchison, thank you for everything. To get to work with you and your great committee staff, the tiger behind you—

[Laughter.]

Ms. BEGEMAN.—Brian Hendricks, Joe, Jarrod, just everybody. Thank you for everything. I know that this will be probably the best professional experience that I ever have, and it's because of the people I've gotten to work with, and I want to thank you all. Everyone on this side of the aisle as well. Thank you.

Now, to my statement, which, I will try to be quite brief.

It's an honor to appear before you as the President's nominee to the Surface Transportation Board. Having worked in the Senate for

over 20 years—12 of those as a proud Commerce Committee staffer—many of you know me quite well. But I want to briefly touch on my background for the benefit of any of you that don't know me as well as others.

I grew up on a farm in Humboldt, South Dakota and moved to Washington after graduating from college to work for my hometown senator, Larry Pressler. It's Senator Pressler who first gave me the chance to work on transportation issues, and I want to mention that a number of my colleagues from Senator Pressler's office are here in the audience, and I appreciate that they took the time to attend.

I moved to this committee when Senator Pressler became Chairman, and then I continued on when Senator McCain became Chairman. Then I covered surface transportation and other issues for 9 years, until moving over to Senator McCain's personal office to serve as his Legislative Director.

I returned 2 years ago to the Commerce Committee to once again work on surface transportation issues for Senator Hutchison and Senator Thune, and soon after, I also took on the responsibilities of the Staff Director.

I wanted to return to the Committee for two reasons. First, I very much wanted to re-engage on transportation issues, as I feel strongly there's a very appropriate federal role in ensuring the viability, safety and security of our nation's transportation system. Second, during my previous years on the Committee, it operated largely in a bipartisan manner, and I hoped that in the post-Presidential election at the time, that the Committee might still have at least some level of bipartisanship that allowed it to be as effective as I had known it to be. As I'd mentioned, it turns out my expectations were greatly surpassed, and thank you for that.

Again, I've covered the Committee's surface transportation portfolio for many years, including when the Committee sunset the ICC and created the STB, and more recently, last Congress when we passed the STB Reauthorization Act, when this committee did.

While I have had a good deal of hands-on experience with legislation concerning the Board and its duties, and have had the opportunity to meet countless times over the years with its stakeholders, I also recognize that I still have a lot to learn, and I'm determined to do so.

If confirmed, I will approach that position fundamentally in the same way as I have approached my position as Senate staffer. I will work hard to understand the issues. I will listen without bias to all stakeholders. I'll strive to be fair. I'll never forget that I am accountable to the taxpayers. And I will always follow the guidance of the law, and make my decisions accordingly.

Thank you.

[The prepared statement and biographical information of Ms. Begeman follows:]

PREPARED STATEMENT OF ANN D. BEGEMAN, MEMBER-DESIGNATE, SURFACE
TRANSPORTATION BOARD, U.S. DEPARTMENT OF TRANSPORTATION

Thank you, Chairman Rockefeller, Ranking Member Hutchison, and members of the Committee, for holding this hearing to consider the nominees before you today. I will try to be brief, and I ask that my full statement be included in the record.

It is an honor to appear before you as the President's nominee to the Surface Transportation Board (STB). Having worked in the Senate for over 20 years, 12 of those as a proud Commerce Committee staffer, many of you know me quite well. But I want to briefly touch on my background for the benefit of those who are new to the Committee.

I grew up on a farm in Humboldt, South Dakota, and moved to Washington after graduating from college to work for my hometown Senator, Larry Pressler. It is Senator Pressler who first gave me the chance to work on transportation issues. I moved to this committee when he became Chairman, and I continued on when Senator McCain became chairman. I covered surface transportation and other issues for the Committee for 9 years until becoming Senator McCain's Legislative Director in 2004. I then returned to the Committee 2 years ago to work on surface transportation issues for Senators Hutchison and Thune, and soon after, also took on the Staff Director duties.

I returned to the Committee for two reasons: First, I very much wanted to re-engage on transportation policy issues, as I feel strongly that there is a very appropriate federal role in ensuring the viability, safety, and security of our nation's transportation system. Second, during my previous years on the Committee, it operated largely in a bipartisan manner, and I hoped that in the post-Presidential election environment at the time, the Committee might still have at least some level of the bipartisanship that had allowed it to be so effective in the past. As it turns out, my expectations were surpassed.

As I mentioned, I have covered the Committee's surface transportation portfolio for a number of years, including when the Committee sunset the Interstate Commerce Commission and established the STB and, more recently, when the Committee passed the STB Reauthorization Act in the last Congress. While I have had a good deal of hands on experience with legislation concerning the Board and its duties, and have had the opportunity to meet countless times over the years with its stakeholders, I also recognize that I still have much to learn. And, I am determined to do so.

If confirmed to serve as a Member of the STB, I will approach that position fundamentally in the same way I have conducted myself as a Senate staffer: I will work hard to understand the issues; I will listen without bias to all stakeholders; I will strive to be fair; I will never forget that I am accountable to the taxpayers; and I will always follow the guidance of the law and make my decisions accordingly.

Again, thank you. I look forward to answering any questions you may have.

A. BIOGRAPHICAL INFORMATION

1. Name (Include any former names or nicknames used): Ann D. Begeman.
2. Position to which nominated: Member, Surface Transportation Board.
3. Date of Nomination: January 5, 2011.
4. Address (List current place of residence and office addresses):
 Residence: Information not released to the public.
 Office: Senate Committee on Commerce, Science, and Transportation, SD 560 Dirksen, U.S. Senate, Washington, DC 20510.
5. Date and Place of Birth: April 18, 1964; Sioux Falls, South Dakota.
6. Provide the name, position, and place of employment for your spouse (if married) and the names and ages of your children (including stepchildren and children by a previous marriage).
 Not Applicable.
7. List all college and graduate degrees. Provide year and school attended.
 Bachelor of Science, Business Administration, University of South Dakota, 1986.
8. List all post-undergraduate employment, and highlight all management-level jobs held and any non-managerial jobs that relate to the position for which you are nominated.
 Employment includes:
 Office of U.S. Senator Larry Pressler (5/86–3/88).
 First American Bankshares, Inc. (3/88–7/92).
 Office of U.S. Senator Larry Pressler (7/92–11/94).
 Senate Committee on Commerce, Science, and Transportation (11/94–1/04).
 Office of U.S. Senator John McCain (1/04–5/09).

Senate Committee on Commerce, Science, and Transportation (5/09 to present).

Management positions include: serving as Deputy Staff Director for the Commerce Committee (1/02–1/04); Legislative Director (1/04–5/09) and Acting Chief of Staff (3/07–2/08) for Senator John McCain; and Staff Director/Acting Staff Director for the Commerce Committee from 8/09 to present. Except for my employment with First American Bankshares, Inc., all other positions held included responsibilities dealing with federal policy matters, including specifically transportation.

9. Attach a copy of your resume. A copy is attached.

10. List any advisory, consultative, honorary, or other part-time service or positions with federal, state, or local governments, other than those listed above, within the last 5 years: Not applicable.

11. List all positions held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, company, firm, partnership, or other business, enterprise, educational, or other institution within the last 5 years: Not applicable.

12. Please list each membership you have had during the past 10 years or currently hold with any civic, social, charitable, educational, political, professional, fraternal, benevolent or religious organization, private club, or other membership organization. Include dates of membership and any positions you have held with any organization. Please note whether any such club or organization restricts membership on the basis of sex, race, color, religion, national origin, age, or handicap: Not applicable.

13. Have you ever been a candidate for and/or held a public office (elected, non-elected, or appointed)? If so, indicate whether any campaign has any outstanding debt, the amount, and whether you are personally liable for that debt: No.

14. Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of \$500 or more for the past 10 years. Also list all offices you have held with, and services rendered to, a state or national political party or election committee during the same period.

In a volunteer capacity, I served as a Senior Advisor to the McCain for President Campaign, from February 2008–November 2008. Also in 2008, I volunteered for the Graham for Senate Campaign.

15. List all scholarships, fellowships, honorary degrees, honorary society memberships, military medals, and any other special recognition for outstanding service or achievements: Not applicable.

16. Please list each book, article, column, or publication you have authored, individually or with others. Also list any speeches that you have given on topics relevant to the position for which you have been nominated. Do not attach copies of these publications unless otherwise instructed.

I have drafted many speeches and op-eds during my employment in the U.S. Senate; however, all such items were under the employers' names.

17. Please identify each instance in which you have testified orally or in writing before Congress in a governmental or non-governmental capacity and specify the date and subject matter of each testimony: Not applicable.

18. Given the current mission, major programs, and major operational objectives of the department/agency to which you have been nominated, what in your background or employment experience do you believe affirmatively qualifies you for appointment to the position for which you have been nominated, and why do you wish to serve in that position?

During over 20 years of employment in the U.S. Senate, I have worked on a wide range of federal transportation policy matters, including having served as the lead Republican staffer on the legislation that created the Surface Transportation Board (the ICC Termination Act of 1995), and most recently, on legislation reported by the Commerce Committee to reauthorize the STB. I have a strong professional interest in public policy matters, and believe it is very important that the Board be served by members who are committed to reaching fair and appropriate decisions in accordance with the governing statutes, rules, and regulations.

19. What do you believe are your responsibilities, if confirmed, to ensure that the department/agency has proper management and accounting controls, and what experience do you have in managing a large organization?

Although I would not be serving as the Board's Chairman, who holds the foremost responsibilities for proper management and accounting controls, I would seek to continually work with the Chairman and other Members of the Board, and the Board's staff, to ensure full compliance with all applicable laws, rules, and regulations. Pertinent management experience includes my work serving as Staff Director and Deputy Staff Director for the Senate Commerce Committee, and serving as Legislative Director and Acting Chief of Staff for a Senate Office.

20. What do you believe to be the top three challenges facing the department/agency, and why?

1. Reauthorization of the Board to provide clarification of its mission.
2. Proper allocation of Board resources to ensure timely Board actions.
3. Outreach to all Board stakeholders, including rail customers, to encourage and facilitate use of agency recourses, including the Board's informal dispute resolution alternatives, to help resolve shipper-railroad disputes in a timely manner.

B. POTENTIAL CONFLICTS OF INTEREST

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients, or customers. Please include information related to retirement accounts.

I am vested in the Federal Employee Retirement System and the Thrift Savings Plan.

2. Do you have any commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business, association or other organization during your appointment? If so, please explain: Not applicable.

3. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated: Not applicable.

4. Describe any business relationship, dealing, or financial transaction which you have had during the last 10 years, whether for yourself, on behalf of a client, or acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated.

In connection with the nomination process, I have consulted with the Office of Government Ethics and the Surface Transportation Board's ethics official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of an ethics agreement that I have entered with the Board's ethics official, a copy of which has been provided to this committee.

5. Describe any activity during the past 10 years in which you have been engaged for the purpose of directly or indirectly influencing the passage, defeat, or modification of any legislation or affecting the administration and execution of law or public policy.

During my employment as a Senate staffer, I have continually been engaged in efforts to pass, defeat, or alter legislative initiatives and have also been involved in Committee oversight efforts concerning implementation of laws under the Committee's jurisdiction.

6. Explain how you will resolve any potential conflict of interest, including any that may be disclosed by your responses to the above items.

In connection with the nomination process, I have consulted with the Office of Government Ethics and the Surface Transportation Board's ethics official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of an ethics agreement that I have entered with the Board's ethics official, a copy of which has been provided to this committee.

C. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics by, or been the subject of a complaint to any court, administrative agency, professional association, disciplinary committee, or other professional group? If so, please explain: No.

2. Have you ever been investigated, arrested, charged, or held by any federal, state, or other law enforcement authority of any federal, state, county, or municipal entity, other than for a minor traffic offense? If so, please explain: No.

3. Have you or any business of which you are or were an officer ever been involved as a party in an administrative agency proceeding or civil litigation? If so, please explain: No.

4. Have you ever been convicted (including pleas of guilty or nolo contendere) of any criminal violation other than a minor traffic offense? If so, please explain: No.

5. Have you ever been accused, formally or informally, of sexual harassment or discrimination on the basis of sex, race, religion, or any other basis? If so, please explain.

To the best of my knowledge, I have never been accused, formally or informally, of any sexual harassment or discrimination, or of taking any action against anyone on the basis of sex, race, religion, or any other basis.

6. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be disclosed in connection with your nomination: None.

D. RELATIONSHIP WITH COMMITTEE

1. Will you ensure that your department/agency complies with deadlines for information set by Congressional committees? Yes.

2. Will you ensure that your department/agency does whatever it can to protect Congressional witnesses and whistle blowers from reprisal for their testimony and disclosures? Yes.

3. Will you cooperate in providing the Committee with requested witnesses, including technical experts and career employees, with firsthand knowledge of matters of interest to the Committee? Yes.

4. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so? Yes.

RESUME OF ANN D. BEGEMAN

Professional Overview

Over 20 years of experience in government and corporate environments. Policy expertise in transportation, including economic and safety regulations governing railroads and other surface transportation modes. Possess in-depth knowledge of the legislative process, including planning and executing successful legislative agendas. Maintain strong bipartisan relationships and skilled in developing coalitions to support legislative goals. Experienced in hiring, training, and managing a wide range of employees. Presidential and Senate campaign experience.

Employment

U.S. Senate Committee on Commerce, Science, and Transportation, Washington, D.C.—*Staff Director/Acting Staff Director, Professional Staff Member*, May 2009 to present.

Work with Committee Ranking Member in development and implementation of policy objectives on behalf of Minority Members. Direct and coordinate all legislative, administrative, and other functions of the Minority. Advise Members and their staff on legislative matters and nominations relating to Committee jurisdiction, including surface transportation, aviation, telecommunications, and consumer protection. Manage more than 20 staff members and ensure compliance with Senate Rules and Ethics. Serve as the Minority's principal liaison with other Senate and House offices, government agencies, and other organizations. Lead Minority staffer in development of the bipartisan Surface Transportation Board (STB) Reauthorization Act, and directly involved in Senate passage of the Federal Aviation Administration (FAA) Reauthorization Act.

Office of U.S. Senator John McCain, Washington, D.C.—*Legislative Director*, January 2004 to May 2009; *Acting Chief of Staff*, March 2007 to February 2008.

Advised and assisted Senator in formulation, coordination, and execution of legislative agenda. Hired and managed legislative staff and ensured timely development and execution of legislative initiatives. Major legislative initiatives include the 9/11 Commission and implementation of its recommendations, rail security, immigration reform, and government reform. Drafted speeches, op-eds, and public statements. Managed general office activities and ensured compliance with Senate Rules and Ethics. Represented Senator in meetings with Members of Congress, Executive Branch representatives and outside groups.

U.S. Senate Committee on Commerce, Science, and Transportation, Washington, D.C.—*Deputy Staff Director*, January 2002 to January 2004.

Worked with Committee Chairman and Staff Director in development and implementation of Committee's policy objectives. Assisted in hiring, training, and managing 40 staff members and ensured compliance with Senate Rules. Supervised development of Committee legislation and carried out Chairman's objective to report out over 25 agency/program reauthorizations under the Committee's jurisdiction. Advised Committee Members during Senate floor debates. Represented Chairman in meetings with Members of Congress, Executive Branch representatives and outside groups.

Member of the Professional Staff, November 1994 to January 2002.

Advised Committee Chairman and Majority Members in development and execution of an aggressive legislative agenda on multiple surface transportation issues, including rail, motor carrier, pipelines and the transport of hazardous materials. Major legislative initiatives include the ICC Termination Act, which created the STB, creation of the Federal Motor Carrier Safety Administration, safety titles in the highway bill reauthorization, and the National Transportation Safety Board (NTSB) Reauthorization. Organized Committee hearings. Advised and assisted Committee Members during floor debates.

Office of U.S. Senator Larry Pressler, Washington, D.C.—*Legislative Assistant*, July 1992 to November 1994.

Advised Senator on multiple legislative issues, including transportation, labor, human resources, tourism, government affairs, and natural disasters. Developed and advanced Senator's aviation legislative agenda in support of his position as Ranking Member of the Commerce Committee's Aviation Subcommittee, including the NTSB Reauthorization and FAA Reauthorization.

First American Bankshares, Inc., Washington, D.C.—*Senior Benefits Specialist; Benefits Specialist*, March 1988 to June 1992.

Administered 401(k) Savings and Profit Sharing Plan for over 6000 participants employed by 12 subsidiary companies. Assured compliance with federal reporting and nondiscrimination regulations. Prepared board resolutions and plan amendments. Consulted with and made recommendations to senior management, legal counsel and actuaries. Assisted in administration of defined benefit plan and flexible welfare benefits plan.

Office of U.S. Senator Larry Pressler, Washington, D.C.—*Legislative Assistant; Legislative Staff Assistant*, May 1986 to March 1988.

Drafted legislation, speeches, op-eds, press releases and constituent correspondence. Advised Senator on multiple legislative issues, including railroads, aviation, busing, trucking, highways, and tourism. Assisted Legislative Counsel on all Commerce Committee issues. Greeted constituents and visitors and answered and screened incoming calls.

Education

Bachelor of Science, Business Administration, University of South Dakota.

The CHAIRMAN. Thank you, Ms. Begeman, very much.
Mr. Coyle.

STATEMENT OF PHILIP E. COYLE III, ASSOCIATE DIRECTOR-DESIGNATE, OFFICE OF SCIENCE AND TECHNOLOGY POLICY, EXECUTIVE OFFICE OF THE PRESIDENT

Mr. COYLE. Chairman Rockefeller, Ranking Member Hutchison, members of the Committee, it's a pleasure to appear before you today.

I last appeared before this committee on November 18, 2009, as President Obama's nominee to be Associate Director for National Security and International Affairs in the Office of Science and Technology Policy.

I took on the duties of that position in July 2010, as a result of a recess appointment by the President, and it has been a real honor and a privilege for me to work at OSTP for these past nearly 8 months.

Mr. Chairman, before I talk about my work, I'd like to introduce my wife, Dr. Martha Krebs, who's sitting in the second row. Martha had the great pleasure of working for Senator Nelson—

The CHAIRMAN. Mr. Coyle, I think your wife needs to be able to stand up.

[Laughter.]

Mr. COYLE. Thank you.

Martha had the great pleasure of working for Senator Nelson, then Representative Nelson, as a staff member on the House Science Committee in the early 1980s. For 30 years, she and I have felt a close kinship with the House Science Committee and with this committee. And I would like nothing more than to be able to continue this collaborative relationship in my capacity as the Senate-confirmed Associate Director at OSTP.

As the Associate Director for National Security and International Affairs, my focus within OSTP is on ensuring that America's investments in science and technology help to safeguard U.S. national security, protect our troops, and ensure the safety of American citizens here at home and around the world. That means bringing the very best of science and technology to issues such as cybersecurity, homeland security, biosecurity, and other topics.

The people who work at OSTP and I take pride every day in our service to this country. I have submitted for the record a somewhat more detailed account of what the National Security and International Affairs Division has been focused on under my leadership. But I'd like to take just a moment to highlight a few things which I think we can all agree are of central importance to our nation's continued economic strength and national security.

First, the security of cyberspace, comprising the networks that connect us and the technologies that empower us, is a critical priority in the digital age. With others in the federal, academic, and commercial sectors we have developed a new research and development program that spans from basic research to operational implementation.

In the arena of homeland security, we support the application of science and technology to enhance port and border security, to defend against nuclear, radiological, biological and chemical threats, and to counter terrorists' use of explosives.

To help deal with all these threats, OSTP is active in the inter-agency processes overseen by the Committee on Homeland and National Security, which I co-chair, of the National Science and Technology Council. We are engaged with the Department of Defense to support defense research and development initiatives, to strengthen our manufacturing and industrial base, and improve the quality of DOD laboratories, and to increase funding for basic research programs at universities and small businesses. And in the increasingly important realm of security-critical materials, we lead an inter-agency working group focused on rare earth elements and the broader topic of strategic and critical mineral supplies.

A common theme among all these areas of emphasis is support for the very best science and technology to serve America's interest.

If confirmed, I intend to build on my long record of national security-related public service by helping to maintain the preeminence of American science and technology as it relates to public safety and national security and, working from that position of strength, to foster international science and technology collaboration to advance U.S. goals.

I am grateful for the courtesy shown by the members of this committee and your staff, and I look forward to working with you and them in the future. And I'd be pleased to answer any questions you may have.

Thank you.
 [The prepared statement and biographical information of Mr. Coyle follows:]

PREPARED STATEMENT OF PHILIP E. COYLE III, ASSOCIATE DIRECTOR-DESIGNATE,
 OFFICE OF SCIENCE AND TECHNOLOGY POLICY, EXECUTIVE OFFICE OF THE PRESIDENT

Chairman Rockefeller, Ranking Member Hutchison, and members of the Committee, it is a pleasure to appear before you today.

The scope of OSTP activities is broad, including helping to assure that America's science and technology programs increase American productivity and drive economic growth, improve the nation's health, provide new sources of energy, and protect the environment. As Associate Director for National Security and International Affairs (NSIA), my focus within OSTP is on assuring that America's investments in science and technology help to safeguard U.S. national security, protect our troops, and ensure the safety of American citizens here at home and around the world. That means bringing the very best science and technology to bear on issues of cybersecurity, homeland security, bio-security, and other topics. The people who work at OSTP and I take pride every day in our service to this country.

I would like to provide a summary to highlight what the National Security and International Affairs division has been focused on under my leadership—highlights that I think we can agree are of central importance to our nation's continued economic strength and national security:

Cybersecurity—Ensuring that cyberspace is safe, reliable and an engine for prosperity for all citizens requires a commitment to innovation in cybersecurity. With others in the federal, academic, and commercial sectors, we work to implement the priority cybersecurity objectives described in the Cyberspace Policy Review. These include a targeted research and development program and increased training and educational opportunities.

Science and Technology to Support Our Veterans—A new initiative for rehabilitation and recovery seeks to bring the best of American science and technology to support our returning service members, helping our veterans achieve mobility and functionality at home, at work, and in recreation. NSIA is helping to apply technologies for advanced prosthetic devices using advanced materials, sensors and controls, neuroscience, engineering, computer simulation, rehabilitation medicine, telemedicine, and social and behavioral sciences.

Defense Science and Technology—In close cooperation with the Defense Department, we are working to ensure that we are developing and fielding the technologies needed to meet the demands of a nation at war and to meet the emerging threats of our time. In particular, NSIA has focused on sustaining funding for defense basic research programs, and policies to revitalize our network of defense laboratories.

Homeland Security—Science and technology are critical to enhance the security of our citizens and to counter terrorist use of explosives. Among other responsibilities in this area, we are leading an interagency process to identify areas where science and technology can reduce the threat from improvised explosive devices, both at home and abroad.

Biological and Chemical Defense—NSIA is engaged collaboratively in the development of coordinated strategies and policies to respond to chemical and biological threats via work in a set of linked interagency working groups that together are streamlining research and development in these domains.

Energy Security—We are supporting the development and application of technologies to strengthen U.S. energy security. In particular, we are addressing threats that can result from damage due to natural events, such as extreme space weather, or as a result of political or economic instabilities affecting energy supply and cost. In addition, we are working with the Department of Defense on the use of energy technologies to reduce costs and logistical burdens.

National Security and Emergency Preparedness Communications—The OSTP Director has specific responsibilities both for communications during a crisis and for ensuring the readiness of capabilities in advance of a crisis. To fulfill OSTP's readiness responsibilities, NSIA works in partnership with others to establish architectural requirements for continuity of emergency communications for the government, including the evaluation of existing and planned capabilities.

Nuclear Deterrence—NSIA supports maintenance of U.S. nuclear deterrence, stockpile stewardship, strengthening the scientific enterprises at the nuclear weapons laboratories, and the development of an R&D plan to enhance monitoring and verification.

Nuclear Defense—We lead an interagency group that oversees execution of a coordinated nuclear-defense R&D strategy and related efforts to counter nuclear terrorism by improving nuclear safeguards and security.

Critical Materials—We are leading a new interagency working group on strategic and critical mineral supply chains that is addressing recent concerns about rare earth minerals. We are also working to ensure continued access to the medically important isotope Molybdenum-99.

International Affairs—We have created a new subcommittee of the National Science and Technology Council and are participating in other interagency mechanisms to use science and technology collaboration to enhance national security through such activities as the Science Envoy Program, as well as other cooperative ventures relating to health, education, and energy with scientists in the Middle East and North Africa.

Conclusion

President Obama's National Security Strategy released last May stated that "America's role as the global engine of scientific discovery and technological innovation has never been more critical." It further noted that our "commitment to science and technology . . . will help us protect our citizens and advance U.S. national security priorities." I am proud of the work of the National Security and International Affairs division, and hope that, if confirmed, I will have the opportunity to continue that work with this Committee and the Congress for our nation's security.

Thank you.

A. BIOGRAPHICAL INFORMATION

1. Name (Include any former names or nicknames used): Philip E. Coyle III.
2. Position to which nominated: Associate Director, National Security and International Affairs, Office of Science and Technology Policy.
3. Date of Nomination: January 26, 2011.
4. Address (List current place of residence and office addresses):
 Residence: Information not released to the public.
 Office: Office of Science and Technology Policy, Executive Office of the President, 725 17th Street N.W., Washington, D.C. 20502.
5. Date and Place of Birth: August 30, 1934; Beverly, Massachusetts.
6. Provide the name, position, and place of employment for your spouse (if married) and the names and ages of your children (including stepchildren and children by a previous marriage).
 Spouse: Dr. Martha A. Krebs, Executive Director, Energy and Environmental Research Development, Office of Research, University of California at Davis.
 Children: Laurie E. Monserrat (daughter), age 52; Philip E. Coyle, IV (son), age 49; James Evans Coyle (son), age 47; Jonathan H. Leidecker (step son), age 40.
7. List all college and graduate degrees. Provide year and school attended.
 Dartmouth College, BA, 1956, MSME, 1957.
8. List all post-undergraduate employment, and highlight all management-level jobs held and any non-managerial jobs that relate to the position for which you are nominated.
 2010 to present—Associate Director, National Security and International Affairs, Office of Science and Technology Policy.
 2001–2010—Senior Advisor, World Security Institute (formerly the Center for Defense Information).
 1994–2001—Director Operational Test and Evaluation, U.S. Department of Defense.
 1993–1994—Consultant, DynCorp Meridian.
 1981–1993—Laboratory Associate Director, Lawrence Livermore National Laboratory, retired in 1993 (the second time).
 1979–1981—Deputy Assistant Secretary for Defense Programs, U.S. Department of Energy.
 1959–1979—various positions beginning as staff engineer in 1959, retired in 1979 (the first time) as Deputy Associate Director for Lasers, Lawrence Livermore National Laboratory.
 1957–1959—teacher, Chadwick School.

9. Attach a copy of your resume. A copy is attached.
10. List any advisory, consultative, honorary, or other part-time service or positions with federal, state, or local governments, other than those listed above, within the last 5 years.

The Standing Committee on Biodefense at the U.S. Department of Defense, the National Research Council, 2007–2010.

The Committee on Advanced Spectroscopic Portals, sponsored by DHS, the National Research Council, 2008–2010.

The Committee on Improving Processes and Policies for the Acquisition and Test of Information Technology in the DOD, the National Research Council, 2008–2010.

The Committee on the Test and Evaluation of Biological Standoff Detection Systems, for the U.S. Army, the National Research Council, 2007–2008.

11. List all positions held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, company, firm, partnership, or other business, enterprise, educational, or other institution within the last 5 years.

Senior Advisor, World Security Institute (formerly the Center for Defense Information), 2001–2010.

Consultant, Defense Group Inc. (DGI), 2006.

Consultant, RAND Corporation, 2005, 2007, and 2008.

12. Please list each membership you have had during the past 10 years or currently hold with any civic, social, charitable, educational, political, professional, fraternal, benevolent or religious organization, private club, or other membership organization. Include dates of membership and any positions you have held with any organization. Please note whether any such club or organization restricts membership on the basis of sex, race, color, religion, national origin, age, or handicap: None.

13. Have you ever been a candidate for and/or held a public office (elected, non-elected, or appointed)? If so, indicate whether any campaign has any outstanding debt, the amount, and whether you are personally liable for that debt: No, none.

14. Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of \$500 or more for the past 10 years. Also list all offices you have held with, and services rendered to, a state or national political party or election committee during the same period.

8/20/09—Mark Desaulnier—\$400.

4/25/09—DCCC—\$2,000.

8/7/08—Obama for America—\$500.

2/14/08—Tauscher for Congress—\$2,000.

8/12/07—Hillary for President—\$2,300.

6/26/07—Steve Filson for Assembly—\$1,000.

10/26/06—Tauscher for Congress—\$2,000.

5/15/06—Steve Filson for Congress—\$1,000.

4/08/06—Steve Filson for Congress—\$1,000.

3/5/06—Tauscher for Congress—\$500.

12/3/05 Friends of Hillary—\$500.

10/31/05—Ellen Tauscher—\$250.

9/19/05—DCCC—\$1,000.

10/26/04—Committee to Re-elect Linda Sánchez—\$500.

9/20/04—DCCC—\$1,000.

8/12/04—Committee to Re-elect Linda Sánchez—\$500.

5/23/04—DCCC—\$1,000.

3/10/04—John Kerry for President—\$2,000.

1/9/04—Howard Dean—\$250.

1/7/04—Linda Sánchez—\$250.

1/3/04—Tauscher for Congress—\$500.

12/4/03—Friends of Hillary—\$1,000.

9/30/03—Howard Dean—\$250.

9/26/03—Linda Sánchez—\$250.

9/24/03—Loretta Sanchez—\$250.
 6/1/03—Loretta Sanchez for Congress—\$500.
 4/15/03—Tauscher for Congress—\$500.
 9/30/02—Committee to Re-elect Loretta Sanchez—\$500.
 9/30/02—Rush Holt for Congress—\$500.
 5/28/02—Friends of Carl Levin—\$1,000.
 3/1/02—Tauscher for Congress—\$500.
 3/1/02—Rush Holt for Congress—\$500.
 2/4/02—Committee to Reelect Loretta Sanchez—\$500.
 2/24/02—Kucinich for Congress—\$500.
 6/24/02—Loretta Sanchez—\$400.
 3/8/02—Ellen Tauscher—\$500.
 8/20/01—Friends of Hillary—\$500.
 3/14/01—Carl Levin—\$500.

No offices held nor services rendered to a state or national political party or election committee.

15. List all scholarships, fellowships, honorary degrees, honorary society memberships, military medals, and any other special recognition for outstanding service or achievements.

In 1997, awarded the Defense Distinguished Service Medal by Secretary of Defense William Perry, and in 2001, the Bronze Palm of the Defense Distinguished Service Medal by Secretary of Defense William Cohen.

In September 2000, awarded the Allan R. Matthews Award of the International Test and Evaluation Association, its highest award, for contributions to the management and technology of test and evaluation.

In March 2001, received the Hollis Award from the National Defense Industrial Association for lifelong achievement in defense test and evaluation.

By *Aviation Week* magazine, named as one of its Laurels honorees for the year 2000, a select group of people recognized for outstanding contributions in aerospace.

In recognition of my years of service to the Laboratory and to the University of California, the University named me Laboratory Associate Director Emeritus.

16. Please list each book, article, column, or publication you have authored, individually or with others. Also list any speeches that you have given on topics relevant to the position for which you have been nominated. Do not attach copies of these publications unless otherwise instructed.

Contributor to “Global Biosecurity,” edited by Peter Katona, Michael D. Intriligator and John P. Sullivan, Routledge, London, January 2010.

“The Proliferation Security Initiative, Background, history, and prospects,” a commissioned paper for the International Commission on Nuclear Non-proliferation and Disarmament, January 2009.

“Missile Defense Malfunction,” *Ethics and International Affairs Journal*, Volume 22.1 Spring, 2008, a commissioned paper for the Carnegie Council on Ethics in International Affairs.

“Missile Defense and Arms Control, 25 Years Later,” *The Defense Monitor, the Center for Defense Information*, March 21, 2008, with Victoria Samson; also see various electronic postings on the *Center for Defense Information* website, 2001–2010.

“The Limits and Liabilities of Missile Defense,” *Current History*, November 2006.

“Is Missile Defense on Target?,” *Arms Control Today*, October 2003.

Viewpoint, “The Truth About Missile Defense: Will Science Make a Difference?,” a review of the American Physical Society report on the scientific feasibility of boost-phase missile defense, for the *APS News*, a journal of the American Physical Society, October 2003.

“Missile Defense in the Bush Administration,” *Arms Control Today*, May 2002.

17. Please identify each instance in which you have testified orally or in writing before Congress in a governmental or non-governmental capacity and specify the date and subject matter of each testimony.

November 18, 2009, Senate Committee on Commerce, Science, and Transportation, Confirmation hearing for Philip E. Coyle III to be the Associate Director at the Office of Science and Technology Policy, Executive Office of the President.

March 17, 2009, House Committee on Appropriations, Subcommittee on Energy and Water: The Future of the DOE Complex Transformation Program.

February 25, 2009, House Committee on Armed Services, Subcommittee on Strategic Forces: The Future of Missile Defense Testing.

April 30, 2008, House Committee on Oversight and Government Reform, Subcommittee on National Security and Foreign Affairs: Oversight of Ballistic Missile Defense, (Part 3).

April 30, 2008, House Committee on Oversight and Government Reform, Subcommittee on National Security and Foreign Affairs: Oversight of Ballistic Missile Defense, (Part 2).

December 7, 2007, Senate Democratic Policy Committee: Department of Defense Spending in Iraq.

June 6, 2007, House Armed Services Committee, Subcommittee on Air and Land Forces: Army Force Protection Programs and Operation Iraqi Freedom and Operation Enduring Freedom, Body Armor.

January 18, 2007, House Armed Services Committee, Subcommittee on Air and Land Forces: Army Force Protection Programs and Operation Iraqi Freedom and Operation Enduring Freedom, Active Protection Systems.

August 22, 2002, Commission on the Future of the United States Aerospace Industry.

June 11, 2002, House Committee on Government Reform and Oversight: Missile Defense Testing.

July 19, 2001, Senate Committee on Armed Services, Full Committee: Ballistic missile defense policies and programs.

18. Given the current mission, major programs, and major operational objectives of the department/agency to which you have been nominated, what in your background or employment experience do you believe affirmatively qualifies you for appointment to the position for which you have been nominated, and why do you wish to serve in that position?

Since July, 2010, I have served as a recess appointee and the Associate Director for National Security and International Affairs at the Office of Science and Technology Policy, Executive Office of the President—the position for which I have been nominated. I believe that among the qualifications I bring—and, if confirmed, would continue to bring—to the position is thirty-three years experience with the Lawrence Livermore National Laboratory in a variety of scientific and leadership positions, and from which I retired as Deputy to the Director. I also bring experience as Deputy Assistant Secretary for Defense Programs in the Department of Energy, and my service from 1994 to 2001 as Assistant Secretary for Test and Evaluation (Director, Operational Test and Evaluation) in the Department of Defense.

It is, and would continue to be, an honor to serve in the Office of Science and Technology Policy. If I am confirmed, this would be an opportunity to continue to serve my country, contribute to the national security of the United States, help support science and technology for America's present needs and future development, and help foster international science and technology collaboration to advance U.S. foreign-policy objectives.

19. What do you believe are your responsibilities, if confirmed, to ensure that the department/agency has proper management and accounting controls, and what experience do you have in managing a large organization?

With respect to sustaining proper management and accounting controls, my responsibilities, if confirmed, would be to assure that all activities under my purview at OSTP are managed in accordance with applicable laws, regulations, and Congressional guidelines; in accordance with the highest professional standards for scientific research and technology development; and in accordance with scientific and technological standards and practices for careful peer review. My experience in managing large organizations includes serving as the Deputy Director of the Lawrence Livermore National Laboratory, at the time a 10,000-person Laboratory; serving as Assistant Secretary for Test and Evaluation (*i.e.*, Director Operational Test and Evaluation) in the Department of Defense; and serving as Deputy Assistant Secretary for Defense Programs in the Department of Energy.

20. What do you believe to be the top three challenges facing the department/agency, and why?

1. Developing science and technology programs that will increase American productivity and drive economic growth.

2. Developing science and technology programs that will improve health, provide new sources of energy, and safeguard the environment.
3. Developing science and technology programs that will safeguard U.S. national security, protect our troops, and support improved verification of arms control and verification agreements.

B. POTENTIAL CONFLICTS OF INTEREST

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients, or customers. Please include information related to retirement accounts.

Pension, California State Public Employees Retirement System; Pension, University of California Retirement System.

2. Do you have any commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business, association or other organization during your appointment? If so, please explain: No, none.

3. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated: None.

4. Describe any business relationship, dealing, or financial transaction which you have had during the last 10 years, whether for yourself, on behalf of a client, or acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated: None.

5. Describe any activity during the past 10 years in which you have been engaged for the purpose of directly or indirectly influencing the passage, defeat, or modification of any legislation or affecting the administration and execution of law or public policy: None.

6. Explain how you will resolve any potential conflict of interest, including any that may be disclosed by your responses to the above items.

Any potential conflicts of interest will be resolved in accordance with the terms of an ethics agreement that I have entered into with the designated agency ethics official for OSTP and that has been provided to this Committee.

C. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics by, or been the subject of a complaint to any court, administrative agency, professional association, disciplinary committee, or other professional group? If so, please explain: No.

2. Have you ever been investigated, arrested, charged, or held by any federal, state, or other law enforcement authority of any federal, state, county, or municipal entity, other than for a minor traffic offense? If so, please explain: No.

3. Have you or any business of which you are or were an officer ever been involved as a party in an administrative agency proceeding or civil litigation? If so, please explain.

I have been named as a defendant in several civil suits, but solely in my capacity as a member of the 2005 Base Realignment and Closure Commission. None of these cases alleged any personal wrong doing, and I have played no role in their litigation.

4. Have you ever been convicted (including pleas of guilty or *nolo contendere*) of any criminal violation other than a minor traffic offense? If so, please explain: No.

5. Have you ever been accused, formally or informally, of sexual harassment or discrimination on the basis of sex, race, religion, or any other basis? If so, please explain: No.

6. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be disclosed in connection with your nomination: None.

D. RELATIONSHIP WITH COMMITTEE

1. Will you ensure that your department/agency complies with deadlines for information set by Congressional committees? Yes.

2. Will you ensure that your department/agency does whatever it can to protect Congressional witnesses and whistle blowers from reprisal for their testimony and disclosures? Yes.

3. Will you cooperate in providing the Committee with requested witnesses, including technical experts and career employees, with firsthand knowledge of matters of interest to the Committee? Yes.

4. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so? Yes.

RESUME OF PHILIP E. COYLE III

*Associate Director for National Security and International Affairs,
Office of Science and Technology Policy, Executive Office of the President*

Mr. Philip E. Coyle III currently serves as the Associate Director of National Security and International Affairs (NSIA) in the Office of Science and Technology Policy (OSTP). As such, he has primary responsibility for supporting the Director of OSTP in developing and executing science and technology initiatives in areas including: homeland and national security research, development and acquisition; nuclear, chemical, and biological defense; counterproliferation, cybersecurity; international science and technology cooperation; and nuclear security.

Mr. Coyle served as a Senior Advisor to the President of the World Security Institute and to its Center for Defense Information, a Washington D.C.-based national security study center. In 2005 and 2006, Mr. Coyle served on the nine-member Defense Base Realignment and Closure Commission (BRAC), appointed by President George W. Bush and nominated by Speaker of the House Nancy Pelosi. Prior to this appointment, Mr. Coyle served on Governor of California Arnold Schwarzenegger's Base Support and Retention Council. From September 1994 through January 2001, Mr. Coyle was Assistant Secretary of Defense and Director, Operational Test and Evaluation, in the Department of Defense, and is the longest serving Director in the 25-year history of the Office. In this capacity, he was the principal advisor to the Secretary of Defense on test and evaluation in the Department of Defense. Mr. Coyle has 40 years experience in national security research, development, and testing matters.

From 1959 to 1979, and again from 1981 to 1993, Mr. Coyle worked at the Lawrence Livermore National Laboratory (LLNL) in Livermore, California. Over those 33 years Mr. Coyle worked on a variety of nuclear weapons programs and other high technology programs. Mr. Coyle also served as Deputy Associate Director of the Laser Program at LLNL. Mr. Coyle retired from the Laboratory in 1993 as Laboratory Associate Director and deputy to the Director. In recognition of his years of service to the Laboratory and to the University of California, the University named Mr. Coyle Laboratory Associate Director Emeritus. During the Carter Administration, Mr. Coyle served as Principal Deputy Assistant Secretary for Defense Programs in the Department of Energy (DOE). In this capacity he had oversight responsibility for the nuclear weapons research, development, production and testing programs of the Department, as well as the DOE programs in arms control, non-proliferation, and nuclear safeguards and security.

The CHAIRMAN. Thank you very much, sir.
Dr. Sullivan.

**STATEMENT OF DR. KATHRYN D. SULLIVAN, ASSISTANT
SECRETARY-DESIGNATE OF COMMERCE FOR OBSERVATION
AND PREDICTION, NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION, U.S. DEPARTMENT OF COMMERCE**

Dr. SULLIVAN. Thank you, Mr. Chairman, and Ranking Member Hutchison, and members of the Committee.

I'm honored to come before you today as the President's nominee for the Assistant Secretary of Commerce, Environmental Observation and Prediction.

I'd also like to thank Secretary Locke and Under Secretary Lubchenco for their strong support of my nomination, and, of course, Senator Portman for that very generous introduction.

I'm delighted that my family is represented here today supporting me. My brother Grant, his wife Lee, their children Michelle, Daniel, and Timothy, have joined us. I thank them all from the bottom of my heart for always encouraging me to reach for the stars.

I would like to say also that with me here in spirit are two truly remarkable parents. My father and mother were both outstanding natural teachers who were never exhausted by the endless ques-

tions of a very curious child, and always helped us build answers in a way that made us feel like we were peer learners. Little wonder that such a household produced an inveterate explorer.

Finally, I'm grateful to have my cousin, Rita Kelly, and a number of friends and colleagues from near and far here in the audience today.

Our family moved to California when I was six, and I grew up roaming the then-open fields and rolling hills of the San Fernando Valley, always curious about what lay beyond the end of our street. Our family's flying and fishing trips fed my interest in everything geographical and gave me my first small lessons in expedition planning.

This all took place against the dramatic backdrop of sea and space exploration, for these were the times of Alan Shepard, John Glenn, Jacques Cousteau and others. I was drawn strongly to the drama of challenge and discovery in the lives of these pioneers, and hoped that I might find a way to center my own life on such endeavors.

My plan for college was to parlay a flair for foreign languages into that adventurous life, but university requirements forced me to first take three science courses. Thus did I discover oceanography. Here standing before me were real, accessible people who knew the whole planet like their backyard, and whose lives were full of just the blend of curiosity, problem-solving, and adventure that I had been seeking. I changed majors on the spot and never looked back.

That decision led eventually to doctoral work in marine geology and geophysics at Dalhousie University in Halifax, Nova Scotia. Satellite remote sensing and space-based oceanography were just developing in those years and promised to revolutionize all of the earth sciences. I followed these developments avidly, never imagining that I myself would some day orbit the earth.

When NASA began recruiting the first shuttle class in 1976, I first dismissed the thought of applying. I loved going out to sea, and was fascinated by the ocean sciences. When I reconsidered the proposition as the opportunity to serve, planning and conducting research expeditions aboard a space vessel rather than a marine vessel, however, I decided to give it a try.

Unlike on an oceanographic ship, the scientists in the space shuttle program, called Mission Specialists, would be immersed fully in both the workings of the shuttle and the scientific operations. The icing on the cake, of course, was that I would get to see the earth from space with my own eyes—an absolutely irresistible proposition.

My experience in orbit, Mr. Chairman, is undoubtedly one of the strongest factors that shapes my perspective on the role for which I am nominated. No amount of words can convey what it feels like to see our planet from this vantage point, nor express the flood of thoughts and questions that course through one's mind. The grand scale and vast power of the planet's natural systems are vividly apparent, but so are the breathtakingly fine-scale features that remind one of the most exquisite filigree and clear signs of the hand of man across the face of the globe.

This experience deepened my fascination with the amazing sphere on which we live. It strengthened my conviction that we must continually strive to better understand our home planet and the working of its natural systems, and to translate scientific understanding into tools and information that help people live safe, productive and sustainable lives.

NOAA plays precisely that vital role for our nation, advancing scientific knowledge, and then converting that enhanced understanding into useful information services for Americans. I was delighted and honored to be nominated and confirmed as the Agency's Chief Scientist in the early 1990s, and look forward eagerly to joining the team again if confirmed.

During the past 15 years, while my primary work has centered on science education, I've been able to stay abreast with the relevant earth sciences. In particular, my assignments as an oceanography officer in the Navy Reserve and my service on the National Science Board and Pew Oceans Commission have been very valuable in this regard.

Finally, Mr. Chairman, the Assistant Secretary for Environmental Observation and Prediction is the person responsible for making sure that the American people get the best result from NOAA's investments in the satellites and other observing systems that let us forecast weather and climate changes, and predict other changes in our ocean and atmosphere. This is a responsibility that I take quite seriously. And if confirmed, I would look forward to working with you and all of your staffs, and interacting closely with the Congress to execute this important function.

I thank you again for your consideration of my nomination and the opportunity to appear before you this morning, and look forward to your questions.

[The prepared statement and biographical information of Dr. Sullivan follows:]

PREPARED STATEMENT OF DR. KATHRYN D. SULLIVAN, ASSISTANT SECRETARY-DESIGNATE OF COMMERCE FOR OBSERVATION AND PREDICTION, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, U.S. DEPARTMENT OF COMMERCE

Mr. Chairman, Ranking Member Hutchinson, members of the Committee—I am honored to come before you today as President Obama's nominee for Assistant Secretary of Commerce, Environmental Observation and Prediction. I would also like to thank Secretary Locke and Under Secretary Lubchenco for their gracious support of my nomination.

My wonderful family is represented here today by my brother, Grant, his wife Lee, and their children Michelle, Daniel and Timothy. I thank them all, from the bottom of my heart, for always encouraging me to reach for the stars. With me here in spirit today are also my truly remarkable parents. My father and mother were outstanding natural teachers: Never exhausted by the endless questions of curious children, and always able to engage us in figuring out answers in a way that made us feel like peer-learners. Little wonder that such a home produced an inveterate explorer. I am also grateful to have my cousin Rita Kelly and a number of friends and colleagues from near and far here to support me today.

Our family moved to California when I was six, and I grew up among the then-open fields and rolling hills of the San Fernando Valley. I spent many weekends roaming the open stretches of the valley with friends, just curious to know what was beyond the end of our street. Our family's flying and fishing trips further fed my interest in everything geographical, and gave me my first lessons in expedition planning. This all took place against the backdrop of dramatic events in sea and space exploration, for these were the times of Alan Shepard, John Glenn, Jacques Cousteau and others. I felt drawn deeply to the drama of challenge and discovery

in the lives of these pioneers, and hoped I might find a way to center my life on such endeavors.

My plan for college was to parlay a natural flair for foreign languages into that adventurous life. To my dismay, but also everlasting good fortune, university requirements forced me to take three natural science courses during freshman year. Thus did I discover oceanography. Here before me stood real, accessible people, who seemed to know the whole planet like their backyard, and whose lives were full of just the blend of curiosity, problem-solving and adventure that I had been seeking. I changed majors on the spot and never looked back.

That decision led, eventually, to my doctoral work in marine geology and geophysics at Dalhousie University in Halifax, Nova Scotia. Satellite remote sensing and space-based oceanography were developing rapidly in those years. Though my own work involved the geology of the deep-sea floor, I followed these developments avidly. Sensing that these new methods would transform the earth sciences, I considered seeking a post-doctoral fellowship in the field to learn more, never imagining that I would someday orbit the Earth myself.

When NASA began recruiting the first class of space shuttle astronauts in 1976, I first dismissed the thought of applying. I loved the science I was doing, and I loved being at sea. When I re-framed the proposition into one of planning and conducting expeditions aboard a space ship rather than a marine vessel, I decided to try. Unlike aboard an oceanographic ship, the scientists in the shuttle program—called Mission Specialists—would be immersed fully in both the workings of the shuttle and the scientific operations. The icing on the cake, of course, was that I would get to see the earth from space with my own eyes—an irresistible prospect.

My experience in orbit is undoubtedly one of the strongest factors shaping my perspective on the role for which I am nominated. No amount of words or photos can convey what it feels like to see our planet from this vantage point, nor express the flood of thoughts and questions that course through one's mind. The grand scale and vast power of the planet's natural systems are vividly apparent, but so are breathtakingly fine-scale features that remind one of the most exquisite filigree. The hand of man is also quite apparent across the face of the globe, evident in the gray smudges of urban areas, in ship wakes and jet contrails and, perhaps most stunningly, in the sparkling diamond lacework of cities at night.

This experience deepened my fascination with this amazing sphere on which we live. It strengthened my conviction that we must continually strive to better understand our home planet and the workings of its natural systems, and to translate scientific understanding into tools and information that help people live safe, productive and sustainable lives.

NOAA plays precisely that vital role for our country—advancing scientific knowledge, and then converting that enhanced understanding into useful information services for Americans. I was delighted and honored to be nominated and confirmed as the agency's Chief Scientist in the early 1990s, and look forward eagerly to joining the team again, if confirmed. During the past fifteen years, while my primary work has centered on science education, I have been able to stay abreast of developments in the Earth sciences—and here I use that term broadly, to include oceanography and the atmospheric sciences. My assignments as an oceanography officer during 18 years in the U.S. Navy Reserve, and my service on the National Science Board and Pew Oceans Commission have been especially valuable in this regard.

The Assistant Secretary for Environmental Observation and Prediction is the person responsible for making sure that the American people get the best result from NOAA's investments in the satellites and other observation systems that allow us to forecast weather and climate conditions, as well as to predict other changes in our oceans and atmosphere. This is a responsibility that I take quite seriously and, if confirmed, I look forward to working closely with the Congress to execute this important function.

I thank you for your consideration of my nomination and the opportunity to address this committee. I look forward to any questions you may have.

A. BIOGRAPHICAL INFORMATION

1. Name (Include any former names or nicknames used):
Kathryn D. Sullivan (Kathy).
2. Position to which nominated: Assistant Secretary of Commerce, Environmental Observation and Prediction.
3. Date of Nomination: January 5, 2011.

4. Address (List current place of residence and office addresses):

Residence: Information not released to the public.

Office: The Ohio State University, 1810 College Road, Columbus, OH 43210.

5. Date and Place of Birth: October 3, 1951; Paterson, NJ.

6. Provide the name, position, and place of employment for your spouse (if married) and the names and ages of your children (including stepchildren and children by a previous marriage).

Never married; no children.

7. List all college and graduate degrees. Provide year and school attended.

B.S. (1973), University of California, Santa Cruz.

Ph.D. (1978), Dalhousie University (Halifax, Nova Scotia, Canada).

8. List all post-undergraduate employment, and highlight all management-level jobs held and any non-managerial jobs that relate to the position for which you are nominated.

Graduate Fellowships, Dalhousie University, Halifax, Nova Scotia (1973–1975) and National Research Council, Canada, (1975–1978), Halifax, Nova Scotia.

Relevant work: Marine geology and geophysics research expeditions.

1978–1993: NASA Mission Specialist Astronaut, Johnson Space Center, Houston, TX.

Relevant assignments: Mission Manager, WB–57F high-altitude research aircraft program (1979–1981); Mission Lead & Co-Investigator, Shuttle Imaging Radar-B flight experiment, STS–41G (1983–1984); Payload Commander, ATLAS–1 Atmospheric Sciences Spacelab flight, STS–45 (1990–1992).

Chief Scientist, NOAA (1993–1996), Washington, D.C.

Oceanography Officer, U.S. Navy Reserve (1988–2007).

Relevant assignments: Tactical sensor operational performance predictions, ONR TAC 206 and CTF–66 (1988–1989); Executive Officer and Commanding Officer, NORA 1570 (meteorological and oceanographic services training unit), NAS Dallas (1989–1993); Environmental sensor and models research portfolio assessment, SPAWAR 0466/Naval Research Laboratory (1993–1996).

President and CEO, COSI (Center of Science and Industry), Columbus, OH (President and CEO, 1996–2005; Science Advisor 01/2006–11/2006).

Relevant work: executive leadership and supervision; strategic planning; annual operating plans and budgets; internal business process improvements; communications and marketing; stakeholder relationships; informal science education.

Director, Battelle Center for Mathematics and Science Education Policy, John Glenn School of Public Affairs, Ohio State University (2006 to present).

Corporation Member, Woods Hole Oceanographic Institution (1996 to present).

Relevance: This non-governing affiliation with WHOI has helped me maintain a current knowledge of ocean sciences, especially with ocean observing vehicles and technologies.

National Science Board (2004–2010).

Relevance: Programmatic and budgetary matters coming before the board have helped me maintain a current knowledge of observation, monitoring and research programs and technology developments in fields ranging from atmospheric and ocean sciences to high-performance computing.

9. Attach a copy of your resume. A copy is attached.

10. List any advisory, consultative, honorary, or other part-time service or positions with Federal, State, or local governments, other than those listed above, within the last 5 years.

Governor's Institute on Creativity and Innovation in Education: advisory panel on program design, State of Ohio (2008–2009).

Int'l Education Advisory Council, Ohio (2008–2010).

Ohio's GI Promise Council (2008–2010).

Purdue University INSPIRE Program Advisory Council (2010 to present).

Smurfit Graduate School of Business, North American Advisory Board (2004 to present).

11. List all positions held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, company, firm, partnership, or other business, enterprise, educational, or other institution within the last 5 years.

K.D. Sullivan Enterprises LLC (Sole proprietor, 2005 to present).
 N951AG LLC (An LLC established in 2006 to hold title to my airplane. I am sole proprietor.)
 American Electric Power (director, 1997 to present).
 Noblis (trustee, 2000 to present).
 Waterfire Columbus (Chair, 2005 to present).
 Net Jets Family Foundation (Trustee, 2007 to present).
 ris DC (restaurant; passive investor, 2008 to present).
 Pizzuti Companies (science and technology advisor, Exploration Park project, Kennedy Space Center, FL, 2007 to present).
 American Association for the Advancement of Science (Trustee, Feb. 2004–Feb. 2008; Section Officer, Feb. 2009 to present).
 Rolex (Consultant; April 2008–November 2008).
 21st Editions (Consultant; Oct. 2007–Oct. 2008)
 The Taylor Companies (Advisor; 2008 to present).

12. Please list each membership you have had during the past 10 years or currently hold with any civic, social, charitable, educational, political, professional, fraternal, benevolent or religious organization, private club, or other membership organization. Include dates of membership and any positions you have held with any organization. Please note whether any such club or organization restricts membership on the basis of sex, race, color, religion, national origin, age, or handicap.

Worthington Hills Country Club (2008 to present).
 The Lakes Country Club (1999 to present).
 Ohio State University Faculty Club (2006 to present).
 The Capital Club (1996–2008; 2-year board term).
 *Girl Scouts USA (1983 to present; gender restriction).
 American Association for the Advancement of Science (1981 to present; board term 2004–2008).
 The Woods Hole Oceanographic Inst. Corporation (1997 to present).
 The Association of the United States Navy (1988 to present).
 The Smithsonian Institution (1998 to present; estimated).
 COSI Columbus (Member 1996–2008; President and CEO 1996–2005; Science Advisor 2005–2006).
 Explorers Club of New York (1981 to present).
 *Society of Woman Geographers (1981 to present; gender restriction).
 *Women in Aviation, Int'l (2008 to present; gender restriction).
 Amer. Inst. Aeronautics and Astronautics (1978 to present).
 The Planetary Society (1982 to present; board term 2000–2003).
 Assoc. of the U.S. Navy (formerly Naval Reserve Assoc.; 1988 to present).
 Sea-Space Symposium (1987 to present).
 Assoc. of Space Explorers (1991 to present).
 *Int'l Women's Forum (1993 to present; gender restriction).
 Univ. Calif. Santa Cruz Alumni Association (1996 to present).
 Sigma Xi (1989 to present).
 The Ravines at Worthingridge Condo Assoc. (1996 to present).
 Assoc. of Science and Technology Centers (1996–2005; board term 1997–2001).
 Friends of Long Marine Laboratory (2009 to present).
 Giant Screen Theater Association (1996–2005; board term 1999–2003).
 Association of Science and Technology Centers (1996–2006; board term 1998–2001).

13. Have you ever been a candidate for and/or held a public office (elected, non-elected, or appointed)? If so, indicate whether any campaign has any outstanding debt, the amount, and whether you are personally liable for that debt: No.

14. Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of \$500 or more for the past 10 years. Also list all offices you have held with, and services rendered to, a state or national political party or election committee during the same period.

No political or election-related offices held.

Paula L. Brooks for Representative campaign 2010: \$1,500.

15. List all scholarships, fellowships, honorary degrees, honorary society memberships, military medals, and any other special recognition for outstanding service or achievements.

Dalhousie University Graduate Fellowship (1973–1976).

Nat'l Research Council of Canada Research Fellowship (1976–1978).

Women Aviators Hall of Fame (2010).

Explorers Medal, Explorers Club of New York (2007).

Aerospace Legends Hall of Fame, Aviation Week and Space Technology (2005).

Astronaut Hall of Fame (2004).

Leader in Space Science, Adler Planetarium (2004).

National Science Board Public Service Award (2003).

Juliette Award for Women of Distinction, Girl Scouts USA (2002).

Ohio Women's Hall of Fame (2002).

Ohio Veteran's Hall of Fame (2001).

YWCA Women of Achievement (1985, 2001)

Lone Sailor Award, U.S. Navy Memorial Foundation (1997).

NASA Medal for Outstanding Leadership (1992).

NASA Exceptional Service Medal (1988, 1991).

NASA Space Flight Medal (1984, 1991, 1992).

Vic Prather Award (American Astronautical Society, 1992).

Haley Space Flight Medal (American Institute of Aeronautics and Astronautics, 1990).

National Air and Space Museum Trophy (1985).

Ten Outstanding Young Americans Award, U.S. Jaycees (1987).

Ten Outstanding Young People of the World, Jaycees Int'l (1987).

Woman Divers Hall of Fame (2008).

Women in Aviation Pioneer Hall of Fame (2010).

Honorary Degrees:

Kent State University (2002).

Ohio Dominican College (1998).

Stevens Institute of Technology (1992).

State University of New York, Utica (1991).

Dalhousie University (1985).

15. Please list each book, article, column, or publication you have authored, individually or with others. Also list any speeches that you have given on topics relevant to the position for which you have been nominated. Do not attach copies of these publications unless otherwise instructed.

Generative Leadership: Shaping New Futures for Today's Schools (in press), K. Klimek, E. Ritzenhein and K. D. Sullivan. Corwin Press (in press, April 2008).

Women Leading the Way: Reflections on Life and Leadership (2005), The Academy for Leadership and Governance, Columbus Ohio.

America's Living Oceans: Charting a Course for Sea Change (2003), Pew Oceans Commission final report.

A Glimpse of Home (2002), Time Magazine Special Report on the Environment (August 26 edition, A4–A5).

Technology and the City's Future (1997), Mayoral Task Force Report, City of Columbus (Co-Chair and lead author).

The Atmospheric Laboratory for Applications and Science–1: A Shuttle Mission (1992), with M.R. Torr; EOS, Transactions of the American Geophysical Union. Geography Reaches New Heights: An Astronaut's View of Earth (1991), "Update," National Geographic Society, Washington, D.C.

Earth Observations During Space Shuttle Flight STS-31: The Earth from 600 Kilometers (1991), with Evans et al; *Geocarto International* 6(3), 99-112.

Pioneering the Space Frontier (1986), Report of the National Commission on Space; Bantam Books, NY.

Geology of the Venus Lowlands: Guinevere and Sedna Planitia (1984), with J.W. Head; Lunar and Planetary Science Conference Proceedings, Houston, Texas.

Elysium Planitia, Mars: Regional Geology, Volcanology and Evidence for Volcano/Ground-Ice Interactions (1984), with P. Mouginiis-Mark; *Earth, Moon and Planets* 30, 149-173.

The Newfoundland Basin: Ocean-Continent Boundary and Mesozoic Seafloor Spreading History (1983); *Earth and Planetary Science Letters* 62, 321-339.

Radar and Infrared Remote Sensing of Geothermal Features at Pilgrim Springs, Alaska (1982), with K.G. Dean, R.B. Forbes, D.L. Turner and F.D. Eaton; *Remote Sensing of Environment* 12, 391-405.

The Potential for Manned Earth Observations in the Space Shuttle Era (1979), International Union of Geodesy and Geophysics, 17th General Assembly, Canberra, Australia.

The Structure and Composition of the Linear Volcanic Chains of the Western North Atlantic (1979), with R. Houghton; *Hawaii Symposium on Intra-Plate Volcanism*, Hilo, Hawaii.

Geologist in Space (1979), in: *GEOS*, Dept, Energy, Mines and Resources, Ottawa, Canada, 5-7.

On the Nature of the Crust in the Vicinity of the Southeast Newfoundland Ridge (1978), with C.E. Keen; *Canadian Journal of Earth Sciences* 15(9), 1462-1471.

Mesozoic Evolution of the Newfoundland Basin (1977), with C.E. Keen and B.R. Hall; *Earth and Planetary Science Letters*, 37, 307-320.

Newfoundland Seamounts: Petrology and Geochemistry (1977), with C.E. Keen; *Geological Association of Canada, Special Paper* 16, 461-476.

Deep-Drill Investigations of the Oceanic Crust in the North Atlantic (1975), with F. Aumento; in: *Geodynamics of Iceland & the North Atlantic*, NATO Advanced Study Institute, Reykjavik, 83-104.

16. Please identify each instance in which you have testified orally or in writing before Congress in a governmental or non-governmental capacity and specify the date and subject matter of each testimony.

1993: Senate Commerce Committee, Confirmation Hearing for NOAA Chief Scientist position.

17. Given the current mission, major programs, and major operational objectives of the department/agency to which you have been nominated, what in your background or employment experience do you believe affirmatively qualifies you for appointment to the position for which you have been nominated, and why do you wish to serve in that position?

Many aspects of my background and prior employment qualify me for this position. Broadly stated, these include my academic preparation in the Earth sciences, my operational experience in scientific field expeditions, spaceflight operations and operational environmental forecasting for the U.S. Navy, my prior federal service with both NASA and NOAA and the scientific and technical currency I've been able to retain through my National Science Board service. I wish to serve now because I believe I can contribute substantively to the success of one of NOAA's most vital missions, namely providing the nation and the world with trustworthy, reliable, timely and accurate information (measurements, analyses, predictions) about the state of Earth's oceans and atmosphere.

18. What do you believe are your responsibilities, if confirmed, to ensure that the department/agency has proper management and accounting controls, and what experience do you have in managing a large organization?

If confirmed, I would bear responsibility for ensuring that all programs and operations are planned, budgeted and executed following approved policies and procedures, and that proper program management and accounting controls are in place and functioning properly. I believe my experiences at COSI and on public company boards prepare me well for this responsibility. I led COSI through the most substantial transformation in the organization's history. This involved joint (with the State of Ohio) ownership of and responsibility for the design and construction of a \$125 million new facility and included budget development and execution, construction

management and permitting of the site's environmental condition plus the all of the building's safety and operating systems. In addition, essentially every one of COSI's internal business processes had to be redesigned, including budget and finance, the IT architecture and applications, and guest service operations. My public company board experience, which has included service on audit, finance and nuclear oversight committees, gives me sound understanding of how to implement and evaluate effective executive processes in much larger organizations.

19. What do you believe to be the top three challenges facing the department/agency, and why?

1. Environmental satellite systems: Major system transitions are affecting NOAA's polar and geosynchronous satellite systems at the same time. The challenges are myriad, including requirements migration, contracting issues, data continuity, inter-calibration and program execution (to name just a few). These are difficult challenges to meet under any circumstances, and the challenge will be compounded by current budget realities.
2. Fleet and aircraft modernization programs: This will involve a large capital investment in systems that are critical to NOAA's ability to fulfill its mission mandates. The classic challenges in such endeavors include assuring the requirements have been well-defined, crafting an effective blend of the innovative and the reliable in meeting the requirements, sound acquisition management and rigorous program and budget management.
3. The data deluge: NOAA is responsible for architectural definition, procurement and reliable operation of the large data systems (and systems of systems) needed to store, process, archive and make available to users the vast amounts of data produced by today's global observing systems and modeling centers.

B. POTENTIAL CONFLICTS OF INTEREST

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients, or customers. Please include information related to retirement accounts.

COSI retirement account balances: Some monies remain invested in mutual funds through the COSI Columbus retirement plan. No contributions have been made to these accounts since 2006, and none will be made during my federal service.

AEP deferred compensation balances: Two unfunded memo accounts record the amounts due to me from AEP upon termination of my board service. The value of one memo account tracks securities in the JP Morgan 401k program open to all AEP employees. The value of the other memo account tracks AEP stock. Each of these accounts will pay out in annual installments over 5 years, following termination of my board service.

2. Do you have any commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business, association or other organization during your appointment? If so, please explain: No.

3. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated.

In connection with the nomination process, I have consulted with the Office of Government Ethics and the Department of Commerce's designated agency ethics official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of an ethics agreement that I have entered into with the Department's designated agency ethics official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

4. Describe any business relationship, dealing, or financial transaction which you have had during the last 10 years, whether for yourself, on behalf of a client, or acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated: None.

5. Describe any activity during the past 10 years in which you have been engaged for the purpose of directly or indirectly influencing the passage, defeat, or modification of any legislation or affecting the administration and execution of law or public policy: None.

6. Explain how you will resolve any potential conflict of interest, including any that may be disclosed by your responses to the above items.

Any potential conflicts of interest will be resolved in accordance with the terms of an ethics agreement that I have entered into with the Department's designated agency ethics official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

C. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics by, or been the subject of a complaint to any court, administrative agency, professional association, disciplinary committee, or other professional group? If so, please explain.

No, except as described in response to question 5 below.

2. Have you ever been investigated, arrested, charged, or held by any federal, state, or other law enforcement authority of any federal, state, county, or municipal entity, other than for a minor traffic offense? If so, please explain: No.

3. Have you or any business of which you are or were an officer ever been involved as a party in an administrative agency proceeding or civil litigation? If so, please explain.

As a large corporation, AFT has been routinely involved in such proceedings. I am aware of the following litigation to which AEP has been a party during my tenure as a member of the company's Board of Directors, some of which named me in my official capacity:

In late 2002 and early 2003, class action lawsuits alleging securities violations were filed in the U.S. District Court for the Southern District of Ohio, against AEP, certain AEP executives, and in some of the lawsuits, members of the AEP Board of Directors and certain investment banking firms. The lawsuits claimed that AEP failed to disclose that alleged "round trip" electric power trades resulted in an overstatement of revenues, that AEP failed to disclose that AEP traders falsely reported energy prices to trade publications that published gas price indices, and that AEP failed to disclose that it did not have in place sufficient management controls to prevent round trip trades or false reporting of energy prices. In September 2004, the Court dismissed all claims in all of these cases. No adverse findings of any kind were made against any of the defendants.

Also in the fourth quarter of 2002, two shareholder derivative actions were filed in state court in Columbus, Ohio, against AEP and its Board of Directors alleging a breach of fiduciary duty for failure to establish and maintain adequate internal controls over AEP's gas trading operation. These cases were dismissed in November 2004 after the related securities law cases were dismissed in federal court. Again, no adverse findings of any kind were made against any of the defendants.

4. Have you ever been convicted (including pleas of guilty or *nolo contendere*) of any criminal violation other than a minor traffic offense? If so, please explain: No.

5. Have you ever been accused, formally or informally, of sexual harassment or discrimination on the basis of sex, race, religion, or any other basis? If so, please explain.

Yes. In the 1995–97 timeframe, a NOAA employee named me as an additional party in a discrimination action brought against then-NOAA Administrator D. James Baker. I was interviewed by DOC Counsel's office personnel on several occasions, but never deposed nor subpoenaed. I believe the action was dropped, with no adverse findings against me.

6. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be disclosed in connection with your nomination: None.

D. RELATIONSHIP WITH COMMITTEE

1. Will you ensure that your department/agency complies with deadlines for information set by Congressional committees? Yes.

2. Will you ensure that your department/agency does whatever it can to protect Congressional witnesses and whistle blowers from reprisal for their testimony and disclosures? Yes.

3. Will you cooperate in providing the Committee with requested witnesses, including technical experts and career employees, with firsthand knowledge of matters of interest to the Committee? Yes.

4. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so? Yes.

RESUME OF KATHRYN D. SULLIVAN

Director, Battelle Center for Mathematics and Science Education Policy—The John Glenn School of Public Affairs, Ohio State University

Leads the formulation of the inaugural program plan for this new center, intended to catalyze changes in science education that will better equip young Americans for 21st century life. Established by a major gift in 2005, the Center will build a portfolio of scholarly research, service and public outreach activities that helps policy-

makers and community stakeholders identify actions to improve the quality of educational outcomes in science, technology, engineering and mathematics across the pre-K to college range.

Prior Experience

Science Advisor, COSI Columbus (2005–2006)

Represented COSI regionally and nationally on matters of science and education policy; assisted the President and CEO with programmatic and funding strategies.

President and CEO, COSI (1996–2005)

Provided transformative executive leadership to this 501(c)3 hands-on science education enterprise, which serves nearly 900,000 people annually throughout Ohio and surrounding states. COSI's celebrated products and services include more than 100,000 square feet of interactive science exhibits in downtown Columbus, a nationally renowned "COSI On Wheels" outreach program serving over 250,000 annually in Ohio and surrounding states, an award-winning inquiry-based electronic education programs—including interactive live surgeries—delivered to schools across the U.S. and the nation's first (and still largest) overnight Camp-In program.

Oversaw final design and construction of \$125 million new facility, delivering an on-time/under-budget opening in November, 1999. Played pivotal roles in driving private sector fundraising campaign to \$45.6 million, more than \$10 million above the original target. Re-engineered the organization in concert with the building program, establishing the first formal development and retail marketing functions and re-structuring the Board of Trustees. Conceived of and led the development and launch of COSI Academy, a first-of-a-kind program providing high school students with professional research opportunities and mentors from area research and technology firms, and Inquiry Learning for Schools (ILS), a statewide professional development program. Developed innovative new community partnerships, including the co-location of WOSU public television within COSI, presentation of international traveling art and science exhibitions and collaborative marketing, ticketing and educational programs with area arts organizations.

Served major civic roles as a leading advisor and advocate on science, technology and education programs and policy. Chaired Governor's Aerospace & Defense Advisory Council and the BRAC (Base Re-alignment & Closure) subcommittee. Typically addressed 150–200 audiences annually, ranging from grade school students to leaders of Fortune 500 companies.

Chief Scientist, National Oceanic and Atmospheric Administration (1992–1996).

Nominated by both the Bush and Clinton administrations, confirmed in May 1993. Oversaw planning, budget and productivity of approximately \$500 million research and technology portfolio covering a broad spectrum of earth and ocean sciences and technology. Led senior interagency working groups that produced Presidential Decision Directives promulgating new U.S. environmental technology export policy and converging military and civilian environmental satellite programs into today's National Polar Orbiting Environmental Satellite System.

NASA Mission Specialist Astronaut (1978–1993).

Veteran of three Shuttle missions, with over 500 hrs in space. Mission Manager and in-flight scientist aboard NASA's high-altitude WB-57F aircraft (1979–1981). Chief of the Astronaut Office's Mission Development Branch (1990–1991). Appointed in 1985 to the Presidential National Commission on Space. NASA awards and commendations include Medal for Outstanding Leadership, Exceptional Service Medal (twice) and Spaceflight Medal (three times), plus numerous group and personal achievement awards.

Spaceflight experience: STS-41G (*Challenger*, 1984).

First American woman to walk in space, performing an orbital refueling engineering demonstration. Lead astronaut for a suite of Earth remote sensing experiments, including the SIR-B synthetic aperture radar; Co-Investigator on SIR-B experiments. STS-31 (*Discovery*, 1990): EVA (space walk) specialist for Hubble Space Telescope deployment mission; leading role 1985–1990 developing over 97 specialized tools and dozens of procedures needed for Hubble on-orbit repair and servicing. STS-45 (*Atlantis*, 1992): Payload Commander for ATLAS-1 earth and atmospheric sciences Spacelab mission; led four-person scientific crew through all aspects of training, mission preparation and flight operations.

Naval Reserve (1988 to present).

Direct commission into Oceanography program (1805) and designation as Naval Astronaut (Specialist) in April 1988. Key posts held include Commanding Officer,

NORA 1570 (NAS Dallas, 1990–1992) and Commanding Officer SPAWAR 0466 (Washington, D.C. 1996–1997). Active duty assignments have included Mediterranean anti-submarine warfare operations, environmental support to the Persian Gulf Theater during Operation Desert Storm, joint-service exercises aboard USS Kitty Hawk and R&D program management. Awards include the Navy Commendation Medal, National Defense Service Medal and Overseas Service Ribbon. Current rank: Captain.

Education

Ph.D. (Geology), Dalhousie University, Nova Scotia, 1978
B.S. (Honors, Earth Sciences), U.C. Santa Cruz, 1973

Honors and Awards

Explorers Medal, Explorers Club of New York (2007)
AW&ST Aerospace Legends Hall of Fame (Aviation Week & Space Technology, 2005)
Astronaut Hall of Fame (2004)
Leader in Space Science, Adler Planetarium (2004)
National Science Board Public Service Award (2003)
Girl Scouts USA Juliette Award for Women of Distinction (2002)
Ohio Women's Hall of Fame (2002)
Ohio Veteran's Hall of Fame (2001)
Lone Sailor Award, U.S. Navy Memorial Foundation (1997)
NASA Medal for Outstanding Leadership (1992)
NASA Exceptional Service Medal (1988, 1991)
NASA Space Flight Medal (1984, 1991, 1992)
Vic Prather Award (American Astronautical Society, 1992)
Haley Space Flight Medal (American Institute of Aeronautics and Astronautics, 1990)
National Air and Space Museum Trophy (1985)
Ten Outstanding Young Americans Award, U.S. Jaycees (1987)
Ten Outstanding Young People of the World, Jaycees International (1987)

Honorary Degrees:

Kent State University (2002)
Ohio Dominican College (1998)
Stevens Institute of Technology (1992)
State University of New York, Utica (1991)
Dalhousie University (1985)

Key Boards and Committees

National Science Board (Vice Chair, 2006–2008)
American Association for the Advancement of Science (AAAS)
Wood's Hole Oceanographic Institution
American Electric Power
Noblis
Pew Oceans Commission (2000–2003)
Giant Screen Theaters Association (2001–2004)
Advisory Committee, Federal Commission for the Centennial of Flight (2000–2003)
Ohio Aerospace & Defense Council (Chair, 2002–2003; BRAC Subcommittee 2003)

Memberships and Affiliations

American Association for the Advancement of Science (Fellow)
American Institute of Aeronautics and Astronautics (Fellow)
Association of Space Explorers
The Explorer's Club (Lowell Thomas Medalist)
Society of Woman Geographers (Gold Medallist)

Naval Reserve Association (Life Member)
 Girl Scouts USA (Life Member)

Personal Data

Certified SCUBA diver
 Licensed Private pilot (power and glider)
 Fluent in French and Norwegian; functional in German, Swedish, Danish
 Hobbies: SCUBA diving, dabbling at golf, flying, reading.

Selected Speeches and Appearances

American Electric Power
 Anderson Consulting
 Bermuda Underwater Exploration Institution
 Cunard Line
 CNN
 Discovery Tours (American Museum of Natural History)
 Honda America Research & Development
 Huntington National Bank
 KPMG
 Kent State University
 Lindblad Expeditions
 National Science Board
 Ohio Manufacturer's Association
 The Ohio State University
 Silversea Cruises
 St. Bonaventure University
 University of California, San Diego
 University of California, Santa Cruz
 WBNS 10TV (Columbus, Ohio)
 World Economic Forum

Publications

"Generative Leadership: Shaping New Futures for Today's Schools" With Karl J. Klimek and Elsie Ritzenheim. Corwin Press (2008).
"Women Leading the Way: Reflections on Life and Leadership" (2005), The Academy for Leadership & Governance, Columbus Ohio.
"America's Living Oceans: Charting a Course for Sea Change" (2003), Pew Oceans Commission final report.
"A Glimpse of Home" (2002), Time Magazine Special Report on the Environment (August 26 edition, A4–A5).
"Technology and the City's Future" (1997), Task Force Report prepared for Columbus Mayor Greg Lashutka (Co-Chair and lead author).
 The Atmospheric Laboratory for Applications and Science-1: A Shuttle Mission (1992), with M.R. Torr; EOS, Transactions of the American Geophysical Union.
 Geography Reaches New Heights: An Astronaut's View of Earth (1991), In: Update, National Geographic Society, Washington, D.C.
 Earth Observations During Space Shuttle Flight STS-31: The Earth from 600 Kilometers (1991), with Evans et al; Geocarto International 6(3), 99–112.
 Geology of the Venus Lowlands: Guinevere and Sedna Planitia (1984), with J.W. Head; Lunar and Planetary Science Conference Proceedings, Houston, Texas.
 Elysium Planitia, Mars: Regional Geology, Volcanology and Evidence for Volcano/Ground-Ice Interactions (1984), with P. Mouginiis-Mark; Earth, Moon and Planets 30, 149–173.
 The Newfoundland Basin: Ocean-Continent Boundary and Mesozoic Seafloor Spreading History (1983); Earth and Planetary Science Letters 62, 321–339.

Radar and Infrared Remote Sensing of Geothermal Features at Pilgrim Springs, Alaska (1982), with K.G. Dean, R.B. Forbes, D.L. Turner and F.D. Eaton; *Remote Sensing of Environment* 12, 391–405.

The Potential for Manned Earth Observations in the Space Shuttle Era (1979), International Union of Geodesy and Geophysics, 17th General Assembly, Canberra, Australia.

The Structure and Composition of the Linear Volcanic Chains of the Western North Atlantic (1979), with R. Houghton; Hawaii Symposium on Intra-Plate Volcanism, Hilo, Hawaii.

Geologist in Space (1979), in: GEOS, Dept, Energy, Mines and Resources, Ottawa, Canada, 5–7.

On the Nature of the Crust in the Vicinity of the Southeast Newfoundland Ridge (1978), with C.E. Keen; *Canadian Journal of Earth Sciences* 15(9), 1462–1471.

Mesozoic Evolution of the Newfoundland Basin (1977), with C.E. Keen and B.R. Hall; *Earth and Planetary Science Letters*, 37, 307–320.

Newfoundland Seamounts: Petrology and Geochemistry (1977), with C.E. Keen; Geological Association of Canada, Special Paper 16, 461–476.

Deep-Drill Investigations of the Oceanic Crust in the North Atlantic (1975), with F. Aumento; in: *Geodynamics of Iceland & the North Atlantic*, NATO Advanced Study Institute, Reykjavik, 83–104.

The CHAIRMAN. Thank you very much, Dr. Sullivan.
And, Dr. Gulland.

**STATEMENT OF DR. FRANCES M.D. GULLAND,
MEMBER-DESIGNATE, MARINE MAMMAL COMMISSION**

Dr. GULLAND. Chairman Rockefeller, Ranking Member Hutchison, members of the Committee, I am deeply honored to be nominated by President Obama to serve as a Member of the Marine Mammal Commission, and I am also honored to appear before you today and address any questions that you may have.

As a veterinarian, I took an oath to dedicate my professional life to the care of animals, including marine mammals, so it really is a true and special privilege to be considered for this position.

I was born in England and grew up in Italy, where my father worked for the United Nations in international fisheries management. He was a founding member of the International Whaling Commission's Scientific Committee, so from an early age I was exposed to the sometimes competing demands of fisheries management and whale conservation. My father instilled in me a sense of duty and taught me the value of science-based policy in resource management. My mother received one of the first degrees awarded to women from the University of Cambridge, and she taught me the values of education, respect, and dignity.

Both my parents have since passed away, but they would have been immensely proud to see me here today as a nominee for the Marine Mammal Commission. I hope to continue to apply the values and principles I learned from my parents to the conservation of marine mammals for this country.

I trained as a veterinarian at the University of Cambridge, where I also completed a Ph.D. in zoology. After working at the Zoological Society of London, I moved to the United States in 1994 and became a citizen in 2006. Since 1994, I have worked as the Director of the Veterinary Science program at the Marine Mammal Center, which is a private NGO in California dedicated to the veterinary care of marine mammals, and also to research and edu-

cation. There I have witnessed firsthand the changes in marine mammal health over the past two decades, as the Center has treated more than 10,000 sick and injured marine mammals during my employment.

In addition to my work as a clinical veterinarian, I have conducted research into the factors impacting the health of marine mammals, such as pollutants and increasing harmful algal blooms or red tides. There I have also supervised students and collaborated with scientists from multiple disciplines at a variety of universities and from several state and federal agencies, particularly those at NOAA and the Department of the Interior. This has really taught me the value of interdisciplinary investigations and the need for innovative approaches to understand the current and future changes in our marine ecosystems.

I have also served on federal and state advisory teams, including the recovery teams for the Hawaiian monk seal and the southern sea otter, the California Oiled Wildlife Care Network, and California's new Ocean Protection Council. I have served as a scientific advisor to the Marine Mammal Commission since 2000.

Serving on these advisory teams has strengthened my understanding of the factors that pose risks to marine mammals and their ecosystems, and the complex scientific, social and economic issues that must be addressed to ensure their conservation.

Many of the risk factors that threaten marine mammals, including environmental contamination and bioaccumulation of harmful chemicals, also pose significant risks to human health, and thus warrant additional research so we can understand and minimize their potential impacts.

The Marine Mammal Protection Act created the legal framework for addressing these threats as they pertain to marine mammals and, more generally, for conserving their ecosystems.

I would be truly honored to serve as a Commissioner to further the goals and policies of this Act, and work with the administration and Congress, as well as scientists, industries, conservationists, students and the public, to ensure that marine mammals are conserved for future generations.

Solutions will require collaboration from a broad cross section of society, as well as an understanding of the need to balance the increasing demands of human populations and globalization with ecosystem conservation. One of the greatest challenges that the Marine Mammal Commission is facing is working with the appropriate agencies to coordinate and integrate scientific management activities to conserve marine mammals while still allowing sustainable use of marine resources.

I believe that I have the experience, knowledge and commitment to serve the Marine Mammal Commission in these challenging times. If confirmed, I would serve the Commission and our nation to the very best of my abilities.

Again, thank you for the honor of appearing before you, and I would be pleased to address any questions.

[The prepared statement and biographical information of Dr. Gulland follows:]

PREPARED STATEMENT OF DR. FRANCES M.D. GULLAND, MEMBER-DESIGNATE,
MARINE MAMMAL COMMISSION

Chairman Rockefeller, Ranking Member Hutchison, and members of the Committee, I am deeply honored to have been nominated by President Obama to serve as a Member of the Marine Mammal Commission, and I also am honored to appear before you to discuss my nomination and to address your questions. As a veterinarian, I took an oath to dedicate my professional life to the care of animals including marine mammals, so it is a true and special privilege to be considered for this position.

I was born in England and grew up in Italy, where my father worked for the United Nations in international fisheries management. He was a founding member of the International Whaling Commission's Scientific Committee, so from an early age I was exposed to the sometimes competing demands of fisheries management and whale conservation. My father instilled in me a sense of duty and taught me the value of science-based policy and resource management. My mother received one of the first degrees awarded to women from the University of Cambridge, and she taught me the values of education, respect, and dignity. Both my parents have passed away, but they would have been immensely proud to see me here today as a nominee for the Marine Mammal Commission. I hope to continue to apply the values and principles I learned from my parents to the conservation of marine mammals.

I trained as a veterinarian at the University of Cambridge, where I also completed a Ph.D. in zoology. Thus, I combined my fascination and life-long interest in medicine with scientific research in mammalian ecology. I view the latter to be an essential foundation for conserving mammals. After working at the Zoological Society of London as a surgeon and field researcher, I moved to the United States in 1994 and became a citizen in 2006. Since 1994, I have worked as the Director of the Veterinary Science program at The Marine Mammal Center, a private non-governmental organization dedicated to the veterinary care of marine mammals, research, and education. I have witnessed first hand the changes in marine mammal health over the past two decades, as the Center has treated more than 10,000 sick and injured marine mammals during my employment. In addition to my work as a clinical veterinarian, I have conducted research into the factors impacting the health of marine mammals, such as pollutants and increasing harmful algal blooms. To conduct these studies I have supervised students and collaborated with scientists at a number of universities and from several state and federal agencies, particularly those in the Departments of Commerce and the Interior. To carry out my studies, I have collaborated with scientists from multiple disciplines, such as oceanography, toxicology, epidemiology, ecology, and marine mammal biology. This research has deepened my understanding of the impacts of changes in coastal waters on marine mammal health and disease, including cancer and impaired reproduction resulting from increasing red tides and pollutants. It also has taught me the value of interdisciplinary investigations and the need for innovative approaches to understand current and future changes in marine ecosystems.

I have served on federal and state advisory teams including the recovery teams for the Hawaiian monk seal and the southern sea otter, the Oiled Wildlife Care Network established by the California Department of Fish and Game, and the California Ocean Protection Council, which was created under California's Ocean Protection Act to coordinate activities of state agencies with ocean-related responsibilities. I have served as a scientific advisor to the Marine Mammal Commission since 2000. Serving on these advisory teams has strengthened my understanding of the factors that pose risks to marine mammals and marine ecosystems and the complex scientific, social, and economic issues that must be addressed to ensure their conservation.

As human populations expand and globalization continues, the demands on marine resources and the impacts on the marine environment are ever increasing. Marine mammals, both as populations and individuals, are valuable indicators of the health of our marine ecosystems in ways that are sometimes obvious, such as whales lacerated by the propellers of large ships or animals entangled and dead in fishing gear, or more subtle, such as animals sickened by the toxins of harmful algal blooms. Many of the risk factors that threaten marine mammals, including environmental contamination and bioaccumulation of harmful chemicals, also pose significant risks to human health and warrant additional research so that we can understand and minimize the potential impacts.

The Marine Mammal Protection Act created a legal framework for addressing these threats as they pertain to marine mammals and, more generally, for conserving marine mammals and their ecosystems. I would be honored to serve as a

Commissioner to further the goals and policies of this Act and work with the administration and Congress, as well as scientists, industries, conservationists, students, and the public, to ensure that marine mammals are conserved for future generations. Solutions will require collaboration from a broad cross-section of society, as well as an understanding of the need to balance the demands of increasing human populations and globalization with ecosystem conservation. One of the greatest challenges for the Marine Mammal Commission is working with the appropriate agencies to coordinate and integrate scientific and management activities to conserve marine mammals while allowing sustainable use of marine resources.

I believe that I have the experience, knowledge, and commitment to serve the Marine Mammal Commission well in these challenging times. If confirmed, I would serve the Commission, and our nation, to the very best of my abilities. Again, thank you for the honor of appearing before you. I would be pleased to address any questions the Committee may have.

A. BIOGRAPHICAL INFORMATION

1. Name (Include any former names or nicknames used):
Frances Mary Dorothea Gulland.
2. Position to which nominated: Commissioner, Marine Mammal Commission.
3. Date of Nomination: 5 January 2011.
4. Address (List current place of residence and office addresses):
Residence: Information not released to the public.
Office: 2000 Bunker Road, Sausalito, CA 94965.
5. Date and Place of Birth: 25 February 1960; Ditchingham, United Kingdom (UK).
6. Provide the name, position, and place of employment for your spouse (if married) and the names and ages of your children (including stepchildren and children by a previous marriage).
Spouse: Andrew James Draper, Engineer, MWH (Montgomery Watson Harza), Sacramento, California.
7. List all college and graduate degrees. Provide year and school attended.
1991, Ph.D. University of Cambridge, UK.
1986, M.A. University of Cambridge, UK.
1984, Vet. M.B., University of Cambridge, UK.
1981, B.A. Natural Sciences, University of Cambridge, UK.
8. List all post-undergraduate employment, and highlight all management-level jobs held and any non-managerial jobs that relate to the position for which you are nominated.
1994 to present—Director of Veterinary Services, The Marine Mammal Center, Sausalito, CA, USA (managerial position).
1993—Research assistant. Serengeti Rabies Project, Tanzania.
1992–1993—Research Fellow in Wildlife Diseases, Zoological Society of London, UK.
1988–1991—Graduate student, University of Cambridge, UK.
1985–1988—House Surgeon, Zoological Society of London, UK.
1984–1985—House Surgeon, Royal School Veterinary Medicine, Edinburgh, UK.
9. Attach a copy of your resume. A copy is attached.
10. List any advisory, consultative, honorary, or other part-time service or positions with federal, state, or local governments, other than those listed above, within the last 5 years.
2008 to present—Science Adviser, California Ocean Protection Council.
2006 to present—Member, Advisory Board for California’s Oiled Wildlife Care Network.
2004–2008—Chair, Southern Sea Otter Recovery Implementation Team.
2000 to present—Member, Committee of Scientific Advisors on Marine Mammals, Marine Mammal Commission.

1998 to present—Working Group on Unusual Marine Mammal Mortality Events, National Marine Fisheries Service, 1998–2000, Member; 2001–2005 Chair, 2006 to present, Emeritus member.

2001 to present—Member, Hawaiian Monk Seal Recovery Team.

11. List all positions held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, company, firm, partnership, or other business, enterprise, educational, or other institution within the last 5 years: None.

12. Please list each membership you have had during the past 10 years or currently hold with any civic, social, charitable, educational, political, professional, fraternal, benevolent or religious organization, private club, or other membership organization. Include dates of membership and any positions you have held with any organization. Please note whether any such club or organization restricts membership on the basis of sex, race, color, religion, national origin, age, or handicap.

Member, Wildlife Disease Association, 1993 to present.

Member, International Association for Aquatic Animal Medicine, 1995 to present, (President 2001–2002).

Member, Society for Marine Mammalogy, 1998 to present.

Member, American Association of Zoo Animal Veterinarians.

None of these organizations restrict membership on the basis of sex, race, color, religion, national origin, age, or handicap.

13. Have you ever been a candidate for and/or held a public office (elected, non-elected, or appointed)? If so, indicate whether any campaign has any outstanding debt, the amount, and whether you are personally liable for that debt: No.

14. Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of \$500 or more for the past 10 years. Also list all offices you have held with, and services rendered to, a state or national political party or election committee during the same period: None.

15. List all scholarships, fellowships, honorary degrees, honorary society memberships, military medals, and any other special recognition for outstanding service or achievements.

Society of Marine Mammalogy award for scientific presentation, 1999.

16. Please list each book, article, column, or publication you have authored, individually or with others. Also list any speeches that you have given on topics relevant to the position for which you have been nominated. Do not attach copies of these publications unless otherwise instructed.

Reports

Burek, K.A., F.M.D. Gulland, G. Sheffield, E. Keyes, T.R. Spraker, A.W. Smith, D.E. Skilling, J. Evermann, J.L. Stott, and A.W. Trites. 2003. Disease agents in Steller sea lions in Alaska: A review and analysis of serology data from 1975–2000. Fisheries Centre Research Reports, Vol. 11, No. 4, 26 pp.

Gulland, F. 2000. Domoic acid toxicity in California sea lions (*Zalophus californianus*) stranded along the central California coast, May–October 1998, U.S. Department of Commerce NOAA Technical Memorandum, NMFS-OPR, 17, 45 pp.

Gulland, F., H.M. Pérez-Cortés, J.R. Urban, L. Rojas-Bracho, G. Ylitalo, J. Weir, S.A. Norman, M.M. Muto, D.J. Rugh, C. Kreuder, and T. Rowles. 2005. Eastern North Pacific Gray Whale (*Eschrichtius robustus*) Unusual Mortality Event, 1999–2000: A Compilation. U.S. Department of Commerce. NOAA Technical Memorandum NMFS-AFSC-150, 33 pp.

Gulland, F.M.D. 2006. Review of the Marine Mammal Unusual Mortality Event Response Program of the National Marine Fisheries Service. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-OPR-33, 37 pp.

Books and Book Chapters

Dierauf, L.A., and F.M.D. Gulland (eds.). 2001. *CRC Handbook of Marine Mammal Medicine, Second edition*, CRC Press, Boca Raton, FL, 1063 pp.

Gulland, F.M.D., and A.J. Hall. 2005. The role of disease in influencing status and trends. Pp. 47–62 in J. Reynolds, W. Perrin, R. Reeves, S. Montgomery and T. Ragen (eds.), *Marine Mammal Research: Conservation Beyond Crisis*. The John Hopkins University Press. Baltimore, Maryland.

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17. Please identify each instance in which you have testified orally or in writing before Congress in a governmental or non-governmental capacity and specify the date and subject matter of each testimony: None.

18. Given the current mission, major programs, and major operational objectives of the department/agency to which you have been nominated, what in your back-

ground or employment experience do you believe affirmatively qualifies you for appointment to the position for which you have been nominated, and why do you wish to serve in that position?

I have 17 years of experience working directly on the health of marine mammals as a veterinarian and am recognized as a leading expert on the health risks faced by wild, and to some extent, captive marine mammals. I have served on multiple federal advisory groups convened to study and make recommendations to promote the conservation of marine mammals and the ecosystems of which they are a part. I wish to serve on the Marine Mammal Commission so that I can strive to ensure that marine mammals are protected and conserved in accordance with the Marine Mammal Protection Act, particularly with regard to factors that pose risks to their health.

19. What do you believe are your responsibilities, if confirmed, to ensure that the department/agency has proper management and accounting controls, and what experience do you have in managing a large organization?

I would share responsibility with the other two Commissioners to oversee agency operations and would work closely with the Commission's Executive Director and General Counsel to ensure proper management and accounting controls are in place.

20. What do you believe to be the top three challenges facing the department/agency, and why?

I believe the top three challenges facing the Commission are: (1) ensuring that the other federal agencies to which it makes recommendations have the information and tools necessary to meet their responsibilities to conserve marine mammals and key ecosystems, given increasing utilization of marine resources including pressures posed by fisheries, shipping, and oil and gas operations; (2) facilitating research needed to understand the impacts of climate change on marine mammals and to identify actions that can be taken to minimize those impacts; and (3) working with other agencies, state and tribal governments, the scientific community, and other stakeholders and interested parties to understand how local and regional changes in coastal waters, such as increasing harmful algal blooms, affect marine mammal health and how to mitigate those health risks.

B. POTENTIAL CONFLICTS OF INTEREST

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients, or customers. Please include information related to retirement accounts.

Salary from The Marine Mammal Center, retirement plans with Valic and PayChex.

2. Do you have any commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business, association or other organization during your appointment? If so, please explain.

I will continue to work for The Marine Mammal Center and to serve as an unpaid science advisor to the California Ocean Protection Council in accordance with the terms of my ethics agreement.

3. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated.

My affiliations with The Marine Mammal Center and the California Ocean Protection Council, which have been addressed in an ethics agreement to avoid potential conflicts of interest.

4. Describe any business relationship, dealing, or financial transaction which you have had during the last 10 years, whether for yourself, on behalf of a client, or acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated.

In connection with the nomination process, I have consulted with the Marine Mammal Commission's designated agency ethics official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of an ethics agreement that I have entered into with the Commission's designated agency ethics official and that has been provided to this Committee.

5. Describe any activity during the past 10 years in which you have been engaged for the purpose of directly or indirectly influencing the passage, defeat, or modification of any legislation or affecting the administration and execution of law or public policy: None.

6. Explain how you will resolve any potential conflict of interest, including any that may be disclosed by your responses to the above items.

Any potential conflicts of interest will be resolved in accordance with the terms of an ethics agreement that I have entered into with the Commission's designated agency ethics official and that has been provided to this Committee.

C. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics by, or been the subject of a complaint to any court, administrative agency, professional association, disciplinary committee, or other professional group? If so, please explain. No.

2. Have you ever been investigated, arrested, charged, or held by any federal, state, or other law enforcement authority of any federal, state, county, or municipal entity, other than for a minor traffic offense? If so, please explain. No.

3. Have you or any business of which you are or were an officer ever been involved as a party in an administrative agency proceeding or civil litigation? If so, please explain. No.

4. Have you ever been convicted (including pleas of guilty or *nolo contendere*) of any criminal violation other than a minor traffic offense? If so, please explain. No.

5. Have you ever been accused, formally or informally, of sexual harassment or discrimination on the basis of sex, race, religion, or any other basis? If so, please explain. No.

6. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be disclosed in connection with your nomination: None.

D. RELATIONSHIP WITH COMMITTEE

1. Will you ensure that your department/agency complies with deadlines for information set by Congressional committees? Yes.

2. Will you ensure that your department/agency does whatever it can to protect Congressional witnesses and whistle blowers from reprisal for their testimony and disclosures? Yes.

3. Will you cooperate in providing the Committee with requested witnesses, including technical experts and career employees, with firsthand knowledge of matters of interest to the Committee? Yes.

4. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so? Yes.

RESUME OF FRANCES MARY DOROTHEA GULLAND

Education

1991. Ph.D. University of Cambridge "The role of parasites in the population dynamics of Soay sheep on St. Kilda."

1986. M.A. University of Cambridge.

1984. Vet. M.B., M.R.C.V.S. University of Cambridge.

1981. B.A. Natural Sciences. University of Cambridge.

Employment

1994 to present—Director of Veterinary Services, The Marine Mammal Center, Sausalito, CA, USA.

1993—Research Assistant, Serengeti Rabies Project, Tanzania.

1992–1993—Research Fellow in Wildlife Diseases, Zoological Society of London, UK.

1988–1991—Graduate student, University of Cambridge, UK.

1985–1988—House Surgeon, Zoological Society of London, UK.

1984–1985—House Surgeon, Royal (Dick) School Veterinary Medicine, Edinburgh, UK.

Professional and Academic Affiliations

2008 to present—Science Adviser, California Ocean Protection Council.

2007 to present—Associate Editor, Journal of Wildlife Disease.

2006 to present—Member, Advisory Board for California's Oiled Wildlife Care Network.

2005–2007—Associate Editor, Marine Mammal Science.

2004–2008—Chair, Southern Sea Otter Recovery Implementation team.

- 2001 to present—Member, Hawaiian Monk Seal Recovery Team.
 2001–2002—President, International Association for Aquatic Animal Medicine.
 2000 to present—Scientific Advisor, Marine Mammal Commission.
 1998 to present—Working Group on Unusual Marine Mammal Mortality Events, National Marine Fisheries Service, 1998–2000—Member; 2001–2005—Chair, 2006 to present—Emeritus member.
 1996–2004—Scientific Advisor, Oiled Wildlife Care Network.

Publications

Reports

- Burek, K.A., F.M.D. Gulland, G. Sheffield, E. Keyes, T.R. Spraker, A.W. Smith, D.E. Skilling, J. Evermann, J.L. Stott, and A.W. Trites. 2003. *Disease agents in Steller sea lions in Alaska: A review and analysis of serology data from 1975–2000*. Fisheries Centre Research Reports, Vol. 11, No. 4, 26 pp.
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Books and Book Chapters

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- Gulland, F.M.D., and A.J. Hall. 2005. The role of disease in influencing status and trends. Pp. 47–62 in J. Reynolds, W. Perrin, R. Reeves, S. Montgomery and T. Ragen (eds.), *Marine Mammal Research: Conservation Beyond Crisis*. The John Hopkins University Press. Baltimore, Maryland.
- Kim, K., A.P. Dobson, and F.M.D. Gulland. 2005. Diseases and the Conservation of Marine Biodiversity. Pp. 149–166 in E.A. Norse and L.B. Crowder (eds.) *Marine Conservation Biology: The Science of Maintaining the Sea's Biodiversity*. Island Press, Washington, D.C.
- Wilson, K., B.T. Grenfell, J.G. Pilkington, H.E.G. Boyd, and F.M.D. Gulland. 2004. Parasites and their impacts. Pp. 113–165 in T.H. Clutton-Brock and J.M. Pemberton (eds.), *Soay Sheep. Dynamics and Selection in an Island Population*. Cambridge University Press, Cambridge, UK.
- Van Dolah, F.M., G.J. Doucette, F. Gulland, T. Rowles, and G. Bossart. 2003. Impacts of algal toxins on marine mammals. Pp. 247–270 in J.G. Vos, G.D. Bossart, M. Fournier, and T. O'Shea (eds.), *Toxicology of Marine Mammals*. Taylor & Francis, London.
- Gulland, F.M.D., L.A. Dierauf, and T.K. Rowles. 2001. Marine Mammal Stranding Networks. Pp. 45–68 in L. Dierauf and F.M.D. Gulland (eds.), *CRC Handbook of Marine Mammal Medicine, Second edition*. CRC Press, Boca Raton, Florida.
- Gulland, F.M.D., L. Lowenstine, and T. Spraker. 2001. Noninfectious Diseases. Pp. 521–550 in L. Dierauf and F.M.D. Gulland (eds.) *CRC Handbook of Marine Mammal Medicine, Second edition*. CRC Press, Boca Raton, Florida.
- Gulland, F.M.D., M. Haulena, and L. Dierauf. 2001. Seals and Sea Lions. Pp. 907–926 in L. Dierauf and F.M.D. Gulland (eds.), *CRC Handbook of Marine Mammal Medicine, Second edition*. CRC Press, Boca Raton, Florida.
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Journal Articles

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- Hall, A.J., F.M.D. Gulland, G.M. Ylitalo, D.J. Greig, and L.J. Lowenstine. 2008. Changes in blubber contaminant concentrations in California sea lions (*Zalophus californianus*) associated with weight loss and gain during rehabilitation. *Environmental Science and Technology* 42(11):4181–4187.
- Burek, K.A., F.M.D. Gulland, and T.M. O'Hara. 2008. Effects of climate change on arctic marine mammal health. *Ecological Applications* 18(2):S126–134.

- Cameron, C.E., R.L. Zuerner, S. Raverty, K.M. Colegrove, S.A. Norman, D.M. Lambourn, S.J. Jeffries, and F.M.D. Gulland. 2008. Detection of pathogenic *Leptospira* bacteria in pinniped populations via PCR and identification of a source of transmission for zoonotic leptospirosis in the marine environment. *Journal of Clinical Microbiology* 46(5):1728–1733.
- Fauquier, D.A., J.A.K. Mazet, F.M.D. Gulland, T.R. Spraker, and M.M. Christopher. 2008. Distribution of tissue enzymes in three species of pinnipeds. *Journal of Zoo and Wildlife Medicine* 39(1):1–5.
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- Nollens, H.H., F.M.D. Gulland, E.R. Jacobson, J.A. Hernandez, P.A. Klein, M.T. Walsh, and R.C. Condit. 2008. In vitro susceptibility of sea lion poxvirus to cidofovir. *Antiviral Research* 80:77–80.
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The CHAIRMAN. Thank you very much, Dr. Gulland.

Senator HUTCHISON, if it's OK with you, can I just start with questions.

Senator HUTCHISON. Sure.

The CHAIRMAN. And I'd like to start, actually, with you, Dr. Gulland.

After the oil spill incident of recent times, there were about, I think maybe 15 dead dolphins that washed up on the shores of the Gulf. And now I think this past year it was 50. And so, that sort of symbolizes a question which I think is almost impossible to ask, because I want to see how well you do in answering it.

[Laughter.]

The CHAIRMAN. We always do these things, you're going to be balanced in the way you look at everything. I'm not sure that your position calls for you to be balanced, and some of us discussed that honestly. There must be some way, whether it's ANWR or whatever it is. There's always, well—we can balance the needs of the natural order on Earth and the needs of our country economically, et cetera. Is that possible in what you will be doing?

Dr. GULLAND. That's a great question, Senator.

[Laughter.]

Dr. GULLAND. And I think you're right, that my role is maybe not to be balanced, but to do my best for the conservation of the marine mammals and their ecosystem. And I think that's the key part of both the MMPA and the ESA—that they emphasize conserving the ecosystem as well as the marine mammals. And the ecosystem does actually include the fisheries, the food chain, the environment and, in my mind, the people as well. So, we strive to do that.

The balance—if we're considering oil and gas development, maybe navy exercises, shipping—is in trying to minimize risk, trying to safeguard that ecosystem. And with the tragedy of the Deep-water Horizon, where there was also regrettable loss of human life—it's not just 50 dead dolphins—I think we all actually have a common interest. It's not as if there are a group of conservationists striving for just the dolphins. We also care about human safety on oil and gas rigs. So, we don't want there to be explosions, losses. We don't want there to be spills. This damages fishing, recreation, and causes economic losses.

So, really, we all want the same thing. We might just be emphasizing different parts of it.

So, to achieve balance, to come back to your question, I think there has to be a good dialogue between the different stakeholders. There has to be integration amongst agencies. And most of all, we need strong science to guide us.

The CHAIRMAN. Let me pursue that. Your answer's a good one. I read this in the *Washington Post*, so it doesn't necessarily make it true or untrue, but they may have referred to a scientific study, and I think they probably did. And that is, that we've lost 80 percent, in the last 10 or 20 years, 80 percent of the predator fish in all of our worldwide oceans, and that the remaining 20 percent will disappear within the next 10 years, which I think completely undoes the balance in the oceans and leaves us with billions of minnows, and not much else.

Again, I mean, how does one address that? Or does one say that it's just too late? Or does one say that we ban all nets on all continents everywhere by all countries? Do we go after the Japanese? I mean, what do you do with a situation like this?

Dr. GULLAND. Another excellent question. I come from an area of expertise in marine mammals' medicine and health, rather than in fisheries management. But as I mentioned in my testimony, I have been exposed to fisheries management since I was a child. And many of these fisheries biologists that are talking about loss of 70 percent or the last 10 percent left aren't in complete agreement.

There are actually two very strong camps, which is why that type of news does hit the front page of the *Washington Post*. There are strong opinions that it's too late, and there are also equally strong opinions from very good fishery scientists, strong mathematicians, that say, no, it's not.

Ecosystems are extremely resilient. And fish do have much shorter life spans than marine mammals. So, if we can address the changes that are causing declines, they can come back. And there's an extremely interesting example currently in the Northwest Hawaiian Islands.

The Northwest Hawaiian Islands are now one of the largest marine protected areas on the planet as seen from space, the [Papahānaumokuākea Marine] National Monument. And on those far islands we have an extremely endangered marine mammal, the Hawaiian monk seal. Only about 1,000 animals are left, and declining dramatically. There is a lot of concern about their extinction.

Those animals out on the Northwest Hawaiian Islands are now in an area that is completely protected. There is no fishing, there

is no tourism, there are no potentials of oil spills. It's really one of the most pristine-looking protected areas. There are also monk seals on the main Hawaiian Islands—only a few hundred, and they're gradually increasing around the main Hawaiian Islands. So, what we're seeing is a decrease in this highly threatened monk seal population out in the Northwesterns, and then a few hundred animals on the main Hawaiian Islands—where we still have fishing, we have recreational fishing, we have tourism, we have runoff from sewage—where we have introduced animals. Those animals are doing great. They're fat. They're reproducing. And everyone looks at me and goes, what do you mean they're in danger? I saw two on Poipu Beach.

So, what's happening up on the Northwesterns—there appears to be a huge abundance of predatory fish. There are massive ulua, that are big carnivorous fish. And as the monk seals go to feed, they'll turn a rock over—and there's fantastic video footage of this, with cameras attached to monk seals' heads—and they'll turn this rock over. Little fish come out, and these predatory fish will come and compete with the monk seal for those small fish.

So we have a situation that seems to have done the opposite of what you have read in the *Washington Post* in that there's actually an abundance of predatory fish, to such an extent that they are competing with a mammal the size of a seal, and there are relatively few small fish. And in contrast, on the main Hawaiian Islands, we have fewer predatory fish, and a greater abundance in the food chain of small fish. So, the situation isn't black and white. There are places that there are plenty of larger fish. And fish are rapidly reproducing and resilient, compared to something like a right whale.

So the bottom line is, if we can understand what is changing numbers in fish, we can—well, we've caused dramatic changes. We've done that through extensive fishing efforts. But if we can understand what's driving them, we can put measures in place to change balance. We're very good at changing balances. We just need to do it in the right direction in the future.

The CHAIRMAN. I thank you for that answer very much.

And I apologize. I've run over my time.

Senator HUTCHISON.

Senator HUTCHISON. Well, it was very interesting, the questions and the answers. So, thank you.

I'm going to focus on Mr. Coyle and Dr. Sullivan, because I know Ann so well, and I think you have been very forthcoming.

Mr. Coyle, I want to get right to it with you. Last year you were asked about statements that you have made in the past about the nation's missile defense technology program, questioning its readiness for deployment, and the testing program. My question to you is, where does your status of thinking now stand on the missile defense program in our country?

Mr. COYLE. Thank you, Senator Hutchison.

My job is to be a champion for science and technology in all areas of national security, and that includes missile defense. OSTP is not involved in operational matters having to do with missile defense. OSTP is not involved in deployment issues or things of that sort, and I am not either. So, in the job in which I'm serving now, the

kind of things that I commented about when I was in the Pentagon are just not my direct responsibility.

Senator HUTCHISON. Mr. Coyle, if I could just interrupt you, your view of our missile defense system, however, is going to make a difference, because you do have a purview of national security—it is a different area, but your comments in the past have raised questions about your view of missile defense, which I think is going to be important in the decision about your posture in national defense issues. So, that's why I'm asking the question and giving you a chance to answer.

Mr. COYLE. Yes. And I understand. And my point of view is that missile defense should have the best science and engineering that it can have, and I will work to make sure that it does, as in any other area of national security. I've said publicly that if the threat were to go away entirely—if Iran would start behaving differently, if North Korea would start behaving different—if the threat would go away entirely, I would still advocate for a strong research and development program in missile defense, if for no other reason than to avoid technological surprise in the future.

Senator HUTCHISON. So, may I ask you, do you support, then, the deployment of a missile defense system if you consider that it is scientifically ready?

Mr. COYLE. Yes—

Senator HUTCHISON. Considering the threats that we have with Iran and North Korea.

Mr. COYLE. Yes. Of course. And I've publicly supported the administration's Phased Adaptive Approach when I was not in this position.

Senator HUTCHISON. Phased Adaptive Approach. I just want to make sure that you—

Mr. COYLE. Yes.

Senator HUTCHISON. You are saying you support missile defense because of the threats that we have, and that even if we didn't have the threats that we have, you would still encourage having the research and technology to have a deployable missile defense system—I'm putting words in your mouth but—

Mr. COYLE. Well, you're not. That's correct.

Senator HUTCHISON. OK.

Mr. COYLE. I do support, you know, a robust research and development program for missile defense. And the comments I've made in the past were really not aimed at anything different from that.

Senator HUTCHISON. But you do support deployment as well?

Mr. COYLE. I do. It just isn't my area. But, yes. And I've supported the deployments which are taking place now of the system that's called the "Phased Adaptive Approach" in Europe, which is just one piece of the country's efforts in missile defense.

Senator HUTCHISON. Thank you.

Dr. Sullivan, over the past four congresses I've introduced legislation to establish a weather modification research program. We've not yet passed that bill. Previous versions of my legislation did direct NOAA to conduct this research. NOAA actually did research until a couple of decades ago on weather modification, and the National Academy of Sciences has recommended in 2003 that the country needs a national program to study weather modification.

What I am envisioning—and I want to know your view on it, if you think it is something that is worth pursuing—is that we would have the data and the research to study weather modification programs that go on. I mean, we know there's cloud seeding for snow in the Rockies that could affect the rainfall elsewhere, that sort of thing. And then also that, perhaps the efforts to contain hurricanes with certain weather modification efforts—does it affect something more down the road, or in other areas of the country or the world?

My question is, do you think that we should be pursuing this type of research—or, at least, data collection—and, if so, how would you go about that at NOAA, and if not, why not?

Dr. SULLIVAN. Thank you, Senator.

Anyone who has ever ridden out a hurricane, as I know many of your constituents have done and as I had the adventurous time of doing just this past October in the southern Caribbean, certainly goes through moments of wishing that someone knew how to at least hurry hurricanes along, so that that really intense and frightening period passed more quickly, and certainly—

Senator HUTCHISON. Or possibly lessening the intensity.

Dr. SULLIVAN.—or lessening the intensity. And certainly the people of Saint Lucia would have been grateful for either of those effects.

I think you've put your finger on the point as a scientist that would concern me. But my concern would be at a fairly fundamental level, of being sure we really understand richly the underlying processes that give rise to the weather phenomena that we're concerned about, that shape their structure, their intensity, their trajectory. My concern about a general weather modification effort would be that, absent that fundamental understanding, I don't think we would be properly equipped to assess properly, make good judgments about which methods could be used or not use.

So, I see the challenge, really, as being a deeper, earlier stage of understanding. I think many of NOAA's climate research and weather research programs are continuing to build that foundation. So, some of the questions that you have posed I believe can be answered from the research base that we have at hand. And I would certainly encourage that we do that.

It's important to understand what consequences, as you pointed out, any effect or change in one region might have upon another. And certainly, with respect to a larger, highly intense system such as hurricanes, hurricanes serve important purposes in our atmosphere of moving heat and energy, as you all know. And as Dr. Gulland has said, I think we should be sure we're wisely informed before we go making alterations to such large balance systems.

Senator HUTCHISON. Do you think that we should be doing more, and it is worth pursuing more of an effort, to get the data collection on what does happen now and its effects on other areas, to begin to look at whether it is the right thing to do, to try to modify, say, hurricane intensity? Because I don't disagree with what you're saying. We don't know what the effects are. But, to find out better what the effects might be, should we be focusing more on either data collection or research? There's not even data collection right now on a national level.

Dr. SULLIVAN. Senator, the last time I was deeply conversant with NOAA's research portfolio is now 15 years ago, so I'm not in a good position to comment on what applicability the activities currently in the portfolio may have on your question. If confirmed, I would certainly be pleased to get back to you on that and would pledge to work closely with NOAA's chief scientists to be sure that we understand the questions that you're interested in pursuing and we're making the best possible use of NOAA's observing systems and research capability, to get at the highest priority scientific questions.

Senator HUTCHISON. OK. Well, I understand that you can't answer the question. Because I do think you're qualified. But I don't think you're answering the question. And I understand perhaps that you don't have the capability, or the information, rather, from the agency.

I guess my last question would be, would you work with me and my staff to determine what areas we might pursue to upgrade our information in a positive way?

Dr. SULLIVAN. I would absolutely pledge to do that, Senator. Gladly.

Senator HUTCHISON. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Hutchison.

And, Mr. Coyle, your answer to Senator Hutchison's question was interesting. Let me just say that you cannot find in this Senate anybody who's more opposed to a missile defense system than I am. But that makes absolutely no difference to me with respect to your position, because OSTP has absolutely nothing to do with missile defense. You don't work on it. You don't study it. You have nothing to do with it. So, if I felt that you did, you probably wouldn't get my vote—[Laughter.]

The CHAIRMAN.—because I think it's absurd and unaffordable. But you are going to get my vote, because OSTP does not work on this, and you work for OSTP. In fact, you can't bring your previous thoughts into your job, as I see it—and I want you to correct me and say that I'm right or wrong in how I analyze it. What you work on are the responsibilities of the Department of Defense and the National Security Council and others, but OSTP champions science and technology. I don't think of it in terms of a missile defense system or not. It's just never, the thought would never occur to me, because OSTP doesn't do that. That's not what he works on.

So, is it not fair to say that you have absolutely no responsibility for operations, acquisitions or deployments of things such as the missile defense system?

Mr. COYLE. Senator, that is correct. I have absolutely no responsibility—

The CHAIRMAN. I'm trying to come to your defense.

[Laughter.]

Mr. COYLE.—I have absolutely no responsibility for acquisition or deployments, or operational matters, and I tried to answer Senator Hutchison to make that point in the first part of my answer.

The CHAIRMAN. Yes. Sort of. I mean, this is a tricky place, and you ought to know that after five administrations. People fasten on one sentence out of a 10-paragraph, or a 10-chapter book. I want

you to be nominated, so I think your leading sentence ought to be, "I have nothing to do with missile defense in my new position if I am confirmed." I think that's a great opening sentence for you.

Mr. COYLE. The reason I didn't say that is because I really do believe that for our national security America really should have the very best science and engineering, and that would include missile defense. So, if General O'Reilly, the head of the Missile Defense Agency, was having a problem where he needed OSTP's help in identifying science and technology that could make a difference I would help him.

The CHAIRMAN. Well, you're a very honest man. But you may have just lost my vote.

[Laughter.]

The CHAIRMAN. I mean, I'm going to talk with Dr. Holdren. We're not a bunch of monkeys up here, and you ought to, after all your time in Washington, understand the nuances of how this place works. And what you're basically saying is, you're connecting yourself to missile defense. Some think missile defense is great. Some people are neutral about it. I don't happen to be, on the basis of the cost of it, now or 30 years from now. I guess we'll have to let that one just rest where it is. But I am going to talk to Dr. Holdren about what you said. Because what you imply is that you would have missile defense system in mind as you were doing science and technology research. And if that's the case, I can't deny that that's your right to so say and so believe, because it is what you believe. But I can be concerned, you know, if that system becomes a matter of national interest—which I don't foresee because we can't possibly afford it in the years to come—that you would be ready to apply your science and technology out of OSTP. I mean, it's confusing to me and a little bit discouraging. So, I will be talking with Dr. John Holdren about this.

Mr. COYLE. If I could just add a comment.

The CHAIRMAN. You sure can. And I hope you do better.

Mr. COYLE. My view would be no different if you asked me about a tank or a truck or an airplane or a helicopter or a satellite system, or any other system that was important to U.S. national security. If the Pentagon came to OSTP and said, we're having a problem with this tanker truck or ship—

The CHAIRMAN. Then say that. Which you are. Say that.

Mr. COYLE. Well, that's what I've been trying to say.

The CHAIRMAN. No. It isn't what you were trying to say. What you were trying to say is that you have a deep belief in a missile defense system and you always have, and you will continue to have that, and you didn't say, "If I have to work on tanks, if I have to work on, I'll, I do whatever I'm required to do." Obviously, if President Obama suddenly shifts into a missile defense mode, which I see not happening in any way, shape, or form, then you would have to respond to that. I understand that. But, look, you're trying to get confirmed, and make it as easy as possible on yourself and on us. OK?

Mr. COYLE. Yes, sir. My, as I say, my view is America should have the best science and technology that it can, and I see it as my job to make sure that that happens in all areas.

The CHAIRMAN. Well, you're a very honest man.

Let me see. I can't pass up Ann Begeman.

[Laughter.]

The CHAIRMAN. But I'm going to for the moment.

[Laughter.]

The CHAIRMAN. And, Dr. Sullivan, the, NOAA's very proactive. Its satellite program is very proactive. And Senator Hutchison mentioned some of this.

[Laughter.]

The CHAIRMAN. I had an experience last week where I was put on the news in a local TV station in West Virginia on the weather section. I've never been interviewed as a matter of news on the weather section. But this person is so ferocious in his commitment to weather, and he's looking at budgets where he's just being, in one case, cut by one-third, and he says that means that we won't be able to predict, I think he said, twisters and hurricanes with anywhere near the degree of accuracy which Senator Hutchison was referring to in her experience in Texas. We won't be able to do it. And, as a meteorologist, I'm offended, shocked, fearful of that in terms of the safety of the people that I report to.

Now, that isn't my question, but that is my experience on that. NOAA's satellites are so crucial in directly saving lives and minimizing property damage and doing all kinds of things which nobody else is working on. I mean, NOAA ought to be as well-known as NASA. It isn't. But the work it's done may be as important. Of course, NASA discovers the cure for MRSA, in which case they'll have my support forever and ever. And one other that goes along with that. What else are they doing up there? Another huge disease.

Dr. SULLIVAN. I don't know, Senator.

The CHAIRMAN. I'll come to that.

Anyway, this Administration has worked very swiftly to restructure the polar orbiting satellite program. And it's had a history of lots of cost overruns and lots of delays. And I supported the administration's plan when it was announced. But I am deeply concerned that needed appropriated funding to implement the plan is very much in question right now and, frankly, one of the reasons is that NOAA has not been responsive to this committee in terms of funding.

I met with Jane Lubchenco yesterday or the day before. NOAA has alerted the Committee that we risk losing the forecasting of weather that I talked about, but there are no new satellites in place, and I have to say that the White House hasn't been particularly responsive to us. NOAA has not yet provided the Committee with any alternative plans or options that might be available to the agency to cover some of the essential satellite functions should appropriate funding now work, and there's a very good chance that it won't. There's a high probability that it won't—that we're going to have some very, very grim years. So therefore, filling in the missing gaps becomes an art and a science, and a necessity.

So, you've got the JPSS system—what is your advice to us and to the Committee, so that we have as much functionality as possible on this?

Dr. SULLIVAN. Senator, I completely share your concern about the potential erosion of forecast capability—timely accuracy, timeli-

ness, accuracy, coverage at high latitudes. They're absolutely essential to protection of life and property, as you said. But as you also know very well, timely, accurate weather information has now become woven into the operating fabric of countless sectors of our economy as part of their means to obtaining higher productivity. Now, that, too, would be lost if we suffer a severe gap.

I don't know the technical answer to what alternatives may—I don't currently know the technical answer to the question of what alternative ways of dealing with a gap, should one occur, might exist. But I share your view that it's imperative that the agency begin to work in that direction and find such solutions,.

The best I can say sitting here today, Senator, only aware of the issue to the degree I've been able to follow it in the trade press, is that, if confirmed, I would pledge to work very closely with you and your staff, and find every measure we can to mitigate the consequences to our country, to our citizens, to those very critical life and safety functions of whatever cycle, whatever timeline the budgets eventually appropriated might enable us to carry out.

The CHAIRMAN. I just think that every agency is faced with this.

Dr. SULLIVAN. Yes.

The CHAIRMAN. I'm not going to vote that way. But I think the majority, certainly in the House and probably in the Senate, will. That is with some Democrats bleeding over into the Republican side on that. Whether it's the Veterans Administration or anything, people are going to have to be looking at how to fill in gaps which heretofore have not existed psychologically or actually.

People don't plan for problems that don't exist. Now all of a sudden we have a problem which has already passed the House, and another one that's passed the Senate, but both of them have insufficient votes to become reality. So we have to try and compromise at a time when nobody appears to be willing to compromise. In fact, the act of not compromising is sort of a virtue, which is a new twist to democracy, and one that I don't welcome. But it's one that I think you're going to be faced with. So, I would just hope that you would be very strong about that, to protect your programs you're going into NOAA to do and to be very realistic with them.

Dr. SULLIVAN. I promise you, Senator, we will be.

The CHAIRMAN. OK. And I believe you. Because I think you'll be scared out of your wits when you get there.

[Laughter.]

The CHAIRMAN. Ms. Begeman, a couple questions. And you have absolutely no idea what they're going to be about, do you?

Ms. BEGEMAN. Not missile defense.

[Laughter.]

Ms. BEGEMAN. I'm hoping.

The CHAIRMAN. They are going to cut this, you know, they may not know what it is. That's our hope. That they don't know what the, they think it's still the ICC. They're looking around for the ICC and they can't find it, so they can't cut it.

[Laughter.]

The CHAIRMAN. That may be the way out. No budget cuts for Ms. Begeman.

But, as you know, I've been working 26 years on this question of captive shipping. And it's a tough one, because on the one hand,

I want to see railroads do well. I want to see the high speed railroads. I'm not sure that they're going to get through the budget process, but I want to see that happen. You know, I saw something very interesting the other day. Everybody says we're falling behind on some of these matters. And part of the answer is, not so much that we're falling behind, but others are catching up at a very, very fast rate because they have a lot of money to spend and they've put it where they think they need it most to get ahead in the world, the fastest, which is, you know, STEM and all the rest of it, and infrastructure.

So, there sits STB. And we have tried for years, as you know—and you've been participating in those meetings—to work with the railroads and the captive shippers to try to get them to compromise so that we can put an end to all of this. Because the captive shippers feel aggrieved. I understand that, because many of them are in my state. And many of them are in South Dakota. They're called "granaries." And they have a single line going in, and so the railroad can charge whatever price it wants. And that's not the way the original 1984 law was intended.

Now it has backslid just a bit. Not the law itself, but the interpretation of the law. But it hasn't really. So, you get to the question of, how do you make sure that the railroads are doing well? How do you also make sure that consumers are doing well? At least, I want to see it that way. We go after how are consumers not being treated fairly, and what can we do about it? That's been what we've done for the last several years, and you're aware of that.

The railroads are saying they're broke—actually, I think of the four major railroads there's only one which is actually putting a brake on this process. And they stick together. But I think the others really want to see a resolution to this, because they don't want to see a whole series of claims and protests and suits, et cetera, be brought to the Surface Transportation Board, where you, I pray, will be sitting. In order to do that, we have to, sort of, things have to get worked out a little bit.

I'm not going to ask you these questions, because your answers will be yes, and they should be.

Ms. BEGEMAN. Yes.

The CHAIRMAN. And they were the typical type of thing.

But, you know, if Warren Buffett and Bill Gates invest in a railroad, and Warren Buffett says, "This is one of the best things I've ever done," you don't exactly weep over their financial position. They're doing very, very well, thank you—and you looked at their annual reports and they're doing very, very well, thank you—but the STB continually sees them as being revenue inadequate. This has mystified me for years.

Now, the American Railroad Association is very powerful. I'd say it's more powerful than the NRA or AARP. It's just that nobody knows it exists, which is the reason it's powerful. It's under the radar. But it can't be for you.

We had, when I came here, fifty Class A railroads. We now have four. Not including, obviously, Amtrak. So, do you believe that the STB's revenue adequacy measurement presents a clear and accurate picture of the financial health of the railroads?

Ms. BEGEMAN. I think it represents sort of a point in time for each carrier when the STB does its annual determination of revenue adequacy. But I don't think necessarily the symbolism of that determination means that it's the Blue Light Special at Kmart, and that means railroads get to charge higher rates. It doesn't mean that.

Revenue adequacy was actually created in the 1980s as part of the Coal Rate Guidelines as one of the four restraints on pricing. And you're probably quite familiar with the SAC case, which is the long, kind of drawn-out process in which coal shippers may bring cases to the Board and some get remedies, some do not.

The revenue adequacy constraint is one that, frankly, the Board, and the ICC before it, never quite fleshed out. My understanding is that it's considered to be, like, a long-term constraint, and it's one that over time the ICC said that it would flesh out more. I'm aware that recently a case actually has been brought to the Board in which they are trying to utilize the revenue adequacy constraint. So, I can't go too much further on that topic. But I do know that I believe in the early 2000s that the issue of the revenue adequacy constraint was something that was used in a pipeline case. And so, I think that, should the case that has been filed at the Board go forward, it's something that all of us will learn from and consider based on the facts. And I certainly will do my best to have an open mind, but to make any decision on the facts.

The CHAIRMAN. OK. Now, let me ask you this. I have so many examples in my small state of West Virginia—and it doesn't just involve coal, it doesn't just involve steel, it doesn't just involve agriculture. It involves wood, all kinds of other things, and chemicals—where the railroads have you, because they only have a single rail into the area. For example, Weirton Steel, which used to employ 13,000 people. It now employs barely 1,000.

They got astronomical rate charges because there was no competition of another railroad going into this huge steel factory, steel mill. They had no competition. And so they would just increase prices. Some years it would be \$8 million more that they would just increase rates over what a normal competitive situation would be. John Snow at that time was head of CSX. As I've often said here when he was put up for Secretary of the Treasury—I voted for him three times on the Senate floor just to get him out of CSX.

[Laughter.]

The CHAIRMAN. But, he would come in and he would bargain with me. He'd trade. And he'd say, All right, all right, all right. Let's get the parties in." And then he'd say, "Well, I'm going to do this for you. I'm going to take \$8 million off of what I charge you in Weirton Steel." And that was a favor to me? I mean, that he was coming down when it's an artificially high price, to what he judged to be something that would make me happier. Well, it didn't make me happier, because the fact that he came down proved my case. I didn't say, "No, I won't accept the \$8 million reduction," but it's very, very frustrating.

Let me just end on this, and we'll all be free.

I do have significant concerns over how accessible, even today, the STB is to captive shippers. I care about captive shippers, because they are the small businesses, the large businesses, the cen-

tral parts of the economy of all of our states. And railroads are everywhere. Often they have two railroads competing; that's fine. That's what the Staggers Act contemplated. Let their price competition settle what the price will be. But for the 20 percent that didn't meet that criteria, there would have to meet some other standard born. It originally was meant to be settled by the ICC, and what the situation on that is, is a matter of conjecture.

But in any event, the small businesses in particular, they feel they are being charged exorbitant rates, and they are victims of very poor service.

So, my question to you would be, do you share my concern so that the Board should be accessible and affordable to all shippers?

Ms. BEGEMAN. I believe it should be accessible and affordable to all the stakeholders. Absolutely.

The CHAIRMAN. All right. Will you commit to work to ensure that the Board is accessible and affordable to shippers?

Ms. BEGEMAN. Yes.

The CHAIRMAN. And that means you'll have to find examples where they're not.

Ms. BEGEMAN. Well, one of the things that the Board has done in the past few years has really kind of beefed up its Office of Public Assistance. And they have, there also is a mediation process at the Board that, as more shippers and customers are aware of it, I think it's an avenue in which there can be some resolution brought to issues that, you know, don't need to turn into multimillion-dollar cases, necessarily. But it's something in which the STB and the folks that work in that office can help promote resolution in a timely manner.

The CHAIRMAN. OK.

All I can ask from you is to be fair. But not fair in the way that people usually say it. I mean, I think after 26 years I'm in a remarkably good humor on this whole subject, don't you?

[Laughter.]

The CHAIRMAN. I'm not being caustic. I'm just trying to make pleasant questions here. But hard questions.

It's lunacy that this situation exists. And it exists because nobody knows about it. It exists because the people who are small—now you've made some changes on this in the STB. They can more easily afford to get into the legal problem. It used to be that they'd just be stonewalled out because they couldn't possibly afford the legal expenses and they knew that, so they didn't try. And I think you've made some progress on that. How much, we will see.

But when I say that you will be fair and open—and you say that you'll be fair and open—it's a little bit different kind of an answer when coming from a nominee from the STB than for, let's say, some other agency. I think that it is about railroads, but railroads only make money if they have shippers. And shippers are small businesses, they're people from all over this country. Nobody pays any attention to them. It's wrong. As you know, we fought mightily last year. We thought we were getting close, but then one railroad balked. I think a couple of the other railroads would have gone along with a settlement just to get rid of this problem. We're going to settle it through legislation, but I would much prefer to see it

done through the STB being responsive. But I want you in, sort of, the definition of clarity, to really promise to be fair.

Ms. BEGEMAN. I will be fair, and I will have an open mind. I don't have an empty mind when I approach—I'm really not making a joke about it, because I have been fortunate to really get to work on these issues for so many years. And so it's not like I'm just going to be walking in sort of—

The CHAIRMAN. That's correct.

Ms. BEGEMAN.—listening to someone, like, OK. You know, I think that's a value. At least, I hope it will be.

The CHAIRMAN. It will. Nobody's going to be able to run anything past you. You'll know it.

Ms. BEGEMAN. I hope so.

The CHAIRMAN. Yes. OK.

You've all been very patient and very kind. And I thank you all very much.

We're going to try and do this as quickly as we possibly can. I checked with Senator Hutchison, and we're hoping maybe we can even do this off the floor next week.

I thank you, and the hearing is adjourned.

[Whereupon, at 11:33 a.m., the hearing was adjourned.]

A P P E N D I X

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. AMY KLOBUCHAR TO
ANN D. BEGEMAN

Question 1. Do you agree that our national freight railroad system should be as competitive as possible and provide rail customers reliable service at reasonable prices?

Answer. Yes.

Question 2. How do you view the relationship between fair rail pricing and economic growth?

Answer. I don't consider the two to be mutually exclusive. Recent reports concerning increased freight shipments in the rail industry are good news for our economic recovery, and for the future of rail transportation service. The Staggers Act recognized the need for the industry to earn revenues to return to viability and reinvest in its infrastructure—it is a highly capital intensive industry—while protecting against the abuse of market power. Profitability shouldn't come about through the abuse of market power at the expense of captive shippers, but rather through increased freight volume and productivity gains.

Question 3. Do you agree that effective regulatory protection for rail customers where there is an absence of competition is necessary in the freight rail industry?

Answer. Yes. The Rail Transportation Policy (49 U.S.C. Section 10101), which guides the federal government in its oversight and economic regulation of the rail industry, envisions this. The STB must always work to strike an appropriate balance among these policy directives, and if confirmed, I will be committed to doing so.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARK BEGICH TO
DR. KATHRYN D. SULLIVAN

Question 1. Much of your time will likely be spent on satellite acquisition. What are your views on how NOAA is currently handling the Joint Polar Satellite System (JPSS) program?

Answer. If confirmed as the Assistant Secretary for Environmental Observation and Prediction, I expect to spend a considerable amount of time working with NOAA's Satellite Service to ensure a successful, full transition of the JPSS program. One of my goals will be to place this program on a path to achieve mission success.

While I have followed this issue in the trade press, I do not have detailed knowledge of NOAA operations and management of the program. From what I know of both NOAA and NASA in my previous time in each agency, their missions, personnel and operations are well complemented to running a successful program. If confirmed, I assure you that one of my first priorities will be to review JPSS management and program status rigorously, and ensure that current activities meet the highest standards. All of NOAA's satellite acquisition programs should achieve the stated goals of delivering space-based observations that are critical to saving lives, property, and critical infrastructure.

Question 2. The JPSS is an expensive program; the request for FY11 was around \$1B. Can you expand on why we should make funding JPSS a priority even in these challenging budget times?

Answer. All sectors of the U.S. economy are weather-sensitive and NOAA is charged with the responsibility of providing environmental data and services to protect lives, property, and critical infrastructure of the nation. In fact, weather and climate sensitive industries account for about one-third of the nation's GDP, ranging from finance, insurance and real estate to services, retail, and wholesale trade and manufacturing. Satellite data comprises over 97 percent of the data for numerical weather prediction models and for weather forecasting, for 2-10 day weather forecasts. Without JPSS, today's high confidence weather forecasts would extend out

only 5 days instead of the current 7 days. Alaska would be particularly impacted by the loss of JPSS. Due to its high latitude, Alaska depends on polar satellites for almost all its weather forecasting for aviation, maritime, oil and gas operations. If confirmed, I will work to ensure that these programs are planned, procured and implemented with strong management and fiscal discipline and in accord with management “best practices.”

Question 3. A gap in coverage by polar orbiting satellites is particularly troubling for Alaska where the safety of pilots, fishermen and other mariners and the general public depends on accurate weather forecasts. Does NOAA have a “Plan B” if you don’t get the JPSS funding this year?

Answer. I agree that a gap in coverage for Alaska is troubling. NOAA’s polar-orbiting satellites are the main sources of data for Alaska, due to its high northern latitude and remoteness. As someone who has worked and flown in Alaska, I appreciate keenly how critical this information is to the many Alaskans who make their living through aviation or share that hobby. From my conversations with NOAA leadership, I know that their attention is acutely focused on implementing the JPSS program to ensure any gap in coverage is minimized.

As I am not yet confirmed, I am not yet aware of what NOAA’s operational back up plans may be. From my prior experience with NOAA and my time in NASA, I suspect that one option for a “Plan B” would be to leverage the European METOP satellites; however, the data is not optimal for all NWS forecasts, due to its orbit. Even with METOP satellites, a gap in NOAA’s afternoon polar-orbiting satellite coverage would result in a degradation of forecast accuracy by 1 to 2 days. Higher confidence forecasts would only extend out 5 days instead of the current 7 days, significantly impacting the advanced warning time for severe weather events.

NOAA could also work to leverage data from older NOAA satellites, other U.S. satellites, such as NASA’s research satellites, and from foreign sources such as the Japanese and Chinese polar-orbiting satellites. However, I believe that NOAA’s weather models and forecast capabilities are not currently configured for use with these sources, and forecasts will be severely degraded, thus impacting all sectors of the U.S. economy. Additionally, it puts the United States in a position of relying on foreign data for its domestic weather and climate needs over which the U.S. has no control.

If confirmed, I will work to ensure that NOAA’s satellite programs are sustainably implemented so that the nation continues to have the data, and services it requires.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TOM UDALL TO
DR. KATHRYN D. SULLIVAN

Question. What do you envision are NOAA’s predictive capabilities and remote sensing responsibilities in monitoring rapid deforestation in tropical forests and land use change around the world to address grave impacts of increased emissions from deforestation and degradation?

Answer. Deforestation in tropical forests and other land use changes are critically important variables in the Earth’s climate. While the primary driving requirements on NOAA’s observing systems, particularly satellites, are oceanic and atmospheric data needs, NOAA partners with other federal agencies such as the U.S. Geological Survey, the U.S. Department of Agriculture, and the U.S. Agency for International Development to provide NOAA Polar-orbiting Operational Environmental Satellites (POES) data for use in monitoring global land use forestry.

For decades, NOAA also has played a leading role in monitoring atmospheric concentrations of carbon dioxide and other greenhouse gases, and has the capability of reporting changes in emissions on broad scales across the globe. This monitoring network makes valuable contributions to an improved international understanding of the global carbon budget and changes in the atmospheric concentration of other greenhouse gases that can be associated with land use change, like methane.

Global climate models also use information about land use change and deforestation to assess relevant impacts on past climate, as well as in development of projects for the future. NOAA is a world leader in global climate modeling and is at the forefront of integrating land use into climate models.

As a leader in climate science and environmental data, I envision that NOAA will continue to support its agency partners that monitor global deforestation through the provision of its environmental satellite data. I expect NOAA will also continue to drive research that leads to improved global climate models and subsequent climate projections through the incorporation of climate variables, including robust data about land use and deforestation.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN D. ROCKEFELLER IV
TO DR. FRANCES M.D. GULLAND

Question 1. You've worked as a veterinarian, researcher, and a science advisor. One of the greatest challenges to effective conservation is translating good science into sound policy. What are some of the ways you will apply your varied work experiences in order to turn the best available science into well-informed policies?

Answer. Translating the best available science into well-informed policies requires at least three closely related elements. First, science must appropriately target the issues before the policymaker. For years scientists have drawn a distinction between "basic" and "applied" science. Basic science is an unfettered search for information and knowledge for its own sake, whereas applied science is directed at understanding important problems. Given our limited scientific resources and our growing need for specific types of information to address complex issues, I believe we must focus much of our effort on applied science.

Second, we need coordination and collaboration among scientists, managers, policymakers, and all interested parties to ensure that scientific efforts target the most pressing issues. Managers and policymakers face many difficult challenges and it is crucial that scientists understand what policies need to be formulated and what decisions need to be made so that they can undertake research that results in the best possible scientific information for those purposes.

Third, we need effective communication of the scientific information and policy determinations in multiple formats. The Marine Mammal Commission has long sought to communicate its recommendations using letters, annual and special reports, and scientific papers. It also has sought to facilitate communication by sponsoring workshops and other meetings that bring together all parties involved in an issue and facilitate discussions aimed at finding common solutions.

In my capacities as a veterinarian, researcher, science advisor, author, and workshop participant, I have been involved in all three of these facets. As such, I believe that I am well-positioned to help identify the pressing issues requiring further research, see that that research is well-designed to provide the best possible information to policymakers given available resources, and apply that information to resolve the underlying conservation issues. From my work on recovery teams for endangered and threatened species and as a member of working groups established to investigate and respond to marine mammal unusual mortality events, I also appreciate that we cannot always wait until we have unequivocal information before we make decisions and take action to implement those decisions. However, in such cases, we may need to adopt adaptive management strategies, in which we continue to collect information and monitor the situation and make changes to management measures as warranted. Finally, given the complexity of the issues we face, I appreciate the need to have a pool of knowledgeable individuals to consult in identifying pressing and emerging conservation issues, setting research priorities, and analyzing and applying the available information to formulate sound policies. If I am confirmed, I will work with the other Commissioners to ensure that the Marine Mammal Commission has a Committee of Scientific Advisors with a wide range of knowledge and experience to address the most pressing issues facing policymakers and affecting marine mammals.

Question 2. The Final Recommendations from the Interagency Ocean Policy Task Force stressed the need for ecosystem-based management. Do you see areas where we can better integrate ecosystem-based management into marine mammal conservation?

Answer. Yes, I see a number of areas where we can better integrate ecosystem-based management and marine mammal conservation. First, with regard to fisheries, we need to examine the ecological effects of fishing on marine mammals specifically and marine ecosystems generally. At my confirmation hearing, Senator Rockefeller, you referred to a report detailing declines of large marine predators by as much as 70 percent. In fact, such reductions are common and occur by design as a result of directed fishing policy. Whether they are consistent with maintaining healthy, stable ecosystems remains to be seen, but clearly more research is needed to investigate the ecological effects of such large-scale reductions in fish biomass.

More work also is needed to address the introduction of contaminants, fertilizers, and pathogens into the marine environment resulting from land-based activities including agriculture, industry, and coastal development. Taking an ecosystem-based approach to management of our marine environment will require that we not only focus on activities that occur in the oceans or along their shores, but also on those activities that serve as the source for contaminants, fertilizers, and pathogens, whether they come from coastal areas or as run-off or effluent from deep in our nation's heartland.

We also must tackle the disruptive effects of climate change. Marine mammals in polar regions (*i.e.*, both the Arctic and Antarctic) are perhaps the most threatened because they are likely to lose the sea ice habitat on which they depend. However, other species also may experience serious consequences. Hawaiian monk seals, for example, stand to lose important resting and birthing areas if sea level rise washes away the small sandy islets of the Northwestern Hawaiian Islands or if food-webs are disrupted by loss of reef areas through increasing acidification.

Marine debris continues to be an important threat to marine life, including marine mammals. To date, the evidence suggests that debris removed from the oceans is quickly replaced. That is, we are not making sufficient progress at preventing the introduction of new debris and that debris continues to degrade marine ecosystems.

These and other areas indicate that our conservation efforts must be improved and expanded if we are to maintain the health and stability of our marine ecosystems, including marine mammals.

Question 3. Given declining federal funds for scientific research, monitoring, and modeling, in what ways could the Commission partner with federal agencies to ensure the best possible science is used in the protection and conservation of marine mammals?

Answer. The Commission already is working with other agencies to understand agency funding constraints and help prioritize marine science that will generate the best possible information for conservation purposes. The Commission has established a web-based survey of federal agencies to collect information on all the federal resources used for marine mammal research. The intent of the survey is to provide a basis for identifying research gaps, set clear research priorities, and promote interagency cooperation. The Commission periodically holds working meetings with staff from other agencies. These vary from hour-long discussions to multi-day workshops focused on particularly difficult challenges. The Commission also uses its limited research funding as “seed money” to encourage other agencies and the private-sector to direct resources toward important research topics. The Commission often engages scientists and stakeholders from outside the government to ensure that it and other agencies are getting the broadest possible perspective on the challenges facing marine conservation. The Commission also strives to provide and promote unbiased peer review of marine science. Finally, the Commission writes frequently to decision-makers in other agencies to focus their attention on research issues that the Commission believes should be given high priority. As with so many things the Commission does, frequent and effective communication with the other agencies and the scientific community is critical for promoting better science and conservation.

Question 4. Marine mammals can be affected by a number of human activities. What role can the Commission play in resolving the inherent tension between important human uses of the oceans—such as energy development, fishing, transportation, and military operations—and protecting vulnerable marine mammal populations?

Answer. The Commission can play a number of roles in resolving this tension. First, the Commission often serves as an important source of information and expertise on marine mammals so that agencies seeking to minimize their impact and Congressional staff seeking to understand complex marine problems can use the Commission as a resource in designing effective mitigation strategies. For example, the Commission has on its Committee of Scientific Advisors one of the world’s leading polar bear scientists who has represented the Commission on several interagency working groups convened to guide polar bear research. The Commission commonly works with marine mammal experts from around the world and, when appropriate, the Commission engages those experts to ensure that managers and policy-makers have access to the best possible information.

Second, the Commission has long sought to bring together the multiple parties engaged in an issue to ensure the best possible communication. Such meetings often involve representatives from the other agencies, industry, conservation organizations, Alaska Native communities, and the interested public.

Third, the Commission sponsors research to investigate the underlying problems that may lead to tension, whether those problems pertain to fishery interactions, introduction of sound into the marine environment, development of oil and gas operations, coastal development, or military operations.

Fourth, the Commission promotes the development of better monitoring and mitigation measures to ensure that the effects of various activities on marine mammals are well understood and that marine mammals are suitably protected, but that protective measures do not place undue burdens on or disrupt the other activities.

Finally, as an independent oversight agency, the Commission helps maintain a focus on the most important marine mammal conservation issues and realistic strat-

egies for addressing them. Many issues cannot be resolved quickly and, to ensure that they are not forgotten or that efforts to address them are not unnecessarily prolonged, the Commission must carry out its oversight responsibilities vigilantly and needs to play a role in promoting the development and implementation of suitable long-term research programs.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TOM UDALL TO
DR. FRANCES M.D. GULLAND

Question 1. The Marine Mammal Commission has a mandate to devote special attention to particular species and populations that are vulnerable to threats and impacts from human-related activities. In the past decade there has been a rapid increase in public and regulatory interest in the effects of noise from military, shipping and hydrocarbon activities on marine life and in the available tools and technologies to measure/reduce potential impacts of sound-producing industrial activities. Should the MMC address noise disturbance brought on by seismic surveys potentially impacts cetaceans and other marine fauna? What actions would you propose the MMC take to address noise disturbance?

Answer. Yes, the Commission should address these issues as they pose a number of threats to marine mammals. In this regard, the Commission has and should continue to: (1) promote research aimed at better understanding of sound effects on marine mammal individuals and populations (*e.g.*, masking of the sounds that marine mammals produce and rely on for communicating and sensing their environments), (2) promote better monitoring and mitigation measures (*e.g.*, visual observations, passive acoustics) that ensure that effects on marine mammal populations are accurately assessed and can be shown to be no more than negligible, and (3) help promote alternative courses of action that accomplish the sought-after objective (*e.g.*, geophysical profiling) while ensuring impacts on marine mammals are negligible, for example, by rescheduling seismic surveys to periods when marine mammals are not present. I also believe it is important to establish long-term monitoring of ocean sound to determine if and where noise levels are increasing and how those increasing levels pose risks to marine mammals.

The Commission has focused its attention on sound-related impacts on marine mammals for some time. For instance, the Commission reported to Congress in 2007 on research and management needs related to ocean noise and marine mammals (*Marine Mammals and Noise—A Sound Approach to Research and Management*) and sponsored the preparation of a primer on underwater sound and marine mammals (*Underwater Sound and the Marine Mammal Acoustic Environment: A guide to Fundamental Principles*). In addition, the Commission has been working with the National Science Foundation, which funds geophysical research that employs seismic surveys, to promote the collection of empirical data to assess the impacts of those surveys on marine mammals and the effectiveness of mitigation measures currently in use. If confirmed, I would work to continue these efforts.

Question 2. How would you ensure that the MMC is being directed by the best scientific expertise to promote the Commission's agenda?

Answer. If confirmed, I would work with the Commission Chair to ensure that the Commission is supported by a scientifically strong and diverse Committee of Scientific Advisors with knowledge of and experience with a wide range of marine mammal species and issues potentially affecting marine mammals. I also would strongly encourage regular collaboration and cooperation between the Marine Mammal Commission and the scientific staff of the regulatory agencies responsible for marine mammal programs (*i.e.*, the National Marine Fisheries Service, Fish and Wildlife Service, and U.S. Geological Survey). I also would ensure that the Commission engages regularly with scientific experts from the Society for Marine Mammalogy and other relevant professional societies. In addition, I would promote collaboration of Commission staff and Committee scientists with scientists from other disciplines (*e.g.*, oceanography, climatology, fisheries biology, acoustics, conservation biology, biochemistry, veterinary medicine, etc.) to ensure that the Commission is mindful of and promoting multidisciplinary approaches to conservation problems. Finally, I would work to bridge the narrowing gap between western science and the traditional ecological knowledge of Alaska Natives. The Commission already is doing such things and I would ensure that the Commission continues to promote and practice the best possible science.

Question 3. What would you do to engage the scientific and NGO community domestically and internationally to further leverage scientific expertise, technical capacities, and MMC initiatives?

Answer. As noted above, if confirmed I would engage scientific expertise from around the nation and world as needed to address issues or problems. To that end, I would seek to have the Commission engage scientists from federal and state agencies, the NGO community, academic and private research organizations, Native organizations, and other nations to ensure that decisionmakers have the benefit of the best available science. The Commission already is working on a global assessment of marine mammals to address international issues affecting marine mammals. I would use the results of that assessment to set priorities and identify the key types of expertise and the key scientists to engage in conservation issues. I would encourage use of the Commission's limited research budget to promote exchange between the world's most established and effective scientists with scientists struggling with conservation issues in developing countries or regions where scientific resources are limited. The NGO community has long played an important role in promoting better science in undeveloped regions, as have other interested stakeholder communities. I would have the Commission work with all interested communities and with the State Department to further the conservation of marine mammals outside the United States.

Question 4. Long-term health monitoring of key marine species is necessary to address massive die-offs of species such as the Southern Right whales and sea turtles (green, loggerheads and leatherbacks). How would you collaborate with NOAA's National Marine Fisheries Service (NMFS) and the scientific/NGO community to avert a crisis?

Answer. If confirmed, I would seek to improve long-term health monitoring of marine species by working closely with the National Marine Fisheries Service and Fish and Wildlife Service to support and develop existing stranding networks. These networks are vital for detecting health-related issues and collecting the samples and data needed to investigate them. In this regard, I would encourage (and assist to the extent possible) the Services in developing a five-year strategy for improving the existing marine mammal health and stranding program. I also would seek to facilitate communication and collaboration among stranding networks from the different regions of the country. In addition, I would seek to integrate the information being collected by stranding networks with the marine mammal stock assessments required under the Marine Mammal Protection Act. I would work with the NGO and scientific community to improve stranding networks. Support is necessary to ensure that personnel in the stranding networks are adequately trained and have the resources needed to respond to strandings effectively. I also would encourage collaboration with academia, state public health and livestock diagnostic laboratories, and federal agencies (not just the Services). Finally, and perhaps most importantly, I would encourage research into the risk factors that pose threats to marine mammals specifically and marine ecosystems generally. Until we address those risk factors, our approach will be reactive. To avert crises, it will be essential to take a preventative approach.