

# EXOTIC BIRD SPECIES AND THE MIGRATORY BIRD TREATY ACT

---

---

## OVERSIGHT FIELD HEARING

BEFORE THE  
SUBCOMMITTEE ON FISHERIES CONSERVATION,  
WILDLIFE AND OCEANS

OF THE  
COMMITTEE ON RESOURCES  
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTH CONGRESS

FIRST SESSION

---

Tuesday, December 16, 2003, in Annapolis, Maryland

---

**Serial No. 108-83**

---

Printed for the use of the Committee on Resources



Available via the World Wide Web: <http://www.access.gpo.gov/congress/house>  
or  
Committee address: <http://resourcescommittee.house.gov>

---

U.S. GOVERNMENT PRINTING OFFICE

90-953 PS

WASHINGTON : 2004

---

For sale by the Superintendent of Documents, U.S. Government Printing Office  
Internet: [bookstore.gpo.gov](http://bookstore.gpo.gov) Phone: toll free (866) 512-1800; DC area (202) 512-1800  
Fax: (202) 512-2250 Mail: Stop SSOP, Washington, DC 20402-0001

## COMMITTEE ON RESOURCES

RICHARD W. POMBO, California, *Chairman*  
NICK J. RAHALL II, West Virginia, *Ranking Democrat Member*

Don Young, Alaska	Dale E. Kildee, Michigan
W.J. "Billy" Tauzin, Louisiana	Eni F.H. Faleomavaega, American Samoa
Jim Saxton, New Jersey	Neil Abercrombie, Hawaii
Elton Gallegly, California	Solomon P. Ortiz, Texas
John J. Duncan, Jr., Tennessee	Frank Pallone, Jr., New Jersey
Wayne T. Gilchrest, Maryland	Calvin M. Dooley, California
Ken Calvert, California	Donna M. Christensen, Virgin Islands
Scott McInnis, Colorado	Ron Kind, Wisconsin
Barbara Cubin, Wyoming	Jay Inslee, Washington
George Radanovich, California	Grace F. Napolitano, California
Walter B. Jones, Jr., North Carolina	Tom Udall, New Mexico
Chris Cannon, Utah	Mark Udall, Colorado
John E. Peterson, Pennsylvania	Anibal Acevedo-Vilá, Puerto Rico
Jim Gibbons, Nevada,	Brad Carson, Oklahoma
<i>Vice Chairman</i>	Raúl M. Grijalva, Arizona
Mark E. Souder, Indiana	Dennis A. Cardoza, California
Greg Walden, Oregon	Madeleine Z. Bordallo, Guam
Thomas G. Tancredo, Colorado	George Miller, California
J.D. Hayworth, Arizona	Edward J. Markey, Massachusetts
Tom Osborne, Nebraska	Rubén Hinojosa, Texas
Jeff Flake, Arizona	Ciro D. Rodriguez, Texas
Dennis R. Rehberg, Montana	Joe Baca, California
Rick Renzi, Arizona	Betty McCollum, Minnesota
Tom Cole, Oklahoma	
Stevan Pearce, New Mexico	
Rob Bishop, Utah	
Devin Nunes, California	
Randy Neugebauer, Texas	

Steven J. Ding, *Chief of Staff*  
Lisa Pittman, *Chief Counsel*  
James H. Zoia, *Democrat Staff Director*  
Jeffrey P. Petrich, *Democrat Chief Counsel*

---

## SUBCOMMITTEE ON FISHERIES CONSERVATION, WILDLIFE AND OCEANS

WAYNE T. GILCHREST, Maryland, *Chairman*  
FRANK PALLONE, JR., New Jersey, *Ranking Democrat Member*

Don Young, Alaska	Eni F.H. Faleomavaega, American Samoa
W.J. "Billy" Tauzin, Louisiana	Neil Abercrombie, Hawaii
Jim Saxton, New Jersey	Solomon P. Ortiz, Texas
Mark E. Souder, Indiana	Ron Kind, Wisconsin
Walter B. Jones, Jr., North Carolina	Madeleine Z. Bordallo, Guam
Randy Neugebauer, Texas	Nick J. Rahall II, West Virginia, <i>ex officio</i>
Richard W. Pombo, California, <i>ex officio</i>	

## C O N T E N T S

---

	Page
Hearing held on Tuesday, December 16, 2003 .....	1
Statement of Members:	
Gilchrest, Hon. Wayne T., a Representative in Congress from the State of Maryland .....	1
Prepared statement of .....	2
Statement of Witnesses:	
Clay, William H., Animal and Plant Health Inspection Services, U.S. Department of Agriculture .....	9
Prepared statement of .....	10
Grandy, John W., Ph.D., Senior Vice President, Wildlife Programs, The Humane Society of the United States, Prepared statement submitted for the record .....	40
Hindman, Larry J., Waterfowl Project Manager, Maryland Department of Natural Resources .....	12
Prepared statement of .....	14
Hogan, Matt, Deputy Director, Fish and Wildlife Service, U.S. Department of the Interior .....	3
Prepared statement of .....	6
Pardoe, David H., Member, Board of Directors, National Audubon Society .....	34
Prepared statement of .....	35
Sparrowe, Dr. Rollin D., President, Wildlife Management Institute .....	43
Prepared statement of .....	44
Stallman, Dr. Elizabeth L., Wildlife Scientist, The Humane Society of the United States, Oral statement of .....	39
Winegrad, Hon. Gerald W., Vice President for Policy, American Bird Conservancy .....	46
Prepared statement of .....	50



**OVERSIGHT HEARING ON EXOTIC BIRD SPECIES AND THE MIGRATORY BIRD TREATY ACT**

---

**Tuesday, December 16, 2003  
U.S. House of Representatives  
Subcommittee on Fisheries Conservation, Wildlife and Oceans  
Committee on Resources  
Annapolis, Maryland**

---

The Committee met, pursuant to call, at 11:00 a.m., in the Joint Committee Hearing Room, Legislative Services Building, 90 State Circle, Annapolis, Maryland, Hon. Wayne T. Gilchrest [Chairman of the Subcommittee] presiding.

Present: Representative Gilchrest.

Staff Present: Edith Thompson, Legislative Assistant; Harry Burroughs, Staff Director; and Michael Correia, Clerk.

**STATEMENT OF THE HON. WAYNE T. GILCHREST, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MARYLAND**

Mr. GILCHREST [presiding]. The Subcommittee on Fisheries, Wildlife, and Oceans will come to order. As we move through the hearing today if there are any members from the Maryland General Assembly, House or Senate side, you will be invited to come to the dais and ask questions and be a part of the hearing process.

I would also ask if there is anyone in the room that has a burning specific question or comment that they need to address this hearing, we will be available at the conclusion of the hearing to talk to anybody about issues that they felt were not addressed during the hearing. And your concerns will be met with the same interest and sense of urgency as any of the witnesses that are testifying here today. You're welcome.

The Subcommittee will conduct this oversight hearing on exotic bird species and the Migratory Bird Treaty Act. The United States is currently a party to four international treaties to protect and conserve populations of migratory birds. Two years after the signing of the first treaty with Great Britain, Congress enacted the Migratory Bird Treaty Act of 1918. This Act is our domestic implementing law and statutorily commits this Nation to the proper management of certain families and species of birds.

After reviewing these treaties, it is clear that the list of covered species is not exhaustive. There is an inconsistency with migratory

and non-migratory birds, and no distinction is made between exotic and native species. A U.S. Court of Appeals ruled that mute swans are covered by the Migratory Bird Treaty Act because the family Anatidae to which swans belong is protected under certain of these treaties and because mute swans were not specifically excluded from the Migratory Bird Treaty protection. This raises questions about the treatment of any free-ranging exotic bird species occupying habitats here in the United States all year long or during seasons migrations.

During today's hearing, we will hear testimony on a number of exotic bird species, including eurasian collard doves, house sparrows, mute swans, muscovy ducks and rock doves. We will learn about the impacts of these and other exotic bird species on the public trust priorities of Federal and State agencies, such as the stewardship of native species populations and habitats, the migration of natural damages to agriculture and other economic interests and the protection of human health and welfare.

We will also explore the intent of Migratory Bird Treaty Act and the challenges it may pose to the conservation of healthy population of avian species that are in conflict over similar habitats in a highly altered landscape. I also hope to gain a better understanding of the Migratory Bird Treaty Act listing process, the criteria used to list or delist species and how the U.S. interacts with other signatories to these treaties over the treatment of exotic birds.

Exotic, invasive species are having a huge impact on the Nation's native wildlife and fisheries, economic interests, infrastructure and human health. In fact, it has been estimated they are costing our economy as much as \$100 billion a year.

This hearing is timely because Congress is considering legislative proposals to address this growing and pervasive problem. These species range from pathogens to vertebrates and the issues are complex. I am confident that reasoned debate and rational thought will help us identify and meet the challenge. We will review both new legislative proposals and existing laws that may contain conflicting national policy regarding wildlife conservation and management priorities.

I look forward to hearing from our distinguished witnesses who have vast knowledge and experience in this field, and I would welcome all of you here to this beautiful, historic city of Annapolis.

[The prepared statement of Mr. Gilchrest follows:]

**Statement of The Honorable Wayne T. Gilchrest, Chairman,  
Subcommittee on Fisheries Conservation, Wildlife and Oceans**

Good morning. Today, the Subcommittee will conduct an oversight hearing on Exotic Bird Species and The Migratory Bird Treaty Act.

The United States is currently a party to four international treaties to protect and conserve populations of migratory birds. Two years after the signing of the first treaty with Great Britain, Congress enacted the Migratory Bird Treaty Act of 1918. This Act is our domestic implementing law, and it statutorily commits this nation to the proper management of certain families and species of birds.

After reviewing these treaties, it is clear that the list of covered species is not exhaustive, there is an inconsistency between migratory and nonmigratory birds and no distinction is made between exotic and native species.

A U.S. Court of Appeals ruled that mute swans are covered by the Migratory Bird Treaty Act because the family anatidae, to which swans belong, is protected under certain of these treaties and because mute swans were not specifically excluded from

migratory bird treaty protection. This raises questions about the treatment of any free-ranging exotic bird species occupying habitats here in the United States all year or during seasonal migrations.

During today's hearing, we will hear testimony on a number of exotic bird species, including Eurasian collared doves, house sparrows, mute swans, Muscovy ducks and rock doves. We will learn about the impacts of these and other exotic bird species on the public trust priorities of federal and state agencies, such as the stewardship of native species populations and habitats, the mitigation of natural damages to agriculture and other economic interests, and the protection of human health and welfare.

We will also explore the intent of the Migratory Bird Treaty Act and the challenges it may pose to the conservation of healthy populations of avian species that are in conflict over similar habitats in a highly altered landscape. I also hope to gain a better understanding of the Migratory Bird Treaty Act listing process, the criteria used to list or delist species and how the U.S. interacts with other signatories to these treaties over the treatment of exotic birds.

Exotic, invasive species are having a huge impact on this nation's native wildlife and fisheries, economic interests, infrastructure and human health. In fact, it has been estimated they are costing our economy about \$100 billion each year.

This hearing is timely because Congress is considering legislative proposals to address this growing and pervasive problem. These species range from pathogens to vertebrates and the issues are complex.

I am confident that reasoned debate and rational thought will help us identify and meet the challenge. We will review both new legislative proposals and existing laws that may contain conflicting national policy regarding wildlife conservation and management priorities.

I look forward to hearing from our distinguished witnesses who have vast knowledge and experience in this field. I would like to welcome everyone to Annapolis.

---

Mr. GILCHREST. Our first panel will be Mr. Matt Hogan, Deputy Director, U.S. Fish and Wildlife Service, accompanied by Mr. Chandler Robbins, Senior Scientist, Biological Resources Division, U.S. Geological Survey; Mr. William Clay, Animal and Plant Health Inspection Services, U.S. Department of Agriculture; and Mr. Larry Hindman, Waterfowl Project Manager, Maryland Department of Natural Resources. Gentlemen, thank you very much for coming this morning. We look forward to your testimony. And, Mr. Hogan, you may begin.

**STATEMENT OF MATT HOGAN, DEPUTY DIRECTOR, U.S. FISH AND WILDLIFE SERVICE; ACCOMPANIED BY DR. CHANDLER S. ROBBINS, SENIOR SCIENTIST, BIOLOGICAL RESOURCES DIVISION, U.S. GEOLOGICAL SURVEY**

Mr. HOGAN. Thank you for the opportunity to provide the Department of Interior's views regarding exotic birds species—

Mr. GILCHREST. Mr. Hogan, is your mike on?

Mr. HOGAN. There we go. I apologize.

Mr. GILCHREST. OK.

Mr. HOGAN. Would you like me to start from the beginning? Mr. Chairman, thank you for the opportunity to provide the Department of Interior's views regarding exotic bird species and the Migratory Bird Treaty Act. If it is OK with you, I ask that my written statement become part of the record.

Mr. GILCHREST. Without objection, so ordered.

Mr. HOGAN. And also in the testimony I will refer to the Migratory Bird Treaty Act as the MBTA, just to shorten it a little bit.

As I said, I am Matt Hogan, Deputy Director of the U.S. Fish and Wildlife Service, and in addition to Mr. Chandler Robbins I am

also accompanied by Mr. Paul Schmidt, our Assistant Director for Migratory Birds and State Programs.

The United States has bilateral migratory bird conventions with Canada, Mexico, Japan and Russia. The MBTA is the domestic law implementing the United States commitment to the four international conventions protecting our shared migratory bird resources. The primary purpose of the MBTA is to manage and conserve more than 800 species of migratory birds in the United States. The Service is the lead Federal agency for managing and conserving migratory birds in the U.S.

While the MBTA is silent on the issue of exotic species, the Service has long regarded exotic bird species as falling outside the protections of the MBTA. Exotic bird species can have a detrimental impact on native species protected by the MBTA. The Service believes that protecting exotic bird species under the MBTA would be counterproductive to the primary purpose of the Act and would divert resources needed for the conservation and management of our native species.

The Service's practice of excluding exotic species from the MBTA reflects a number of important biological and ecological factors. First, considering that the MBTA and the four bilateral conventions that implement it are, in essence, bird conservation statutes, it does not make sense for the Federal Government to expend limited resources conserving introduced species at the possible expense of native species. Second, there is a growing body of evidence indicating that introduced birds are often harmful to native plants and animals. The potential harm of such introductions is especially obvious in island settings such as Puerto Rico and the Hawaiian Islands.

There is widespread concern among wildlife scientists about the impact of non-native mute swans on natural resources of the U.S., including aquatic habitats and vegetation and native species of fish and wildlife. In the Chesapeake Bay of Maryland, the current population of 3,600 birds consumes an estimated 10.5 million pounds of submerged aquatic vegetation annually, representing about 10.5 percent of the total biomass of submerged aquatic vegetation in the bay. If the mute swan population continues to double every 8 years, as predicted in the absence of control efforts, they would be consuming approximately 21 percent or more of the available aquatic vegetation annually by the year 2010.

Mute swans can also have a direct effect on native species. Mute swans not only attack and displace native waterfowl from breeding, staging and wintering areas, they also have been known to kill intruding birds of other species and their young. One of the more dramatic instances in which mute swans have displaced native species was documented in Dorchester County, Maryland, where an annual molt-gathering of up to 600 mute swans caused repeated reproductive failures and ultimately the abandonment of the largest colony of least terns in the State, accounting for 49 percent of the statewide population of the terns and one of only two known colonies of black skimmers in Maryland in the Maryland portion of the bay. Both of these species are listed as threatened by the State of Maryland.



Prior to 2001, the Service considered the mute swan an exotic species and therefore not subject to the protection of the MBTA. Management of mute swans, including resolution of any problems that they might cause, was considered to be a de facto responsibility of the States with no involvement required of the Federal Government. In July 1999, the Service was sued for not affording the mute swan protection under the MBTA. In December 2001, the U.S. District Court for the District of Columbia ruled that as a swan and members of the family Anatidae, both of which are expressly listed in the Canadian and Mexican conventions, the mute swan qualified for protection under the Migratory Bird Treaty Act. This is also known as the Hill decision. In the ruling, the court noted the absence of any clear and unambiguous evidence that Congress intended for the MBTA to apply only to native species.

Following the Hill decision, the Service initially concluded that the issuance of depredation permits for the take of mute swans was categorically excluded from NEPA and that further environmental reviews were not necessary. Thus, the Service issued depredation permits in 2002 and 2003 as categorical exclusions to NEPA. In the spring of 2003, the Service issued a permit to the Maryland Department of Natural Resources, authoring the take of up to 1,500 mute swans. The Fund for Animals filed a lawsuit and sought an injunction. In response, the State of Maryland voluntarily relinquished the permit, and the Service initiated an environment assessment for the management of mute swans in the Atlantic Flyway. Following a 30-day public comment period and a final environmental assessment, the Service issued a new permit to the State of Maryland, authorizing the take of approximately 900 mute swans. However, the judge ruled in favor of the Fund for Animals in granting an injunction, and his ruling suggested that the Service would be unlikely to win the case on its merits. Thus, the Service settled with the Fund for Animals and agreed not to issue any additional mute swan depredation permits until a new environmental review was conducted.

The Department of Interior does not expect that the court's concerns could be addressed through an environmental impact statement. As a result, the Service does not intend to initiate a new environmental review in Fiscal Year 2004. The result is that the State wildlife agencies, national wildlife refuges and other agencies and organizations wishing to implement programs to control the growth of mute swan populations to alleviate their impacts on native plant communities, fish and wildlife resources and local economic interests will be prevented from doing so.

A variety of organizations, more than 40 in total, including 13 State wildlife agencies and groups dedicated to bird conservation, bird science, wildlife conservation and wildlife management, has expressed support for the State and Federal management actions to control or eliminate the exotic mute swan from the United States. However, several organizations, including the Friends of Wildlife, Fund for Animals, Save Maryland Swans and Save our Swans USA, have been vocal and highly visible in expressing their opposition to the management and killing of mute swans for any reason.

In summary, Mr. Chairman, affording the protection of the MBTA to introduce birds that are not native to the United States is ecologically unsound, contrary to the stated purposes of the MBTA and contrary to efforts by the Federal Government to control invasive species. However, until it is made clear that the MBTA excludes exotic species, the Service will continue to abide by the court's decision.

Mr. Chairman, this concludes my prepared statement. I would be certainly happy to answer any questions you might have.

[The prepared statement of Matt Hogan follows:]

**Statement of Matt Hogan, Deputy Director, Fish and Wildlife Service,  
U.S. Department of the Interior**

Mr. Chairman and Members of the Subcommittee, I thank you for the opportunity to provide the Department of the Interior's (Department) views regarding exotic bird species and the Migratory Bird Treaty Act (MBTA). I am Matt Hogan, Deputy Director of the U.S. Fish and Wildlife Service (Service). I am joined today by Paul Schmidt, Assistant Director of the Service's Migratory Bird and State Programs, as well as Chandler Robbins of the U.S. Geological Survey's Patuxent Wildlife Research Center.

The MBTA is the domestic law implementing the United States' commitment to four international conventions for the protection of shared migratory bird resources. The primary purpose of the law is to manage and conserve more than 800 species of migratory birds in the United States. The Service is the lead federal agency for managing and conserving migratory birds in the United States.

*Exotic Bird Species and the Migratory Bird Treaty Act*

The United States has bilateral migratory bird conventions with Canada, Mexico, Japan and Russia. The international arrangements are important given the migratory nature of these species and reflect some of the more visionary legal instruments developed to benefit both the environment and the public. Each of the four bilateral migratory bird conventions to which the U.S. is a party specifically lists the birds that are meant to be protected by the MBTA. The birds covered by the conventions are variously listed by species groups (Canada 1916), families (Canada 1916 and 1998 protocol amendment, Mexico 1936 and 1973 amendment), and individual species (Japan 1972 and Russia 1976).

Species are added to the MBTA list of protected species on the basis of (1) new evidence that the species occurs in the U.S. or (2) taxonomic "splitting" in which one species is split into two or more species (but, in reality, these "new" species were previously protected as subspecies). Species may be removed from the list for the following reasons: (1) the species is known to be extinct; (2) previous listing was erroneous (e.g., species does not occur in the U.S., or does not belong to a family or species group covered by any of the conventions); or (3) the species is no longer recognized as a valid biological unit because of taxonomic revisions.

The Service has long regarded exotic bird species as falling outside the protection of the MBTA because exotic bird species can have a detrimental impact on native species protected by the MBTA. The Service believes that protecting exotic bird species under the MBTA would be counterproductive to the primary purpose of the Act and divert resources needed for the conservation and management of native species. In a general sense, "exotic" is a term that refers to a species that has escaped from captive facilities or been introduced (intentionally or unintentionally) by humans into an area in which it is not native; it is generally synonymous with the terms alien, foreign, introduced, non-indigenous, and non-native. When exotic species negatively impact the native fauna or flora or have negative effects on human health, culture or economic well-being, the species is also considered invasive. "Native" is a term used to describe a species that occurs in a given ecological or geographic area strictly as a result of natural biological and ecological processes (i.e., no direct human involvement).

The Service's practice of excluding exotic species from the MBTA reflects a number of important biological and ecological factors. Evidence of the consistent application of this policy becomes readily apparent in examining the 12 lists of MBTA-protected birds published since 1950. First, considering that the MBTA and the four bilateral conventions that it implements are, in essence, bird conservation statutes, it does not make sense for the federal government to expend limited resources conserving introduced species at the possible expense of native species. Second, there

is a growing body of evidence which indicates that introduced birds are often harmful to native plants and animals. Increased awareness about the potential threats posed by exotic birds emerged in the 1970's in concert with increased trafficking in exotic species. The potential harm of such introductions became especially obvious in island settings, such as Puerto Rico and the Hawaiian Islands.

Increased awareness of the economic and ecological damages caused by invasive species has led the U.S. Government to develop a clear body of mitigative policy on this issue. For example, the Lacey Act restricts the importation, acquisition, and possession of wildlife deemed "injurious" and the Service has established regulations on injurious wildlife. The National Invasive Species Act, passed by Congress in 1996, authorized the Aquatic Nuisance Species Task Force, which the Service co-chairs. In 1999, President Clinton signed Executive Order 13112, establishing the National Invasive Species Council to coordinate federal invasive species activities and calling for the issuance of a National Invasive Species Management Plan. These laws and the Executive Order are consistent with the Service's exclusion of exotic bird species from the protections of the MBTA.

The Service has had detailed discussions with our treaty partners regarding the exclusion of exotic species from the protection of the MBTA. We are currently working with Canada to clarify the interpretation of the Treaty. The Canadian government has indicated that they support our long-standing interpretation that the Treaty was intended to cover native bird species. A formal documentation of this position is being considered.

The Service has engaged in a number of efforts to control and manage exotic bird species for over a century. This effort was started by the U.S. Biological Survey (forerunner of the Service) in the late 1890's, and was continued by the Service's Animal Damage Control program through the late 1980's (when that program was transferred to the U.S. Department of Agriculture). One means of addressing this issue is through import restrictions. For example, the Service prohibits the import of three exotic bird species (Rosy Starling, *Pastor roseus*; Red-billed Quelea, *Quelea quelea*; and Red-whiskered Bulbul, *Pycnonotus jocosus*) into the U.S. because they are considered "injurious wildlife." For almost a century, the Service has known of the potential for negative impacts from both the house sparrow and the European starling on native species. As a result, the Service has long condoned the removal of adults, eggs and nests of European starlings and house sparrows from artificial houses and nest boxes erected to benefit species such as bluebirds and purple martins. Most recently, the Service was working with the State of Maryland and 10 other states to manage mute swan (*Cygnus olor*) populations.

#### *Mute Swans*

There is widespread concern among wildlife scientists about the impacts of non-native mute swans on natural resources of the U.S., including (a) aquatic habitats and vegetation and (b) native species of fish and wildlife.

With regard to aquatic habitats and vegetation, an estimated 61 million pounds (or 30 thousand tons) of submerged aquatic vegetation are removed annually from wetland habitats in the U.S., being directly consumed by an estimated 21,400 mute swans (Fish and Wildlife Service). Another 153 million pounds (or 77 thousand tons) of submerged aquatic plants may be uprooted by foraging swans, but not consumed, thereby causing habitat degradation and loss (Fish and Wildlife Service). This represents a net loss of some 214 million pounds (or 107 thousand tons) of vegetation that is no longer available to native species of fish and wildlife as protective cover from predators, nursery habitats for rearing young, and sources of food. It also represents an irretrievable loss of an important source of dissolved oxygen, an essential element for the survival of many species of aquatic organisms of economic and recreational value.

In the Chesapeake Bay of Maryland, the current population of 3,600 birds consumes an estimated 10.5 million pounds (or 5.3 thousand tons) of submerged aquatic vegetation annually; representing about 10.5 percent of the total biomass of submerged aquatic vegetation in the Bay (Fish and Wildlife Service). If the mute swan population continues to double every eight years, as predicted in the absence of control efforts (Atlantic Flyway Council 2003, Maryland DNR 2003), they would be consuming 21 percent or more of the available aquatic vegetation annually by the year 2010.

Mute swans are perhaps most detrimental to native species of fish and wildlife in an indirect manner, by altering and destroying aquatic vegetation (Gilham 1956, Willey 1969, Chasko 1986, Ciaranca et al 1997). For example, the varied structure exhibited by beds of submerged aquatic vegetation (SAV) provides estuarine-spawning fish (e.g., shad, herring, striped bass and rockfish) and other marine organisms (e.g., oysters and blue crabs) and their offspring with protection from predators. Any

alteration or destruction of these habitats, including that which can be inflicted by foraging mute swans, can diminish their value for these commercially important species (Krull 1970, Hurley 1991, Hindman and Harvey 2003). The density of juvenile blue crabs, for example, has been shown to be 30 times greater in SAV beds than in non-vegetated areas of the Chesapeake Bay (Maryland DNR 2003).

Mute swans can also have a direct effect on native species. Mute swans not only attack and displace native waterfowl from breeding, staging, and wintering areas (Willey, Reese 1975, Ciaranca 1990, Ciaranca et al. 1997), they have also been known to kill intruding birds of other species and their young (Stone and Masters 1970, Reese 1980, Kania and Smith 1986). One of the more dramatic instances in which mute swans have displaced native species was documented in Dorchester County, Maryland, where an annual molt-gathering of up to 600 mute swans caused repeated reproductive failures in, and ultimately the abandonment of, the largest colony of least terns in the State (accounting for 49 percent of the Statewide population) and one of only two known colonies of black skimmers in the Maryland portion of the Bay (Therres and Brinker 2003). Both of these species are listed as threatened by the State of Maryland.

#### *The Hill Decision*

Prior to 2001, the Service considered the mute swan an exotic species and therefore not subject to the protections of the MBTA. Management of mute swans—including resolution of any problems that they might cause—was considered to be a de facto responsibility of the states, with no involvement required of the federal government. In July 1999 the Service was sued for not affording the Mute swan protection under the MBTA. In December 2001, the U.S. District Court for the District of Columbia ruled that, as a “swan” and a member of the family “Anatidae” (both of which are expressly listed in the Canadian and Mexican conventions), the Mute swan qualified for protection under the Migratory Bird Treaty Act (the Hill decision). In the ruling, the court noted the absence of any clear and unambiguous evidence that Congress intended for the MBTA to apply only to native species.

Following the Hill decision, the Service initially concluded that the issuance of depredation permits for the take of Mute swans was categorically excluded from NEPA and that further environmental review was not necessary. Thus, the Service issued depredation permits in 2002 and 2003 as “categorical exclusions” to NEPA. In Spring 2003, the Service issued a permit to the Maryland Department of Natural Resources authorizing the take of up to 1,500 Mute swans. The Fund for Animals filed a lawsuit and sought an injunction. In response, the State of Maryland voluntarily relinquished their permit and the Service initiated an Environmental Assessment (EA) for the Management of Mute Swans in the Atlantic Flyway. Following a 30-day public comment period and final EA, the Service issued a new permit to the State of Maryland authorizing the take of approximately 900 Mute swans. However, the Judge ruled in favor of the Fund for Animals in granting an injunction and his ruling suggested that the Service would be unlikely to win the case on the merits. Thus the Service settled with the Fund for Animals and agreed not to issue any additional Mute swan depredation permits until a new environmental review was conducted.

The Department of the Interior does not expect that the Court’s concerns could be addressed through an Environmental Impact Statement (EIS). As a result, the Service does not intend to initiate a new environmental review in FY 2004. The result is that state wildlife agencies, National Wildlife Refuges, and other agencies and organizations wishing to implement programs to control the growth of Mute swan populations to alleviate their impacts on native plant communities, fish and wildlife resources, and local economic interests will be prevented from doing so.

The Service’s decision garnered broad support from 13 state wildlife agencies and a variety of organizations (more than 40 in total) dedicated to bird conservation, bird science, wildlife conservation, and wildlife management. However, several organizations, including Friends of Wildlife, Fund for Animals, Save Maryland’s Swans, and Save Our Swans USA, were vocal and highly visible in expressing their opposition to the killing of mute swans for any reason.

#### *Conclusion*

In summary, affording the protection of the MBTA to introduced birds that are not native to the United States is ecologically unsound, contrary to the stated purpose of the MBTA, and contrary to efforts by the federal government to control invasive species.

Mr. Chairman, this concludes my prepared statement. Thank you again for the opportunity to testify at today’s hearing. I would be pleased to respond to any questions you or the Subcommittee Members may have.

Mr. GILCHREST. Thank you very much, Mr. Hogan.

Mr. Clay. I understand Dr. Robbins is not going to—you don't have any testimony.

Dr. ROBBINS. No.

Mr. GILCHREST. Mr. Clay.

**STATEMENT OF WILLIAM H. CLAY, ANIMAL AND PLANT HEALTH INSPECTION SERVICES, U.S. DEPARTMENT OF AGRICULTURE**

Mr. CLAY. Thank you, Mr. Chairman, and I appreciate the opportunity to speak with you this morning on behalf of the U.S. Department of Agriculture on exotic bird species and the Migratory Bird Treaty Act. I am the Deputy Administrator for the Wildlife Services Program, and I would like to first start out by giving you a brief overview of Wildlife Services.

As part of USDA's Animal and Plant Health Inspection Services, the Wildlife Services Program provides Federal leadership and expertise in resolving damage caused by wildlife. Over the last decade, Wildlife Services' mission has expanded beyond traditional agricultural damage to also include minimizing public health and safety threats from wildlife, dealing with wildlife conflicts in urban areas, protecting property, helping to protect threatened and endangered species, and helping to protect other natural resources as well.

The Wildlife Services Program provides assistance on a request basis. In addition to working with individuals, our program personnel also work with other Federal, State and local government officials that manage—that request wildlife damage management assistance. These cooperators share in the cost of many of our wildlife damage management activities.

Resulting damage caused by exotic bird species is one of many areas where the Wildlife Services Program has seen an increased request for assistance. Some examples of exotic or non-native birds include starlings, rock doves, also known as feral pigeons, house sparrows and mute swans. Starlings which are native to Europe are probably the most problematic of the exotic bird species. Population estimates for starlings now exceed 200 million birds in North America. In the year 2002, Wildlife Services personnel removed or dispersed approximately 2.7 million starlings from across the United States. Most of these were in dairies and feedlots where the birds congregate in the winter where they get food and shelter. But most of the damage from starlings occurs as the birds consume or contaminate livestock feed with their droppings.

Rock dove, which are native to the Mediterranean area, are another exotic species that cause damage across the United States. Again, in 2002, Wildlife Services personnel dispersed or removed more than 69,000 rock doves mainly from urban areas in the United States where the birds caused property damage and threatened public health and safety from their droppings which accumulate on sidewalks and on buildings.

Researchers estimate that Americans spend more than \$1 billion a year to control and to clean up after this exotic bird. In addition, rock dove also pose a serious threat to air travelers where the birds often collide with aircraft taking off or landing at airports. In fact,

this threat at airports from exotic birds leaves us in Hawaii where we're actually dealing with two other exotic bird species, removing them from local airports, the chestnut mannikin and the zebra doves, where there is a serious problem if a bird strikes an aircraft there.

Wildlife Services has the legislative authority to manage damage or threats posed by exotic bird species, but we do not have the authority to manage the species themselves. In order to manage damage caused by birds protected under the Migratory Bird Treaty Act, Wildlife Services personnel must first obtain a permit from the U.S. Fish and Wildlife Service. Starlings, rock dove and house sparrows are not protected by the Act and no permit is required for them.

In the case of the mute swans here in Maryland, the U.S. Fish and Wildlife Service, the Army Corps of Engineers and the Maryland Department of Natural Resources requested Wildlife Service to assist them in their efforts to control damage caused by mute swans. Mute swans, along with nutria, are contributing to the destruction of the Chesapeake's marsh grasses, which provide a significant impact by filtering the bay, providing a valuable food source for native species and are also an important habitat for crabs, fish and other wetland-dependent species. Cooperative efforts by these agencies are helping to control populations of nutria. However, our cooperative efforts to manage the mute swans were halted earlier this year through a preliminary injunction issued in a lawsuit brought by the Fund for Animals against the U.S. Fish and Wildlife Service in August. And as Mr. Hogan mentioned in his testimony, that case was settled when the Fish and Wildlife Service agreed to withdraw its environmental assessment and management of mute swans in the Atlantic Flyway and withdraw their related finding of no significant impact and also withdraw and terminate all depredation permits. This agreement, however, did not alter the Fish and Wildlife Service's authority to issue Wildlife Service's permits on an emergency basis to protect public health and safety and to prevent bird strikes at airports.

I would like to conclude by saying that Wildlife Services has a good working relationship with the Fish and Wildlife Service and with the many State wildlife agencies that we work with, and we are prepared to work with them in managing future problems caused by exotic bird species.

Mr Chairman, thank you again for the opportunity to talk with you about Wildlife Services' role in managing damage caused by exotic bird species, and I would also be happy to answer any questions that you may have.

[The prepared statement of William H. Clay follows:]

**Statement of Bill Clay, Deputy Administrator, Wildlife Services Division, Animal and Plant Health Inspection Service, U.S. Department of Agriculture**

Mr. Chairman and Members of the Subcommittee, thank you for this opportunity to speak with you on behalf of the U.S. Department of Agriculture (USDA) about exotic bird species and the Migratory Bird Treaty Act. I would like to start by providing a brief overview of Wildlife Services.

As part of USDA's Animal and Plant Health Inspection Service (APHIS), the Wildlife Services Division provides Federal leadership and expertise to resolve damage caused by wildlife. Over the last decade, Wildlife Services' mission has expanded

beyond agricultural damage management to include minimizing threats to public health and safety, resolving wildlife conflicts in urban areas, protecting property, safeguarding threatened and endangered species, and preserving valuable natural resources, such as the Chesapeake Bay area.

Wildlife Services provides assistance on a request basis. In addition to working with individuals, Wildlife Services works cooperatively with other Federal, State, and local governments that request assistance to manage wildlife damage. These co-operators share in the cost of many wildlife damage management activities conducted by Wildlife Services.

Resolving damage caused by exotic bird species is one of many areas where Wildlife Services has seen an increase in requests for assistance. Some examples of exotic or non-native bird species include starlings, rock doves, house sparrows and mute swans.

Starlings, native to Europe, are among the most problematic of exotic bird species. Population estimates for starlings now exceed 200 million in North America. In 2002, Wildlife Services dispersed or removed approximately 2.7 million starlings, mainly at dairies and feedlots where in the winter the birds congregate for food and shelter. Damage occurs as the birds consume and contaminate feed with their droppings.

Rock doves, native to the Mediterranean, are another exotic species that causes damage across the United States. In 2002, Wildlife Services dispersed or removed more than 69,000 rock doves, mainly from urban areas where the birds cause property damage and threaten public health and safety as their droppings accumulate on sidewalks and buildings. Researchers estimate that Americans spend more than \$1 billion a year to control and clean up after the exotic bird. In addition, rock doves pose a serious risk to air travelers when the birds collide with planes taking off and landing at airports. In Hawaii, that threat led Wildlife Services to remove or disperse exotic chestnut mannikins and zebra doves from local airports.

Wildlife Services has the legislative authority to manage damage or threats posed by exotic bird species, but we do not have the authority to manage the species themselves. In order to manage damage caused by species protected under the Migratory Bird Treaty Act, Wildlife Services must first receive a permit from the U.S. Fish and Wildlife Service. Starlings, rock doves, and house sparrows are not protected under the Act, and no permit is required.

In the case of the mute swan here in Maryland, the Fish and Wildlife Service, the Army Corps of Engineers and the Maryland Department of Natural Resources requested that Wildlife Services assist in efforts to manage the mute swan. As you know, the mute swan, along with the nutria, a large rodent that has destroyed thousands of acres of pristine wetlands, is contributing to the destruction of the Chesapeake's marsh grasses, which filter the bay, provide a valuable food source for native species, and hold together the fragile marsh soil. Concentrations of mute swans have overgrazed bay grasses, which are important habitats for crabs, fish, and other wetland dependent species.

Cooperative efforts of the aforementioned Agencies have helped control populations of nutria. Our cooperative efforts to manage the mute swan were halted by a preliminary injunction issued in a lawsuit brought by the Fund for Animals against the Fish and Wildlife Service in August of 2003. As Mr. Hogan mentioned in his testimony, that case was settled when the Fish and Wildlife Service agreed to:

- Withdraw its Environmental Assessment for the Management of Mute Swans in the Atlantic Flyway;
- Withdraw the related Finding of No Significant Impact; and
- Withdraw or terminate all depredation permits.

This agreement did not alter the ability of the Fish and Wildlife Service to authorize Wildlife Services to remove mute swans on an emergency basis in order to protect public health and safety and prevent bird strikes at airports.

I would like to conclude by saying that Wildlife Services has an excellent working relationship with the Fish and Wildlife Service and other State Agencies and we are prepared to continue to work with them in managing invasive bird species. Thank you again for the opportunity to talk to you about Wildlife Services' role in managing damage caused by exotic bird species.

---

Mr. GILCHREST. Thank you, Mr. Clay.

Mr. Hindman. Am I pronouncing that correctly? Hindman. You may begin, sir.

**STATEMENT OF LARRY J. HINDMAN, WATERFOWL PROJECT  
MANAGER, MARYLAND DEPARTMENT OF NATURAL  
RESOURCES**

Mr. HINDMAN. Thank you, Mr. Chairman, for the opportunity to testify before the Committee on the issue of Migratory Bird Treaty Act and exotic species. I am here to address issues surrounding the management of mute swans in our State. Mute swans are an invasive, non-native species that now inhabit the Chesapeake Bay in large numbers. Following the accidental introduction of five birds in 1962, the swan population grew slowly for two decades. However, after the mid-1980s, the swan population underwent dramatic growth and range expansion, rising to about 4,000 birds by 1999. At that rate of increase observed during that period and absent management, the swan population may have exceeded 30,000 birds by year 2010.

In Maryland, mute swans are included in the statutory definition of wetland game birds. State law gives the DNR the authority to allow the taking of wetland game birds during open hunting season and to regulate the possession, sale, trade, exportation and importation of mute swans in Maryland. Mute swans feed primarily on submersed aquatic vegetation, commonly referred to as bay grasses or SAV. Recent food habits research has shown that swans in Chesapeake Bay feed primarily on widgeon grass and eelgrass, both important foods for native wintering waterfowl. While foraging, each bird consumes an average of about eight pounds of SAV daily. At this consumption rate, the 3,600 swans that exist in Maryland currently consume an estimated 10.5 million pounds of SAV annually. This level of grazing upon SAV by swans places additional stress upon this critically important habitat, especially at the local level which is already limited by other environmental factors.

Although no quantitative assessment has been done in Maryland to determine the cumulative effects of grazing mute swans on SAV, studies of mute swans in several areas of the world have shown that these birds can negatively impact SAV communities. For example, a recent study conducted in Rhode Island found that mute swans overgraze SAV in shallow water and reduce SAV biomass by over 90 percent.

Here in Maryland citizens frequently complain that concentrations of mute swans overgraze SAV. Mute swans have completely destroyed a number of bay grass planting projects. In the South River, mute swans destroyed plantings to improve water quality. The cost of replanting the site twice was about \$4,700. And currently all SAV transplanting sites in the bay have to be fenced to prevent mute swan depredation.

Large numbers of mute swans have caused State threatened species of colonial birds to abandon their island nest sites. The antagonistic behavior exhibited by mute swans toward other native wetland birds can prevent native waterfowl from using traditional nesting and feeding areas, and in some cases we've documented mute swans killing other wetland bird species. Mute swans also impact humans. They are one of the world's most aggressive waterfowl species. This large bird instills fear into citizens, preventing them from using their shoreline property and adjacent water. Their



aggressive behavior in some cases exhibited as direct attacks can pose a safety risk, especially to small children.

Because of the deleterious effect that mute swans have on SAV and other native wildlife, the mute swan population at or near its present level is in conflict with public policies aimed at restoring the Chesapeake Bay. In particular, the Chesapeake Bay 2000 agreement has a goal to preserve, protect and restore those habitats in natural areas vital to the survival and diversity of the living resources of the bay. Part of this goal is to protect and restore SAV. The Department views the mute swan population as an impediment to achieving these goals.

To address these concerns, the DNR completed a statewide management plan that was adopted by the DNR secretary in April of 2003. The plan was developed with public input from a variety of sources, including the Citizens Mute Swan Task Force, citizen advisory Committees and hundreds of public comments. The plan has gained wide support by major conservation organizations. The goal of the plan is to manage the mute swan population at a level that minimizes the impacts of mute swans on native species and habitats.

Prior to February 2001, all mute swans control activity conducted in Maryland was done under the authority of State law. The DNR conducted egg addling efforts aimed at reducing swan productivity and removed several hundred swans to protect threatened colonial waterbird colonies. Such control was done without a Federal permit. The DNR also provided citizens and other entities authorization to control mute swans to prevent depredation of private wetlands and to minimize nuisance and personal safety problems caused by swans.

There are some positive aspects of the mute swans being a federally protected bird. One thing that it did it served to stimulate State wildlife agencies in the Atlantic Flyway to undertake an organized effort to control this species, leading to the development of the Atlantic Flyway Mute Swan Management Plan.

But there are some negative aspects of being a Federal bird. An outgrowth of the pending legal challenges concerning the issuance of Maryland's depredation permit, the Fish and Wildlife Service has rescinded all Federal depredation permits, allowing the control of mute swans by State wildlife agencies. The Maryland DNR currently cannot conduct swan control activities. Failure to have a permit in hand by the spring of 2004 nesting season will result in further population increase and thus will contribute to sustaining detrimental impacts from mute swans to native wildlife and their habitats.

The Migratory Bird Treaty requires that the U.S. Fish and Wildlife Service maintain a viable population of migratory birds. This has led the Service to establish arbitrary State-specific take limits for issuing depredation permits for controlling swans. In most States, these specific take limits place a constraint on swan management. The most efficient and cost effective method of reducing mute swans to achieve desired State population objectives is to remove a large proportion of the swan population as quickly and as humanely as possible. If a State wildlife agency is unable to remove enough swans in a single calendar year to achieve its

statewide population objective, the Service should not prevent that action by imposing State-specific take limits for issuing depredation permits.

Finally, there is a considerable uncertainty surrounding the issuance of Federal depredation permits. We have no assurance from the Fish and Wildlife Service that we will receive a Federal permit to continue swan control activities. Further delays in properly managing mute swans will cause negative impacts to native avian species and damage to critical bay resources. Thus we encourage you to consider to amend the Migratory Bird Treaty Act by excluding the mute swans from the list of migratory birds. This would return the primary management authority for managing mute swans to State wildlife agencies and allow them to effectively address the serious ecological and nuisance problems caused by this non-native species. Thank you for the opportunity to speak.

[The prepared statement of Larry J. Hindman follows:]

**Statement of Larry J. Hindman, Waterfowl Project Manager, Wildlife and Heritage Service, Maryland Department of Natural Resources**

I am Larry J. Hindman, Waterfowl Project Manager for the Maryland Department of Natural Resources (DNR), Wildlife and Heritage Service. The Maryland DNR is a state government agency authorized to preserve, protect, enhance and restore Maryland's natural resources for the wise use and enjoyment of all citizens.

Mute swans are an invasive, nonnative species that now inhabit the Chesapeake Bay in large numbers. In Maryland, mute swans are included in the statutory definition of Wetland Game Birds (Natural Resources Article [NR], Section 10-101). This law does not list the specific names of native species of waterfowl that winter and breed in Maryland, but only identifies ducks, mergansers, brant, geese, and swans as wetland game birds. This law was promulgated prior to the accidental introduction of mute swans in Maryland. State law gives DNR the authority to allow the taking of wetland game birds during an open hunting season, although no swan season has been opened in the state since 1918. Further, it gives the DNR the authority to regulate the possession, sale, trade, exportation, and importation of mute swans in Maryland (NR Article Section 10-903).

Prior to a recent court ruling (<http://www.II.georgetown.edu/Fed-Ct/Circuit/dc/opinions/00-5432a.html>), mute swans were not regulated by the U.S. Fish and Wildlife Service (USFWS). Primary management authority was held by individual states. Prior to February 2002, all mute swan control activity conducted in Maryland was done under the authority of State law (Natural Resource Section 10-206). This statute authorizes the DNR to reduce a wildlife population in any county, election district, or other identifiable area after a thorough investigation reveals that protected wildlife is seriously injurious to agricultural or other interests in the affected area. State law enabled the DNR to conduct mute swan control activities without a Federal Depredation Permit and allowed the DNR to issue authorization to citizens and other entities to control mute swans to prevent depredation of wetlands. It also allowed the DNR to authorize citizens to control swan pairs that caused nuisance and personal safety problems.

Now with the U.S. Fish and Wildlife Service (USFWS) now having regulatory authority for the management of mute swans, state wildlife agencies must obtain a Federal Depredation Permit to conduct mute swan control activities. Because of recent legal challenges, Federal Depredation Permits issued to the Maryland DNR, and other state wildlife agencies, to control mute swan populations have been rescinded. These legal challenges may prevent the USFWS from authorizing the DNR to conduct mute swans control activities prescribed in Maryland's Statewide Mute Swan Management Plan. Without this authorization, the mute swan population can be expected to increase and expand its range. Further delays in properly managing mute swans will cause negative impacts to native avian species and damage to critical Bay resources.

For this reason, we encourage Congress to amend the Migratory Bird Treaty Act by excluding the mute swan from the List of Migratory Birds. This would return the primary management authority for managing mute swans to state wildlife agencies and allow them to effectively address the serious ecological and nuisance problems caused by this nonnative species.

The mute swan population in Maryland has been attributed to the escape of five captive birds along the Miles River in Talbot County during a spring storm in March 1962. Following this accidental introduction, the mute swan population grew slowly for two decades. However, after the mid-1980s, the swan population underwent dramatic growth and range expansion, rising to about 4,000 birds by 1999 (Figure 1). At the rate of increase observed during this period, and absent management, the swan population may have exceeded 30,000 birds by 2010. The population decreased from 3,955 in 1999 to 3,624 in 2002. Egg addling and the removal of adult swans from Federal National Wildlife Refuges by shooting and authorized scientific collecting played an important role in the population change.

Mute swans feed exclusively on submerged aquatic vegetation, commonly referred to as SAV or baygrasses. Recent food habits research has shown that mute swans in Chesapeake Bay feed primarily on wigeon grass and eelgrass, both important foods for native, wintering waterfowl. Further research has shown that each mute swan consumes about estimated 8.3 lbs. (3.789 kg wet weight) of SAV daily (Willey and Halla 1972). Fenwick (1983) determined that male swans in Chesapeake Bay consumed 34.6% 10.8 SD of their body weight per day, females 43.4% 12.9 SD. Assuming that an adult/subadult mute swan consumes an average of 8 lbs. of SAV per day, we estimate that the current mute swan population in Maryland consumes an estimated 10.5 million pounds of SAV annually. This value is equal to about 10% of the total SAV biomass in the Bay (2001 Survey). This level of swan herbivory upon SAV, places additional stress upon this critically important habitat, especially at the local level, which is already limited by other environmental factors.

SAV is critical to the health and well-being of a myriad of Bay organism. SAV protects water quality from pollutants, introduces oxygen into the Bay, prevents erosion, and offers food and shelter for fish, shellfish, invertebrates and waterfowl. By way of example, the density of juvenile blue crabs is 30 times greater in SAV beds than in non-vegetated areas of the Bay. SAV has declined throughout the Bay because of water quality problems, and the large mute swan population is a threat to the native grass beds that remain, especially the new beds planted in restoration efforts.

Although no quantitative assessment has been done in Maryland to determine the cumulative effects grazing mute swans on SAV, studies of mute swans in several areas of the world have shown that these birds can negatively impact SAV communities.

For example, in Europe, mute swans have been known to completely remove individual plant species from some wetlands, eliminating this food source for other waterfowl that feed on the same SAV species.

In high concentrations, mute swans can overgraze an area. In a recent Rhode Island study, consumption of SAV by mute swans was indirectly measured by comparing control and enclosure plots. Findings indicated that mute swans overgraze SAV in shallow water (0.5 m) and can reduce SAV biomass by 92-95%.

Maryland citizens frequently complain that concentrations of mute swans overgrazed some SAV beds reducing the availability of SAV to native wildlife and reducing recreational crabbing and fishing opportunities. Mute swans have completely destroyed a number of bay grass planting projects (Chesapeake Bay Foundation's letter to Maryland's Secretary of Natural Resources). Presently, all SAV transplanting sites in the Bay have to be fenced to prevent mute swan depredation. The South River Association reports that Mute Swans have destroyed plantings of saltmarsh cordgrass (*Spartina alterniflora*) made to restore wetlands and improve water quality in the South River. The cost of replanting the site twice was about \$4,700.

Aside from simple biomass of SAV eaten by mute swans, there are a number of specific concerns about the effects of swan eating habits upon the recovering SAV populations in Chesapeake Bay. Swans have different, more destructive, feeding habits than do other species of waterfowl. This behavior involves disturbing the sediment to loosen it, then feeding on subterranean tubers used as asexual reproductive structures by SAV. Mute swans have also been observed pulling and consuming intact plants rather than feeding only on plant parts, as do native waterfowl. Mute swans uproot large quantities of aquatic plants and can disturb much more vegetation than they actually eat. Through the partial or complete destruction of individual SAV beds, this feeding behavior could impact future SAV growth, resulting in reduced food stocks for native waterfowl.

The upper Chesapeake Bay region is one of the most important areas in North America for migrating and wintering waterfowl. One of the reasons the Bay has held such attraction for these birds has been the quantity and variety of SAV species. Native species of SAV in the Bay have evolved concurrently with native waterfowl, and the timing of feeding by native waterfowl does not overlap temporally with SAV reproduction.

Unlike other swan and waterfowl species, most mute swans do not migrate during the winter months, and rarely move more than 30 miles during their lifetimes. Consequently, mute swans remain in and about the Bay feeding upon and disturbing SAV year-round. Mute swans feed extensively on above-ground biomass before tubers have begun to form, thus preventing the plants from forming these important reproductive structures and potentially eliminating the resource from some areas.

Certain wintering waterfowl species dependent upon SAV have declined in Chesapeake Bay and remain suppressed due to the reduced abundance of SAV. Declines in SAV abundance appear to correlate with declines in local black duck (*Anas rubripes*) abundance. The loss of SAV over the past several decades has prompted the near abandonment of Bay waters by redheads (*Aythya americana*), leaving only a remnant population today. Population trends suggest that habitat degradation in Chesapeake Bay, especially loss of SAV, may be the principal cause of the decline of the Bay's canvasback (*Aythya valisineria*) population.

Canvasbacks prefer to eat tubers, seeds and vegetative matter of wild celery plants and other SAV when they arrive from the north to overwinter in Chesapeake Bay. Mute swans also feed preferentially on wild celery in the Bay. However, they do so long before the canvasbacks begin their migration, giving mute swans a substantial temporal feeding advantage. Probably more significant than the actual food removal implications, mute swans consume wild celery seed pods before the seeds inside have completed their development, resulting in the systematic loss of entire crops of seeds from wild celery beds. This phenomenon has been recorded in the Gunpowder and Potomac Rivers. Bay researchers who collect seeds for artificial propagation have experienced considerable difficulty locating mature seedpods for this reason.

Because of the deleterious effect that mute swans have on SAV, a Bay-wide mute swan population above, at, or near its present level is in conflict with public policies aimed at restoring the Bay. In particular, the Vital Habitat Protection And Restoration section of the Chesapeake 2000 Agreement—an agreement and partnership entered into in 2000 between the U.S. Environmental Protection Agency, the Chesapeake Bay Commission, the states of Maryland, Virginia and Pennsylvania and the District of Columbia for the protection and restoration of the Bay—has as a stated goal to “Preserve, protect and restore those habitats and natural areas vital to the survival and diversity of the living resources of the Bay and its tributaries.” Part of this goal is the protection and restoration of SAV. Because of the vital role that SAV plays in preserving water quality and in providing food and shelter for Bay organism, preservation and restoration of SAV is vital to the overall health of Bay ecosystems. Further destruction or degradation of SAV caused by mute swans—even if limited to localized areas—will certainly compromise the goals of the Chesapeake 2000 Agreement.

The effect that mute swans have had—and potentially will have—on native wild-life within the Bay is best illustrated by the impact that swans have had on the least tern (*Sterna antillarum*) and black skimmer (*Rynchops niger*) populations in the Tar Bay area of Dorchester County, Maryland, (least terns and black skimmers are both listed as State threatened species). Tar Bay is a shallow tidal bay with dense beds of SAV, which, historically, has been a site for colonies of least terns and black skimmers. Between 1985 and 1987 approximately 60 to 250 nesting pairs of least terns were located in Tar Bay; in 1987, the nesting least terns in Tar Bay accounted for 49% of the total nesting population statewide. In 1985, 13 nesting pairs of black skimmers were located in Tar Bay—one of only two small colonies of nesting skimmers in the Maryland portion of the Bay.

In the late-1980s, a molting flock of between 600 and 800 mute swans began congregating in the Tar Bay area. During their molt, it was observed that swan tracks were completely covering tern and skimmer nesting areas and crushing tern and skimmer eggs into the sand. These disturbances continued into the early-1990s to the point where the number of nesting pairs of terns and skimmers declined. By 1993, the colonies were abandoned (colonial nesting waterfowl, such as terns and skimmers, will abandon colonies if disturbance is frequent or severe). During the mid-1990s, DNR and the USFWS reduced the size of the mute swan molting flock in the Tar Bay area, resulting in the return of a moderate population of least terns. By 1999, less than 25 nesting pairs of terns were present. No nesting pairs of black skimmers were present.

The mute swan is also one of the world's most aggressive species of waterfowl. Breeding mute swans are known to aggressively protect their nests and young from all perceived threats. Some breeding mute swan pairs may also threaten or attack humans, such as swimmers, small children or those in small watercraft. Mute swan aggression may also be directed at pets. In Maryland, aggressive mute swan pairs

have become a nuisance, preventing people from using shorelines where swans vigorously defend their nest during the breeding season.

Beginning in 2001, the DNR initiated a more concerted effort each spring to addle mute swan eggs to slow the growth rate of Maryland's mute swan population. This work was continued in 2002 with a Federal Depredation Permit obtained from the U.S. Fish and Wildlife Service. In 2002, 232 mute swan nests containing 1,243 eggs treated. In 2003, 276 mute swan nests containing 1,449 eggs were treated. An additional 130 adult swans were removed by shooting in 2003 before further mute swan control was suspended by a lawsuit filed against the USFWS for issuing Maryland DNR a permit that included lethal control.

In 1999, the Maryland DNR initiated the development of a mute swan management plan. The DNR Secretary assembled a Mute Swan Task Force, which included citizen members of the DNR's Migratory Game Bird Committee and experts in animal welfare and bay ecology. In January 2001, a summary of mute swan information and the Mute Swan Task Force recommendations to the DNR were made available for public review. More than 800 comments were received on the Mute Swan Task Force recommendations during the 60-day public comment period.

The cornerstone of the Mute Swan Task Force recommendations was the protection of native species and their habitats from the effects of mute swans. The Task Force recommended that the DNR establish Swan-Free Areas, areas where mute swans would be excluded or removed to protect critically important habitats and wildlife resources. The DNR Waterfowl Advisory Committee endorsed the Task Force recommendations, but further recommended a rapid reduction of the mute swan population and the elimination of State protection for the species. The recommendations provided by the advisory committees, along with biological and wildlife management principles and public input, were considered in the preparation of a Draft Statewide Mute Swan Management Plan. More than 400 comments were received from the public on the draft plan during a 60-day public comment period. In April 2003, the Statewide Mute Swan Management Plan was adopted by the DNR Secretary (copy attached).

The Statewide Mute Swan Management Plan directs the DNR to reduce the mute swan population in the Chesapeake Bay to a level that minimizes damage to SAV beds and eliminates the threat they pose to native bird species. Local and national environmental groups, including the National Audubon Society, the Chesapeake Bay Foundation, the Severn River Association, the South River Federation, the American Bird Conservancy, and others, have endorsed the plan.

In implementing the plan, the Maryland DNR has increased public outreach to facilitate the understanding of the status of the mute swan population in Maryland, its impacts on the Chesapeake Bay ecosystem, and the problems it creates for humans, critically important habitats and native wildlife populations.

State regulations are currently being developed to prevent the release and escape of mute swans into the wild. The DNR add conditions to federal and state permits that prohibit the sale, trade, barter, and importation of mute swans, or their eggs, in Maryland. In the future, the DNR will not authorize any additional possession of mute swans, except for scientific or educational purposes.

The DNR has also cooperated with other 22 states and provinces within the Atlantic Flyway Council to complete an Atlantic Flyway Mute Swan Management Plan (adopted July 2003). The purpose of the plan was to facilitate efficient mute swan population management. The DNR also provided input on the U.S. Fish and Wildlife Service's Draft Environmental Assessment for Managing Mute Swans in the Atlantic Flyway and is participating in the development of a region-wide Chesapeake Bay Mute Swan Management Plan for managing mute swans.

[Figure 1 follows:]

Figure 1. Number of Mute swans in Maryland 1962-2002

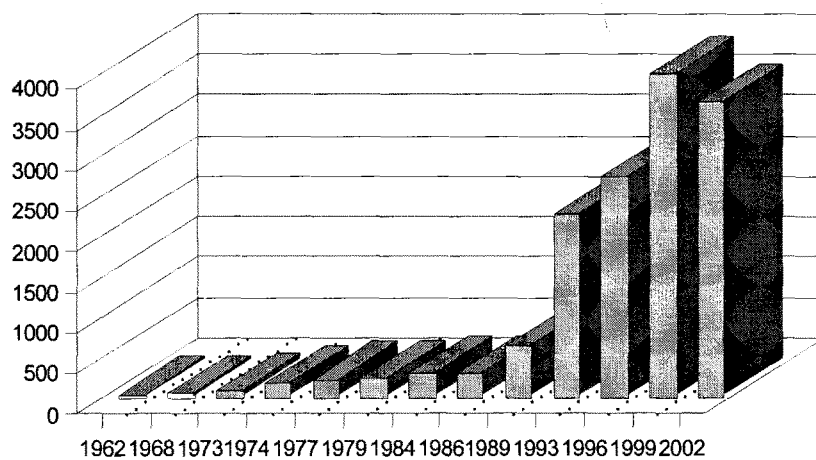
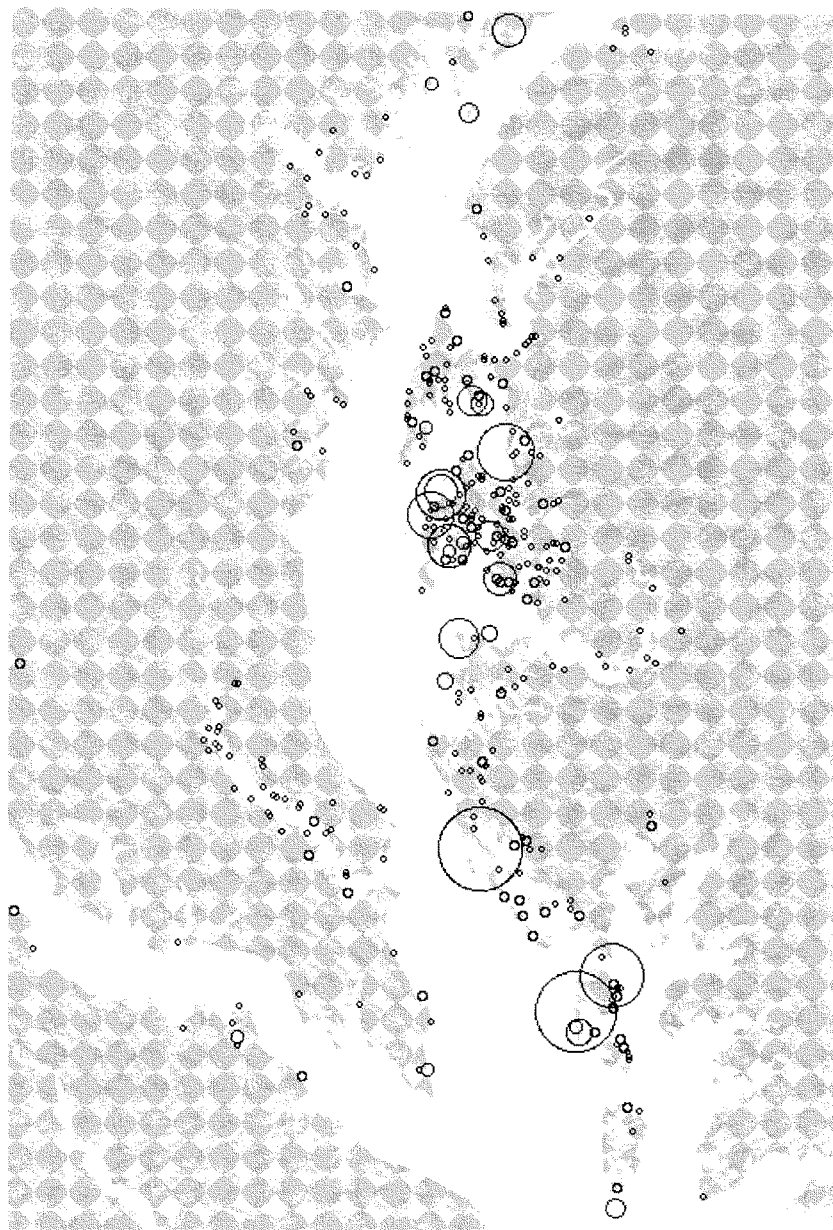


Figure 2. Swans are present in all major tributaries of the Bay. The largest circle in the attached map of the distribution of mute swans during August-September, 2002, represent 472 swans.

[Figure 2 follows:]



Mr. GILCREST. Thank you, Mr. Hindman.

Mr. Hogan, what does—how does U.S. Fish and Wildlife Service define the difference between an exotic bird and a native bird? Is there statutory language that defines that?

Mr. HOGAN. No, there is no statutory language, but we generally refer to a native species as one that as occurring naturally in an

ecosystem or in an environment, as opposed to an exotic species which got here from unnatural purposes, whether it be a purposeful release or an unintentional release by individuals, by people. So in other words, a native species are those that are here naturally, and an exotic species, as the case of the mute swans since we are talking about that, is one that was either intentionally or unintentionally released into the environment.

Mr. GILCHREST. So there has never been and you don't foresee a specific problem with the definition in a regulatory sense or a statutory sense or a court challenge to a distinction between a native and an exotic.

Mr. HOGAN. Well, I can't say that there will never be, sir. I think, certainly, given what has developed in the case of the mute swans that certainly is likely and that may be something we would consider as to codifying in either regulation or potentially statute the definition of native versus non-native, but it has generally been accepted that native—and there are definitions also for invasive species, which is a species that causes a detrimental impact on an ecosystem as opposed to being just exotic, not native or not natural to the ecosystem. They are one step further, they actually cause damage to the ecosystem. So there is a considerable Federal effort, as you well know, to control invasive species, whether it be certain species of birds or a case you know well, nutria, an exotic invasive species.

Mr. GILCHREST. What steps does U.S. Fish and Wildlife Service go through to take a species, in this situation a bird species, from an exotic to designate that exotic as invasive?

Mr. HOGAN. Well, it would be a—under the Lacey Act, we have the ability to list something as injurious, and by doing so we can prohibit the import of that species to the U.S., and that would be through a formal rulemaking process we would do that. In the case of mute swans, I guess the horse has already left the barn. It is a little late to prohibit the import, so once the species is here we really don't have a lot of ability to control it through the Lacey Act, through the listing of it as injurious. It is really something that we can hopefully do in the future, and, as you know, there are lots of efforts at the Federal level to prevent the importation of a lot of these invasive non-native species to the U.S. to try and catch them before they become established.

Mr. GILCHREST. So there is nothing in Federal statute to prohibit mute swans from further importation into the United States?

Mr. HOGAN. Right now we don't have them listed as injurious. It is certainly something we could consider if we thought that there was a—continued to be a problem with new birds being introduced in the U.S., but the best information we have is that the problem is really the established birds and the birds that continue to breed. There doesn't seem to be any indication of a real problem with new birds being brought into the country.

Mr. GILCHREST. Have you had ongoing discussions over the last decade or so with your Canadian counterparts with exotic birds, invasive species and mute swans in particular?

Mr. HOGAN. We certainly do have discussions with them regularly on a number of issues under the MBTA and our treaty with them, and the issue of invasives has come up. We typically have—



we kind of come to an understanding of how each country implements the treaty within their own country and our best understanding is that the Canadians are comfortable with our interpretation of exotic and native species in the U.S., just as we are comfortable with the way they deal with exotic and non-native species in their country.

Mr. GILCHREST. Has mute swans come up as an issue specifically as an invasive?

Mr. HOGAN. Yes, sir. Of late, since the actions in the courts, we certainly have discussed that with the Canadians. They are certainly aware of it and know of kind of where we have been and have been supportive of our approach to dealing with mute swans to date.

Mr. GILCHREST. If you designated mute swan as invasive—has the Service already designated mute swans as invasive?

Mr. HOGAN. We don't actually have a formal designation process to designate something as invasive. We do, under the Lacey Act, to designate it as injurious. I know it is kind of splitting hairs but that is something in which, again, we could prevent the importation or interstate commerce. We have not done that with mute swans.

Mr. GILCHREST. But mute swans have been designated, if I could use that word, as injurious?

Mr. HOGAN. They have been considered invasive. We have never gone through a formal process. Invasive is, to the best of my knowledge, not a formal designation. It is kind of an understanding among biologists and others. Injurious is actually a designation under the Lacey Act in which we would go through a rulemaking process and propose that as a species listed as injurious we would prevent the importation of that species.

Mr. GILCHREST. Have you gone through that process with mute swans?

Mr. HOGAN. No, sir.

Mr. GILCHREST. Is there any reason to go through that process to designate mute swans as injurious by the Fish and Wildlife Service, and would that in any way violate any of the four treaties that we have under the Migratory Bird Treaty Act?

Mr. HOGAN. I can't speak to your second question as far as I don't believe it would violate any of our treaties to list it as injurious because at least in our discussions, our informal conversations with our counterparts in Canada, they are supportive of the way we basically view all exotic, non-native species under the Migratory Bird Treaty Act. As far as whether or not we would consider listing it as injurious, we don't have a great deal of information, to my knowledge, that there is a problem with new birds coming into the country. Really our efforts to date have been targeted at controlling the birds that are already here. So we have not gone through that formal process of listing swans, mute swans in this case, as an injurious species, like we have with other species like the snakehead, for example, here in Maryland. We listed that as injurious and have prevented the importation for fear that the real source of the problem, fish in this case, were fish that were being imported into the United States, not a population that was already here.

Mr. GILCREST. Well, you went through the snakehead process rather quickly. So you don't—I guess what I am trying to get at is U.S. Fish and Wildlife can state for the record that mute swans are injurious or damaging certain habitats around the country and in this hearing in particular the Chesapeake Bay, both in SAVs and disrupting habitat for other bird species. So can I say that the U.S. Fish and Wildlife Service has said on the record that mute swans are—have a degrading effect on the Chesapeake Bay?

Mr. HOGAN. Yes, sir. Yes. I would be hesitant to say that we would officially call them injurious, because, again, that would actually take a formal rulemaking process through the Lacey Act, but we can say with no equivocation that we feel that they are negatively impacting the habitats of the Chesapeake Bay.

Mr. GILCREST. Is there a reason that the Service has not gone through that process with the Lacey Act?

Mr. HOGAN. Mainly because again we don't really see the problem as being new birds coming into the country. It is birds that are already here, and our efforts that—when we worked with the State of Maryland, or attempted to, it was more of an effort of controlling the birds that were already here in the Chesapeake Bay as opposed to trying to prevent new birds from being brought in from overseas.

Mr. GILCREST. Could it be considered an aquatic nuisance species, an Aquatic Nuisance Species Task Force, as nutria was declared an aquatic nuisance species last year?

Mr. HOGAN. Yes, sir.

Mr. GILCREST. So mute swans could be declared an aquatic nuisance species. What would it take to do that?

Mr. HOGAN. If I could, would you mind if I confer with my colleague for 1 second just to make sure I give you the—

Mr. GILCREST. Sure.

Mr. HOGAN. —exact correct answer on this one? I can't tell you for certain, sir, that I know the exact process that we go through to list an aquatic nuisance species. I know it is not as, for lack of a better word, onerous as a formal rulemaking process under the Lacey Act for an injurious species, but that is certainly something that I would be glad to supply to you following the hearing, for the record, as how we would go about the process of listing it as an aquatic nuisance species.

Mr. GILCREST. I see. Thank you. Would you make any recommendation—if the Service feels that this exotic species, this mute swan is in fact invasive, is degrading water quality, is an aquatic nuisance species, do you have any recommendations for us as a Congress to help you deal with that issue?

Mr. HOGAN. Well, let me start by saying we certainly support everything we have done to date and feel that what we attempted to do, both by issuing the depredation permits and working with the State of Maryland to control the birds, was the right course of action. Unfortunately, the courts did not agree and we are abiding by the court's decision. We certainly believe that it is not in the best interest of wildlife or the American taxpayer to use our limited dollars that we have for migratory bird conservation in this country to protect a bird that is non-native, an exotic species, when there are so many other issues that we need to deal with with our native species. Unfortunately, though, sir, we are at a point where we feel

like we just do not have the resources to dedicate toward going through the next stage in the process which would be a full blown environmental impact statement.

Mr. GILCHREST. I see.

Mr. HOGAN. And we are fearful that we could go through that long and expensive process, take resources away from real pressing concerns of native species, migratory birds in this country and end up in the same spot, so we have made a decision that at this point anyway we are not going through with anymore environmental reviews. We would certainly be interested in working with you and help you in any way that you needed help in trying to address this issue and provide some opportunity to not have a non-native exotic species protected under the Migratory Bird Treaty Act.

Mr. GILCHREST. Thank you. So do you feel that the Migratory Bird Treaty Act, the language in that act, does not or does not effectively deal with exotic species?

Mr. HOGAN. Well, I think certainly not knowing what was on the minds or what was the hot issues back in the early 1900s when the treaty was ratified and we implemented the Migratory Bird Treaty Act, the way that species were listed back then was by family groups. The family group, Anatidae, which is waterfowl, ducks, geese and swans, were listed as protected under the Migratory Bird Treaty Act. We do have two species of swans that are native to the United States: The tundra swans which are also present here in the Chesapeake Bay, and the trumpeter swans. So, certainly—I certainly can't speak for the people who were working on that issue back some, oh, close to 80 years ago or more, but I don't think they envisioned a problem with a non-native species. I think they listed Anatidae, the family of waterfowl, as a natural family group to be protected under the MBTA.

I can say that I think that as we developed treaties in more recent times with Russia and with Japan, we went to the extent of listing individual species. So we certainly have changed the way we list birds when we have new treaties, and I would say that if we were to renegotiate or if we were just now negotiating a treaty with the Canadians if the current treaty did not exist, I can't say for certain but certainly I would think there would be a great deal of discussion of listing individual species as protected versus listing whole family groups. But I just think it wasn't envisioned by the authors and sponsors of that back when it was ratified that this would become a problem.

Mr. GILCHREST. So do you feel with increased knowledge, with increased problems with invasives, exotics, from pathogens to fish to a whole range of species that have crisscrossed the United States, in this one particular instance with the Migratory Bird Treaty Act, can the Service effectively deal with exotics and invasives with a regulatory change or do you think the Act needs to be changed by congressional statute?

Mr. HOGAN. Well, I don't—it appears that we have exhausted—I suppose we could take some more efforts regulatory—in a regulatory nature to address this issue, but to date they have been unsuccessful, and we have decided as a service that given our limited resources, it is not a priority. We certainly would not object to

efforts by the Congress to relook at this issue and say that maybe there needs to be a legislative fix.

Just as a side note, for example, there is a species of goose, called the barheaded goose, which is an Asian species, that is not specifically listed in our treaty with the Japanese. Certainly understanding that, as I said, when we negotiated the treaty with the Japanese we listed individual species. If we had negotiated a similar type of treaty when we listed family groups, that family of geese would be protected under the MBTA. So you could certainly argue that as we learned more about native and non-native species, we modified the way we negotiated treaties. So we have certainly changed the way we have done business, but I think as far as back to your original question, from a regulatory approach, we just feel like we are kind of frustrated at where we have gone and the amount of resources that have already been expended to really no avail at this point.

Mr. GILCHREST. Well, we don't want the Service to be frustrated.

Mr. HOGAN. Well, we appreciate that.

Mr. GILCHREST. Dr. Robbins, can you tell us from your perspective some of the challenges facing the conservation of native songbird species in the Americas and how exotic birds have threatened the native species?

Dr. ROBBINS. Yes. Back in 1966, I designed a continent-wide survey, we call it the breeding bird survey, where annually we count all species of birds. We have volunteers in every State except Hawaii who go out and count these birds every year, and we now have like 3,000 people that go out and count birds along a random 50-stop route each year, and this gives us a wonderful data base for keeping track of populations of all species of birds in North America.

And this survey has been showing that quite a few of our species are declining, especially those that migrate to the tropics for the winter. There are many factors affecting these birds, it is not an easy matter of tying in a particular event with a decline of a particular species, because there are so many factors affecting the populations of these birds, but there is a general concern because so many of our birds over the last several decades have been declining in numbers. And of course there are so many things going on, habitat loss and fragmentation, habitat alteration that permits invasive native species, such as cowbirds, to greatly expand their breeding range. And what happens is cowbirds lay an egg in the nest of one of the other species. Generally, the host species is not able to raise young from that nesting, so this is a big problem that has been increasing as the native cowbirds has been increasing its range.

We have problems with casualties during migration as birds collide with tall buildings, communications towers, wind turbines and so forth, increasing predation from feral cats, which is a growing problem, environmental contaminants, collisions with vehicles, windows, airplanes, so forth, and competition with exotic species, competition for food and particularly for nesting sites. I am not talking specifically about the mute swan here, I am talking about other introduced birds, such as starlings, house sparrows, rock doves and so forth. Unfortunately, all these effects are additive.

The particular concern for a lot of the songbird species, which is what the question related to, is the competition for nest sites. Starlings and house sparrows are usurping nest sites required by quite a few of our breeding species. Does that answer the question?

Mr. GILCHREST. I think it does, yes. So exotics have a detrimental effect on native species of migratory birds—

Dr. ROBBINS. That is correct.

Mr. GILCHREST. —but so does just about every other human activity.

Dr. ROBBINS. That is correct.

Mr. GILCHREST. Is there any plan—is there anything—I have some neighbors—I live out in the country on the Eastern Shore and some of my neighbors who are in their late eighties put out nesting boxes for Native American birds. And whenever they see something that they consider a cowbird, well, they pop those cowbirds off with .22s. I know that may not be a plan for the Service or for USGS, but is this story out of the bag, the horse is out of the barn? Is there nothing we can do with some of these exotic songbirds and their wreaking havoc or at least certain problems on Native American migratory species?

Dr. ROBBINS. Well, I don't think we are going to change the habits of the invasive exotics. Actually, the starling and the house sparrow are declining in numbers in their native habitat in Europe, and the breeding bird survey shows some decline here. They have been spreading their range until they now nest in every State, except Hawaii. But even here the populations of the species have been declining slightly. In the case of the house sparrow, I think it is because they were relying on the droppings from the horses, and since the horses have declined, in general, the house sparrow has declined, in general. But we still have an enormous problem for birds like the bluebird, which is a cavity-nesting bird. The purple martin is another familiar bird to a lot of people, and their nest box cavities as well as—well, practically all of them nest in nest boxes now, but there is a lot of competition with starlings and house sparrows in the case of this bird. There are problems with the great-crested flycatcher, another native songbird, in that they are driven from their nest holes by starlings and house sparrows. Problems with the red-headed woodpecker, for example, and the flicker where these species have declined.

Mr. GILCHREST. What is the problem with the red-headed woodpecker?

Dr. ROBBINS. Pardon?

Mr. GILCHREST. The problem with the red-headed woodpecker is what?

Dr. ROBBINS. Starlings taking over their nesting cavities.

Mr. GILCHREST. Wow.

Dr. ROBBINS. Woodpeckers drill holes in the trees to nest, and as soon as they get a hole completed, the starlings drive them out of it. Even though starlings are smaller, they are more aggressive. A group of starlings would gang up on them and chase the woodpeckers away. Used to be a common bird in most of Maryland and now it is gone from all but the more remote places.

Mr. GILCHREST. The red-headed woodpecker.

Dr. ROBBINS. The red-headed woodpecker, right.

Mr. GILCHREST. Well, thank you very much, Dr. Robbins.

Mr. Clay, could you tell us what your role is in managing exotic bird species and under what authority do you do that?

Mr. CLAY. Yes, sir. Our authority is technically in the Act of March 2, 1931. It is more commonly referred to as Animal Damage Control Act of 1931. It gives us legislative authority to deal with any type of wildlife, or it gives the Secretary of Agriculture wide responsibility to take any action she deems necessary to control any type of problematic wildlife species.

Mr. GILCHREST. Now, when you create a plan to control those wildlife species or those exotics or whatever, do you first need to be given authority or what is your relationship with Fish and Wildlife Service regarding your role in eliminating some exotic species or some animal that is causing a problem?

Mr. CLAY. If it is a migratory bird that is protected under the Migratory Bird Treaty Act, we would need to get a permit from the Fish and Wildlife Service if it is causing a problem. If it is not listed under the Migratory—or not protected under the Migratory Bird Treaty Act, our program works on a request basis, so if we get a request from, say, a State or Federal wildlife agency, then that is all we need to go out and do the work on that. It depends on the particular species, the size of the area, whether or not we need to do an environmental assessment or possibly an environmental impact statement or if it is just a local problem of starlings causing problems, let's say, an individual feedlot, there are approved toxicants registered by the Environmental Protection Agency that we use in those situations. It just depends on the size of the problem, the extent of the problem and the bird species that is involved in it.

Mr. GILCHREST. What would the difference be as far as nutria and mute swans are concerned with your role?

Mr. CLAY. Well, first we need a request for assistance, which we have gotten from both the U.S. Fish and Wildlife Service and the Maryland Department of Natural Resources. We have the equipment, the personnel and the expertise to go out and do that for them, and in this situation with the nutria project here in Maryland, we are working cooperatively with both Fish and Wildlife Service and the Maryland Department of Natural Resources to control the nutria in the Chesapeake. As far as exotic bird species, a lot of times we will get requests if they are not protected under the Migratory Bird Treaty Act we may get a request directly from a State wildlife agency. We may get a request from a homeowner association or private individuals. It just depends if it is a localized problem or more geographic in nature.

Mr. GILCHREST. So if you get a request from a homeowners association, do you need to do anything with the State Department of Natural Resources, with the U.S. Fish and Wildlife Service? How do you make a decision as to whether you just went and fixed what they consider a problem or you communicate with these other agencies?

Mr. CLAY. Well, if the bird is not protected, we would work at the request of the homeowners association with the private individual, but we would also work closely with the Fish and Wildlife Service and the State wildlife agency to make sure they had no

objections to the type of work being done. We have cooperative agreements with the State wildlife agencies and the Fish and Wildlife Service so we work very closely on these issues.

Mr. GILCREST. Which exotic bird species do you most often have to control or you most often deal with?

Mr. CLAY. We get probably requests for assistance for starlings, European starlings most, but we also get requests for a number of exotic bird species, primarily at airports, and a lot of these are in States like Hawaii where a majority of the birds that are present are non-native there. But I would say starlings overall because of both public health and safety threats from their droppings and because of contaminating and consuming livestock feed across the United States at the feedlots and dairies would probably be the one exotic bird that we get the most complaints and the most requests for assistance for.

Mr. GILCREST. And how do you control starlings again?

Mr. CLAY. Starlings are—there is a chemical that is available called the RC1339. It is a chemical toxicant, but in addition there is also traps for starlings, of course shooting is an option. Again, it depends on where it is and the situation.

Mr. GILCREST. How is the chemical used?

Mr. CLAY. It is mixed with grain bait. You pre-bait the grain bait for several days to allow the starlings to come in and feed on it, and then at a predetermined day you go in there and mix it with this chemical toxicant and the birds consume it and die within a day or two.

Mr. GILCREST. So the starlings are aggressive enough so that other species of birds are less likely to come in and pick at that grain?

Mr. CLAY. Yes, sir. It is primarily where we go in and do these type of activities it is almost 100 percent starlings there or other type of blackbirds that may be causing a problem that are also—where the chemical is also labeled for those control. There is really not much of a problem at all with non-target species. In fact, part of our procedure requires us to while we are prebaiting without the chemical for several days in advance to visually observe the area during prebaiting and make sure that there are no non-targets present.

Mr. GILCREST. What size—is there an average size flock for starlings? Are there 100 birds, hundreds of birds?

Mr. CLAY. I don't know if there is an average size flock but the flocks I have seen can be over 100,000 birds in some areas. They just literally will cover the ground in feedlot areas where the ground is just black with them. I mean it depends on the size of the population in the geographic area, but starlings are flocking birds and a lot of times they will get into huge flocks.

Mr. GILCREST. How long have you been aware that mute swans, at least by some, have been considered a problem in the Chesapeake Bay region?

Mr. CLAY. Probably for the last 10 years. And each years there is more and more concern, as Mr. Hogan expressed, on the interest of exotic and invasive species, in general, but the last several years we have received more and more requests for assistance with mute

swans, but it has been generally in the last 10 years or so that I have been aware of it.

Mr. GILCHREST. Thank you, Mr. Hindman—Mr. Clay, sorry. Mr. Hindman, how would you—does the State of Maryland have a definition for native bird and exotic bird and invasive bird?

Mr. HINDMAN. I can't really answer that. I can get an answer from our agency, but I can't answer that.

Mr. GILCHREST. What would you consider mute swans?

Mr. HINDMAN. Well, in our State, mute swans are legally classified as a wetland game bird. That statute is broad in that unlike the Migratory Bird Treaty that lists individual birds, it protects and allows us to regulate swans, in general, ducks, geese, rails, it is not specific, but they are in that category considered wetland game birds.

Mr. GILCHREST. If the mute swan is considered a wetland game bird, is that the same classification you give Canada geese?

Mr. HINDMAN. Yes, sir.

Mr. GILCHREST. Was there ever a hunting season on mute swans like there are for Canada geese or some resident geese?

Mr. HINDMAN. No, sir. There has never been a swan hunting season in our State since enactment of the treaty.

Mr. GILCHREST. Would there be a problem with enacting a hunting season on mute swan given the fact that they might be difficult to distinguish between tundra swans?

Mr. HINDMAN. Well, we considered that option in the development of our statewide management plan. It can be done if we are provided Federal frameworks from the U.S. Fish and Wildlife Service, but we have been told that they need to do an environmental impact statement to provide frameworks to States in the Atlantic Flyway. That aside, for a mute swan hunting season to be effective as a means of a population control, it probably should coincide with existing duck and goose hunting seasons, simply because they are not really a sporting bird, they don't fly around a lot, and they would probably be taken incidental by hunters while hunting ducks and geese. One could structure a season outside the time when native swans do occur here, but we didn't believe that a hunting on mute swans would be a very effective management tool.

Mr. GILCHREST. How do you define exotic versus native?

Mr. HINDMAN. Well, I mean, basically, birds that originated in the State I consider to be native. And birds that are introduced or brought here, as mute swans were, I consider them to be exotic.

Mr. GILCHREST. What do you consider the best method for reducing—do you think eliminating mute swans from the Chesapeake Bay region, especially the Maryland waters, is a prudent thing to do, a good idea?

Mr. HINDMAN. Well, we think it is prudent to reduce their numbers to a level where the population was prior to the mid-1980s, when the population was small and we didn't see the ecologically harm that the birds were causing. But we think it is prudent. Our Department is committed to reducing the population to that level, and we think it is consistent with the bay policy to do that.

Mr. GILCHREST. What would that level of population be?

Mr. HINDMAN. Well, we are not real sure, but based upon our experience when we had fewer than 500 birds in our State, we didn't



see the ecological impacts that the birds are causing. But a pair of breeding swans that are aggressive during the nesting season they can be a problem for citizens.

Mr. GILCHREST. If you reduced the population to 500, how would you maintain them at 500?

Mr. HINDMAN. Well, we would have to maintain it through the practices that we had employed until our Federal permit was suspended, and that was a combination of egg addling and removing adult birds through shooting or capture and euthanasia. But, you know, if you ever got the population to that level and it ever received unprotected status, I think there would be enough incidental take of mute swans to prevent the state wildlife agencies from having to go out and actually control there. There would be enough incidental take to increase mortality if it was unprotected to keep that population at a low level.

Mr. GILCHREST. Now, reducing the population of the mute swan to about 500, which I am assuming now is a manageable number, was that part of the mute swan statewide management plan?

Mr. HINDMAN. Yes, sir.

Mr. GILCHREST. What is the status of that plan now? Is it put on hold as a result of this court decision?

Mr. HINDMAN. Well, the management plan has been approved by our Secretary of Natural Resources and endorsed by our Governor. Certain strategies in that plan and one of which would be reducing the mute swan population is on hold because we have no Federal depredation permit. We cannot practice swan control activities.

Mr. GILCHREST. So that means you can't addle the eggs?

Mr. HINDMAN. No, sir.

Mr. GILCHREST. What do you think caused the mute swan population explosion?

Mr. HINDMAN. I think it was primarily the ban on the use of lead shot for waterfowl hunting.

Mr. GILCHREST. What was that?

Mr. HINDMAN. I believe it was linked to the ban on the use of lead shot for waterfowl hunting.

Mr. GILCHREST. Lead shot.

Mr. HINDMAN. Yes, sir.

Mr. GILCHREST. How is that? Now, there was about a 5-year or so span of time where you couldn't hunt Canada geese. Would that have anything to do with—now, you could hunt snow geese but you couldn't hunt Canada geese. Fish and Wildlife Service and then the State of Maryland, in concurrence, had that moratorium on hunting. Would that have had any effect on the mute swan explosion?

Mr. HINDMAN. Not really. Probably very little.

Mr. GILCHREST. How would the ban on lead shot be correlated with the explosion of mute swans?

Mr. HINDMAN. Well, if you—I have worked here for about 30 years, and I can recall picking—frequently picking up mute swans that had ingested lead shot, OK? And Dr. Scott Petri in Ontario who has looked at the mute swan population in the Great Lakes and if you look at mute swan populations in Europe and other parts of the world where lead shot has been banned, you have seen an increase in the mute swan population. I think the conversion to non-toxic shot for waterfowl hunting has reduced the amount of

lead ingestion by mute swans. And it just so happens that it coincides with the explosion of, if you will, mute swans in Chesapeake Bay.

Mr. GILCHREST. Would there be an increase in other waterfowl because they didn't ingest the lead shot?

Mr. HINDMAN. Well, there are a lot of factors that affect waterfowl populations, but waterfowl populations are much healthier for not ingesting lead shot.

Mr. GILCHREST. What effect do mute swans have on tundra swans?

Mr. HINDMAN. We don't know. We have a research project that is currently underway to quantify that, but we do have anecdotal reports from citizens and observations our staff have made where mute swans have prevented the feeding and use of protected coves, a shelter by tundra swans. I myself have observed that, even recently. But we don't really know if the lower number of tundra swans that we have in the State is related to the increase in mute swan population, but we believe that there may be some link there.

Mr. GILCHREST. So we do have a lower number of tundra swans now.

Mr. HINDMAN. Yes, sir.

Mr. GILCHREST. Than when? Than 10 years ago?

Mr. HINDMAN. It has declined in the last 25 years, and part of that I believe is due to the degradation of the habitat, the loss of submersed aquatic grasses. Some telemetry work that we are doing on tundra swans suggests that they don't spend as much time in Chesapeake Bay now and they will go and winter in North Carolina.

Mr. GILCHREST. Does that have anything to do with the temperature or it is the amount of bay grasses that are not here?

Mr. HINDMAN. I think it is more related to habitat rather than temperature.

Mr. GILCHREST. Habitat loss.

Mr. HINDMAN. Yes, habitat loss in terms of a decline in bay grasses. And, again, we have anecdotal reports where citizens who lived along the waterfront for years see their tundra swans disappearing and they are being displaced by mute swans in those tidal creeks.

Mr. GILCHREST. How much of the reduction in the population of tundra swan is related to mute swans versus a general degradation of their habitat for a whole host of reasons: Pollution, development, you name it.

Mr. HINDMAN. I can't really answer that. We don't know the impact of mute swans or the increase in mute swans and what it has had on the numbers of tundra swans. We suspect that there may be, in part, some link there.

Mr. GILCHREST. If you took a look at the overall loss of bay grasses—now this is sort of I'm getting out of your bailiwick and the Department of Natural Resources, more or less, I think—if you looked at the total losses of bay grasses in the Chesapeake Bay over the last 40 years, could you categorize the causes for that loss, whether it is air deposition, sewage treatment plants, motor boat activity in shallow waters, agriculture and mute swans. How would you classify the loss of bay grasses in all those arenas?

Mr. HINDMAN. Well, I think the science based upon the current science, the losses of bay grasses, the primary loss has been attributed to basically elevated levels of nutrients that have contributed to apathetic growth on the plants that has reduced photosynthesis and it stresses the plants and in some cases causes mortality. By far that is the primary loss of bay grasses, and then as suspended sediments as well. Mute swans they eat a lot of grass at their current population level, which is a very limited resource. We believe that that level of grazing and removal of plants, particularly during the spring when the plants are trying to reproduce, places an additional stress on the plants. But is by far it pales in comparison to the effects of elevated nutrients and suspended solids.

Mr. GILCHREST. What is your, and I think you stated this to some extent in your testimony, if there is no management plan for mute swan population, what is the estimate of their population by 2010 or even 2020? And then the consequences of that to other native species, such as tundra swans, and then the consequences of that to bay grass.

Mr. HINDMAN. Well, we expect the population to increase, because we won't be controlling annual reproduction through egg adling and we won't be removing adult swans. So our basic population model for mute swans suggested that by 2010 the population might approach 30,000 birds. At some point, and we can't predict the future, but the population could crash because of winter mortality or disease outbreak, but we would expect it to increase, we would expect the problems that we are seeing now with 4,000 birds to exacerbate. Currently, transplanting efforts for bay grasses have to be fenced. Birds are damaging bay grass beds and are feeding on these plants before they have been able to form reproduction structures in the spring. So the news would not be good, and we would expect other conflicts with native wildlife.

Mr. GILCHREST. So the next 6 years we could go from 4,000, approximately, to about 30,000?

Mr. HINDMAN. Keep in mind we have reduced the population through our activities in the last 2 years, so that number probably would not be as high. We can give you that number.

Mr. GILCHREST. If the present situation doesn't change in regards to managing the mute swan population, they could, given everything, all the other consequences, they could rise to 30,000?

Mr. HINDMAN. Or above.

Mr. GILCHREST. How many tundra swans winter in the Chesapeake Bay?

Mr. HINDMAN. About 20,000.

Mr. GILCHREST. About 20,000.

Mr. HINDMAN. In Maryland.

Mr. GILCHREST. So the mute swans could exceed the tundra swans.

Mr. HINDMAN. They could in time.

Mr. GILCHREST. But the mute swans wouldn't migrate out?

Mr. HINDMAN. No, sir. Most of them live within 30 miles of where they were hatched.

Mr. GILCHREST. Do you have—based on your experience with the Department of Natural Resources, do you have any recommendation to us, the U.S. Congress, to help resolve this issue?

Mr. HINDMAN. Well, that is beyond my scope of expertise.

Mr. GILCHREST. Does there need to be—

Mr. HINDMAN. We are in a situation now where we need a Federal permit to do our mute swan control, and as I heard Mr. Hogan state today, that they don't plan to do any further environmental review. If the bird—if the State through some modification of the treaty or amendment of the treaty or some other legislative step would return primary management authority back to the State, we could implement it and implement the management plan and achieve our objectives. Unlike starlings, mute swans are—we can control them. They are large birds and they are not that many of them, and we can get them under control at a manageable level.

Mr. GILCHREST. So given all the other problems with the health of the bay, all the other human activities that cause a degradation of the health of this estuary, at this point, mute swans are a tiny part of that but they are in fact a factor that has an effect on habitat and SAVs, but untouched, unmanaged could be more significant in factor in the continuing process of loss of habitat and degradation of the Chesapeake Bay itself. Is that a fair summary of Maryland's perspective on mute swans?

Mr. HINDMAN. Yes, sir, but I might point out that concentrations of swans do significant damage at the local level.

Mr. GILCHREST. I see.

Mr. HINDMAN. And even though in the bay as a whole they may not do damage on magnitude of pollutants or nutrients. At the local level, they do a significant part—

Mr. GILCHREST. So in tidal basins or rivers, the Sassafras, the Choptank, the Chester, the Nanocote, the Wicomico or I'm not sure what they are in the Western Shore, the Patuxent, the Middle River, Potomac or whatever, these tidal areas all have selected protected tidal ponds throughout the length and breadth of the Chesapeake Bay itself. So you get a few mute swans in those tidal ponds that are not only habitat for tundra swans, for other species of birds, but are spawning areas for rock fish or a whole range of other species. The mute swan in that very specific area could eliminate that for other species of birds, reduce the habitat for fish spawning areas and destroy the vegetation at one tidal pond and replicate it over and over again.

Mr. HINDMAN. Yes. They can overgraze bay grasses at the local level, and if you look at the distribution of where swans are, they are located where you have the highest incidence of bay grasses.

Mr. GILCHREST. One last question: Is it your understanding right now, because the staff just handed me a little note here, that says, "The court injunction against U.S. Fish and Wildlife Service depredation permit did not include egg addling." So is that your understanding, that you can continue to egg addle or you can't continue to egg addle?

Mr. HINDMAN. In my conversation with Diane Pintz, who works for U.S. Fish and Wildlife Service, Region V, she was—she could not give me assurance that we would be able to obtain a Federal depredation permit to addle eggs this spring. So there is a lot of uncertainty.

Mr. GILCHREST. I see. Mr. Hogan?

Mr. HOGAN. Yes. I can add to that, that our interpretation is it does include egg addling.

Mr. GILCHREST. It does.

Mr. HOGAN. It does, and so we are not issuing any permits for either egg addling or any direct control.

Mr. GILCHREST. All right. I am going to read something that they just handed me. I think after the hearing we can probably get together and resolve this issue. But the language is, "Furthermore, issuance of an injunction prohibiting Maryland from killing any mute swans this year would not preclude the State from pursuing non-legal population techniques, such as egg addling, which they already tend to use as part of an integrated management plan and which has proven to be effective in the past." But I think we can pursue this further, get the appropriate number of people on the phone or in the same room so we could clear that up.

Is there anything else that any of the witnesses want to say or contribute, comment?

Mr. HOGAN. If I could, Mr. Chairman—

Mr. GILCHREST. Yes, sir.

Mr. HOGAN. —just in closing. I think you have pointed out that or it has been pointed out in testimony that mute swans are a problem but it is a question of how big of a problem. I think it is a problem that is fairly significant now and is going to continue to get worse, and we have missed our opportunity, potentially, to control them. And I do think this is an issue that is fairly urgent, and I just wanted to—and I think you are aware of that but that is certainly our opinion and certainly don't want to speak for my colleagues on the panel, but I do feel—or we do feel that it is an urgent issue and one that needs addressing. We, unfortunately, have exhausted just about everything we can do but certainly don't take that as any opinion on our part that we do not think that this is a crucial issue that needs to be addressed and rectified.

Mr. GILCHREST. Thank you very much. And we will continue to pursue this. We appreciate the information that we have gathered here this morning from all of you. And as we continue to understand the relationship of human activity and our need for infrastructure and nature's own system and its need for an infrastructure, we are going to try to create a system of laws that provides compatibility between the two. And we will do that with the best available science, we will do that with a certain sense of ethics toward all the living creatures that there are under our jurisdiction and there are many, but we will pursue this with an open mind, with a sense of tolerance for other opinions and with great respect for the living resource and the creatures that live on it. And your testimony here this morning has been extremely helpful, and I want to thank you all for it, and have a pleasant day in Annapolis.

Our next panel is Mr. David Pardoe, Member of the Board of Directors, National Audubon Society; Dr. Elizabeth Stallman, Wildlife Scientist, the Human Society of the United States; Dr. Rollin Sparrowe, President, Wildlife Management Institute; the Honorable Gerald W. Winegrad, Vice President for Policy, American Bird Conservancy.

I want to thank you all for coming here, this is the afternoon now, and for your patience with all of our questions. We look

forward to your testimony to try to understand this intriguing, most wonderful, complex ecological question about which species stays and which species goes. And I think the debate thus far and will continue to be of a high plain for us in a position to make a decision as policymakers. We take very seriously and we know the issues are complex, people have varying degrees of perspectives and varying degrees of emotion when it comes to these issues. When we view these things from the Subcommittee level, our focus is the ecological system and what is best for that ecosystem. For example, in this case much of the conversation has surrounded the Chesapeake Bay. Many different exotic birds but mute swans in particular. To sustain an ecosystem it is my judgment that you can't look at a single species but the big picture is vital.

And as we assume and accumulate more information about these dramatic ecological systems and how they evolve and change over ions of time and a quick snapshot of one human lifetime, we try to make appropriate judgments, which we will do in this situation—well, I hope we make the appropriate judgment in this situation. We will try to make the appropriate judgment. But your testimony here this morning will be a significant part of that decisionmaking process. We look forward to your testimony, and, Mr. Pardoe, you may begin first, sir.

**STATEMENT OF DAVID H. PARDOE, MEMBER,  
BOARD OF DIRECTORS, NATIONAL AUDUBON SOCIETY**

Mr. PARDOE. Thank you, Mr. Chairman. In the interest of all of our time, I would ask that the written testimony be made a part of the record, and I will not read it in its entirety.

Mr. GILCHREST. Without objection.

Mr. PARDOE. My name is David Pardoe. I am a member of the Board of the National Audubon Society, and I Chair the Board of Audubon in Maryland and D.C., which is the Maryland State Program for National Audubon. On behalf of the National Audubon Society's more than one million members and supporters, I am pleased to be here today to discuss the need for improved control of invasive mute swans populations in the northeastern United States as well as other invasive non-native bird species that are causing harm to native migratory birds.

The mission of the National Audubon Society is to conserve and restore ecosystems with a focus upon birds and other wildlife and the habitat which sustains them. The Migratory Bird Treaty Act has been interpreted to provide protection for a human-introduced species. We believe that that should be corrected to exclude human-introduced species. This, we believe, has been the interpretation in the past of the Migratory Bird Treaty Act as the American Ornithological Union checklist of human-introduced species has been used in the past to exclude protection from those species.

Some of these species are detrimental to Native American bird species. House sparrows and starlings are particularly disruptive to Native American cavity-nesting birds, such as the three species of bluebirds, tree swallows and various species of woodpeckers. Purple martins and great-crowned flycatchers are other cavity-nesting species that are affected. Pigeons are primarily a human health and a property nuisance problem, but they have been controlled for

many years. The mute swan is a particular problem for the Chesapeake Bay, as is the human-introduced nutria, which, of course, is not a bird but a rodent.

The mute swan is a resident year-round bird that consumes bay vegetation, so-called SAVs. It is a large, aggressive bird resident during the breeding season and is destructive to native nesting black skimmers, least terns, black ducks, among other bird species. The health of the Chesapeake Bay is dependent upon healthy aquatic grasses. We are spending large amounts of the taxpayers' money to attempt to restore the bay's SAVs while a human-introduced non-native species is depleting the SAVs. SAVs support the life of the bay. SAVs support the life of fish, of Chesapeake Bay blue crabs, of wintering diving ducks and wintering native tundra swan. The mute swan is of course only one factor in the threats to SAVs and threats to the health of the bay, but it is one more factor when the bay is struggling for its own ecological existence. The continuance of a large population of mute swans is at odds with the Chesapeake Bay restoration effort.

It is painful for the National Audubon Society to support the population control, that is killing of any bird, but it is also painful for us to watch the decline of the Chesapeake Bay, to watch the decline of black skimmers and least terns, to watch the decline of diving ducks, to watch the decline of blue crabs, of yellow perch and of other fish species in the Chesapeake. We support our native swan, the tundra, and we support the ecological health of the Chesapeake Bay in our support for the exclusion of human-introduced species from the protection of the Migratory Bird Treaty Act.

Thank you for the opportunity to testify, and I will be glad to answer any questions.

[The prepared statement of David H. Pardoe follows:]

**Statement of Dave Pardoe, Member, Board of Directors,  
National Audubon Society**

Mr. Chairman and Members of the Subcommittee:

My name is Dave Pardoe. I have been a member of National Audubon Society's Board of Directors for more than six years. Audubon's mission is to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity. Our national network of community-based nature centers and chapters, scientific and educational programs, and advocacy on behalf of areas sustaining important bird populations, engage millions of people of all ages and backgrounds in positive conservation experiences.

On behalf of National Audubon Society's more than one million members and supporters, I am pleased to be here today to discuss the need for improved control of invasive Mute Swan populations in the Northeastern United States, as well as other invasive non-native bird species that are causing harm to native migratory birds. I will provide testimony regarding our position on control of invasive bird species in the U.S., and how they should be managed, the obstacles standing in the way of appropriate management of these birds, and recommendations to address these obstacles.

Before I begin my testimony, I would like to thank the Chairman for his support on a wide range of conservation issues, including efforts to control invasive species, and support for protection of Blackwater National Wildlife Refuge and restoration of the Chesapeake Bay. I would also like to thank the Chairman and the Committee for the opportunity to testify today.

Invasive species are one of the key factors in the decline of many migratory bird species. Throughout the nation, many threatened bird species are imperiled by invasive species, and invasive species have been partly or wholly responsible for many bird extinctions since 1800. Thus, as part of the program to achieve its

mission, Audubon has consistently supported efforts to eradicate invasive species for the benefit of native birds and wildlife.

Audubon has established a position in support of efforts by both state and national natural resource agencies to control invasive Mute Swans. Audubon filed comments on the U.S. Fish and Wildlife Service's (FWS) draft environmental assessment on the management of Mute Swans (*Cygnus olor*) in the Atlantic Flyway. Audubon supported the proposed action in the draft environmental assessment for Integrated Population Management of Mute Swans, including lethal methods to reduce the exploding Mute Swan population in the east by 67%. Audubon scientists support the culling of adult Mute Swans as a necessary measure to reduce or eradicate Mute Swan populations and thereby reduce the damage to the Chesapeake Bay ecosystem.

The Maryland Department of Natural Resources has exhaustively studied and documented the problem and published the Mute Swan Task Force Report on their web site. The public has had many opportunities to comment. The scientific and birding community supports mute swan removal.

In a recent case, we also urged the United States Court of Appeals to uphold the U.S. Fish and Wildlife Service permit because:

- a) Mute Swans displace and adversely affect native birds such as Tundra Swans, Least Terns, Black Skimmers, Common Terns, and Forster's Terns and may affect many species of waterfowl, such as Black Ducks;
- b) Mute Swans consume large amounts of submerged aquatic vegetation;
- c) Mute Swans are non-native, invasive species that were introduced into Maryland in the 1960's; and
- d) Mute Swan populations will continue to expand unless adults are culled, and such expansion would result in even more damage to other species.

Bay grass recovery is important to water quality and Bay resources. Mute Swans consume large amounts of Bay grasses, perhaps as much as 12 million pounds a year. These grasses are the subject of intense recovery efforts under the Chesapeake Bay Agreement and the Bay Restoration Plan. Millions of dollars in public funds are devoted to their recovery. The grasses are essential to sustain the Bay's Blue Crab population (its most valuable seafood), for many other aquatic resources, for water quality and for native species of waterfowl.

As a responsible national conservation group dedicated to bird conservation, Audubon supports the FWS permit and the DNR removal efforts for Mute Swans. The Mute Swan is an introduced invasive species that threatens native birds and their habitat such as bay grasses. Adding and oiling eggs will not reduce populations and lethal removal is necessary to reduce or eradicate Mute Swan populations.

We have supported a nationwide Depredation Order for this exotic species with a goal of the elimination of wild Mute Swan populations. There is no biological basis for supporting continued populations of Mute Swans in the wild while there are sound ecological reasons to eliminate all wild populations. FWS should work to attain that goal in the long-term, and not support the maintenance of a wild population of an invasive species.

We believe such reductions/elimination are necessary because:

- 1) Next to habitat loss and alteration, invasive species have been identified as the greatest threat to birds in the U.S. Up to 46% of the plants and animals Federally listed as endangered species have been negatively impacted by invasive species. The Mute Swan is a large invasive species that has demonstrably negative impacts on other species, including native birds;
- 2) The large, aggressive Mute Swan has attacked and killed other birds and has extirpated breeding colonies of water birds. In Maryland, as noted in the Maryland Mute Swan Task Force Report, "One of the more serious conflicts between Mute Swans and native Maryland wildlife occurred in the early 1990's, when a molting flock of about 600 to 1,000 nonbreeding Mute Swans excluded Black Skimmers (*Rynchops niger*), a state-threatened species; Least Terns (*Sterna antillarum*), classified as a species in need of conservation; and Common Terns (*Sterna hirundo*) from using the oyster shell bars and beaches in the Tar Bay area of Dorchester County for nesting sites." Tar Bay was the only remaining natural nesting site for Least Terns and Black Skimmers in the Chesapeake Bay;
- 3) Mute Swans impact other swans and waterfowl. According to the Maryland Task Force Report, "Mute Swans are believed to pose a significant threat to the well-being of the Chesapeake Bay tundra swan population (W.J.L. Sladen, Swan Research Program at Airlie, VA, pers. commun.)." In a Rhode Island study, one pair of Mute Swans vigorously defended a five acre pond, preventing use by other waterfowl (NY DEC 1993). In central New York, three pairs of captive Mute Swans killed at least 50 ducks and geese (mostly young birds)



on a small zoo pond over a 20-month period (NY DEC 1993). Such behavior may be a factor in inhibiting the recovery of such native species as Black Ducks. In addition, Mute Swans consume SAV preferred by many native waterfowl species; and

- 4) Mute Swans consume huge amounts of Submerged Aquatic Vegetation (SAV). George Fenwick's doctoral dissertation (1983) on Mute Swans in the Chesapeake Bay showed that the male Mute Swan consumed 34.6% of their body weight per day and females consumed 43.4%. Based on Dr. Fenwick's study, the Maryland Task Force Report notes that "Assuming that an adult/subadult mute swan consumes an average of 3.789 kg wet weight of SAV per day (Wiley and Halla 1972), a population of 4,000 swans has the potential to consume more than 12 million pounds of SAV annually (L. Hindman, MD DNR). Consumption of immature seeds, removal of biomass before plant maturation, and uprooting of whole plants may have a very negative effect on SAV with minimal consumption (M. Naylor, MD DNR, pers. commun)." Scientists at the Patuxent Wildlife Research Center have recently concluded that the introduced swan's diet is composed nearly entirely of vegetation during all seasons of the year. Mute Swans relied heavily on SAV with Widgeon Grass (*Ruppia maritima*) constituting 56 % and Eel Grass (*Zostera marina*) 43 % of their food. See (Perry et al 2000). These scientists noted localized depletions (eat-outs) of SAV during the growing period. The FWS Draft EA notes that the current population of Chesapeake Bay Mute Swans consumes almost 10 percent of the total biomass of submerged aquatic vegetation in the Bay. These grasses are critical to many other avian species, to recovery of fisheries (Blue Crabs), and to the general water quality of the Bay and other water bodies.

To reduce or stabilize populations of Mute Swans, adults must be removed. Dr. Scott A. Petrie is Research Director of the Long Point Waterfowl and Wetlands Research Fund. He has authored a research paper on Mute Swans and he has published other work showing that Mute Swans have grown by 10% to 21% a year on the shores of Lake Erie and Lake Ontario, despite egg addling and oiling. In his paper published February 2002 in *Birding*, he finds that addling eggs does not work to reduce or stabilize populations of Mute Swans and that adults must be removed. Rhode Island began a control program of egg addling and pricking in 1979; despite the fact that 9,378 eggs have been destroyed in 1,629 nests over a period of 22 years, the population increased by over 500% (Allin, personal communication). Population models indicate that the most effective way to reduce population growth for a long-lived species, such as the Mute Swan, is to reduce adult survival rates (e.g., Schmutz et al. 1996) Schmutz, J.A., R.F. Rockwell, M.R. Peterson. 1997. Relative effects of survival and reproduction on the population dynamics of emperor geese. *J. Wildl. Manage.* 61(1):191-201.

Based on the best science obtainable, the take of adult Mute Swans is essential to prevent a substantial escalation in the Mute Swan population and the damage they cause to native avian species, SAV, and water quality. Without aggressive efforts to control and eliminate Mute Swans, the Mute Swan population will continue to rapidly increase. The Mute Swan population in the Chesapeake Bay has grown from 5 escaped birds in 1962 to about 4,500, including birds in Virginia and Maryland.

This problem is not just limited to Mute Swans nor limited to the state of Maryland or to the nation's eastern coastline. For example, the European Starling has had widespread demonstrable negative impacts on native migratory birds. Although estimates vary, it is commonly believed that a total of about 100 individuals were released into Central Park in New York City in 1890 and 1891. The entire North American population, now numbering more than 200 million and distributed across the continent, is derived from these few birds. This is arguably the most successful avian introduction to this continent. Unfortunately, the European Starling offers intense competition for nesting cavities and has had a detrimental effect on many native cavity-nesting species.

A recent decision by the United States Court of Appeals for the District of Columbia Circuit in *Hill v. Norton* found that the strict language of the Migratory Bird Treaty Act cannot be read to exclude from protection by the Act the invasive Mute Swan. This decision limits the authority of the United States Fish and Wildlife Service to manage and control Mute Swans and other invasive bird populations for the benefit of native migratory birds. The decision is also inconsistent with a long-standing common interpretation of the law among professional biologists, environmental professionals, and agency officials in both the United States and in countries that are signatories of the treaties underlying the MBTA that invasive, non-native birds are not meant to be protected by the Act, and instead they are a threat to the hundreds of other migratory bird species that are protected by the law.

National Audubon Society supports a small, rifle-shot change to the MBTA that would make clear that invasive birds are not protected by the MBTA and can be controlled by state and national wildlife agencies for the benefit of native birds and wildlife. In offering this support, however, I want to make clear two caveats that are very important to consider if a legislative proposal comes before this committee:

1. The term "invasive" should be carefully defined and limited to birds that are part of a human-introduced non-native population that actively causes ecological harm or outcompetes native migratory birds or other wildlife. National Audubon Society is concerned that a broader, more inclusive term, such as "non-native" would authorize lethal control of migratory bird species that naturally expand their range or naturally change their migratory routes in search of better habitat. For example, if climate change were to cause habitat changes or modifications of other natural cues that lead birds to new areas or even to new countries, we believe these natural changes would not be an appropriate or sufficient rationale to justify elimination of protections under the MBTA. We also stress the need to focus on "human-introduced" species as this would be a clear indicator of unnatural invasion of a species. We also believe there must be a distinction made between those species that are causing no harm to native birds and wildlife and those that are. As noted by the National Invasive Species Council, only a small percentage of non-native species cause serious problems in their new environment and are collectively known as "invasive." The Council defines an "invasive species" as a species that is: 1) non-native (or alien) to the ecosystem under consideration; and 2) whose introduction causes, or is likely to cause, economic or environmental harm or harm to human health. The National Invasive Species Management Plan focuses on those non-native species that cause or may cause significant negative impacts and do not provide an equivalent benefit to society.
2. Any change to the MBTA should in no way diminish FWS authority, jurisdiction, or enforcement responsibilities with respect to indirect take of non-target migratory bird species that may be impacted by actions to control invasive birds. Although it may be necessary in some circumstances to use lethal control methods to manage populations of invasive species, some lethal control methods can have significant ancillary impacts on native migratory birds. For example, efforts to poison invasive European Starlings have had such negative impacts. Some poisons take days to take effect, leaving a risk that a predatory bird, like a Sharp-shinned Hawk, will eat the poisonous bird and become poisoned. Poison baquets left out on the ground for a target species can attract and kill a range of non-target migratory bird species. Just as the Fish and Wildlife Service exercised its authority to issue a permit under the MBTA on Anacapa Island in California to regulate the poisoning of invasive black rats that could impact non-target migratory bird species, the Fish and Wildlife Service should exercise its responsibilities under the MBTA to ensure efforts to control invasive species do not violate the terms and conditions of the Act and its judicial interpretations and implementing regulations. Therefore we strongly urge this Committee to ensure that any changes to the MBTA that may be considered to increase the authority of state and national resource agencies to control invasive bird species do not in any way abrogate Fish and Wildlife Service authority, jurisdiction, or enforcement responsibilities with respect to indirect take of non-target migratory bird species that may occur as a result of actions aimed at invasive species control.

In summary, Mr. Chairman, invasive bird species like the Mute Swan and the European Starling have had demonstrable negative impacts on native migratory birds throughout America. The recent court decision extending the protections of the Migratory Bird Treaty Act to invasive species that are harmful to a wide range of birds protected under the MBTA was inconsistent with longstanding common interpretations of the MBTA by resource professionals and limits the authority of natural resource agencies to implement proper and necessary control programs for the benefit of native birds and wildlife. National Audubon Society supports a small, rifle-shot change to the MBTA that would make clear that invasive birds are not protected by the MBTA and can be controlled by state and national wildlife agencies for the benefit of native birds and wildlife. In considering any legislative recommendations of this type, we urge the Committee to ensure that the definition of "invasive" bird species is limited to those that are introduced by human actions and cause significant environmental harm in a manner consistent with the definition used by the National Invasive Species Council, and we also strongly encourage the Committee to ensure that any such legislative changes do not abrogate Fish and Wildlife Service responsibilities to protect migratory birds that may be harmed by control actions aimed at invasive species.

Mr. Chairman, this concludes my prepared statement. I would be pleased to answer any questions that you or Members of the Subcommittee may have.

Mr. GILCHREST. Thank you, Mr. Pardoe.  
Dr. Stallman

**STATEMENT OF ELIZABETH L. STALLMAN, WILDLIFE  
SCIENTIST, THE HUMANE SOCIETY OF THE UNITED STATES**

Dr. STALLMAN. Thank you, Chairman Gilchrest, for the opportunity to present the views of the Humane Society of the United States regarding the management of mute swans, other non-native birds and the Migratory Bird Treaty Act. I am Dr. Bette Stallman, wildlife scientist with the Humane Society of the U.S. This testimony was prepared by Dr. John Grandy, the Senior Vice President for Wildlife Programs at the HSUS. Dr. Grandy could not be here to present this testimony today. I am presenting this testimony on behalf of our more than eight million members and constituents.

Dr. Grandy, who prepared this testimony, is trained as a waterfowl—

Mr. GILCHREST. Can you pull that mike a little closer?

Dr. STALLMAN. Oh, I am sorry. Dr. Grandy, who prepared this testimony, is trained as a waterfowl biologist, and he has broad experience with the ecology and management of waterfowl and with Chesapeake Bay vegetation.

The Humane Society of the United States is dedicated to the protection of all animals, including all wildlife, native or otherwise. If wildlife managers and scientists cannot demonstrate compelling justification, lethal control of any animal, native or non-native, should not be undertaken. I think it is important to keep in mind that, as you suggested earlier, ecosystems are always in flux. They are not rigid, stable systems, they should not be thought of as such. Expansion and movement of wildlife populations is a natural phenomenon that occurs with and without human intervention. Attempts to determine the natural state of an ever-changing ecosystem quickly dissolve into arbitrary discussions of how one chooses to define natural, and ultimately they become debates over what is the desired state of an ecosystem.

For example, many of the wildlife—the same wildlife managers calling for lethal control of mute swans are silent on the subject of the purposeful introductions of non-native ring-necked pheasants, Chukar partridges, which are both native to parts of Eurasia, where such introductions are desired by recreational hunters and other constituents. I don't mean to suggest that we should eliminate pheasants and Chukars, I only wish to emphasize the politics and the values behind wildlife management decisions as well as a reliance at times on a type of politically expedient pseudo-science that weakens science and the wildlife management profession.

Regarding mute swans on Chesapeake Bay, the Chesapeake Bay Foundation's recent October 2003 report, which I attached to our testimony, on nitrogen pollution reminds us, as was mentioned earlier, that nitrogen pollution is the most significant problem facing the bay. Nitrogen enters the bay from sewage treatment plants that are outdated, agriculture and other sources. The increase in nitrogen leads to an increase in algae. That leads to a decrease in

water clarity and a decrease in the sunlight that can reach the submerged aquatic vegetations upon which so many other organisms in the bay depend. Ultimately, the algae decays and this leads to decreased levels of dissolved oxygen in bay waters. This report focused on nitrogen coming from sewage treatment plants, but it also notes that agriculture is the number one source of nitrogen in the bay.

In addition to nitrogen, phosphorous is the other primary pollutant, according to the Chesapeake Bay Foundation's "State of the Bay 2003" report. Water clarity is affected by both nitrogen and phosphorous and also by sediment which washes into the bay as a result of land use activities that increase erosion.

Mute swans are not mentioned in the "State of the Bay 2003" report by the Chesapeake Bay Foundation, which logically focuses on those factors with well-documented impacts that are clearly of greatest concern in restoring the bay. Evidence presented by the U.S. Fish and Wildlife Service and by the Maryland DNR regarding impacts of mute swans on submerged aquatic vegetation and regarding aggression toward native waterfowl is primarily anecdotal, not peer-reviewed or is peer-reviewed but is based on research in other regions or on other continents. The DNR has said on a number of occasions that at current levels the impact of mute swans bay-wide is negligible or pales in comparison to these other factors, such as pollutants and sediment.

With respect to the Migratory Bird Treaty Act, we urge you to retain mute swans on the list of protected species. Excluding these swans won't fix the bay. Exclusion of any migratory bird species from the coverage of the MBTA may denigrate the purpose and intent of the Act and may set an unfortunate precedent of decreasing or removing MBTA's protections based on whether a bird population is in vogue. Exclusion of the mute swan from the MBTA is also simply unnecessary because management actions can be undertaken under the authority of the MBTA.

We commend you, Mr. Chairman, for your interest in the Chesapeake Bay and its still incredible resources and potential. We urge you to do everything in your power to solve the major problems identified by the Chesapeake Bay Foundation and other organizations which are clearly affecting the bay negatively. At the same time, we urge you to oppose any effort to kill mute swans or to remove the needed protection of the mute swan under the MBTA. Thank you.

[The prepared statement of Mr. Grandy submitted for the record follows:]

**Statement of John W. Grandy, Ph.D., Senior Vice President,  
Wildlife Programs, The Humane Society of the United States**

Thank you Chairman Gilcrest, and members of the Subcommittee on Fisheries Conservation, Wildlife and Oceans, for the opportunity to present the views of The Humane Society of the United States (HSUS) regarding the management of mute swans and other non-native birds, and the Migratory Bird Treaty Act (MBTA). I am Dr. Bette Stallman, Wildlife Scientist, with The HSUS.

First, I want to explain that this testimony was prepared by Dr. John W. Grandy, Senior Vice President for Wildlife of The Humane Society of the United States, on behalf of our President Paul G. Irwin, whom you invited to this hearing. I assisted Dr. Grandy in the preparation of the testimony and, although Dr. Grandy could not be here to present the testimony, I am doing so on his behalf. This testimony is

presented on behalf of The Humane Society of the United States and our more 8 million members and constituents.

I should also note that Dr. Grandy has broad and relevant experience with ecological issues, the mute swan, and waterfowl in the Chesapeake Bay. He grew up on the shores of the Chesapeake Bay, studied aquatic vegetation under Fran Uhler and other experts at the then-Fish and Wildlife Service's Patuxent Wildlife Research Center in the mid-1960's, and went on to become a waterfowl biologist and an internationally recognized expert on black ducks, a premier species of the Chesapeake Bay.

First, it is important to keep in mind that ecosystems are always in flux and should not be thought of as rigid, stable systems. The expansion and movement of wildlife populations into new regions is a natural phenomenon that occurs with or without intentional or unintentional human involvement. In short, there is no right state and there is no benchmark year against which we measure ecological correctness. Indeed, as the facts surrounding the mute swan illustrate all too well, attempts to determine the "natural state" of an ever-changing ecosystem can quickly dissolve into an arbitrary discussion of how one chooses to define "natural" and ultimately becomes a debate over what is the "desired" state of the ecosystem—desired by those holding the most political power.

The HSUS is dedicated to the protection of all animals. We strongly support the lives and welfare of all animals whether native or non-native. All deserve protection, humane treatment, and freedom from cruel and abusive treatment at the hands of people. If managers or scientists cannot demonstrate compelling justification, lethal control of any animal, native or otherwise, should not be undertaken. The rule must be that all resident animals in a natural habitat deserve, and must be accorded, sensitive humane treatment and stewardship. Indeed, we must have a new paradigm for dealing with the stewardship of wildlife on the continent—not a philosophy based on year of residence, but a philosophy centered on our need to treat all wild living creatures with the compassion and respect that they deserve.

This new paradigm is required by ourselves and our new world. There is no turning back the ecological or chronological clock for North America or the world. Most agriculture utilizes non-native species. Plant nurseries are dependent on non-native species. The ubiquitousness of so-called non-native species grows daily, as does the homogeneity of the world. Indeed, the hunter-supported wildlife profession which is here testifying piously on the alleged destructiveness of a few thousand swans in the nation's largest estuary is utterly silent on the subject of the introduction of non-native pheasants or Chukar partridges (both native to parts of Eurasia) where such introductions are desired by their hunter constituents. I should quickly point out that we are not suggesting that we want pheasants or other so-called non-native residents eliminated from the United States. This only emphasizes the political nature of a decisionmaking process concerning non-native species that is all too often supported on the basis of politically expedient alleged science. This sort of pseudoscience weakens both science and the integrity of the wildlife management profession.

Indeed, nowhere is the generalized case that I make for sanity in our relation to non-native species and our opposition to pseudoscience, more clear than with the mute swan in the Chesapeake Bay. So let me take a few minutes, based on the ecological history of the Bay and my extensive experience and love affair with the Bay, to discuss the ecological factors which bring it to today's state.

First, I should start with the most recent published materials of the Chesapeake Bay Foundation. In their recent reports on the declining state of the Bay and the causes for its decline, they never mention the few thousand mute swans in the Chesapeake Bay. Specifically, the Chesapeake Bay Foundation's October 2003 report on nitrogen pollution (which is attached to this testimony) reminds us that "nitrogen pollution is the most significant problem facing the Bay." Nitrogen entering the Bay from sewage treatment plant—effluent, agriculture, air deposition and urban runoff, and other sources stimulates "blooms" (population explosions) of microscopic plants called algae". (The) algae decrease water clarity, blocking sunlight from underwater Bay grasses. When algae die, they sink to the bottom, and the bacterial process of decay removes oxygen from the water." Though this report focuses on nitrogen from sewage treatment plants, it notes that "(a)griculture contributes 42% of the nitrogen loading and is the largest source of nitrogen pollution to the Bay." In addition to nitrogen, phosphorous is the other primary pollutant, according to the Chesapeake Bay Foundation's "State of the Bay 2003" report. Water clarity is affected by both of these nutrients and also by sediment washing into the Bay as a result of various land use practices that increase erosion, such as logging and residential and commercial development. Another notable problem facing the Bay is the loss of wetland habitat due to rising sea levels and to illegal or unregulated

activities. In its discussion of underwater grasses, the State of the Bay 2003 report indicates that “new grass beds—have struggled from the stress of increased pollution and sediment delivered by heavy rainwater runoff.”

Mute swans are not implicated by the State of the Bay 2003 report, which logically focuses on those factors with well-documented impacts that are clearly of greatest concern for the Bay.

There is simply no way that these few swans could be accused of nearly anything in an ecological sense on the Bay. Mute swans are simply the most politically important animal there is to blame for the Bay’s deterioration. Let me elaborate.

Nearly 30 years ago, I spent a number of summers as an employee of the Fish and Wildlife Service’s Patuxent Wildlife Research Center studying aquatic vegetation on the shores of the Chesapeake Bay. Even then people were talking of the decreasing abundance of vegetation and its impact on the bay and its waterfowl populations. But to be sure, the beds of aquatic vegetation, *Vallisneria*, *Potamogeton*, *Najas*, and *Ruppia*, et al., were massive compared to today. These beds of submerged aquatics are not, and were not, the victims of a few to a few thousand mute swans. Rather, they are the victims of the very things the Chesapeake Bay Foundation points to: runoff, nitrogen and phosphorous pollution from poor and inadequate sewage treatment plants and from agricultural and residential sources, turbulence caused by siltation and boats, and massive erosion from farms and home building. It is absurd for us to sit here and consider harming mute swans because of the deteriorating state of the Bay.

Frankly, we should be grateful for the beauty of swans, geese, ducks and other wildlife. Of course, they eat submerged aquatic vegetation—that is their preferred food. But they should not be killed because they eat it. Rather, we should focus on the things we can do to restore the Bay and preserve the species that live there. Killing swans is not on any realistic list.

I ask you to look at another relevant example of the Bay’s troubles, with somewhat similar overtones and interrelationships. In the mid- to late-1950’s, the most common breeding duck around the Chesapeake Bay was the black duck. Today, the black duck has been largely eliminated as an eastern shore breeder and has been replaced by the mallard. Pen reared mallards for many years have been released in Maryland to be shot by hunters, while escapees have lived to breed and compete with black ducks. But black ducks are now largely gone. Does that mean that we should start a vendetta against mallards breeding in Maryland? Of course not.

Mallards occupied eastern Maryland largely because of habitat changes. Black ducks disappeared because they are largely a forest duck that does not adapt well to people. As people destroyed Bay shores and lake edges for homes and agriculture, the black duck’s range was restricted to suitable parts of the Northeastern United States and the eastern Canadian boreal forest. Mallards were not to blame for the reduction in black ducks any more than mute swans are responsible for the reduction in submerged aquatic vegetation in the Chesapeake Bay, although both changes are truly regrettable.

With respect to the MBTA, we urge you to retain the mute swan on the list of protected species. Excluding the mute swan from the protection of the MBTA will neither solve the perceived depredation issues nor give greater protection to the environment. Moreover, exclusion of any migratory avian species from the coverage of the MBTA will denigrate the very purpose and intent of the Act and set the unfortunate precedent of permitting the diminution of the protections of the MBTA based on whether a bird population is “in vogue.” Exclusion of the mute swan from the MBTA is also unnecessary as justifiable management actions are envisioned and permissible through the strictures of the MBTA, which examines and fuses the welfare of the particular avian species with the welfare of the supporting environment. Furthermore, the mute swan is now a resident migratory bird on this continent and has broad public support; it deserves and is entitled to the protections afforded by the MBTA.

We commend you, Mr. Chairman, for your interest in the Chesapeake Bay and its still incredible resources and potential. We urge you to do everything in your power to solve the major problems identified by the Chesapeake Bay Foundation, ourselves, and others, which are clearly affecting the Bay negatively. At the same time, we urge you to oppose any effort to kill mute swans or to remove the needed protection of the mute swan under the MBTA.

Thank you.

---

[NOTE: The Chesapeake Bay Foundation Report has been retained in the Committee’s official files.]

Mr. GILCHREST. Thank you very much, Dr. Stallman.  
Dr. Sparrowe.

**STATEMENT OF ROLLIN D. SPARROWE, PRESIDENT,  
WILDLIFE MANAGEMENT INSTITUTE**

Dr. SPARROWE. Thank you, Mr. Chairman. I am pleased to be here and offer mainly some perspectives from my long experience with migratory birds. I am not going to try to duplicate the very detailed testimony that you have had from both government and non-government so far.

I have experience in the past as Chief of Migratory Bird Management with the Fish and Wildlife Service and other administrative positions. I was with the Service for more than 22 years, and since that time my 12 years outside in which I have learned a lot more as a citizen, having a long history with government and I now have some different perspectives on things, I have continued to have a great deal to do with various types of migratory bird activities.

Mr. GILCHREST. You are saying you learned more outside of government than inside of government?

Dr. SPARROWE. I have a different perspective on life and government now that I have been outside for 12 years for a variety of reasons. That would take a long time to discuss.

Mr. GILCHREST. So there is life outside of government.

Dr. SPARROWE. Yes, there is. I still believe in government, and I have great respect for the people who work there in public service. My understanding, personally, of MBTA throughout my career is that it was not an Act to deal with exotic birds but rather to provide a sound framework for protection of native migratory species moving between the countries involved in the treaties and particularly to provide some boundaries for human use of those resources.

In my experience in the Fish and Wildlife Service, the focus was understood to be on maintaining populations of native species and avoiding unnecessary losses to human activities. Generally, not a direct and literal translation of protection for individual birds unless protection of individual birds was necessary often to make a point that widespread abuse could really have a population impact.

One of my most unusual experiences I think has some bearing on this. It is an experience since I left government. The Fish and Wildlife Service and others involved in concerns over the impact of Arctic nesting white geese on their habitats during migration led to consideration of what to do about these habitat problems when its cause was an apparent overabundance of birds. Now, these are not exotic birds, they are protected under MBTA, but the situation was similar. There was considerable evidence that the impact of these birds in great numbers congregating in migration was doing such damage to their habitat that it may not sustain them over time. So I assembled an international stakeholders group that included pretty much all of those who have testified here to assess the need to reduce numbers of Arctic nesting geese as a method of avoiding further damage to the habitat with the long-term goal of habitat recovery.

The stakeholders, in general, while not in full agreement about the methods, concluded that long-term habitat concerns and evidence of a rapid growth rate in the goose flocks warranted direct

reduction of populations to protect the habitat. We, as stakeholders, did not need definitive cause and effect data to recommend action. In fact, many people thought that we had waited—we and the Canadians had waited too long to address a problem that we saw coming, which has some bearing on your questions about when have we known about some of these problems coming along.

I happen to be an owner of a marsh near Centreville, Maryland for the last 24 years, a hunting marsh, and in my entire time there we have not had mute swan problems on it, but the general knowledge and concern in Chesapeake Bay about mute swans has been pretty common talk among people. It is just another influence that we didn't think we needed.

This does not seem to be a situation envisioned by the drafters of the Migratory Bird Treaty Act, nor by the managers for many decades thereafter who have exercised the responsibility of bird protection. Exotics, in general, are something we know in our society now are becoming an increasing problem and we need very much to anticipate problems and take action when we can and not wait too long until the problem is insurmountable.

Control of wildlife that are more abundant than people want in areas where people are is a growing problem, probably the biggest problem facing wildlife management in America, and it has affected a lot of species, both exotic and non-exotic. Some very common species are in that situation. So the major question is how do we respond to this? Modification of the Migratory Bird Treaty Act is certainly one clear approach. There have been a lot of people in my career who have wanted to reinterpret the Migratory Bird Treaty Act. I think from a long-standing observer it is quite unfortunate that we are continuing the epidemic of court interpretation of laws and management of resources, and that seems to be what has happened in this case. If we move to amend the act, it really should be a pretty surgical approach that is very carefully designed to solve the specific problems with exotics and avoid expanding it into the desires of others who may have other agendas for the act.

So I would simply conclude by thanking you for the chance to be here and acknowledging this as an important problem that has some parallels elsewhere in wildlife management in America. Thank you.

[The prepared statement of Rollin D. Sparrowe follows:]

**Statement of Rollin D. Sparrowe, President,  
Wildlife Management Institute**

Mr. Chairman: I am pleased to offer testimony on administration of the Migratory Bird Treaty Act (MBTA), based on my previous experience with the U.S. Fish and Wildlife Service for more than twenty years, and my direct involvement as a professional conservationist working outside government, working closely with migratory bird management.

From 1984 to 1989 I was Chief of Migratory Bird Management with the Service, and, from 1989 to 1991, was Deputy Assistant Director with oversight for migratory bird programs, including refuge management, law enforcement, and the Duck Stamp program. I was responsible for development of annual hunting season recommendations and held public meetings and listening sessions with the state wildlife agencies and the public. From 1984 through the late 1990s I was extensively involved with the U.S. and Canada in a dialogue seeking to amend the Migratory Bird Treaty to legally recognize the need for far-northern residents to be allowed to take migratory birds for food and other necessities outside the guidelines of the



original treaty. I served on a task force that helped two Service directors pave the way for responsible amendment first with Canada, then Mexico.

During that same period I had a lead role in drafting the North American Waterfowl Management Plan, and in its implementation both with the agency and later in my role at the Wildlife Management Institute. The Migratory Bird Treaty and the Migratory Bird Treaty Act were primary considerations in many international and U.S.-based discussions of migratory bird management, habitat needs and management, and enforcement.

The list of birds considered covered under the MBTA was revised several times while I was with the Service, mainly to respond to taxonomic clarifications or new range information. I do not recall any changes made to accommodate management of exotic species. My personal understanding of MBTA is that it was not enacted to deal with exotic birds, but rather to provide a sound framework for protection of native migratory species moving between the countries involved in the treaties. It was well into the existence of the treaty and MBTA that such common nuisance species, such as English sparrows, rock doves, and starlings, became a recurrent problem. They are among species controlled daily across America because of damage that they do, and are not considered covered by MBTA.

In my experience with migratory bird management through the Fish and Wildlife Service, the focus has been understood to be on maintaining populations of native species and avoiding unnecessary losses to human activities. It has not generally been viewed as a law directly designed to protect individual birds, unless they might be threatened or endangered, or unless the enforcement would make a point to the public that might preclude a larger number of deaths. In my professional interactions with Canada, and with people in the management and political arena across America, there has been a general feeling that literal enforcement bird by bird was in most cases not feasible, and not reasonable. We have struggled for decades with what to do about transmission lines and towers, buildings with bright windows that birds collide with, and a whole array of human activities that show no signs of diminishing in our lifetime. Reasonable efforts to solve problems associated with structures and human activities are entirely called for, and supported by everyone. More work undoubtedly needs to be done with that, but it would appear infeasible to any reasonable person to literally interpret the Migratory Bird Treaty Act as protecting the welfare of every bird across the continent.

In large issues concerning the welfare of birds the consideration of how literal to be in the enforcement of MBTA inevitably comes up. I testified before administrative legal hearings held by the Environmental Protection Agency in seeking ways to reduce the damage caused by the use of chemicals on golf courses. There was considerable debate over whether the best course of action was enforcement concerning any bird death, or making a case of a widespread problem and seeking solutions through different management, use of different compounds, or outright ban of certain chemicals. This dilemma is common in migratory bird management in balancing the needs of birds against the needs of humans.

In the 1990s, concern over the impact of arctic nesting white geese on their habitat during migration, led to broad consideration of what to do about a habitat problem when its cause was an apparent overabundance of birds. I assembled an international stakeholders group to assess the need to reduce numbers of arctic nesting white geese to avoid further damage to their habitats, with a long-term objective of affecting habitat recovery. While there was not agreement by all parties, stakeholders, in general, concluded that long-term habitat concerns and evidence of a rapid growth rate of goose flocks warranted direct reduction of populations to protect that habitat. In the end the Fish and Wildlife Service has allowed hunting seasons outside the normal recreational seasons, designed to directly reduce populations. We, as stakeholders, did not need definitive cause and effect data to recommend action.

The issue of what constitutes a truly "exotic" species is itself difficult. The Service has resisted listing species under MBTA because of incidental occurrences and infrequent movements between continents. While mute swans, for example, may well be capable of joining other swans in migration and moving between continents, it is quite clear that the mute swan in America has come from release or escape of exotics. This does not seem to be a situation envisioned by the drafters of MBTA, nor of the managers for many decades thereafter who have exercised the responsibility of bird protection. Exotics are, in general, a negative influence and should not be encouraged in the wild.

Control of wildlife that become more abundant than people inhabiting the same area's desire, or that come into direct conflict with people or pets, or threaten either crops or people's well-being have grown to be one of the biggest issues in wildlife management in North America. Symposia through professional societies, focus on

alternative solutions, and a considerable amount of public disagreement will likely continue. Expecting an almost one-hundred-year-old statute, although a a very valuable law, to cover the problems of today may not be a reasonable solution to many of these problems.

An important question is what would it take to modify the Migratory Bird Treaty Act if that were sought as a solution? Hazards seem to include action by those who wish to either expand the reach of MBTA, or reduce it. In either case rational conservation may suffer. Yet, amendment of MBTA may well be the most direct way to solve modern problems, such as the exotic mute swan. If so, it must be attempted surgically to solve the problem at hand, and not opened to wider agendas for change.

In conclusion, the mute swan is a problem for native habitats and species. Including it under MBTA protection seems a departure from many decades of useful discretion in application of MBTA. There seems to be abundant experience with MBTA that argues for direct action now based on what we know, to directly reduce mute swan populations and influence as much as possible. Thank you for this opportunity to testify.

---

Mr. GILCHREST. Thank you very much, Dr. Sparrowe.

Next is the friend of the Maryland General Assembly, post-graduate, the Honorable Gerald Winegrad. Welcome, Gerry.

**STATEMENT OF GERALD W. WINEGRAD, VICE PRESIDENT FOR  
POLICY, AMERICAN BIRD CONSERVANCY**

Mr. WINEGRAD. Thank you, Mr. Chairman. Gerald Winegrad, I am vice president for Policy at American Bird Conservancy, and as you were alluding to, I am a recovering politician. American Bird Conservancy is a national non-profit organization whose sole purpose is the conservation of wild native birds in the Americas. Our staff consists of leading ornithologists, bird enthusiasts, other professionals and recovering politicians and attorneys like myself.

American Bird Conservancy is very concerned over the application of the Migratory Bird Treaty Act of 1918 to introduce non-native avian species. Actually, we believe it is a misapplication and that until December 2001 when the Hill case was decided by the U.S. Court of Appeals for the District of Columbia Circuit, everyone acted and everyone managed and everyone operated in the United States as if the Migratory Bird Treaty Act truly applied only to migratory native species. That act, based on the mute swan here in Maryland and its management, overturned over a half century of management and management decisions.

Under the Migratory Bird Treaty Act of 1918 and the various conventions with the other countries, the Fish and Wildlife Service administers this Act and lists by Code of Federal Regulation publication all the birds covered specific to species under the Migratory Bird Treaty Act, and that is at 50 CFR 10.13. In publishing the most recent list, the United States Fish and Wildlife Service specifically alluded to the fact that in that publication, and I will quote, and this was October 12, 2001, "We do not list species whose appearance in the United States is strictly the result of intentional human introductions." So the case is why we are here today, Mr. Chairman, and what the American Bird Conservancy is proposing to you, to this Subcommittee, to the Committee and the Congress that the Migratory Bird Treaty Act, which we understand is the basic law that has protected birds in this country, that the Migratory Bird Treaty Act be amended to exempt all introduced non-native species. This amendment would do no more than simply return

the status of the Migratory Bird Treaty Act in the United States to the pre-Hill case status for introduced non-native species. We would suggest, as Rollie and others have alluded to, that any such amendment be very carefully drafted to avoid any misapplication of the amendment and to make clear the amendment was limited to simply preventing the MBTA's application to introduce non-native species.

Without such an amendment, basically, if you extend it to Hill logic, you would be applying this to a minimum of 86 total species of non-native birds that have established populations here in the United States and that are in families covered by the migratory bird conventions and hence a judge could rule that indeed you would have to go through the full-blown permitting process, perhaps EIS, at least environment assessments for each of these 86 species, which would put the United States Fish and Wildlife Service in turmoil in efforts to manage these species because of the time and money that would be devoted any time a management plan called for an MBTA take permit or lethal control. Any group or a person that considered these animals part of their concern, that is they were either, as someone said about the mute swan, they were their aquatic pets, that they could go in and sue and then monkey wrench any lethal control of these species.

In addition to the 86 species that would be or could be covered by the MBTA under the Hill extension, there are a total just in one State, Florida, and I have submitted this to the Committee, the documentation, 196 non-native introduced species of birds in one State. And of those, 73 are in families that would be covered by the Migratory Bird Treaty Act, and most of the ones that are excluded, 74 of 125, are in a family not covered, and that is the parrots and parakeets. In one county alone, Miami-Dade County, there are 120 species of exotics flying around, some of them establishing breeding colonies. So without this amendment, literally all of the rest of the species of migratory birds that need protection that Chan Robbins talked about you would throw a monkey wrench into much of the money resources being devoted to managing and bringing back and recovering those populations because of the need to deal with all of these exotics invasive species.

I want to point out specifically that one of the birds that would be covered under the MBTA expansion would be the rock—what was known as the rock dove, now the rock pigeon, everyone calls them pigeons. Those birds were introduced by European settlers in the 17th century for food and have caused roughly half of the total damage caused by avian species in the United States property damage and that's about \$1.2 billion a year. You would then, technically, if you went into court, have to do a full NEPA compliance document, if not just an environmental assessment, a full-blown EIS examining their populations and going through this, and eventually you could go into court again and have a judge just in the recent case in September say that, "This isn't enough, I'm staying, temporary staying any control of this species."

Finally, we will get to the issue that brought us here probably, the mute swan. The mute swan was introduced into the United States. It is a Eurasian species. Everyone thinks they came from Europe, but technically they were brought from Europe here but

they were not naturally occurring in Europe. It is a Eurasian species. It was brought here from England where they graced the lords' and princesses' and the kings' ponds and manors. And that was back in the 1800s.

Now, it is an ornamental bird. Five mute swans were brought into Maryland on a pond in Talbot County. Those birds escaped. They were three and two, male and female mixed, and those birds escaped into the wild. Those birds from those five in the Chesapeake Bay country spawned a population now that exceeds 4,000 animals, and that population, as you have heard if you read Larry Hindman's paper or do other population projections, it could grow to as many as 38,500 by the year 2010 because from 1986 to 1999 the mute swan population increased an incredible 23 percent a year and it slowed to 10 percent from 1993 to 1999. This is all in Hindman's paper.

So if you take the low projection, you would be at over 11,300 birds. If you take the high one, you are at 38,000 with the consequent impacts on our native wildlife and on submerged aquatic vegetation. Nationally, we have 21,400 mute swans, over 14,000 in the Eastern Flyway. Why we advocate and have advocated that we need to control mute swans, we are a bird group, bird enthusiasts, birds are us 100 percent of the time, and we have taken the position that not only do we support Maryland's efforts to control mute swans but 25 groups signed onto a letter, which I have submitted for the record and I have here, including my friends here from the Wildlife Management Institute and National Audubon and many other leading ornithological and national conservation groups, including the International Association of Fish and Wildlife Agencies, the Cornell Lab of Ornithology, not only supporting lowering those numbers by two-thirds, which was in the EA that was thrown out by the—or the temporary restraining order stopped action under, but going beyond that and eliminating all mute swans from the wild. And we do that with only very studied scientific basis as well as very much concern for people that like swans, as well as us as bird enthusiasts because of the damage by this exotic species.

Let me outline quickly some of that damage that we see. One of the emphasis has been at this hearing and has been seemingly consistently on submerged aquatic vegetation. I want to start with a different perspective, and that is the impact on displacement of other native birds. You have heard mention here very quickly of mute swans displacing the only natural breeding colony of black skimmers and of least terns in Chesapeake Bay. Both of those species are State listed, they are listed by the United States Fish and Wildlife Service as national species of birds of management concern that is required under the Fish and Wildlife Conservation Act to be published to prevent birds from going on the endangered species list. So these birds are not only State listed but they are also of national concern, and so you have mute swans documented in Tar Bay, Dorchester County, in your congressional district being displaced by the non-indigenous, introduced, non-native mute swan. And in addition, there were also common terns which are a species of concern in the State of Maryland and also another species that is listed as a species of national concern.

In addition to that, there is growing concern that mute swans are impacting by their incredible amount of submerged aquatic vegetation that they eat and destroy other species that are in some population trouble, such as black ducks, potentially, and also our native tundra swans. In fact, in the Maryland Mute Swan Task Force Report, one of the leading swan experts in our country who is also—he is a Ph.D. as well as a medical doctor, he is quoted as saying that he believes that there is increasing evidence that they are impacting native tundra swans.

Finally, shifting to the submerged aquatic vegetation, one of the disturbing things to me, as someone that has been involved in the bay cleanup since its inception 20 years ago, we are celebrating this month with the signing of the bay agreement in 1983, is this rationalization, this thing of a minimization that if you really deal with agriculture folks, for instance, that is a prime source of phosphorous and nitrogen to the bay, the farmers will tell you almost every time you really ought to deal with sewage treatment plants, they are the real problem. If you deal with municipal sewage treatment plants, they will tell you it is industrial discharges and farmers that really cause the problem. If you deal with power plants and automobile exhaust bringing down atmospheric nitrogen, they will tell you you should deal with sewage treatment plants. It is never the person or the entity that is causing the problem, no matter what documentation you can show.

And without going into the literature, I have submitted it to the Committee, the studies show that adult mute swans, which are the biggest bird species in the Chesapeake Bay, consume an incredible amount of bay grasses a day, somewhere around eight pounds. The male is bigger, males can weigh up to 30 pounds or more and average in the order of somewhere in the 20 pounds, over 21 pounds, 25 pounds, and females may be around average of 21 pounds, and they are consuming 30-some, 40-some percent of their body weight every day in submerged aquatic vegetation, which is the prime—the vast majority of their diet in the Chesapeake Bay. So when you take that computation out and they are here 24-7, 365 days a year, they are rooting up the grasses in the spring when the seeds are being set. They just don't eat the grass itself. It is not just what they consume, they destroy a lot of the other grasses by the roots, but the computations show, and this is in the Fish and Wildlife Service EA, it is in Larry Hindman's paper, it is in the paper by Dr. Matt Perry, it is about 10 to 12 percent of the total biomass of bay grasses are consumed by mute swans. That is significant. Whether phosphorous and nitrogen—phosphorous and nitrogen clearly have to be cleaned up to prevent the decline of bay grasses, but that is nothing to be overlooked and say, well, mute swans aren't a problem, we should let them proliferate, they are beautiful birds. We need to address the problem of the mute swan.

And I will end by saying in the judge's decision the judge stated in his decision, obviously from the swan's standpoint, that he would—the court will essentially speak for the mute swans. We ask the Congress and this Committee to speak for black skimmers, least terns, common terns, black ducks, tundra swans and all of the remaining species in the Chesapeake that are impacted by these

exotic species and to amend the Migratory Bird Treaty Act to exempt out all non-native introduced species.

[The prepared statement of Gerald W. Winegrad follows:]

**Statement of Gerald W. Winegrad, Vice President for Policy,  
American Bird Conservancy**

I am Gerald W. Winegrad, Vice President for Policy of the American Bird Conservancy. ABC is a national non-profit organization dedicated to the conservation of wild, native birds in the Americas. ABC has more than 300 partner organizations in the Americas primarily through its leadership roles in the North American Bird Conservation Initiative, Partners in Flight, ABC's Policy Council, and ABC's international network. The Policy Council, with which I work, has more than 80 member organizations that work collaboratively for bird conservation, and these member organizations include the country's most prestigious ornithological and conservation groups. ABC has ornithologists and other staff headquartered in Washington, D.C., and The Plains, Virginia. We also have offices and staff in New Hampshire, Maine, Maryland, Indiana, Missouri, Colorado, Montana, and Oregon.

American Bird Conservancy is concerned over the application of the Migratory Bird Treaty Act of 1918 (MBTA)\* (see below), codified as 16 United States Code, Section 703 et seq., to introduce non-native, avian species. Bird species in the United States protected by the MBTA are listed in regulations in 50 CFR 10.13. Our concern over providing the full protection of the MBTA to introduced non-native species surfaced with the court decision of *Hill v. Norton*, 275 F.3d 98 (D.C. Circuit 2001). The court in *Hill* ruled that the introduced non-native Mute Swan (*Cygnus olor*) was covered by the MBTA and, therefore, should be treated as a protected species under the MBTA. Previously, this exotic species was not afforded Federal protection and management was left to the states and to federal agencies. All such introduced non-native avian species had not been included as birds covered by the MBTA and were thus not afforded Federal protection. Federal, state, and local wildlife managers had previously been free to appropriately control introduced non-native birds as professional management standards required.

Next to habitat loss and alteration, introduced non-native species (also termed invasives or exotics) have been identified as one of the greatest threats to birds in the U.S. Up to 46% of the plants and animals Federally listed as endangered species have been negatively impacted by invasive species.

According to the U.S. Fish and Wildlife Service, at least 86 species of introduced, non-native birds belong to families covered by the MBTA, and thus could be considered protected by the MBTA if the logic of the *Hill* decision were fully extended. Unless the Congress acts to restore the pre-*Hill* case exclusion of introduced non-native birds, our native birds, other wildlife, ecosystems, and human health and property may be impacted by providing MBTA protection to 86 species of non-native birds.

American Bird Conservancy supports amending the MBTA to exempt all introduced non-native species. This amendment would simply restore the pre-*Hill* status for these introduced species. We would suggest that any such amendment be very carefully drafted to avoid any misapplication of the amendment and to make clear the amendment was limited to simply preventing the MBTA's application to introduced non-native species.

Without such an amendment, the U.S. Fish and Wildlife Service, already significantly underfunded for its migratory bird work, could be tasked with developing management strategies for at least 86 species of introduced non-native birds. Completing such management plans with attendant NEPA requirements and potential law suits whenever a management plan included lethal controls would be extremely costly and would shift limited resources from native migratory and nonmigratory species to introduced species. Further, delays in properly managing introduced non-native avian species will cause negative impacts to native avian species and damage to other resources.

Of the 852 native avian species found in the U.S., 778 are migratory nongame birds and roughly 350 are migratory songbirds species. About 250 of these songbirds are neotropical migrants that migrate between summer breeding areas in the United States and Canada and wintering areas in Latin American and the Caribbean. Many of these migratory song birds are in serious decline. There has been documentation of an overall 50% decline in the volume of annual flights over the Gulf of Mexico in the last twenty years of neotropical migratory songbirds.

Of the 852 native birds found in the U.S., 90 are listed as endangered or threatened under the Endangered Species Act. Another 131 species are listed by the U.S.

Fish and Wildlife Service as being Birds of Management Concern, meaning that they may become candidates for listing under the ESA without additional conservation action or that special attention is warranted to prevent declines. This latter list is mandated by Congress under 1988 amendments to the Fish and Wildlife Conservation Act and was updated this year. Thus, over one-quarter of all U.S. native bird species are either endangered, or threatened with extinction, or may become candidates for ESA listing without additional management measures. Priority must be given to the protection and recovery of these species, as well as to Partners in Flight priority species in bird conservation regions. Introduced non-native species not only negatively impact some of these listed species but could also divert needed resources from the management of our native species.

The 86 species of introduced, non-native birds include: 16 species of waterfowl e.g., Bar-headed Goose, Black Swan, Mute Swan, Graylag Goose, and Swan Goose (all common in collections of exotic waterfowl); 19 species of pigeons and doves e.g., Bar-shouldered Dove, Eurasian Collared-Dove, Rock Pigeon, and Zebra Dove; and 35 species of songbirds e.g., White-rumped Shama, Common Canary, Blue-gray Tanager, Varied Tit, and Red-crested Cardinal. All of these species are competitors or potential competitors of native birds.

Of these 86 species, about 17 have become established, some with serious ecological consequences, others with unknown consequences. For example, the Rock Pigeon (formerly known as Rock Dove) accounts for an estimated \$1.2 billion in damages annually in the U.S., fully one-half of the \$2.1 billion in damages attributed to all exotic bird species combined. This species was brought to the United States by European settlers in the 17th century for food.

Eurasian Collared-Doves were brought to the Bahamas in cages and escaped, eventually flying into south Florida. Now, these birds are firmly established and are breeding in Florida, Georgia, South Carolina, and Louisiana. These exotic birds have shown an ability in Europe to rapidly expand range and increase populations and are expanding rapidly to the north and west in the U.S.

Muscovy Ducks are not now listed under the MBTA and are another introduced non-native species widely established in Florida and around the U.S. Introduced in the mid-1960's from Venezuela, these ducks are found around the U.S. as farm pond and park animals. They interbreed with Mallards.

Black Swans were first noted in Florida in 1961 and are now well-established in at least six counties. These birds are successfully breeding and consume large amounts of vegetation and may create conflicts with native avian species.

One of the more recent introductions that could be covered by the MBTA under Hill is the Purple Swamphen, in the same family as rails. This exotic species was first noticed in Broward County, Florida, in December 1996. The birds are spreading in south Florida and there is a sizeable breeding population. The population in the wild probably exceeds 200 birds. Researchers believe that the source of the birds was Miami MetroZoo, which lost eight Swamphens following Hurricane Andrew in August 1992.

Purple Swamphens use Florida's abundant wetlands, have high reproductive potential, and are expanding their range. Researchers note that "...there is no similar avian precedent available in Florida—or North America—to compare to Purple Swamphens." *Discovery, Origin, and Current Distribution of the Purple Swamphen (porphyrio porphyrio) in Florida*, William Pranty et al. (2000). Pranty et al. state that, "In their native range, Swamphens are often observed away from wetlands and can damage grain and vegetable crops (Ripley 1977, del Hoyo et al. 1996), so the impact of Swamphens in Florida may extend beyond wetland species. Although they are primarily vegetarians, Swamphens are known to prey upon mollusks, fish, lizards, frogs, snakes, bird eggs and nestlings, and other small birds (Ripley 1977, Cramp and Simmons 1980). Purple Swamphens occasionally move long distances (up to 1000 km; Grussu 1999), thus they potentially could colonize a large part of the state."

Biologists believe that as Purple Swamphens increase their range and numbers, there is the potential that they could become another invasive species threat to Florida's native wildlife and the imperiled Everglades system.

Other introduced non-native species with established U.S. populations that are not currently listed under the MBTA, but could be required to be listed in 50 CFR 10.13 under the logic of the Hill decision include:

- Ringed Turtle-Dove (Florida, Texas, and Puerto Rico);
- Spotted Dove (California and Hawaiian Islands);
- Japanese Bush-Warbler (Hawaiian Islands);
- Saffron Finch (Hawaiian Islands and Puerto Rico);
- Yellow-billed Cardinal (Hawaiian Islands); and Yellow-fronted Canary (Hawaiian Islands and Puerto Rico).

Two of our most numerous bird species are introduced, non-native species: European Starlings and House Sparrows. Both fall outside the parameters of the MBTA as they don't belong to covered families of birds. They are therefore not subject to protection under the MBTA. European Starlings were brought over from Europe in the 1890's by private individuals in New York who released them into Central Park as part of a plan to introduce all species of birds mentioned in Shakespeare. This bird has been documented to take over nesting holes for cavity nesting birds such as Eastern Bluebirds and native woodpeckers. House Sparrows also use nesting cavities that would otherwise be available to such species as Eastern Bluebirds. House Sparrows were introduced in 1850 when eight pairs were released in Brooklyn to control canker worms, and there were numerous releases into the 1880's for aesthetic reasons and for insect control e.g. drop worm.

There are more than 125 other species of exotic, introduced, non-native avian species whose families are not covered by the MBTA and would be beyond the reach of the Hill decision. Author Bill Pranty documents the occurrence of 196 exotic avian species in Florida, 73 species that could be covered by Hill and 123 that would not. An amazing 125 exotic avian species have been reported in one county, Miami-Dade. Of the 123 exotic species in Florida excluded from the MBTA, 74 species are parrots (Psittacidae are not covered under the MBTA). At least 27 exotic avian species are known to or thought to breed in Florida that could be covered under the MBTA under the Hill case rationale. See the attached: The Exotic Avifauna of Florida, William Pranty (July 2001).

Introduced non-native species known to breed in Florida and not previously mentioned include the Spot-breasted Oriole, first noted in 1949, and Great and Common Black-Hawks, first noted in the 1970's. These and other Florida exotic breeders also could be covered under the Hill rationale.

The 86 species of introduced non-native birds that could be protected by the MBTA under Hill does not include MBTA-protected species that have been introduced and have become established in localities outside their native ranges in North America, e.g., resident Canada Goose, Gadwall in Florida, and Northern Cardinal in California and Hawaii. Nor does the list of 86 species include a myriad of exotic species, particularly waterfowl and raptors, that are bred in captivity in the U.S. Should these latter species escape or be released, they could establish breeding colonies in the U.S. and gain MBTA protection.

#### *CASE EXAMPLE: MUTE SWANS.*

The Mute Swan (*Cygnus olor*) was first brought to the U.S. from Europe in the 1800's as an ornamental bird. Five Mute Swans, previously brought as ornaments to a pond in Talbot County, Maryland, were released in 1962. These birds spawned a current population of about 4,000 Mute Swans in Chesapeake Bay country. There are more than 14,000 in the Eastern Flyway and, nationwide, the Mute Swan population has grown to 21,400. The Bay Mute Swan population increased at an annual rate of about 23% between 1986-1999 and 10% between 1993-1999. If these growth rates continued, the population could reach 11,300 (at 10%) to 38,500 (at 23%) by 2010.

The introduced non-native Mute Swan, the subject of the Hill case, is an example of an invasive avian species that has demonstrably negative impacts on other species and resources, including native birds listed under the Congressionally mandated Birds of Management Concern list. These species include Black Skimmers, Least Terns, and Common Terns.

Federal, state, and local wildlife managers were free, until the Hill case, to control the exotic Mute Swan without Federal protections and permitting. Hill changed that. In both 2002 and 2003, the U.S. FWS issued 66 MBTA permits for the lethal take of Mute Swans. When the Maryland Department of Natural Resources (as a result of the Hill case) was forced to apply for, and was granted, an MBTA permit in March 2003 to control Mute Swans by lethal take, a law suit was filed under NEPA and other laws by The Fund for Animals and others. DNR then withdrew the permit while the FWS completed a NEPA Environmental Assessment.

Upon completion of the Environmental Assessment in July 2003, DNR applied for, and was granted, another MBTA lethal take permit in August to control Mute Swans. Again, The Fund for Animals and others sued. On September 9, 2003, Judge Emmet G. Sullivan of the U.S. District Court for the District of Columbia, issued a temporary injunction blocking DNR from any lethal control of Mute Swans. The Judge so thoroughly criticized the Environmental Assessment and FWS NEPA compliance, that the Justice Department attorneys settled the case, agreeing not to issue further MBTA permits for Mute Swan take. Thus, Maryland and all other states and the Federal government have ceased any control of Mute Swans. This



will have serious consequences for native birds and other resources such as submerged aquatic vegetation (SAV) as mute swan populations rapidly expand.

*Displacement of Native Birds.*

The aggressive Mute Swan has attacked and killed other birds and has extirpated breeding colonies of waterbirds. In Maryland, as noted in the Maryland Mute Swan Task Force Report, "One of the more serious conflicts between mute swans and native Maryland wildlife occurred in the early 1990's, when a molting flock of about 600-1,000 nonbreeding mute swans excluded black skimmers (*Rynchops niger*), a state threatened species; least terns (*Sterna antillarum*), classified as a species in need of conservation; and common terns (*Sterna hirundo*) from using the oyster shell bars and beaches in the Tar Bay area of Dorchester County for nesting sites." Tar Bay was the only remaining natural nesting site for Least Terns and Black Skimmers in Chesapeake Bay. Black Skimmers, Least Terns, and Common Terns are all native birds listed as of National Concern under the Congressionally mandated Birds of Management Concern.

According to Maryland DNR biologists writing in Status and Management of Mute Swans in Maryland, Larry Hindman and William F. Harvey, IV of Maryland DNR (2003):

- Observations in Maryland and findings reported in scientific literature support the fact that territorial mute swans can be very aggressive towards other waterfowl, displacing native species from their breeding and foraging habitats (Willey 1968, Stone and Masters 1970, Kania and Smith 1986, Ciaranca 1990). Mute swans occupy and defend relatively large territories of wetland habitat during nesting, brood rearing and foraging. Not only do they displace native waterfowl from breeding and staging habitats, they have been reported to attack, injure or kill other wetland birds (Willey 1968, Stone and Masters 1970, Kania and Smith 1986, Ciaranca 1990). In Maryland, mute swans have been observed killing mallard ducklings, Canada goose goslings, and mute swan cygnets.
- The most serious instance of conflict between native wildlife and mute swans occurred in the early 1990's, when a large flock of mute swans (600-1,000 swans) caused the abandonment of nesting sites for state-threatened colonial nesting birds at Tar Bay in Dorchester County. These colonial nesting birds nested on oyster shell bars and beaches that were used by swans as loafing sites. Tar Bay was the only area in the Maryland portion of the Bay where black skimmers and least terns nested on natural sites (Therres and Brinker 2003).
- There is growing concern among wildlife managers that the increase in mute swans may be playing a role in the failure of tundra swans to increase, as they have done in other areas of the Atlantic Flyway.
- The large mute swan population in Maryland consumes SAV that might otherwise be available to native waterfowl. This competition for space and food imposed by mute swans reduces the carrying capacity of breeding, staging, and wintering habitats for native species of migratory waterfowl in Chesapeake Bay where mute swans are established.

As noted in the Maryland Mute Swan Task Force Report, "Mute swans are believed to pose a significant threat to the well-being of the Chesapeake Bay tundra swan population (W.J.L. Sladen, Swan Research Program at Airlie, VA, pers. commun.)". In a Rhode Island study, one pair of mute swans vigorously defended a five-acre pond, preventing use by other waterfowl (NY DEC 1993). In central New York, three pairs of captive mute swans killed at least 50 ducks and geese (mostly young birds) on a small zoo pond over a 20-month period (NY DEC 1993). Such behavior may be a factor in inhibiting the recovery of such native species as Black Ducks. In addition, Mute Swans consume SAV preferred by many native waterfowl species.

*Destruction of Bay Grasses.*

Mute Swans consume huge amounts of Submerged Aquatic Vegetation (SAV). Mute Swan average weight is about 25 pounds for the adult male; the female, 21 pounds. Some Mute Swans may weigh more than 30 pounds. The male Mute Swan consumes 34.6% of their body weight per day and females consume 43.4%. See Fenwick, G.H., 1983, Feeding behavior of waterfowl in relation to changing food resources in Chesapeake Bay. Ph.D. dissertation, Johns Hopkins University, Baltimore, Md. Based on this study, the Maryland Task Force Report notes that "Assuming that an adult/subadult mute swan consumes an average of 3.789 kg wet weight of SAV per day (Willey and Halla 1972), a population of 4,000 swans has the potential to consume more than 12 million pounds of SAV annually (L. Hindman, MD DNR). Consumption of immature seeds, removal of biomass before plant maturation,

and uprooting of whole plants may have a very negative effect on SAV with minimal consumption (M. Naylor, MD DNR, pers. commun)."

Scientists at the Patuxent Wildlife Research Center have concluded a study documenting that the introduced Mute Swans' diet is composed nearly entirely of vegetation during all seasons of the year. Mute Swans relied heavily on SAV with Widgeon Grass (*Ruppia maritima*) constituting 56% and Eel Grass (*Zostera marina*) 43% of their food. (see Perry et al. 2000). These scientists noted localized depletions (eat-outs) of SAV during the growing period. The FWS Environmental Assessment notes that the current population of Chesapeake Bay Mute Swans consumes almost 10 percent of the total biomass of submerged aquatic vegetation in the Bay. These grasses are critical to many other avian species, to recovery of fisheries (blue crabs), and to the general water quality of the Bay and other water bodies.

Hindman and Harvey (2003) found that: "Adverse ecological effects are being caused by the large mute swan population in the Bay and these impacts will increase if the population continues to grow. ... A simple mathematical extrapolation of SAV consumption by mute swans suggests that 4,000 mute swans may consume up to 12 million pounds of SAV annually, representing about 12% of the SAV biomass in the Bay (Perry et al. 2003). This level of impact is greatest on the mid-Eastern Shore where high numbers of mute swans concentrate and acreage of SAV is small. This level of grazing, especially during spring and fall SAV growth and reproductive periods and in SAV restoration plantings is an impediment to achieving the objectives of the Chesapeake 2000 Agreement, specifically the restoration of 114,000 acres of SAV by 2010."

Also from the Hindman and Harvey 2003 publication:

- Unlike the native tundra swans (*Cygnus columbianus*) that only spend winter months in the Bay, the nonnative mute swan inhabits the Bay year-round. Mute swans utilize large amounts of emergent vegetation (e.g., *Juncus roemerianus*, *Phragmites communis*, *Spartina alterniflora*, *Typha latifolia*) in Maryland for nest building. They also feed exclusively in shallow wetlands where they consume large amounts of SAV (Berglund et al. 1963, Owen and Kear 1972, Birkhead and Perrins 1986).
- Because adult mute swans tend to paddle and rake the substrate to dislodge SAV and invertebrates for them and their cygnets, additional SAV is destroyed and uprooted that is not eaten (Owen and Kear 1972, Birkhead and Perrins 1986). At high densities, mute swan can overgraze an area, causing a substantial decline in SAV at the local level (Cobb and Harlan 1980, Mountford 2003).
- The removal of large quantities of SAV and the physical impact of the grazing upon SAV by mute swans reduces the capacity of the remaining SAV beds in the Bay to support wintering waterfowl and other fish and wildlife populations.
- Mute swans forage on SAV shoots before they can mature. This grazing during the spring and summer growing season has been shown to reduce plant survival and reproduction, reducing SAV abundance in subsequent years (Allin and Husband 2000, Bortolus 1998, Sondergaard et al. 1996). Over time, areas with high densities of mute swans exhibit a decrease in plant diversity and abundance, sometimes becoming devoid of SAV (Naylor 2003).
- SAV is critical to the health and well-being of a myriad of Bay organisms. Not only does SAV protect water quality and prevent erosion, it also provides food and shelter for fish, shellfish, invertebrates, and waterfowl (Hurley 1991). For example, research has shown that the density of juvenile blue crabs is 30 times greater in SAV beds than in unvegetated areas of the Bay (Naylor 2003).

*Strong Scientific and Conservation Support for Removal of Mute Swans.*

Because of these serious concerns over Mute Swans that have been scientifically documented, twenty-five groups dedicated to bird conservation and science joined together to support the U.S. FWS EA's proposed action that was stopped by the September 9, 2003, Court action. These groups went even further—supporting removal of all introduced non-native Mute Swans from the wild in the U.S. The groups' letter is attached with the supporting basis for advocating the removal of all Mute Swans from the wild. These groups include a number of Maryland groups, such as the Maryland Ornithological Society, Audubon Naturalist Society of the Central-Atlantic States, and the Delmarva Ornithological Society, as well as other such prestigious ornithological entities as the Cornell Laboratory of Ornithology, Cooper Ornithological Society, The Waterbird Society, and Archbold Biological Station. Other groups signing-on include the International Association of Fish and Wildlife Agencies, National Audubon, Wildlife Management Institute, Environmental Defense (EDF), Ducks Unlimited, Izaak Walton League of America, and American Bird Conservancy.

Also attached is ABC's more detailed letter of comment to the Maryland DNR Mute Swan Task Force.

The Mute Swan is an introduced non-native species, no different from other invasives in their potential for damage to native species and ecosystem functions, except they are big and aesthetically pleasing to humans. The Mute Swan has demonstrably negative impacts on other species, including native birds. The Congress under Rep. Gilchrest's leadership wisely appropriates considerable sums to eradicate all nutria on Maryland's Eastern Shore by shooting and trapping them. Because the nutria is a big rat-like marsh rodent not very aesthetically pleasing to humans, not much opposition surfaced to this eradication. Maryland fights vigorously to control snakehead fish, phragmites, and other invasives. All these species are destructive to native plants or animals and need to be removed from the wild. The Federal government and Maryland have even prevented the introduction of a foreign oyster to the Bay for years. And yet now, wildlife managers are prevented from controlling another introduced non-native species that causes documented damage to other avian species and to bay grasses, the Mute Swan.

The proper management of Mute Swans has been thwarted by the Courts and management of many of the 86 other species may be thwarted in the future without Congressional action. We ask this Subcommittee, the House Resources Committee, and the Congress to amend the MBTA to exempt all introduced non-native species of birds from coverage. Judge Sullivan stated in his September 9, 2003, opinion, "The Court will essentially speak for the mute swans...". We ask the Congress to speak for Black Skimmers, Least Terns, Common Terns, Black Ducks, Tundra Swans, and the many other species of native wildlife and Bay grasses, that have been, or may be, adversely affected by a growing Mute Swan population and by other introduced non-native birds.

We at ABC are individually and organizationally committed to the conservation of native wild birds in the Americas and we are dedicated bird enthusiasts. We urge Congressional action to protect these native birds by amending the MBTA to exclude all introduced non-native species.

*\*The Migratory Bird Conventions (from page 1).*

The United States recognized the critical importance of internationally coordinated management of migratory birds by ratifying bilateral conventions for their conservation with Canada (Convention for the Protection of Migratory Birds with Great Britain on behalf of Canada 1916) and Mexico (Convention for the Protection of Migratory Birds and Game Mammals-Mexico 1936), and for the conservation of migratory birds and their habitats with Japan (Protection of Birds and Their Environment- Japan 1972) and Russia (Conservation of Migratory Birds and Their Environment-Union of Soviet Socialist Republics 1978), collectively known as the migratory bird conventions.

The Migratory Bird Treaty Act of 1918 (MBTA), codified as 16 United States Code, Section 703 et seq., implements these conventions in the U.S. and has served as the basic U.S. law governing the protection of avian species. The first convention with Canada and the original MBTA were enacted by Congress because of the wanton slaughter of birds for food, feathers, and recreational pursuits that had led to extinctions and great declines in many species.

Bird species in the United States protected by the Migratory Bird Treaty Act of 1918 are listed in 50 CFR 10.13. The migratory bird conventions impose substantive obligations on the United States, Canada, Mexico, Japan, and Russia for the conservation of migratory birds and their habitats, and articulate important conservation principles, such as:

- To conserve and manage migratory birds internationally;
- To sustain healthy migratory bird populations for consumptive and non-consumptive uses;
- To provide for, maintain, and protect habitat necessary for the conservation of migratory birds; and
- To restore depleted populations of migratory birds;

Under the provisions of the U.S. Migratory Bird Treaty Act, it is unlawful "by any means or manner to pursue, hunt, take, capture [or] kill" any migratory birds except as permitted by regulations issued by the U.S. Fish and Wildlife Service. The term "take" is not defined in the MBTA, but the U.S. Fish and Wildlife Service has defined it by regulation to mean to "pursue, hunt, shoot, wound, kill, trap, capture or collect" any migratory bird or any part, nest or egg of any migratory bird covered by the conventions, or to attempt those activities. The United States Department of the Interior's Fish and Wildlife Service is the primary federal agency responsible for the conservation and management of migratory bird resources. MBTA permits

must be issued for the take of listed migratory species, unless a general depredation order exists.

[NOTE: Attachments to Mr. Winegrad's statement have been retained in the Committee's official files.]

Mr. GILCHREST. Thank you very much, Mr. Winegrad. Very well done. And we, as a Congress, will speak with a voice that is sensitive to all the living species and try to understand the ecology of the region.

I would like to start with a question that each of you can answer. A number of people this morning and this afternoon have focused on the Migratory Bird Treaty Act, and what I have been trying to do is pin down some—well, I am not trying to pin anybody down, but I would like to have a perspective, since it has been mentioned here a couple of times, on the original Migratory Bird Treaty Act. As Dr. Sparrowe said, provided general protection—does not provide general protection for individual birds. It was a treaty and a relationship with various countries so that the overall migration of a number of species would be considered seriously and protected. Should the Migratory Bird Treaty Act be specifically statutorily modified to list or to make mention of exotic species that it would not provide protection for? Mr. Winegrad mentioned 86 species of birds. So would it be the recommendation of this panel to, and we can start with Mr. Pardoe—would it be your recommendation to modify the Act to specifically exclude in a surgical way exotic species from protection of the act?

Mr. PARDOE. Mr. Chairman, our position would be that human-introduced species should not be covered and protected by the act. It is not necessary to list them individually because another one might be introduced tomorrow. But if non-native, human-introduced species are excluded, then that covers all that category. If the birds get here on their own, as cattle egrets did, they are protected. They got here naturally, they weren't brought in like sparrows or starlings or other introduced species.

Mr. GILCHREST. Dr. Stallman?

Dr. STALLMAN. The Humane Society of the U.S. would not support the idea of amending or modifying the MBTA in this way. I think that, first of all, it is difficult to try to guess what the original authors of the MBTA intended, but that aside I think it is also difficult in some cases, even if you were to try to be as surgical as you could about it, to try to distinguish whether an expansion or a movement of a wildlife population was affected by humans in any way or not, to what extent was it affected, how much human intervention is necessary for it to be a human-caused introduction? I think it could get into a little bit of stickiness.

Mr. GILCHREST. Thank you. Dr. Sparrowe?

Dr. SPARROWE. The situation with something like the mute swan appears quite clear, where it is introduced and expands and a population grows and it is a problem. I think the comment from Mr. Pardoe makes sense, that I think science would be concerned that we not exclude coverage for an animal that expands its range into North America, but that is a pretty rare case compared to what we are talking about here. Most of these animals that we are concerned about, the ones mentioned in Florida and others, have come

from various types of human-induced introductions, and so I think it is certainly worth proceeding with serious consideration of amending the Act to deal with introduced exotics.

Mr. GILCHREST. Thank you. Mr. Winegrad?

Mr. WINEGRAD. Mr. Chairman, we would support and suggest that the Act be amended to specifically exclude introduced non-native species, that those words be used. That is for species that may expand their range naturally, maybe because of global warming, temperature changes, natural expansion, food sources, whatever, but introduced, non-native species be explicitly spelled out as being excluded from the act. That would simply return the Migratory Bird Treaty Act of 1918 to its pre-Hill case management techniques. It would just go right back to pre-Hill. But we would not support trying to list species. The way the Act is administered now in the United States is that you have families of birds in some of the earlier treaties and then you have specific species in the latter treaties. And then the Fish and Wildlife Service is tasked under the Act of listing the species that are covered, not the reverse, just the species that are covered. And what the judge ruled in Hill was the Service did not act correctly because the family of swans was included in the act, and he believed they were migratory because they might move across the Canadian border and back, which of course doesn't make them migratory in the true sense. And so he believed that they should have been listed under that CFR listing. What I am saying is that that Congress needs to do is exempt out non-native introduced species, and then the Fish and Wildlife Service is free to list. If the species wasn't listed, it is not covered.

Mr. GILCHREST. If we move in that direction, do we need to have some framework or definitive definition of exotic versus invasive?

Mr. WINEGRAD. No, not if you say non-native, introduced. That covers it. It has to be introduced and it is non-native, it was never here. Ornithologically, people know every species that was here from records and accounts. We know our native species pretty well. There is not many surprises. I mean there is still speculation about some that are thought extinct like the ivory-billed woodpecker, but basically we know that non-native—introduced, non-native species should cover it.

Mr. GILCHREST. OK.

Mr. WINEGRAD. What is confusing, and I can sense the confusing from all the discussions back and forth, is that when you get into invasives, exotics, introduced, non-native, what is the definition, what is covered, what isn't, the tricky point is that the Migratory Bird Treaty Act, even under the Hill case, the broadest expansion of Hill, wouldn't cover all exotic avian species. Like it might strike you right now as strange if I told you that European starlings and house sparrows would not be covered even under the Hill case expansion of the Migratory Bird Treaty Act, because their families aren't listed. But the rock dove, the pigeon, the rock pigeon would be covered because they are listed.

There was mention of Chakars and ring-necked pheasants and they are a hunted species. The Feds don't regulate them because they are not covered under the Migratory Bird Treaty Act. Their families aren't included. Nor are the parrots. So you could see, though, that a court or there might be actions in the conventions

to expand that to cover all exotic birds until we would have literally a wildlife zoo outside and our native species all would be at risk and some of them would be extricated.

Mr. GILCHREST. Sticking with mute swans as opposed to a number of other species of exotics or other species of migratory birds that are covered under the Migratory Bird Treaty Act, Dr. Stallman, I was curious to how you feel about the mute swan in Maryland, a statewide management plan and their reduction of the population of mute swan to a population which I guess the State of Maryland considers manageable, of about 500. Do you have any thoughts or perspective, opinion on the management plan that Maryland has?

Dr. STALLMAN. I reviewed their management plan and submitted comments to the DNR on that. And I know one of our comments was, as I said in our testimony, we are concerned that there is a real paucity of data linking mute swans to degradation of the bay or to native waterfowl in the native ecosystems.

Mr. GILCHREST. I am not sure if I heard you. You said there is not enough data pointing to the fact that they have degraded SAVs?

Dr. STALLMAN. Exactly. The lack of data, the lack of strong data. There is a lot of anecdotal evidence, there is a lot of stories of aggressiveness between mute swans and other waterfowl. There just hasn't been a lot documented on the bay or similar watersheds in the eastern United States documenting that not only of course the mute swans do eat submerged aquatic vegetation but that doesn't mean that their herbivory is limiting submerged aquatic vegetation growth. The SAV, the submerged aquatic vegetation, like all or almost all plants you can think of, evolved with herbivory as a natural pressure. And so one shouldn't consider herbivory as something that the plant can't necessarily withstand.

Mr. GILCHREST. Shouldn't consider what?

Dr. STALLMAN. Herbivory, the eating of the plants by birds like swans, anything that is a herbivore.

Mr. GILCHREST. Mr. Pardoe, could you comment on Dr. Stallman's statement regarding not enough data to show that the mute swans are degrading the SAVs and that SAVs evolve with, I guess, coevolution. I don't know what came first, the grass or the swans or the migratory geese, but that it is natural for the grass to be eaten.

Mr. PARDOE. First of all, there are two separate issues. One is the impact of the mute swan upon native bird populations, so that is black skimmers, least terns, et cetera. That is separate from the SAV issue, and I think that has been well documented that they are aggressive and that they do displace black skimmers, least terns and black ducks and other birds.

On the SAV issue, it is unquestionable that they eat them, it is unquestionable that the mute swan, unlike the native swan, is here year-round 12 months a year. So it is consuming the grasses 12 months a year. It is also consuming those grasses during the spring and summer when the grasses are attempting to rejuvenate and grow, so they are at the most vulnerable state of their lives. I think it has been documented that quantity and if you look at the size of the bird and the amount of food that it has to consume simply

to live and multiply that by 4,000 at this point and magnitude of that as to what would happen over the course of time if we had 15,000, 20,000 of these, the impact upon the SAVs is real.

Does that mean it is the only impact? No, it is not. I mean, obviously, nutrient degradation and sediment and a whole lot of other factors are influencing the SAVs. The question is do we want to allow still one more substantial degradation to the SAVs to exist when we can control it? We are trying to control all the others with pollution and sediment, et cetera. We should control this one as well.

Mr. GILCHREST. Thank you. One other question, Dr. Stallman. Dr. Sparrowe mentioned a problem that took place five or 6 years ago. It was over a period of time where there were just large number of nesting geese in the Arctic where they were destroying their own habitat, and it was the conclusion, it was my understanding, of numerous scientists on both sides of the border that the population needed to be culled in order to save the habitat and then in order to save the species. Could you comment on that issue of wildlife management, in particular, and then wildlife management, in general?

Dr. STALLMAN. With the issue of the light geese, the snow geese and ross geese supposedly destroying their Arctic habitat, and I know that in that case I wasn't at the HSUS when that first came up but I was able to look into that issue more recently, and our argument and my argument as a scientist is that at some point the geese are going to—the population is going to increase and the population is most likely going to crash. This is a natural population fluctuation, this happens a lot, it may not be nice to see. At some point, the geese have density-dependent factors kick in, the geese don't get enough to eat or they aren't able to reproduce as much, they may not look as healthy for a time, but then the population crashes by natural factors. This type of large goose the main non-human, I would say, control on their life or reproduction happens with the offspring not surviving to adulthood, with reproduction not being possible due to a lack of food or with offspring being eaten by predators or eggs being eaten by predators. The adults themselves are not generally affected very much by predation. Our argument with the snow goose issue was that if you let the population fluctuate naturally, it will eventually crash and the Fish and Wildlife Service actually said as much in their most recent—at least in their most recent documents that I read, and they seem to be expressing some concern that if that happened, it would reduce hunting opportunities for snow geese. I don't know what else I can say about that.

I think, again, the Arctic vegetation you can put up exclosures to try to keep the geese out and show—which is what they did with the Arctic vegetation and the snow geese. They put up exclosures to show, look, without goose herbivory this is what the Arctic vegetation looks like, and here is what it looks like with goose herbivory and look at the difference. Well, they are excluding a natural process. They are excluding herbivory which has always been a part of that ecosystem, and what they are seeing is certainly a difference. It is taller vegetation, it is more vegetation, but is that natural? Again, it comes down to how you define natural.

Mr. GILCHREST. That is a \$64 billion question, maybe \$64 trillion question, how do you define natural? And I guess we could have defined, to some extent, natural pre-European colony of North America but with human activity not running in cycles but just one big, steady, long thud, the environment is now reacting to that.

But I just wanted to ask Dr. Sparrowe if you could comment on Dr. Stallman's statement about if we just let those snow geese, those nesting geese in Canada, go through the natural cycle, the population would have crashed, there would have been a lot more space for other nesting geese in years to come and the cycle would have started over again.

Dr. SPARROWE. Well, I, of course, come from a good deal of experience as a waterfowl manager, being concerned about heading off major fluctuations in population levels and so on. This is not a natural situation confined strictly to the Arctic. Some of the reasons for increased survival of these geese include agricultural changes in the United States on their wintering grounds where they are able to feed more securely and head back North each year in better condition and therefore breed more successfully. So this was looked upon as a major problem with the focus in the end on what the majority of the stakeholders felt was a serious problem already in clear evidence on these aggregation areas where geese migrate. So we made a choice, which is what I suggested earlier in my testimony was a growing problem for America, and the choice was to do something before we watched this all go down and before we watched the habitat be so degraded that it wouldn't support the goose populations. And that seems to me to be what you have with the mute swan at this point. Do you accept pretty strong but not definitive perhaps evidence of environmental effects and other things and look at the exponential growth of the population or do we wait and watch that until it gets so great that we then don't have very many options for what we can do? And I think you will find that wildlife managers would advocate that to the extent that we can work with the public and get agreement, that we ought to take those kind of actions somewhat preemptively when there seems to be some reasonable evidence that we should.

Mr. GILCHREST. Thank you. Mr. Pardoe?

Mr. PARDOE. Brief comment because the issue of the Central Flyway snow geese was the first issue that I voted on when I joined the National Audubon Board back in 1997. But the Board of National Audubon Society strongly supported reducing the population of the Central Flyway snow geese, but it was precisely because it was not a natural situation, it was, as Dr. Sparrowe had indicated, the result of agricultural processes and changes in the wintering grounds, particularly in rice fields, so that more of the snow geese were surviving the winters and they were stronger and healthier and more were returning to the breeding grounds so the population was exploding. So it had to be controlled as a result of that.

Mr. GILCHREST. Dr. Stallman, could you give us your definition of exotic, your definition of invasive, if there is such a thing, and in cases where there is no question that introduced species, exotic species have become invasive and they are having a detrimental impact on the surrounding environment, for example, nutria in the



mid-eastern shore, do you have a recommendation for dealing or managing species that do have a degrading effect?

Dr. STALLMAN. I could attempt to define exotic or non-native but, as I implied before, I think that is a tricky definition to get at. Essentially, you would have come down to some sort of arbitrary designation, was it here pre-European settlement, is there evidence the species was here before any human settlement? You might try to find a definition like that, and I am not sure which definition I personally like.

Invasive, I think that the Humane Society of the United States has no problem defining the word, invasive, as a presumably non-native species that is unquestionably causing damage to native species. The question, as you are getting at, is what do you do if you had such evidence? First, we would argue that in a lot of cases like the mute swan people rush to a management decision before there is evidence. And we understand that people have very strong concern for native ecosystems, we share that concern, and a lot of times that concern overrides what would otherwise be legitimate attempts to get more solid data determining not just are the swans there, not just are they eating what they eat, but is that limiting the growth of what they are eating, is that limiting the growth of crabs or other waterfowl?

If we were convinced that they were having such an impact, then it would depend—as far as what the organizational view is on this, it would depend on the situation. This has always been a tricky subject for us, we would have to take it on a case-by-case basis. If it is a situation where you have a discrete area, an island where there are native species that are found there and nowhere else and you have an opportunity—because it is separated from the mainland, you have an opportunity to eliminate a non-native species that is clearly causing problems, then that may be unavoidable. But if you have a situation—

Mr. GILCHREST. If you find a situation where there is an invasive species that is having a dramatic detrimental effect on the local flora and fauna, how would your organization propose to manage that species or to eliminate that species?

Dr. STALLMAN. Well, we would ask that humaneness of any population control or any population management be considered first and foremost. With the mute swan in particular, there are ways to—if it is deemed necessary, if concern must override the obtaining of more solid data, then there are ways you can do that without necessarily killing adult birds, ways that are considered more acceptable. It is always a question is it really more humane, is it really helping the birds' welfare, but things like the egg addling or egg oiling there is research on other population control methods underway for both Canada geese, for example, and for mute swans and other birds. We would say those avenues should be explored and exhausted first. In other cases, sometimes, like with the Chesapeake Bay, you may have very sensitive areas where it is just not going to work to have mute swans there. You can exclude them with fencing. And I know that there—

Mr. GILCHREST. Is there any way to identify those areas of the Chesapeake Bay where it is not a good idea to have mute swans?

Dr. STALLMAN. I wouldn't be the one to ask. I am not sure how that would be done, but if such areas could be identified and if fencing could be both put up and maintained, I know the maintenance is a problem, it can be expensive, but that would be an additional thing that could be done in addition to the reproductive control that we would find acceptable.

Mr. GILCHREST. Does the Humane Society ever take on that type of project, to look at certain sensitive shallow tidal ponds or tidal basins, certain ecosystems throughout the bay where there is—there has been in the past a thriving tundra swan population that migrates back to Canada and Alaska and then is replaced by a mute swan population where it not only is the habitat taken away from the tundra swans but its effect on the SAVs has a dramatic effect on the spawning area let us say for rock fish where then triggers areas that the osprey or eagles are left with less fish?

Dr. STALLMAN. Well, I think in an area like this where it is not separated from the larger mainland, it is not a discrete area, it would—it might be difficult to exclude birds—I am not sure what size area you are talking about.

Mr. GILCHREST. Well, let us say you take almost any tidal basin or river, whether it is the Nanacote or the Chester or the Sassafra or the Choptank, you will have just, for lack of a better term, these magnificent rivulets. All up and down those tidal basins you have little tidal ponds, you have small little estuaries that go off into a farm or an upland or things like that. And in all of these they are pervasive with a number of species, and this is where a lot of the fish will spawn, this is where SAVs generally are very good because you have very little boat traffic in the shallower areas, but then mute swans comes in and push out other species. I don't think as a layman it would be too difficult as a pilot project to identify certain areas around bay where mute swans would definitively, clearly, have a degradating effect on that ecosystem. And if that was uncovered, would you choose as an organization to go along with the consensus that these areas the mute swans should be managed or egg addling would be appropriate or would you say that is the natural cycle, that is the natural process, another species has moved in and the ecosystem is going to change in that natural order?

Dr. STALLMAN. Well, I think it is difficult, as we have been talking about, to decide what is natural, and it becomes what you want in your ecosystem. What do you value? Do you value a species from a particular time period? Pre-European settlement seems to be usual choice. Whether that is right or not, I don't know. I mean I would question that, but once you have decided on that I guess we would say any management of the population should first and foremost be attempted using reproductive control rather than killing adult animals which is arguably less humane. And if fencing can be used to exclude them from small areas, if that is feasible, if organizations can help get volunteers to help maintain those fences, I think that is an option to consider too.

Mr. GILCHREST. I think you raise an excellent point as to whether or not we are in a position to make decisions about what we want the ecosystem to look like. But it is a question that I think has already been answered, not by any one single person in this

room but by the mere fact that human population now exceeds six billion people. So if we don't manage the landscape, if we don't find a way to use only those resources that we need and not diminish future generations, the resources that they are going to need, then we have to move into the process of understanding how best to manage this ecological system so that it is sustained. And in this small situation with migratory birds, the Migratory Bird Treaty Act, and in much of the conversation today dealing with mute swans, I think it is a very difficult but most important struggle for we, as policymakers, to make a decision, not a definitive decision, not a decision that is going to be around for the next 1,000 years but a decision that can move us to a better understanding of how the process, that ecological system, will work to benefit us and certainly future generations.

So I can appreciate your sensitivities to these difficult issues, and your questions make us a little bit more aware of not only the bigger picture but the respect we need for all life, not to dismiss it categorically, which I don't think any of your other colleagues on the panel have done in relationship to the mute swan issue.

I want to ask you this next question. Your feeling on the management plan for nutria at Blackwater and the surrounding area. Do you have a perspective on that? Have we as legislators done a fairly good job in understanding that nutria is, from our perspective, invasive, it is destroying the habitat down there for a whole range of other species and we have decided to move in and not only reduce the number of nutria but actually if it is possible eliminate that species that was introduced here in the 1950s?

Dr. STALLMAN. Well, it has been a while since I looked into the nutria issue. From what I remember, I did serve on an invasive species—I did go to a workshop and we focused on nutria in the workshop. I think we commented on one environmental assessment by Maryland DNR or some management plan. From what I remember, I believe there was more evidence of damage by the nutria, but that is on the side of science. I mean science doesn't tell us how we should manage wildlife, it only tells us what possible—what might happen if you manage wildlife in this way versus in this way, what will happen to the wildlife population, what will happen to anything that they happen to be damaging, any human interest or ecological interest they might be damaging. Science can tell us that, but we still have to then make a decision, and that is where values come in and ethics come in.

And with the nutria, I would say we certainly would have preferred it if other options had been explored, such as, again, not to keep beating a dead horse, so to speak, but the reproductive control option is something that I know some researchers were interested in exploring. They didn't have funding, and it just never happened, to my knowledge. That definitely would have been something we would have preferred in that case.

Mr. GILCHREST. Well, thank you very much. That was an unfair question because you came here to testify on bird species, not those beautiful little critters called nutria. Does anyone else—would anyone else on the panel, any of the other witnesses, wish to address another issue that we haven't raised, make a comment or another

recommendation? Specifically, what would you like to see as far as the next steps are concerned?

Mr. WINEGRAD. Mr. Chairman, if I—

Mr. GILCHREST. Mr. Winegrad.

Mr. WINEGRAD. —could just quickly, I mean the next step in thinking this through, the Migratory Bird Treaty Act is the main law, more than any other law, including the Endangered Species Act, that has prevented the wholesale slaughter of birds in the United States and in the signatory countries. It was enacted originally the convention with Canada and Great Britain for Canada. It was enacted in 1960 in a convention because of this feather trade and the hunting too, you know, packing them in barrels and shipping birds off. And if it weren't for that act, we would be in deeper trouble in terms of our avian species. So it isn't likely that the American Bird Conservancy request you to amend the Migratory Bird Treaty Act, but looking at all the parameters for the management of non-native, introduced avian species, it is the way we see that the Congress needs to go, and it is the way we see the management to go just to restore to pre-Hill conditions.

But I wanted to point out two things, to emphasize two points, if I may. One is that there was discussion about egg addling on another panel and we haven't commented on that, so if I may, the Act itself, the Migratory Bird Treaty Act, prohibits the take by any means or manner or the pursuit or hunting or take, capture or killing of any migratory bird. Under regulations of the Fish and Wildlife Service that includes not only the killing, wounding, shooting, hunting, capture or collection of any migratory bird but it includes any part, nest or egg thereof. So in order for the Maryland Department of Natural Resources to addle those eggs, if the bird is protected by the Migratory Bird Treaty Act, which the judge ruled it was, they still have to get permits, and to get a permit to take the eggs, just like you need it to do to kill the bird once that judge's opinion was issued, you would still need to do an environmental assessment, or an EIS, that would pass the court's mustard under that decision. The judge said he is giving the temporary restraining order because he believed it would be more injurious to the birds than allowing the department to go forward and pointed out the inadequacies of the EA. And so the reason they have held it up is because the judge's ruling really puts them in limbo in the sense that they would have to go back to ground zero and either do a new EA or do a full-blown EIS, which would probably cost half a million or more and then also would take a couple years. So that is on the egg addling.

Secondarily to that is that egg addling does not and has not and cannot work to reduce or even stabilize mute swan populations. This is large aggressive bird with once it is grown there are very few, if any, predators, and the bird lives 16, 20 years, so it can have many, many, many young. And egg addling that has been tried, and this is documented in the literature, it is in the Mute Swan Task Force, it is in the report that I hope the Committee has of the mute swans and the Chesapeake Bay habitat from the Wild File Trust Symposium, I moderated that June 7, 2001. And in these papers I was struck, as the moderator, they had a gentleman from Rhode Island who is with the Rhode Island Department of

Environmental Management who reported on 22 years of intensive egg addling because of public outrage over killing mute swans there. They were left with egg addling. And it is a small State, as you know, Naragansett Bay. They did intensive aerial surveys, the big white birds. They went in and had an intensive egg addling program, fairly costly for a small State, and the results of that were that the average population growth of the mute swan was reduced in Rhode Island to 5.6 percent a year during these period of these 22 years. And the population increased five-fold, and the management objective was 300 mute swan set in the 1960s. They are now in excess of 1,600, maybe 1,700 birds now. It was slow, the otherwise exponential population growth, but it doesn't ever reduce. You have to go to lethal control.

A second study was done in the Great Lakes by Scott Petri, he was mentioned in earlier testimony, and his study shows that egg addling done at Lake Eerie and Lake Ontario where they have a growing population, they oil and addle the eggs, he published a paper in February 2002 that addling eggs does not work to reduce or stabilize populations, and he found a population growth rate up there that was approaching over 10 percent or more, even with the egg addling program. So it is a feel good solution, it is something that the more moderates on the side of the ones that would sue can agree to, but it will not reduce, it will not stabilize mute swan populations, and it would be quite costly as compared to lethal control.

My final point is that less than a year—

Mr. GILCHREST. So, Mr. Winegrad, you don't count yourself a moderate?

Mr. WINEGRAD. No. I am saying the moderate in the really animal rights group. I consider myself pretty moderate in terms of conservation, conservation meaning it is conserve. And conservative is in the word, "conservation."

Mr. GILCHREST. I was just kind of—

Mr. WINEGRAD. I know.

Mr. GILCHREST. I am considered a radical moderate in Washington.

Mr. WINEGRAD. You know, they say radical times call for radical actions.

Mr. GILCHREST. OK. Very good.

Mr. WINEGRAD. But my final thing is on I don't want this to sound like we are only here to amend the MBTA because of the mute swan, that isn't really the case. There are 85 other species besides mute swans, which with my limited testimony I did submit some of the species names. But one of the ones I wanted to use as an example is an exotic, an invasive, a non-native introduced species is the purple swamphen. And you are going to say what is a purple swamphen, and that was my reaction a while ago up until I heard about these birds, and this species was a newly introduced species, and it was brought into the Miami MetroZoo and it was in an open part of the park on these ponds, and during Hurricane Andrew in August 1992 eight swamphens escaped out into the Florida wilds. This bird has its origin, there are different subspecies that are in the South Pacific, Australia, New Zealand and the Islands, and there are ones that are in Eurasia and Turkey, and they migrate to Africa, but it is not ever been in America. And

it is a very large—if you think of a big—it is in the rail gallulul family. If you think of a very large morehen, you know, purple morehen—

Mr. GILCHREST. So it is now in the wilds in the Everglades?

Mr. WINEGRAD. It is 50 percent bigger than a normal gallulul and it is now around the Everglades and where the Everglades were. When it escaped out there it was in one county. It started breeding up. Birders were flocking to get it on their list. It really shouldn't count because it got out of the zoo. It is now up to about 200 birds. They are breeding, and the bird is known from other parts of the world to be very aggressive. It actually has been seen in people's backyards on a pond, a lake, kicking other birds away from food sources that they put out. The bird also eats grasses and it is going into the Everglades system, in and around the Everglades. It is now in two counties. So if you applied the MBTA Hill decision to this species because rails and gallululs are in a family covered by the conventions, you wouldn't be able to touch this bird. Eventually, this could become another mute swan for Florida and it could expand its range to other States unless something is done immediately to manage it now.

Mr. GILCHREST. Well, we will move forward to take all these things in consideration and try to act in a very judicious manner. And we appreciate all of your testimonies here this morning. Mr. Pardoe, Dr. Stallman, Dr. Sparrowe, and Mr. Winegrad, thank you very much, it has been very helpful. We have no further witnesses, we will be around for a few more minutes for anyone that wants to have a question or a comment. The hearing part of this session is now adjourned.

[Whereupon, at 1:31 p.m., the Subcommittee was adjourned.]

