

H.R. 6311, THE NON- NATIVE WILDLIFE INVASION PREVENTION ACT

LEGISLATIVE HEARING

BEFORE THE
SUBCOMMITTEE ON FISHERIES, WILDLIFE
AND OCEANS

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

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CONTENTS

Hearing held on Thursday, June 26, 2008	Page 1
Statement of Members:	
Bordallo, Hon. Madeleine Z., a Delegate in Congress from Guam	1
Prepared statement of	2
Brown, Hon. Henry E., Jr., a Representative in Congress from the State of South Carolina	2
Statement of Witnesses:	
Cravalho, Domingo, Jr., Inspection and Compliance Section Chief, Plant Quarantine Branch, Hawaii Department of Agriculture	27
Prepared statement of	29
Frazer, Gary, Assistant Director for Fisheries and Habitat Conservation, Fish and Wildlife Service, U.S. Department of the Interior	4
Prepared statement of	6
Gaden, Marc, Ph.D., Legislative Liaison, Great Lakes Fishery Commission	31
Prepared statement of	33
Horne, George, Deputy Executive Director, Operations and Maintenance, South Florida Water Management District	41
Prepared statement of	42
Marano, Nina, D.V.M., M.P.H., Branch Chief, Geographic Medicine and Health Promotion Branch, Division of Global Migration and Quarantine, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services	16
Prepared statement of	17
Meyers, Marshall, Executive Vice President and General Counsel, Pet Industry Joint Advisory Council	47
Prepared statement of	48
Riley, Lawrence M., Wildlife Management Division Coordinator, Arizona Game and Fish Department, on behalf of the Association of Fish and Wildlife Agencies	55
Prepared statement of	56
Williams, Lori C., Executive Director, National Invasive Species Council, U.S. Department of the Interior	11
Prepared statement of	13
Additional materials supplied:	
Hastings, Hon. Alcee L., a Representative in Congress from the State of Florida, Statement submitted for the record	67

H.R. 6311, THE NON-NATIVE WILDLIFE INVASION PREVENTION ACT.

**Thursday, June 26, 2008
U.S. House of Representatives
Subcommittee on Fisheries, Wildlife and Oceans
Committee on Natural Resources
Washington, D.C.**

The Subcommittee met, pursuant to call, at 10:35 a.m. in Room 1334, Longworth House Office Building, Hon. Madeleine Z. Bordallo [Chairwoman of the Subcommittee] presiding.

Present: Representatives Bordallo, Brown, Wittman, and Klein.

STATEMENT OF THE HONORABLE MADELEINE Z. BORDALLO, A DELEGATE IN CONGRESS FROM THE TERRITORY OF GUAM

Ms. BORDALLO. Good morning, everyone. The legislative hearing by the Subcommittee on Fisheries, Wildlife and Oceans will come to order.

The Subcommittee is meeting today to hear testimony on H.R. 6311, the Nonnative Wildlife Invasion Prevention Act. Pursuant to Committee Rule 4[g], the Chairwoman and the Ranking Minority Member will make opening statements.

The Subcommittee on Fisheries, Wildlife and Oceans meets this morning to hear testimony regarding my bill, H.R. 6311, the Non-native Wildlife Invasion Prevention Act. Invasive nonnative species cause harm to the economy. They cause harm to human health and the health of other animal species.

The damages from these species are estimated to be \$123 billion annually. Some of these species are introduced unintentionally, as is the case with Guam's brown tree snake, a significant problem in my territory. However, intentional introduction is one of the primary pathways by which invasive species become established.

Currently, there is no law that requires species to be evaluated for risk before import. The Lacey Act allows species to be placed on an injurious list, which prohibits import, but this can occur only after the species has been initially imported and caused serious and widespread harm to the economy, to the environment, and to human and animal species' health.

On average, however, it takes the Fish and Wildlife Service four years to list a species as injurious. In the meantime, the impacts caused by a particular species are often irreversible, thereby

increasing taxpayers' costs to mitigate what can be irremediable environmental damage.

My bill, H.R. 6311, would require species to be evaluated for these risks before importation. Using this approach, H.R. 6311 proposes a "white list" of species approved for import. Other species would be prohibited until the importer can demonstrate that it will not cause harm.

I am pleased to have three Subcommittee Members—Mr. Kildee, Mr. Abercrombie, and Mr. Kind—as original co-sponsors of this legislation, and I look forward to hearing from our witnesses today about the need for this legislation to prevent the import of invasive, nonnative wildlife species.

[The prepared statement of Ms. Bordallo follows:]

**Statement of The Honorable Madeleine Z. Bordallo, Chairwoman,
Subcommittee on Fisheries, Wildlife and Oceans**

The Subcommittee on Fisheries, Wildlife and Oceans meets this morning to hear testimony regarding my bill, H.R. 6311, the Nonnative Wildlife Invasion Prevention Act.

Invasive, non-native species cause harm to the economy, human health, and the health of other animal species. The damages from these species are estimated to be \$123 billion annually. Some of these species are introduced unintentionally, as is the case with Guam's brown tree snake, a significant problem in my territory. However, intentional introduction is one of the primary pathways by which invasive species become established.

Currently, there is no law that requires species to be evaluated for risk before import. The Lacey Act allows species to be placed on an "injurious list", but this can occur only after they have caused serious and widespread harm to the economy, environment, and to human and animal species' health.

On average, however, it takes the Fish and Wildlife Service four years to list a species as injurious. In the meantime, the impacts caused by a particular species are often irreversible, thereby increasing taxpayers' costs to mitigate what can be irremediable environmental damage.

My bill, H.R. 6311, would require species to be evaluated for these risks before importation. Using this approach, H.R. 6311 proposes a "white list" of species approved for import. This places the burden of proof on the importer to demonstrate that the species will not cause harm to the environment or to society.

I am pleased to have three Subcommittee Members, Mr. Kildee, Mr. Abercrombie, and Mr. Kind, as original co-sponsors of this legislation and I look forward to hearing from our witnesses today about the need for this legislation to prevent the import of invasive, non-native wildlife species.

Ms. BORDALLO. And now, as Chairwoman, I recognize Mr. Brown, the Ranking Republican Member, from South Carolina, for any statement he may have.

**STATEMENT OF THE HONORABLE HENRY E. BROWN, JR., A
REPRESENTATIVE IN CONGRESS FROM THE STATE OF
SOUTH CAROLINA**

Mr. BROWN. Thank you, Madam Chair, and welcome, witnesses. Today, we will hear testimony on the recently introduced bill to address the growing problem of nonnative wildlife species that are being legally and illegally imported to the United States.

According to the Director of the U.S. Fish and Wildlife Service, invasive species are the number one environmental threat to this country. They are permanently changing the landscape of millions of acres, and they are partially responsible for nearly half of all species listed under the Endangered Species Act.

As a nation that loves exotic pets, the United States has become the destination of choice for over 2,000 nonnative species that are sold in the wild animal trade. Of these species, one of the most popular has become the Burmese python, an extraordinary snake that can grow 20 feet long, weigh 150 pounds, and eat a full-grown alligator for lunch. That is a stretch, but that is what I have here.

According to the Fish and Wildlife Service, since 2000, more than one million pythons have been imported into the United States for commercial sale. Nearly half of those imports arrive at the Miami International Airport, and many were listed on the manifests of commercial airlines as snakes on the plane.

Regrettably, owners of these snakes have released their pets when they became too large or too expensive to keep. They are now living comfortably in the Florida Everglades, where they are consuming much of the native wildlife and further impairing at least five endangered species.

In response to this crisis, the State of Florida has petitioned to have the Burmese python listed as injurious under the Lacey Act. This would be a relatively easy decision, as of now, two years later, there has been no listing, and the exploding population of pythons continues to destroy the Everglades, which taxpayers have spent billions to restore.

It is, therefore, understandable that there is a growing frustration with the Lacey Act. Sadly, to become listed as injurious is a long and difficult process. There is no mandated deadline to make a determination and no insurance that species, like the Burmese python, bighead carp, or swamp eel will ever be listed.

I understand the purpose of H.R. 6311 is to prevent the introduction and establishment of nonnative wildlife species into the United States. This is a noble goal, and I look forward to hearing testimony on how this legislation will assist in the ongoing battle against what has been described as the "greatest environmental problem facing this country, unwanted foreign wildlife invaders."

Thank you, Madam Chair. I yield back.

Ms. BORDALLO. I thank the Ranking Member for a very positive statement and invite you to be a co-sponsor of this bill.

Our witnesses on the panel this morning; I welcome all of you. We have Mr. Gary Frazer, Assistant Director for Fisheries and Habitat Conservation at the U.S. Fish and Wildlife Service; we have Ms. Lori Williams, Executive Director of the National Invasive Species Council at the Department of the Interior; and Nina Marano, Chief of the Geographic Medicine and Health Promotion Branch, Division of Global Migration and Quarantine, Centers for Disease Control and Prevention.

I want to thank you and welcome all of you to our hearing this morning. I will note that, for all of the witnesses, that the timing lights on the table will indicate when your time has concluded, and we would appreciate your cooperation in complying with the limits that have been set, as we have many witnesses to hear from today.

So be assured, though, that your full statement will be entered into the official record.

Now, at this time, I would like to invite the first witness, Mr. Frazer, to testify for five minutes.

**STATEMENT OF GARY FRAZER, ASSISTANT DIRECTOR FOR
FISHERIES AND HABITAT CONSERVATION, FISH AND WILD-
LIFE SERVICE, U.S. DEPARTMENT OF THE INTERIOR**

Mr. FRAZER. Chairwoman Bordallo and Members of the Subcommittee, I am Gary Frazer, Assistant Director for Fisheries and Habitat Conservation, at the U.S. Fish and Wildlife Service. I also serve as co-chair of the Aquatic Nuisance Species Task Force.

Thank you for this opportunity to testify on the effects of invasive species and H.R. 6311, the Nonnative Wildlife Invasion Prevention Act, which would establish a framework for assessing the risk of nonnative wildlife species proposed for importation.

The Fish and Wildlife Service greatly appreciates the Subcommittee's leadership and support in the fight against invasive wildlife. Today, my testimony will focus on the threats posed by invasive species and what the Service is doing to address that challenge.

While we acknowledge that there may be benefits to be gained from the approach proposed in H.R. 6311, because the bill was recently introduced, we have not yet had time to fully evaluate its impacts. However, as noted below, the Service recognizes the importance, and supports the general intent, of developing a cost-effective and scientifically credible screening mechanism for non-native invasive species.

There is no question that the introduction and establishment of invasive species has harmed native species and ecosystems. We have only to look at a history of introductions, from the sea lamprey to the zebra mussel to tamarisks, to understand the broad scope of the problem.

The United States continues to see a number of nonnative, potentially invasive, species crossing our borders through various pathways. With the global nature of our economy and transportation systems, we expect this trend to continue.

Invasive species are among the primary factors negatively affecting native fish and wildlife populations in the United States, and, without question, are one of the most significant natural resource management challenges facing the Service.

For example, as you are aware, the brown tree snake is a major threat to the biodiversity of the Pacific region. Since arriving in Guam in the 1940s or 1950s, brown tree snakes have spread across the entire island and have caused, or been a major factor, in the extirpation of most of Guam's native terrestrial vertebrates, including fruit bats, lizards, and nine of the 13 native forest bird species. Brown tree snakes also cause millions of dollars in damage to Guam's infrastructure and economy.

Aquatic invasive species are impacting America's sport and commercial fisheries, as well as their associated local economies. In the Great Lakes region, the sea lamprey has been extremely destructive to economically important sport fish, including lake trout, salmon, rainbow trout, and walleye.

In the West, a nonnative parasite causes whirling disease in wild trout and salmon populations. It is estimated that some streams have lost 90 percent of their trout due to whirling disease.

Zebra and quagga mussels impact both the natural environment and human infrastructure. Both mussel species are easily spread

unintentionally by recreational boaters and annually cause an estimated \$30 million in damage to water-delivery systems in the Great Lakes.

In early 2007, quagga mussels were discovered in Lake Mead National Recreation Area. They have since been found in Arizona, California, and Nevada, including our Willow Beach National Fish Hatchery and all 242 miles of the Colorado River Aqueduct.

Many of the Service's programs support the management and prevention of nonnative species. We work with many partners, including all of those at the witness table today, to address nonnative species issues. My written statement details a number of these efforts, but, in the interest of time, I will highlight just a few.

The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 [NANPCA] established the Service's Aquatic Invasive Species program, as well as the Aquatic Nuisance Species Task Force, which is co-chaired by the Service and NOAA.

Our Aquatic Invasive Species program coordinates prevention, control, and management actions on invasive species that span geography and jurisdictional boundaries. Our program staff work with Service field stations, Federal and state agencies, nongovernmental groups, and private landowners to conduct the surveillance, implement projects, and inform the public about invasive species issues.

The Service's Aquatic Invasive Species program also administers our only regulatory tool regarding invasive species, the Injurious Wildlife provisions of the Lacey Act. The Service's Office of Law Enforcement has wildlife inspectors stationed at 38 staff locations, where they work to detect and deter illegal trade in protected species and prevent the introduction of injurious wildlife.

The Service's fisheries program works with the Great Lakes Fishery Commission to implement the successful Sea Lamprey program on the Great Lakes.

They also work extensively to prevent the introduction and spread of Asian carp into the Great Lakes and other waterways.

Education and outreach efforts are critical elements to the success of invasive species prevention and control. The Service and the Aquatic Nuisance Species Task Force developed the "Stop Aquatic Hitchhikers!" public awareness campaign, which targets aquatic recreational users and promotes voluntary guidelines to ensure that aquatic nuisance species are not unintentionally spread through recreational activities.

The Service primarily focuses on preventing the introduction and spread of invasive species because we have limited tools for long-term management and control of invasive species once they have become established. Preventing new introductions is the primary focus of the Service and is the most effective strategy to protect our nation's wildlife and habitats.

In that regard, Madam Chair, the Service greatly appreciates your interest and that of the Subcommittee in establishing a more effective means to control the introduction of nonnative invasive wildlife into the U.S. The Service recognizes the need for a new approach for managing the risk for importing potentially invasive, nonnative wildlife.

The Service supports the intent of H.R. 6311 to develop a risk-assessment process with scientifically credible procedures that will be transparent and efficient so that wildlife importers can obtain timely decisions and make investment decisions accordingly. The Service does, however, have some concerns with the bill, including its relationship to existing authority and the cost and feasibility of implementation.

We would like to work with the Subcommittee to address these issues.

Thank you, Madam Chair, for the opportunity to testify before the Subcommittee on this issue and for your support in preventing harm to the nation's fish and wildlife resources from invasive species.

[The prepared statement of Mr. Frazer follows:]

Statement of Gary Frazer, Assistant Director for Fisheries and Habitat Conservation, U.S. Fish and Wildlife Service, Department of the Interior

Introduction

Chairwoman Bordallo and Members of the Subcommittee, I am Gary Frazer, Assistant Director for Fisheries and Habitat Conservation of the U.S. Fish and Wildlife Service (Service). I also serve as co-chair of the Aquatic Nuisance Species Task Force (ANS Task Force). Thank you for this opportunity to testify on the effects of invasive species and H.R. 6311, the Nonnative Wildlife Invasion Prevention Act, legislation that would provide for the assessment of the risk of nonnative wildlife species proposed for importation.

The Service appreciates the Subcommittee's leadership and support in the fight against invasive plants and animals. Today, my testimony will focus on the threats posed by invasive species, what the Service is doing to address that challenge. While we acknowledge that there may be benefits to be gained from the approach proposed in H.R. 6311, because the bill was recently introduced we have not yet had time to fully evaluate its impacts, including the cost and feasibility of monitoring the vast volume of international trade, or consult with other affected agencies. However, as noted below, the Service recognizes the importance, and supports the general intent, of developing a cost-effective screening mechanism for nonnative invasive species.

Risks and Threats of Invasive Species

There is no question that the introduction and establishment of invasive species have significantly impacted the health of our native species and ecosystems. We have only to look at a history of introductions, from the sea lamprey to the zebra mussel to tamarisk, to understand the broad scope of the problem. The United States continues to see a number of nonnative, potentially invasive species crossing our borders through various pathways. With the global nature of our economy and transportation systems, we expect this trend to continue. Invasive species are among the primary factors that have led to the decline of native fish and wildlife populations in the United States and, without question, are one of the most significant natural resource management challenges facing the Service.

It is difficult to estimate the full extent of the environmental damage from non-native invasive species. However, we know that over 400 of the 1,352 species that the Service protects under the Endangered Species Act are considered to be at risk primarily due to competition with, or predation by, invasive species.

Invasive species can also change the functions of ecosystems. For example, along the Rio Grande in New Mexico and Texas, salt cedar and giant cane, two invasive plants, are reducing stream flows, increasing water loss through transpiration, and degrading habitat value for native wildlife in this unique riparian ecosystem.

The brown tree snake is a major threat to the biodiversity of the Pacific region. A native of Indonesia, New Guinea, the Solomon Islands, and Australia, the brown tree snake arrived on Guam sometime during the 1940s-1950s as stowaways. The snakes have since spread across the entire island and have caused or been a major factor in the extirpation of most of Guam's native terrestrial vertebrates, including fruit bats, lizards, and nine of thirteen native forest bird species. Insect species that are no longer naturally controlled by native birds and lizards reduce fruit and vegetable production and their uncontrolled numbers require greater reliance on pesticides. Brown tree snakes also cause millions of dollars in damage to Guam's infrastructure and economy by climbing power poles and causing power outages.

The Service is also concerned about the impact of aquatic invasive species to America's sport and commercial fisheries. In the Great Lakes region, the sea lamprey was accidentally introduced in the early 20th century as a result of the construction of shipping canals. This parasitic fish has been extremely destructive to economically important sport fish, including lake trout, salmon, rainbow trout, and walleye. During its life cycle, a single sea lamprey can kill 40 or more pounds of fish, and under certain conditions, only one in seven fish attacked by a sea lamprey will survive. Before sea lampreys invaded the Great Lakes, about 15 million pounds of lake trout were harvested in lakes Huron and Superior annually. However, by the early 1960s, sea lampreys and other factors reduced the catch to 300,000 pounds¹.

Bighead carp, black carp, silver carp, and largescale silver carp, collectively referred to as Asian carps, are nonnative invasive species that pose an additional threat to recreational and commercial fisheries. Bighead, silver and largescale silver carp are planktivores (or plankton eaters) that consume large quantities of food, grow to large size, and compete with native species for food and habitat. Silver carp jump several feet out of the water when boats travel past, and have been known to cause injuries to people and damage equipment as a result of collisions with these extremely large fish. In their native waters, black carp feed on mollusks (snails and mussels) that are similar to those found in many American rivers, especially those in the southeastern United States. Adult black carp have powerful teeth that can crush large mollusks, including those from populations of native species that are declining, threatened, or endangered.

Our nation's trout and salmon fishery, which provides recreation for over 7.8 million Americans annually, is also at risk from a nonnative invasive parasite which causes whirling disease. Brought to the United States from Europe in the 19500's, this microscopic parasite attacks the head and spinal cartilage of the infected fish and causes a disease named for the swimming behavior that results. In the western United States, it is estimated that some streams have lost 90 percent of their trout due to whirling disease. This threat to recreational fishing has significant implications for the economy, as trout fishing is a cornerstone of tourism in many states in the west. For example, trout fishing has been estimated to generate \$222 million annually in recreational expenditures in Montana alone².

Zebra and quagga mussels are invasive mollusks that impact both the natural environment and human infrastructure. The mussels impact native species through competition and biofouling, the undesirable accumulation of microorganisms in very high numbers. The mussels impact civic operations and development by clogging pipes in municipal and industrial raw-water systems and blocking water intakes for hydroelectric development and other industry. Both mussel species are easily spread unintentionally by recreational boaters and annually cause an estimated \$30 million in damage to water delivery systems in the Great Lakes. In early 2007, quagga mussels were discovered in the Lake Mead National Recreation Area. They have since been found in Arizona, California, Nevada, and all 242 miles of the Colorado River Aqueduct. In January 2008, the first populations of zebra mussels were found in the San Justo Reservoir in California and Lake Pueblo in Colorado.

Invasive species are also one of the most significant threats to the National Wildlife Refuge System (NWRS), where they can destroy habitat, displace wildlife, and significantly alter ecosystems on refuges. Presently, about 2.4 million acres of National Wildlife Refuge (Refuge) lands are infested with invasive plants. There are at least 4,471 invasive animal populations recorded on Refuge lands. Although the NWRS is committed to controlling and eradicating these invaders, the Service has only been able to treat an average of 14 percent of the acres infested with invasive plants on an annual basis between Fiscal Years 2004 and 2007.

In Florida, the old world climbing fern, *Lygodium*, represents a greater threat than any other exotic plant to south Florida's natural areas, including the Everglades. If left unmanaged, it is predicted to overtake the five currently most invasive plants (melaleuca, Brazilian pepper, Australian pine, hydrilla, and water hyacinth) in combined coverage in south Florida by 2014. At the Arthur R. Marshall Loxahatchee National Wildlife Refuge, *Lygodium* currently infests over 70 percent of the refuge and occurs in varying densities within all habitat types found on the refuge. Especially vulnerable are tree islands, a unique and extremely rare habitat

¹ http://www.glfc.org/pubs/FACT_3.pdf

Scott, W. B., and E. J. Crossman. 1973. *Freshwater Fishes of Canada*. Fisheries Research Board of Canada, Bulletin 184. Ottawa. 966 pp. as referenced at: <http://nas.er.usgs.gov/queries/FactSheet.asp?speciesID=836>

² http://findarticles.com/p/articles/mi_qa3951/is_200207/ai_n9146540

of the greater Everglades system which provides important refugia for nesting wading birds and terrestrial wildlife.

Meeting the Challenge of Invasive Species

The Service has a broad array of programs that substantially supports the management and prevention of invasive species.

The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (NANPCA), reauthorized by the National Invasive Species Act of 1996, established the Service's Aquatic Invasive Species (AIS) Program as well as the ANS Task Force, an interagency Federal Advisory Committee Act (FACA) group with 10 federal and 12 Ex-officio members, which is co-chaired by the Service and the National Oceanic and Atmospheric Administration (NOAA). The ANS Task Force encourages Federal and State agencies to establish partnerships that will augment work with partners to enhance our collective efforts to address aquatic nuisance species issues. The ANS Task Force relies on the expertise of its six Regional Panels to identify regional ANS priorities; coordinate ANS program activities in each region; make recommendations to the ANS Task Force; and provide advice to public and private interests concerning appropriate methods of ANS prevention and control.

The Service's AIS Program was established to help coordinate prevention, control, and management action on invasive species that span geographic and jurisdictional boundaries. This program supports an AIS Coordinator in each of the Service's eight regions who work closely with Service field stations, state invasive species coordinators, nongovernmental groups, private landowners and many others in their day-to-day activities. This dedicated network also organizes cooperative surveillance efforts with other Federal, State, and local agencies, universities, and public interest groups to track the distribution of aquatic invasive species, and conducts a variety of outreach activities to inform the public about the definition, biology, and impacts of aquatic invasive species and what they can do to help prevent their spread. These Regional Coordinators are in tune with both the national priorities of the ANS Task Force and the various emerging regional priorities. This unique position allows the coordinators to play a critical role in bridging the gap between national and regional aquatic invasive species issues and translating the national priorities of the ANS Task Force into on-the-ground projects.

The Service's AIS program also administers the Service's only regulatory tool regarding invasive species, the injurious wildlife provisions of the Lacey Act. Under Title 18 of the Lacey Act, the Secretary of the Interior is authorized to prohibit the importation and interstate transportation of species designated as injurious. Species listed as injurious may not be imported or transported across State boundaries by any means without a permit issued by the Service. Permits may be granted for zoological, educational, medical, or scientific purposes. Regulation of intrastate transport or possession is the responsibility of each State, except for those species covered under a Service permit issued by our Division of Management Authority.

The Office of Law Enforcement's (OLE) wildlife inspection program forms the nation's frontline defense at ports of entry by interdicting injurious species. Wildlife inspectors are stationed at 38 major U.S. airports, ocean ports, and border crossings, where they monitor imports and exports to ensure compliance with U.S. laws and regulations. Wildlife inspectors focus on detecting and deterring illegal trade in protected species and preventing the introduction of injurious wildlife.

As part of OLE's efforts to prevent such introductions of injurious wildlife, Service special agents investigate illegal interstate commerce of injurious species (including internet sales) and assist State counterparts with the enforcement of both Federal injurious species prohibitions and State laws that ban the introduction, possession, and sale of State-listed injurious wildlife.

The Service is also using partnerships to minimize new introductions and prevent the spread of invasive species. The long-standing partnerships formed under the 100th Meridian Initiative seek to prevent or slow the spread of invasive species transported through recreational vehicles, particularly zebra and quagga mussels. Now that quagga mussels have become established in the lower Colorado River, the need for coordinated prevention efforts is even greater in order to keep these invasive species out of the Rio Grande, Columbia, and other western river systems.

Since 1956, the governments of the United States and Canada, working jointly through the Great Lakes Fishery Commission, have implemented a successful sea lamprey control program on the Great Lakes. The Service's Fisheries Program has two Sea Lamprey Management Offices located in Marquette and Ludington, Michigan. Jointly funded by the Service and the Great Lakes Fishery Commission, these offices employ approximately 110 staff to implement an integrated sea lamprey control program within United States portion of the Great Lakes. Sea lamprey abundance has been reduced by 90 percent as a result of the integrated control program.

Congress appropriates more than \$10.0 million annually through the State Department for sea lamprey management and research.

For the past 10 years, the Service's Fisheries Program has worked extensively to prevent the introduction and spread of Asian carp. We have supported a feasibility study on barrier options to prevent the introduction of these large fish into the Great Lakes; led the Asian Carp Working Group of the ANS Task Force which completed the National Management Plan for Asian carps; assisted in creating a Rapid Response Plan for Asian carp in New York canals; funded research on the use of pheromones as a deterrent to carp spread and research on native fish alternatives to the use of black carp in aquaculture; and conducted monitoring for early detection and rapid response. Black, silver and largescale silver carp were listed as injurious wildlife under the Lacey Act in 2007. Additionally, the evaluative injurious wildlife process for bighead carp is currently underway.

The Service also assists in coordinating prevention and control efforts for brown tree snakes in Guam and Hawaii and contributes to preventing their introduction into the continental United States through the North American Brown Tree Snake Control Team. Actions that are being implemented include: intercept snakes using canine detection; hand capture of snakes; trapping; fumigate cargo containers; use of barriers, including chemical repellents, to exclude snakes from critical areas, reduce movements between habitat patches, and contain snakes if they are introduced to new areas; inhibit reproduction; monitor snake populations and dispersal events to provide guidance to other control efforts; and produce and disseminate public educational materials.

The Service's Partners for Fish and Wildlife Program provides technical and financial assistance to private landowners and Tribes to restore and protect habitat, including invasive species management and the reintroduction of native plants. In 2007, the Partners for Fish and Wildlife Program was a cooperator in 438 habitat improvement projects that involved control of invasive species on approximately 80,000 acres. The Rowe Riverine Restoration Project, located along the central Platte River in Nebraska, is restoring a section of the river that is critical habitat for whooping cranes and one of the few remaining successful piping plover nest locations in the State. The project will enable the removal of invasive phragmites and Russian olive, two invasive plant species, from 26 acres of floodplain habitat; restoring 5,300 linear feet of wetland sloughs and backwaters by removing sediment deposits and invasive aquatic plant species; and re-seeding 80 acres of restored floodplain to a high diversity mixture of over 100 species of native grasses and forbs.

The Service's Coastal Program assists communities in conserving coastal resources and forms partnerships to conduct on-the-ground restoration, including invasive species control activities in coastal areas. In 2007, the Coastal Program cooperated in 78 habitat improvement projects that involved control of invasive species on approximately 12,000 acres of coastal habitat.

The NWRS invasive species program focuses on early detection and rapid response by engaging Friends groups and volunteers in the fight against invasive species. Over a period of three years, 2,750 volunteers contributed more than 49,000 hours to the treatment, inventory, and restoration of over 211,000 acres of refuge land through its invasives and volunteers competitive grants program. Additionally, five Invasive Species Strike Teams are working to control and manage invasive species in key geographic locations, including the Everglades, the Lower Colorado River, the Columbia-Yellowstone-Missouri River basins, North Dakota, and the Hawaiian and Pacific Islands.

The Migratory Bird Program has as its mission the conservation of migratory birds and their habitats. Invasive species adversely affect bird populations directly via competition or predation and indirectly by degrading habitat. Seabirds, typically evolved to nest on isolated islands and headlands, are particularly vulnerable to invasive species. Research has shown that removal of invasive species, particularly exotic predators, can affect an immediate increase in seabird colony productivity. Thus, developing and implementing projects to control or eradicate nonnative species from the fragile island ecosystems used by breeding seabirds is a priority. The Migratory Bird Program also partnered with other organizations to remove depredating nonnative invasive species, such as rats, from seabird nesting islands.

The Service is also utilizing an innovative management tool known as Hazard Analysis and Critical Control Points (HACCP). HACCP is a step-by-step approach used to identify risks and prevent biological contamination or the unintended spread of nonnative species, similar to the way quality control procedures prevent contamination in food production. The Service has been implementing HACCP plans at our National Fish Hatcheries and providing technical assistance to the aquaculture industry and others in the development of HACCP plans.

Education and outreach efforts continue to be critical elements to the success of invasive species prevention and control. The Service and the ANS Task Force have been working for many years on educational outreach programs aimed at preventing additional introductions and controlling the spread of invasive species. The Stop Aquatic Hitchhikers! Public Awareness Campaign targets aquatic recreation users and promotes voluntary guidelines to ensure that aquatic nuisance species are not unintentionally spread through recreational activities. Currently 670 formal campaign partners are promoting the prevention message through Stop Aquatic Hitchhikers!.

To promote prevention of introductions through other high-risk pathways, the Service, the Pet Industry Joint Advisory Council (PIJAC), and NOAA Sea Grant created the Habitattitude™ Initiative. This campaign encourages aquarium hobbyists and water gardeners to be responsible caretakers of their plants and pets as well as to be good environmental stewards. The Service, the pet industry, and other partners are using Habitattitude™ to protect native species and their habitats by ensuring that pets are well cared for or that hobbyists find alternatives to releasing unwanted plants and pets into the environment, thereby preventing the introduction of potentially invasive species. The Service is working with PIJAC to expand the Habitattitude™ Initiative to include reptiles and amphibians.

Need for a New Approach

As the old proverb goes, “an ounce of prevention is worth a pound of cure.” The proverb resonates particularly well when addressing invasive species. Preventing new introductions is the primary focus of the Service and is the most effective strategy to protect our Nation’s wildlife and habitats.

The Service primarily focuses on preventing the introduction or spread of invasive species because we have limited tools for long-term management and control of invasive species, particularly aquatic invasive species, once they become established. Long-term control is costly, and established populations may spread to new areas, thus increasing the costs. Even though there is progress in the development of management and control tools, we need to continue to work with our partners to improve current tools while developing new ones.

Injurious wildlife evaluations under the Lacey Act require a significant amount of time to process. The time period to complete an evaluation depends upon the availability of biological and economic data and the complexity of the analyses required to comply with the Lacey Act as well as analyses that are required under the National Environmental Policy Act, the Small Business Regulatory Enforcement Fairness Act, and other applicable regulatory process requirements. For many of the species evaluations, biological information must be gathered, and often translated into English, before an evaluation can be initiated. The Service continues to utilize the injurious wildlife provisions to prevent the introduction or further spread of species that are harmful to wildlife, wildlife resources, or humans, but it has not proven to be a nimble, timely, and cost-effective tool for addressing importation and transport of potentially invasive species.

The Service recognizes the potential value of a new approach for managing the risk of importing potentially invasive nonnative wildlife. Having the opportunity to evaluate nonnative species that are proposed for importation could be an invaluable tool to ensure that we are more proactive in preventing the introduction of harmful invasive species.

The Service supports the intent of H.R. 6311 to develop a risk assessment process with scientifically credible procedures that will be transparent and efficient so that wildlife importers can obtain timely decisions and make investment decisions accordingly. The Service does, however, have some concerns with the bill, including concerns related to duplication of existing authority, the cost and feasibility of implementation, possible overlap with other agencies, and the implications for international trade. We would like to work with the Subcommittee to address these issues.

Conclusion

To summarize, the Service greatly appreciates the interest of Chairwoman Bordallo, the cosponsors of H.R. 6311, and the Subcommittee in combating invasive species. The Service supports the general intent of H.R. 6311, to develop a scientifically sound and more proactive approach to prevent the continued introduction and establishment of harmful nonnative wildlife species into the United States.

Thank you, Madam Chairwoman, for the opportunity to testify before the Subcommittee on this issue, and for your support in preventing harm to the Nation’s fish and wildlife resources from invasive species. The Service, in cooperation with other Federal, State, Tribal, and local agencies, and other partners, remains com-

mitted to addressing this significant threat to our natural resources, and we look forward to working with you as we continue our efforts in this regard.

Ms. BORDALLO. Thank you very much, Mr. Frazer, for highlighting the Service's support of this legislation.

There are a few people standing in the back, and I always like to invite them to come up to the lower dais here. There are chairs around the table right in front of me, so if you would like to sit to witness this hearing, please do so. It is much more comfortable than standing up. Thank you.

Ms. Williams, it is now a pleasure for me to welcome you before the Subcommittee, and you are now recognized to testify for five minutes. Thank you.

**STATEMENT OF LORI WILLIAMS, EXECUTIVE DIRECTOR,
NATIONAL INVASIVE SPECIES COUNCIL, U.S. DEPARTMENT
OF THE INTERIOR**

Ms. WILLIAMS. Madam Chairwoman and Members of the Subcommittee, thank you for this opportunity to testify on H.R. 6311, the Nonnative Wildlife Invasion Prevention Act, and to address the intentional introduction of nonnative wildlife into the United States.

The National Invasive Species Council, for which I am Executive Director, considers this an important ecological, economic, and health issue and thanks the Subcommittee for its work.

To coin a phrase and introduce our topic today, you could say that there is trouble in paradise. Some of the most beautiful resort communities in our nation have been invaded.

On the resort island of Boca Grande, Florida, the large, spiny tailed iguana lizards munch on ornamental plants, invade attics in homes, and dine on eggs of threatened and endangered turtles. Further south, in the Florida Keys, an all-out effort is underway to eradicate the Gambian pouched rat known to be a vector of the monkeypox virus that infects humans as well as animals.

We will hear later about the Nile monitor lizard, and we have already heard about the Burmese python. I have a good picture to share with you later about a python attempting to eat an alligator.

Closer to home, many know the story of the northern snakehead fish that was eradicated from Crawford Pond in Maryland, only to turn up later in the Potomac. Experts theorize that it was likely someone decided to release the snakehead rather than have it for dinner.

You will hear today that these problems created by invasive nonnative animals are not limited to one, or even several, geographical areas. You will hear stories from the Great Lakes to Hawaii and beyond. Media stories increasingly document the harm caused by what we at NISC like to call "charismatic megafauna." But what is really going on, and what are the sources of these invasions, and how can we stop them, more importantly?

An invasive species, under our executive order, is a species that is both nonnative or alien to the Nation or region and whose introduction causes, or is likely to cause, harm to the economy, environment, and, in some cases, animal, plant, or human health. Invasive species may be plants, animals, insects, or aquatic organisms.

In recognition of the scope and complexity of this problem, Executive Order 13112 was issued establishing the Council to provide coordination, planning, and leadership for Federal invasive species programs.

NISC is co-chaired by the Secretaries of the Interior, Commerce, and Agriculture and includes an additional 10 departments and agencies, including the witnesses at this table.

The order also called for the establishment of the Invasive Species Advisory Committee. This diverse, non-Federal group of experts and stakeholders has provided recommendations to NISC and is an invaluable part of our process.

Invasive species, as you have said, Madam Chairwoman, have been introduced in a variety of ways. Many species are introduced unintentionally, including the infamous brown tree snake. They move as unknown stowaways and hitchhikers when people and their products are transported by air, water, and over land.

The executive order calls for a broad and comprehensive approach to invasive species. No one tool in our toolbox can solve all of these problems. But, first, the order called on NISC to prepare a National Invasive Species Management Plan. The first version of that plan was completed in 2001. Both the order and the plan stress the importance of prevention and early detection and rapid response as the most cost-efficient and effective strategies to deal with invasive species.

As many have said, once an invasive species becomes established and spreads, eradication may be extremely costly and sometimes impossible.

Risk-based screening is one of the most important tools available to curb intentional introductions of invasive species. In this regard, Section 5[b] of the order requires the first management plan to include a science-based process to evaluate risks associated with non-native species introductions.

The 2001 plan called for the development of this risk-based screening process for intentionally introduced species in a series of steps or phases, recognizing the complexity. There has been progress working on invasive species screening processes. Primarily, this is by the USDA Animal Plant Health Inspection Service [APHIS], which has outlined an approach to screen for plants for planting or horticultural plants. APHIS has extensive legal authority, under the Plant Protection Act, which enables this process.

NISC has made less progress in the area of invasive animals and their pathogens. One issue is that agencies lack broad authority over the importation of nonnative species unless, as you heard from Gary, they are specifically listed under the Injurious Wildlife Protection Act.

The chance of preventing establishment of invasive species would be enhanced if nonnative species could be evaluated for invasiveness before they are introduced into the United States. Such a prevention tool would help to close the barn door before the horses are out.

H.R. 6311 is the first bill NISC is aware of that calls for the screening of nonnative wildlife before importation. As Gary said, the bill was very recently introduced, and I cannot take a specific position, but I would like to very briefly outline some of the key

elements that NISC has found a risk-based screening process needs to include and suggest that H.R. 6311 is a good starting point on many of these elements:

[1] One: Defining a clear purpose to prevent the introduction of invasive nonnative wildlife species that clearly targets those that are the most harmful;

[2] that the process is based on scientific findings and risk analysis;

[3] that it is flexible so that the implementing agency can adjust the process to reflect new information and technologies;

[4] that it provides emergency authority to temporarily restrict a species of concern, which H.R. 6311 does, and that it establishes a robust consultation process with stakeholders, as we have found is critical.

Finally, and maybe most challengingly, it provides sufficient support for the design and implementation of a fully functioning screening process. This is something that I think we will need to work on further.

NISC thanks the Subcommittee for its work on this critical issue and stands ready to work with the Subcommittee on this important legislative matter. Thank you.

[The prepared statement of Ms. Williams follows:]

**Statement of Lori C. Williams, Executive Director,
National Invasive Species Council**

Madam Chairwoman and Members of the Subcommittee, thank you for the opportunity to testify on H.R. 6311, the Nonnative Wildlife Invasion Prevention Act, and to address the intentional introduction of nonnative wildlife (both terrestrial and aquatic) into the United States (US). The National Invasive Species Council (NISC) considers this an important ecological, economic, and health issue.

To coin a phrase and introduce our topic today, you could say that “there is trouble in paradise.” Some of the most beautiful resort communities in our nation have been invaded. On the resort island of Boca Grande, Florida, the black spiny-tailed iguanas (weighing up to 10 pounds) munch on ornamental plants, invade attics and homes, and dine on the eggs of threatened and endangered turtles. Further south in the Florida Keys an all-out effort is underway to eradicate the Gambian pouched rat—known to be a vector of the monkeypox virus that infects humans as well as animals. Nile monitor lizards roam the canals of Cape Coral, Florida and the Sanibel Island National Wildlife Refuge. These aggressive, carnivorous lizards can grow to 7 feet long and are known to be wide-ranging. Closer to home many know the story of the Northern snakehead fish that was eradicated from Crawford Pond in Maryland, only to turn up later in the Potomac. Experts believe it was likely that someone decided to release the snakehead rather than have it for dinner.

The problems created by these animals are not limited to one or even several geographical areas. The Nutria—a furry, plant-eating rodent has become established and spread in Louisiana, Maryland, North Carolina and many other states. Hawaii has been invaded by giant African snails which are serious plant pests that can be a vector for human disease. A number of species of introduced fish (including intentionally introduced species) are harming the Great Lakes. Media stories increasingly document the harm caused by what we at NISC call “charismatic nega-fauna”. But, what is really going on and what are the sources of these invasions?

An invasive species is a species that is both non-native (or alien) to a nation or region and whose introduction causes or is likely to cause harm to the economy, the environment or (in some cases) animal, plant or human health. Invasive species may be plants, animals, insects, aquatic organisms, or pathogens. In recognition of the scope and complexity of the problem, Executive Order 13112 (Order) was issued, establishing the National Invasive Species Council (NISC) to provide coordination, planning and leadership for federal invasive species programs. NISC is co-chaired by the Secretaries of the Interior, Commerce and Agriculture and includes an additional 10 departments and agencies. NISC is directed to adopt a comprehensive approach to the invasive species problem and to work with the States and other key stakeholders. The Order also called for the establishment of the Invasive Species

Advisory Committee (ISAC). ISAC is a group of nonfederal experts and stakeholders representing diverse viewpoints and tasked with making recommendations and providing input to NISC on invasive species issues.

Invasive species have been introduced in a variety of ways. Many invasive species are introduced unintentionally—moving as unknown stowaways and “hitchhikers” when people and their products are transported by air, water, or over land. Examples include the imported fire ant, the Asian long-horned beetle, and the infamous brown treesnake that drove most of Guam’s native birds to extinction. Others have intentionally been introduced for beneficial purposes, that later turn out to be harmful, such as the nutria—introduced in the early 20th century for the fur trade.

It is very important to distinguish between nonnative species and invasive species. Invasive species are those non-native species that are, or are likely, to be harmful. Non-native wildlife (including aquatic) is introduced for a variety of purposes including agriculture, aquaculture, the pet trade, live food, display animals, and for sport hunting and fishing. Many non-native species that have been introduced into the U.S. have proven to be beneficial and others cause no known harm. For example, most U.S. food crops and domesticated animals are non-native as are pheasant and brown trout. The vast majority of non-native species do not possess the adaptations to establish and reproduce meaning that only a small percentage of introduced species have proven to be harmful and thus considered invasive.

The Order calls for a broad and comprehensive approach to dealing with invasive species, as no one single approach will solve the problem. As mandated by the Order, NISC completed the first National Invasive Species Management Plan in 2001 (2001 Plan). Both the Order and the Plan stress the importance of prevention and early detection and rapid response as the most cost-efficient and effective strategies to deal with invasive species. Once an invasive species becomes established and spreads, eradication may be very costly and in some cases impossible. Prevention is particularly critical in aquatic ecosystems where eradication and control options are more limited. Early detection and rapid response can be an effective backup where prevention fails. However, it is a relatively new concept in many areas and may not yet be sufficiently robust to stop the spread of newly established species.

Risk-based screening is one of the most important tools available to curb intentional introductions of invasive species. In this regard, Section 5(b) of the Order requires that the first Plan include “...a science-based process to evaluate risks associated with (non-native species) introductions.” The 2001 Plan called for the development of a risk-based screening process for intentionally introduced species in a series of steps or phases, including screening for nonnative land animals and non-native aquatic organisms. It called for separate consideration and evaluation of newly introduced species and those species currently moving in trade in the US.

The NISC Prevention Committee—which is jointly hosted by the Aquatic Invasive Species Task Force (ANSTF)—has made progress regarding the development of a phased screening process. The USDA Animal Plant Health Inspection Service (APHIS) has issued a Notice of Proposed Rulemaking which outlines an approach to screening plants for planting under the authority of the Plant Protection Act, which provides APHIS with extensive legal authority to address invasive plant pests, including to set import regulations that help keep exotic pests and diseases out of the United States. When necessary, APHIS officials can also respond swiftly to detections of invasive plant pests that threaten U.S. agriculture or, in the case of forest pests, the environment.

NISC has made less progress in the area of invasive animals and their pathogens (including aquatic species) that fall outside of the traditional agricultural coverage provided by APHIS/Veterinary Services within USDA. One issue is that agencies lack broad authority over the importation of nonnative species, unless they are specifically listed under the Injurious Wildlife Provisions of the Lacey Act. The Lacey Act (18 U.S.C. 42) is administered by Interior’s U.S. Fish and Wildlife Service and prohibits importation into the United States of certain categories of animal species determined to be “injurious to human beings, to the interests of agriculture, horticulture, forestry, or to wildlife or the wildlife resources of the United States.” The statute does not apply to all animals. Thus far, 17 species and families have been listed under the Lacey Act. Assistant Director Gary Frazer will provide the Subcommittee with more specific information about these issues later in the hearing.

The chances of preventing establishment of invasive species would be enhanced if non-native species could be evaluated for invasiveness before they are introduced in the United States. Such a prevention tool would help to “close the barn door before the horses are out” by requiring that the risk of the species be evaluated for potential invasiveness before importation is allowed. All of this must be done in a timely manner that does not unfairly restrict trade or duplicate roles of other agen-

cies. Such screening systems do exist. For example, the U.S. screens fruits and vegetables prior to importation in order to protect U.S. crops from plant pests.

Currently, there is limited invasive species coverage under international treaties and standards that address trade in nonnative wildlife and their pathogens. Several nations, including Australia and New Zealand, have systems in place for screening nonnative wildlife. Such a screening system must be tailored to a specific nation and its legal system in order to be effective. I note that H.R. 6311 calls for the screening of nonnative wildlife before importation. Since this bill was introduced very recently, I cannot take a position with respect to this legislation nor can I comment on the specific details of the bill on behalf of the 13 NISC members. I would, however, like to offer some of the elements that NISC believes should be included in any risk-based screening process. These elements would include, but not be limited to:

1. Defining a clear purpose to prevent the introduction of invasive nonnative wildlife species that clearly targets harmful non-native species.
2. Establishing a species list in a manner that is cost effective and not overly burdensome.
3. Establishing a process based on scientific findings and risk analysis.
4. Providing flexibility so that the implementing agency can adjust the process to reflect new information and technologies, as appropriate.
5. Establishing a mechanism to adjust or change the status of any listed species declared either invasive or benign, based on new information, but in a manner not overly burdensome to the implementing agency or commerce.
6. Providing emergency authority to temporarily restrict a species of concern while seeking additional supporting data.
7. Establishing a consultation process with stakeholders and an opportunity for stakeholders to submit data to assist the process.
8. Providing sufficient support for the design and implementation of a fully functional screening process.

Obviously, any regulatory authority developed should be consistent with both the statute that it implements as well as the administration's basic regulatory principles.

NISC and ISAC and their members have actively pursued a number of non-regulatory approaches to the prevention of intentional introductions that have the potential to become invasive species. These are also critically important and would complement a national screening process. Both regulatory and non-regulatory approaches may be needed to address the prevention issue. No one approach will be a silver bullet and thus a variety of approaches are needed. For example, Habitattitud™ is a fairly recent, but very successful, effort to educate pet owners not to release their pets into the wild. Later today you will hear from Marshall Meyers of the Pet Industry Joint Advisory Council and a former member of ISAC, who is an expert on this initiative. Efforts to establish best management practices, educate stakeholders and reduce the risk that species will be released into the wild where they might become established are all critical efforts that we can build on to reduce the spread of invasive animals. NISC is also working to develop early detection and rapid response systems that would work with state and local programs to back-up prevention efforts.

NISC thanks the Subcommittee for its work on this critical issue, and stands ready to work with the Subcommittee to explore the potential to add cost-effective tools, including prevention tools, to the tool box to address invasive wildlife species that harm our environment, economy and health.

Ms. BORDALLO. Thank you very much, Ms. Williams.

If the staff would please get the illustrations that she spoke of, we would look at them while we are up here.

Thank you. Thank you very much, Ms. Williams, for your helpful comments, and now I would like to recognize Dr. Marano. I am looking forward to hearing from you, so please begin.

**STATEMENT OF NINA MARANO, D.V.M., M.P.H., BRANCH CHIEF,
GEOGRAPHIC MEDICINE AND HEALTH PROMOTION
BRANCH, DIVISION OF GLOBAL MIGRATION AND QUAR-
ANTINE, CENTERS FOR DISEASE CONTROL AND PREVEN-
TION, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**

Dr. MARANO. Good morning, Chairwoman Bordallo, Ranking Member Brown, and other distinguished Members of the Subcommittee. I am Dr. Nina Marano, Chief of the Geographic Medicine and Health Promotion Branch at the Centers for Disease Control and Prevention.

I am pleased to be here today to discuss CDC's activities and concerns about public health risks associated with the importation and movement of animals.

Why do we have a global trade in animals? Animals are legally imported into the U.S. for multiple reasons. They are used for exhibitions at zoos, for scientific, education, research, and conservation programs, as food and products, and, in the case of companion animals, for tourism and immigration.

Increasingly, however, animals are being imported for a thriving commercial pet trade. In many cases, the animals that are imported and traded are nonnative species and/or animals not traditionally kept as pets. These animals can represent a significant risk to human health.

In 2003, monkeypox was introduced to the U.S. when a shipment of African giant Gambian rats was sold to dealers, one of whom housed the rats with prairie dogs intended for the pet trade in a U.S. distribution facility. The prairie dogs subsequently became ill and transmitted the infection to 50 people, including prairie dog owners and veterinary staff caring for the ill animals.

In the last several years, the U.S. has also experienced outbreaks of West Nile virus, SARs, and highly pathogenic avian influenza, all emerging diseases associated with global movement of animals and vectors.

CDC's agency-wide response to SARS involved 865 staff members working over a period of 133 days, and, for monkeypox, it involved 215 staff members working over a period of 65 days.

CDC responds to these public health threats through surveillance, regulation, science, and education. We currently utilize our regulatory responsibility to control the importation of nonhuman primates [monkeys], dogs and cats, small turtles, African rodents, civets, and birds from certain countries.

Nonhuman primates are imported to the U.S. for vital medical research. It is imperative that these animals be healthy to prevent diseases, such as tuberculosis, Herpes virus, and Ebola virus exposures in people and to ensure that quality of the research.

Our Nonhuman Primate Importer Registration program has successfully prevented outbreaks of infectious diseases in nonhuman primate research colonies, thus greatly reducing the likelihood of human exposures.

The U.S. monkeypox outbreak illustrates the serious public health threat resulting from introduction of nonindigenous pathogens from exotic animals and the risks to public health associated with keeping wild animals as pets.

In response to the monkeypox outbreak, CDC and FDA issued a joint order prohibiting the importation of African rodents and restricting interstate movement of African rodents and prairie dogs, thus preventing further human exposures.

We also partner with industry to educate the public about zoonotic disease risks at the point of purchase in pet stores and CDC's "Healthy Pets, Healthy People" Web site is one of the most popular Web sites for pet lovers, physicians, and veterinarians seeking to counsel their patients and clients.

However, we continue to face many challenges. During the monkeypox outbreak, CDC investigators could not locate many potentially infected animals because no accurate records were available to trace their movement. Many shipments of animals imported for the pet trade also include different species commingled, or kept in close proximity, in confined spaces, conditions ideal for disease transmission.

For most species, there is no screening for the presence of diseases infectious to humans prior to shipment and no holding or testing is required on their entry into the United States. This creates an opportunity for the widespread exposure of humans to pathogens these animals could be carrying.

High mortality rates among some imported animals, such as rodents, are common, and U.S. statutes and regulations do not require importers to determine whether the animal's death is from a pathogen that could adversely affect humans.

In July 2007, CDC published an advance notice of proposed rulemaking to begin the process of revising its animal importation regulations, soliciting public comment and feedback on the issue of animal importation to determine the need for further rulemaking. More than 800 comments to the ANPRM were received, and CDC is currently reviewing these comments to inform new rulemaking.

Thus, CDC welcomes the opportunity to participate in the development of broader prevention strategies, including risk-based, proactive approaches, to prevent the importation of animals and vectors that pose a public health risk.

In conclusion, there are a number of serious, yet preventable, risks to public health, and we look forward to working collaboratively with the U.S. Fish and Wildlife Service and other agencies to explore new strategies for their prevention.

Thank you for the opportunity to testify today, and I am happy to take any questions.

[The prepared statement of Dr. Marano follows:]

Statement of Nina Marano, D.V.M., M.P.H., Branch Chief, Geographic Medicine and Health Promotion Branch, Division of Global Migration and Quarantine, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services

Introduction

Good morning Chairwoman Bordallo, Ranking Member Brown, and other Distinguished Members of the Subcommittee. I am Dr. Nina Marano, Chief of the Geographic Medicine and Health Promotion Branch in the Division of Global Migration and Quarantine at the Centers for Disease Control and Prevention (CDC), Department of Health and Human Services (HHS). I am pleased to be here today to talk to you about HHS/CDC's public health activities related to the importation and movement of animals.

Under Section 361 of the Public Health Service Act (42 U.S.C. 264), HHS/CDC oversees regulations to prevent the introduction, transmission, and spread of communicable diseases from foreign countries into the United States. As part of these responsibilities, HHS/CDC currently regulates the importation of certain animals with known linkages to zoonotic diseases and also regulates the importation of etiologic agents, hosts, and vectors¹ known to cause or contribute to the spread of zoonotic diseases. Zoonotic diseases, or zoonoses, are diseases that are transmissible from animals to people. In addition to well known zoonotic diseases such as rabies, many other known and emerging diseases have been increasingly linked to animal sources.

Today, I would like to 1) describe why HHS/CDC regulates specific animal importation and movement; 2) provide examples of recent zoonotic threats to public health; 3) share HHS/CDC's concerns with potential transmission of disease to humans from other animal species; and 4) describe HHS/CDC's recent regulatory activities in this area. These issues illustrate why CDC welcomes the opportunity to work with other agencies to explore broader prevention strategies to reduce the risk of infectious diseases to humans from animals and vectors.

CDC works closely with other federal partners, including: USDA/APHIS in the intersection of human health, animal health and animal welfare; HHS/FDA in the interstate movement of animal species that represent a risk to public health; and DHS/CBP along with DoI/FWS which serve as the eyes and ears for CDC at U.S. ports of entry in detecting transported animals and animal products that represent a human public health threat.

Why HHS/CDC Regulates Animal Importation and Movement

HHS/CDC currently regulates the importation of nonhuman primates (monkeys), dogs and cats, small turtles, African rodents, civets, and birds from certain countries to prevent the entry of zoonotic diseases into the United States. These animal species have been linked to transmission of certain diseases to humans. Nonhuman primates, particularly those recently captured in the wild, may have infectious agents in their blood or other body tissues that can cause severe or fatal disease in humans. Persons working in temporary and long-term animal holding facilities and individuals involved in transporting animals (e.g., cargo handlers and inspectors) are especially at risk for infection. Examples of these serious pathogens include viruses (e.g., Ebola virus, hepatitis virus, and herpes B virus), tuberculosis, and parasites. Some monkeys imported into the United States have been found to be infected with a virus that is in the same family of viruses that causes Ebola, a hemorrhagic fever. While Herpes B virus naturally infects and causes only mild or no illness in macaque monkeys, the infection is usually fatal in humans. Fatal cases of herpes B virus disease in humans have been caused by animal bites, scratches, or mucous membrane contact with infected materials. Nonhuman primates, especially macaques, are highly susceptible to tuberculosis, and most are imported from areas of the world with a high prevalence of tuberculosis in humans and animals. Nonhuman primates may also be a source of yellow fever virus, which may be transmitted to humans by mosquitoes that have previously fed on an infected nonhuman primate. Transmission of yellow fever to persons working in nonhuman-primate research has also occurred.

Because nonhuman primates imported into the United States from foreign countries often have an uncertain health history and may potentially carry diseases infectious to humans, quarantine requirements were established to reduce this infectious disease risk. Since 1975, CDC, through 42 CFR 71.53, has prohibited the importation of nonhuman primates except for scientific, educational, or exhibition purposes. Under this regulation, importers are required to register with CDC and to renew their registration every 2 years. Imported nonhuman primates are required to be held in quarantine for a minimum of 31 days following U.S. entry. This regulation also requires registered importers to maintain records on imported nonhuman primates and to immediately report illness suspected of being infectious to humans. Imported nonhuman primates and their offspring may not be maintained as pets.

Additional requirements for importers of nonhuman primates were developed and implemented in response to specific public health threats. In January 1990, CDC published interim guidelines for handling nonhuman primates during transit and quarantine in response to identification of Ebola virus (Reston strain) in nonhuman primates imported from the Philippines. In April 1990, confirmation of asymptomatic Ebola virus infection in four caretakers of nonhuman primates along with

¹ Etiologic agents are micro-organisms that cause disease. Hosts are defined as an animal or plant that harbors or nourishes another organism (parasite). A vector is carrier that transfers an infective agent from one host to another.

serologic findings suggested that cynomolgus, African green, and rhesus monkeys posed a risk for human filovirus infection. As a result, CDC placed additional restrictions and permit requirements for importers wishing to import these species.

HHS/CDC restricts the importation of dogs primarily to prevent the entry of rabies. Rabies virus causes fatal disease in humans and animals, especially dogs. In the United States, widespread mandatory vaccination of dogs has eliminated canine strains of rabies, and dramatically reduced the number of human cases in this country. However, canine strains of rabies remain a serious health threat in many other countries, and preventing the entry of infected animals into the United States is an important public health priority. HHS/CDC requires rabies vaccination for dogs entering the United States. Dogs that do not have current vaccination prior to importation must be vaccinated and confined for 30 days to enable the animal's immune system to respond to the vaccine and build protection against the rabies virus.

Under 42 C.F.R. 71.54, HHS/CDC also regulates the importation of etiologic agents, hosts, and vectors to prevent human disease. Under this regulation, a person may not import into the United States, nor distribute after importation, any etiologic agent or any arthropod² or other animal host or vector of human disease, or any exotic living arthropod or other animal capable of being a host or vector of human disease unless accompanied by a CDC-issued permit. As an example, all live bats require an import permit from CDC or the U.S. Department of Interior, Fish and Wildlife Services. Live bats may not be imported as pets because they are known to carry a number of pathogens including rabies that can be transmitted to people. Similarly, any living insect or other arthropod that is known or suspected to contain an etiologic agent (infectious to humans) requires a CDC import permit; snail species capable of transmitting a human pathogen require a permit as well. HHS/CDC also implemented regulations regarding importation of small turtles in 1975 after these animals were found to frequently transmit salmonella to humans, particularly young children.

Recent Zoonotic Threats

Today's highly globalized world has given infectious agents ready access to new populations and areas. Moreover, the increasing overlap between human and animal environments has served to facilitate transmission of zoonotic infections. A notable example is the 2003 outbreak of severe acute respiratory syndrome (SARS), a newly recognized human disease that spread worldwide, causing more than 8,000 cases and 770 deaths. The causative agent, SARS coronavirus, was found in civets, a carnivorous mammal sold for food in marketplaces in China. HHS/CDC issued an order to ban the importation of civets because of concerns that these animals were involved in the transmission of SARS to humans. The emergence of SARS is an example of how a previously unrecognized zoonotic disease can spread rapidly, with devastating consequences. In addition to its tremendous public health impact, the disease had profound economic consequences. Worldwide, the economic impact of SARS was estimated at \$30-\$50 billion.

Another recent zoonotic threat is highly pathogenic avian influenza (HPAI) H5N1. Since 2003, HPAI H5N1 has become established as a threat to both human and animal health throughout the world. Although bird populations in several countries have been affected, cases among humans have been less frequent, with no evidence of sustained human-to-human transmission. Live birds used for consumption, live birds used as pets, and bird products (including eggs) imported into the United States from countries with HPAI H5N1 could pose a risk for human or avian infection. In 2004, HHS/CDC issued orders to ban the importation of birds and bird products from specific countries with HPAI H5N1; these orders mirror similar regulatory actions taken by USDA/APHIS to prevent the importation of birds with avian influenza H5N1.

I would like to describe in more detail an outbreak of human monkeypox that occurred in the United States in May and June of 2003. These cases represented the first outbreak of monkeypox in North America and clearly show why HHS/CDC continues to be concerned about the importation of wild animals into the United States.

Monkeypox is a sporadic, zoonotic, viral disease that occurs primarily in the rain forest countries in central and western Africa. The illness was first noted in a monkey in 1958, but serologic evidence of monkeypox infection has been found in other animals in Africa, including some species of primates and rodents. African rodents are considered to be the most likely natural host of the monkeypox virus. In humans, monkeypox is marked by skin rashes that are similar to those seen in smallpox; other signs and symptoms include fever, chills and/or sweats, headache, backache, swelling of the lymph nodes, sore throat, cough, and shortness of breath. A

² Arthropods are a group of animals that includes insects, spiders, and crustaceans.

person develops signs and symptoms of the illness about 12 days after becoming infected. In Africa, the death rate from monkeypox for humans ranges from 1%-10%, although higher mortality rates have been seen.

In 2003, an outbreak of monkeypox in Midwestern United States caused nearly 50 probable or confirmed cases of the disease. Public health investigations revealed that the patients had become infected primarily as a result of contact with pet prairie dogs that had contracted monkeypox from imported diseased African rodents. These rodents had been included in a shipment of more than 800 small mammals, including rodents, imported from Ghana by a Texas animal distributor in April 2003. Laboratory testing confirmed the presence of monkeypox virus in six rodent species³ from the shipment. Rodents from the original shipment were traced to animal distributors in six states, including one distributor in Illinois who also sold prairie dogs. In early May 2003, this Illinois distributor sold some prairie dogs and one rodent from the Ghana shipment to another animal distributor in Wisconsin. It was at this time that several of the prairie dogs appeared to be ill, and several of the animals died. By late May, the first human cases were reported in Wisconsin (including the Wisconsin animal distributor). Other human cases were later reported in Kansas, Missouri, Illinois, Indiana, and Ohio.

Most patients in the outbreak had direct or close contact with prairie dogs. For example, 28 children at an Indiana day care center were exposed to two prairie dogs that later became ill and died. Twelve of these exposed children reported handling or petting the prairie dogs, and seven of these children later became ill with symptoms that were consistent with monkeypox infection. In Wisconsin, more than half of the human monkeypox cases occurred through occupational exposure to infected prairie dogs, with veterinary staff being at greater risk of acquiring monkeypox than pet store employees. The human cases in the United States included children as young as 3 years old. Nineteen people were hospitalized, although some were hospitalized primarily for isolation purposes. The initial signs or symptoms seen in some patients included skin lesions or fever with drenching sweats and severe chills. Two children suffered serious clinical illnesses. One child had severe encephalitis that improved during a 14-day hospital stay. Another child had pox lesions on many parts of her body, including lesions inside her mouth and throat which created difficulty in breathing and swallowing. At least five patients (three adults and two children) developed fevers and severe rashes, and one adult patient had symptoms for about five months.

In June 2003, HHS/CDC and HHS/FDA issued a joint order⁴ prohibiting, until further notice, the transportation or offering for transportation in interstate commerce, or the sale, offering for sale, or offering for any other type of commercial or public distribution, including release into the environment of prairie dogs and six implicated species of African rodents. In addition, HHS/CDC implemented an immediate embargo on the importation of all rodents from Africa. These emergency orders were superseded in November 2003 when the two agencies issued an interim final rule creating two complementary regulations restricting the domestic trade of prairie dogs and the six implicated rodent species and importation of all rodents of African origin. This rule was intended to prevent the further introduction, establishment, and spread of the monkeypox virus in the United States.

The U.S. monkeypox outbreak illustrates the serious public health threat resulting from introduction of non-indigenous pathogens from exotic species of animals and the risks associated with the exotic species interacting with U.S. animals, including pets, keeping wild animals as pets. During the monkeypox outbreak, HHS/CDC investigators could not locate many potentially infected animals because no accurate records were available to trace their movements. The importation of these types of animals poses a health risk because most shipments involve a high volume of animals, most of which are wild. Many shipments also include different species co-mingled or kept in close proximity in confined spaces, conditions ideal for disease transmission. For most species, there is no screening for the presence of diseases infectious to humans prior to shipment, with no holding or testing required upon their entry into the United States. This creates an opportunity for the widespread exposure of humans to the pathogens that these animals could be carrying. High mortality rates among some imported animals, such as rodents, are common. Imported animals shipped over long distances in uncontrolled environments are more likely to suffer ill affects. In addition, current U.S. statutes and regulations do not

³The six rodent species are: Tree Squirrels, Rope Squirrels, Dormice, Gambian Giant Pouched Rats, Brush-tail Porcupine, and Striped Mice.

⁴HHS/CDC has regulatory responsibility for the importation of these animals to the U.S. HHS/FDA has regulatory responsibility over the interstate transportation of these animals within the U.S.

require importers to determine whether the animal's death is from a pathogen that could adversely affect humans.

HHS/CDC Concerns about Disease Transmission from Other Animal Species

Although HHS/CDC already regulates importation of some animal species, numerous other species present concerns. HHS/CDC recently analyzed data from the U.S. Fish and Wildlife's Law Enforcement Management Information System (LEMIS) to assess the impact of the African rodent ban on the importation of rodents to the United States. The LEMIS database records the entry of wildlife species to the United States. HHS/CDC analysis showed that, since 2003, the ban has effectively limited legal importation of African rodents. The illegal trade of such rodents and other prohibited animals is difficult to quantify and difficult to prevent. CDC partners with industry to educate the public about zoonotic disease risks at the point of purchase in pet stores, and CDC's "Healthy Pets Healthy People" website is one of the most popular websites for pet lovers, physicians and veterinarians seeking to counsel their clients. CDC also participates with USDA and FWS to enhance surveillance of animal contraband imported from known high-risk origins.

However, the commercial pet market has found a new niche in rodents from other parts of the world, as the number of rodents from Asia, Europe, and South America has increased by 223%. Rodents harbor Hantaviruses, which have caused more than 100,000 hospitalized cases of hemorrhagic fevers in Europe and Asia. Rodents are also associated with rickettsial diseases such as Scrub typhus and murine typhus, which cause hundreds of thousands of cases annually. Rodents have several traits that make them good hosts for zoonotic diseases. They reproduce rapidly and, unlike other species of wild mammals, can be found in our gardens, storage buildings and our homes.

HHS/CDC is also concerned about other animals, such as shrews. There is some new evidence that Hantaviruses are associated with shrews, although it is not clear whether these shrew-associated hantaviruses are human pathogens. While humans rarely have contact with shrews, this could change if shrews begin to be imported as pets.

In May 2006, HHS/CDC hosted a public meeting on the subject of infectious disease threats associated with the growing importation and trade of exotic animals. Stakeholders, including the National Association of State Public Health Veterinarians, the Wildlife Conservation Society, and the American Veterinary Medical Association, submitted a variety of positions and views for the public meeting. Of the 22 statements received, 7 indicated a measure of support for increased restrictions on the importation and sale of exotic species, while 15 expressed support for alternatives to regulatory or legal restrictions, or opposition to possible restrictions.

Animal Importation: Current Activities and Future Challenges

HHS/CDC's current approach to controlling zoonotic disease threats has involved issuing emergency orders or rules prohibiting importation of implicated animals. These actions are usually taken after an outbreak occurs, rather than proactively preventing outbreaks from animals well documented in the literature to harbor pathogens that can directly or indirectly effect humans, regardless of geography. This approach cannot fully prevent the introduction of zoonotic diseases, and HHS/CDC would welcome the opportunity to participate in the development of broader prevention strategies—in concert with other federal agencies—including risk-based, proactive approaches to preventing the importation of animals and vectors that pose a public health risk.

In July 2007, HHS/CDC published an Advance Notice of Proposed Rulemaking (ANPRM) to begin the process of revising our animal importation regulation, soliciting public comment and feedback on the issue of animal importation to determine the need for further rulemaking. More than 800 comments to the ANPRM were received, and HHS/CDC is currently reviewing these comments to assist in new rulemaking.

In conclusion, there are a number of serious yet preventable risks to public health, and we welcome the opportunity to work collaboratively to explore new strategies for their prevention.

Thank you for the opportunity to testify today. I am happy to take any questions you may have.

Ms. BORDALLO. Thank you very much, Dr. Marano, for your testimony and thoughtful statement, and, at this time, I would like to

welcome another of my colleagues, from the State of Virginia, Mr. Wittman, who has joined us.

We are now going to recognize Members for any questions that they may have, and I will begin with myself. I have a couple of questions for Mr. Frazer.

Would a risk-assessment process similar to the one in this bill be more effective and efficient, and what are the key factors in making the system work efficiently?

Mr. FRAZER. We have not thoroughly analyzed the bill, but, on our initial reading, it appears to provide us the latitude to construct a risk-assessment process that could be more timely, more nimble, and provide us the opportunity to address the need for evaluating the potential risks of species, more so than we have under the current injurious wildlife listing process under the Lacey Act.

So we see this as providing the basic framework for us to develop a process that is, in fact, more responsive and for us to be able to handle the volume of work in a more nimble fashion.

Ms. BORDALLO. Would it be better to structure H.R. 6311 to replace the existing injurious wildlife provisions of the Lacey Act?

Mr. FRAZER. We would like to work with the Subcommittee on that. It does not seem to us to be a wise path, to keep both authorities in place, that this would, in fact, serve the function of evaluating and preventing the introduction of injurious wildlife, and that, if we could build a structure here, we would want to have that replaced, the existing injurious wildlife provisions so we did not have that standing and would still have to carry out those responsibilities.

We would have to have a transition process, obviously, so we did not have any gap in authority, and controls over introductions, but that would be something we would like to work with you on.

Ms. BORDALLO. Mr. Frazer, is three years a reasonable amount of time to develop an initial approved list and regulations for a risk-assessment process?

Mr. FRAZER. It is clearly going to be a rigorous schedule. We would have to have additional staff and resources to be able to manage that. It would have to be through a rulemaking process, a lot of public participation and involvement with stakeholders, and such, but, on initial read, it is something that would be doable if we had the resources to do so. It would be an aggressive schedule, certainly.

Ms. BORDALLO. Good. Ms. Williams, when can NISC tell us their position on the bill?

Ms. WILLIAMS. The bill has just been introduced, and the National Invasive Species Council will work with all of our agencies. It is 13 departments and agencies. So we will be looking at this bill, working with Gary and all of the agencies, and get you a position as quickly as possible.

Ms. BORDALLO. As quickly as possible, good. As you mentioned, the 2001 National Invasive Species Management Plan emphasizes not only prevention but establishment of a risk-based screening process. Would H.R. 6311 give the needed statutory authority to implement this process?

Ms. WILLIAMS. I believe so.

Ms. BORDALLO. And then I have one question here for Dr. Marano. Does the CDC have the authority to regulate species of wildlife that are likely, but not demonstrated, vectors for zoonotic diseases?

Dr. MARANO. We have the authority, under the CDC Director, to be able to prevent the introduction of a person, thing, animal, or vector that represents a proximate threat to human health. In the past, we have done this in responsive mode when it became apparent that rodents were a vector for monkeypox. We have to look forward to looking at other species, perhaps of rodents, that also represent threats that are coming from other parts of the world than Africa. So my answer would be yes.

Ms. BORDALLO. All right. One final question I have for you. When the CDC issued its final monkeypox regulation to the Federal Register in 2003, it stated: "We, the CDC, believe that the introduction of monkeypox into the United States shows that we need to develop measures to prevent or minimize the likelihood of other zoonotic disease introductions or outbreaks."

Would, then, H.R. 6311 help achieve this by including consideration of human and animal health in its risk-screening process?

Dr. MARANO. I believe that it would, and I think my concluding statement, my last paragraph, tried to emphasize that this is a very important opportunity for us to be at the table with Fish and Wildlife, to be the human health consultant, the human health partner. Many of the invasive species activities do focus on harmful environmental species. So I think this is a remarkable opportunity for CDC to be a full member at the table to help give human health input to the decisions.

Ms. BORDALLO. Thank you. Thank you very much.

Now, I would like to recognize the Ranking Member of the Subcommittee, Mr. Brown from South Carolina, for any questions that he may have.

Mr. BROWN. Thank you, Madam Chair.

Mr. FRAZER, I guess my first question would be to you, and, of course, I would encourage other members of the panel to join in if they have some input.

How many species are currently listed on the Fish and Wildlife Service's injurious species list under the Lacey Act of 1981?

Mr. FRAZER. We have 19 entities that are listed under injurious wildlife. Some of the entities comprise many different species. We list a whole family or its listed genus, so I cannot give you a specific number of species, but 18 separate entities are listed.

An example of what I am talking about: fruit bats. We have 60 different species listed within a particular genus of fruit bat that are on that injurious wildlife list.

Mr. BROWN. Do we have any capture method for eradicating the species once they are identified as injurious?

Mr. FRAZER. Once an injurious species is established in the wild, control is difficult, more difficult for aquatic species than terrestrial ones. The ability to control species depends upon the individual characteristics of the ecosystem.

For instance, there are some effective control techniques that have been developed for brown tree snakes, but the challenges of having 100-percent eradication are very great when we are dealing

with dense vegetation and tree-dwelling species. So the effectiveness is a function of the ecology of any individual species and where they live.

Mr. BROWN. I am sorry. Go ahead.

Ms. WILLIAMS. I just had one more point on that. One of the things, as a backup to prevention, that the council has been very interested in working with other agencies on is early detection and rapid response.

If you can find these species early enough, or recognize that they are a problem early enough, eradication is often possible through a variety of methods. But once, as Gary has said, they have spread, it becomes very costly, at a minimum, if not impossible. But early detection and rapid response is an important technique, if prevention has failed, but you have the information.

Mr. BROWN. Once we identified them as injurious, I guess, do we restrict, then, the import of those species into the United States?

Mr. FRAZER. Importation into the U.S., as well as transport across state lines, is then prohibited, and that would be one aspect, Chairman Bordallo. If there were to be revisions to 6311 to have it replace the Lacey Act injurious wildlife provisions, one of the aspects that we would want to have replaced is also to expand the reach, then, to control the transport across state lines because that is an important element of containment of an invasive species that may be in the U.S. already, but we are wanting to contain within the area where it is as opposed to spreading elsewhere.

Mr. BROWN. I am not sure where the brown snake came from, but did it have a natural predator before it got to Guam?

Mr. FRAZER. It was native to Australia, the southeast specific, and I do not know whether it had predators, but when it got to Guam, it found a very suitable place to live and thrive and an environment in which there is a great variety of prey species upon which it could readily grow and feed.

Mr. BROWN. How about the Burmese python? Wherever it is coming from, does it have a natural predator there that could kind of control the population? How does that work?

Mr. FRAZER. I do not know whether they have any predators that control there the spread. I would be happy to get back with you on that.

Mr. BROWN. Apparently, they are thriving pretty well down in Florida.

Mr. FRAZER. They seem to be finding it a suitable habitat, yes.

Mr. BROWN. And to qualify that statement, I do not think it was a full-grown alligator because I think that the writer did not understand that those alligators can grow to 12 to 14 feet long. There are some smaller, but I think you said, Ms. Williams, you have a copy of a picture.

Ms. WILLIAMS. I will be e-mailing you a picture, but you probably are very familiar with alligators.

Mr. BROWN. I am very familiar with alligators.

Ms. WILLIAMS. OK.

Mr. BROWN. Thank you, Madam Chair.

Ms. BORDALLO. I thank the Ranking Member.

I just wanted to make a few comments on the brown tree snakes for our audience out there. They are nocturnal, and, to my knowl-

edge, they are not a poisonous snake. I know that Mr. Frazer must have the population on hand, but rather than speak about how many we have, because that may ruin our tourism, we will just keep that between us, and I want to thank Mr. Brown for his questions about the brown tree snake.

I would like now to recognize my colleague from Virginia, Mr. Wittman, for any questions he may have.

Mr. WITTMAN. Thank you, Madam Chairman.

Mr. Frazer, I want to try to parse out, in my mind, how the injurious definition may be implemented under this act. You know, now, in the Chesapeake Bay, we have a number of nonnative introductions, not purposeful, obviously, things like the zebra mussel, the rapa whelk, the Chinese mitten crab, the snakehead fish.

There has also been an effort to look at nonnative species to replenish our decimated oysters in the bay. As we all know, *Crassostrea ariakensis* is one of the oysters under consideration—it has undergone a tremendous amount of study—in looking at recovering the oyster populations there.

Can you tell us how this act would affect a situation where we are looking at the introduction of a nonnative species, such as *ariakensis*, through study versus those nonintended introductions? Can you tell me how this act would distinguish between those and, especially, how “injurious” would be defined?

Mr. FRAZER. The fundamental issue, I think, that you are raising is the distinction between a nonnative species and an injurious nonnative species. There are many nonnative species that are in the U.S. that are used in agriculture, sport fisheries, or other reasons that do not rise to the level of being injurious or that do not have the potential to be invasive. They are able to be managed.

As we read the bill, again, the focus of this framework that it would establish would be on the potential for harm to the environment, the economy, or health. So that injurious nature, as well as being a nonnative, would be the primary factor for determining whether this would be something that would be prohibited or restricted in trade.

Mr. WITTMAN. Would you anticipate that this act would, in any way, prevent the introduction of *Crassostrea ariakensis* into the Chesapeake Bay?

Mr. FRAZER. That would be premature. I do not know the nature of that particular species. It would be a function of what its risk to the overall ecosystem might be. Clearly, there are benefits of having oysters in the Chesapeake Bay. I do not know how that particular species would be considered in that context. I have not heard of it referred to in the context of an injurious species.

Mr. WITTMAN. OK. I know there has been a lot of study, and I do know that this act does allow for folks to petition that that species be considered injurious. I just wanted to understand what level the evaluation would have to rise to because I know there has been an awful a lot of work put into *ariakensis* in the bay and an awful lot of consideration about that particular introduction and especially how it may affect the return of the oyster portion of our seafood industry.

So I want to be clear that there would be nothing in here that, obviously, if the science steers us in that direction for the introduc-

tion of that nonnative species, that there would be nothing here that would prevent that. I think that is important for our Chesapeake Bay in a variety of different ways, both economically, environmentally, again, with the science bearing it out, making sure that it does not have, obviously, as you said, under the current definition of "injurious," negative impacts on the bay. So I just wanted to make sure that that was clear.

I know a lot of people in Virginia are looking at that as a way to reestablish that resource there, and I wanted to make sure that this did not do anything to impede that.

Can you tell me, has U.S. Fish and Wildlife Service implemented any of the Aquatic Nuisance Species Task Force recommendations, things like the Federal permit system for first-time imports and expediting the Lacey Act processes?

Mr. FRAZER. We certainly are active in implementing a number of the management plans and priorities of the Aquatic Nuisance Species Task Force. I am not familiar with the two specific issues that you raised, and I would be happy to respond to you in writing about those.

Mr. WITTMAN. That would be great, if you could do that.

Ms. Williams, could you maybe comment on that?

Ms. WILLIAMS. You might be referring to the 1994 ANSTF report that looked at intentional introductions and made a series of recommendations, and those are similar to what we see in the management plan. I think they were fairly general in nature and looked at expediting the Lacey Act and coming up with a screening process that was phased in step by step, and that is very similar to what was in the 2001 management plan, if I am understanding correctly.

Mr. WITTMAN. That is what I am referring to. Have all of those been implemented, or are they in the process of being implemented? Can you tell us, timeframe-wise, where they are?

Ms. WILLIAMS. I think it would be good to get back to the record on that, but, as I said in my testimony, given the resources that have been put into the program and some of the complications and the lack of legal authority, it has been more difficult to make progress on providing for setting up a screening process because the way we have interpreted it, the authority is really not there under the current law.

Mr. WITTMAN. Can you give us an idea? You say that there is some lack of resources there. Can you give us an idea about what the magnitude of that lack of resources might be, Mr. Frazer?

Mr. FRAZER. We clearly have the potential for evaluating a large number of potentially injurious species under the current Lacey Act authority. Right now, we have six groups that are basically in our queue for evaluating. It could be more.

So we have not ever attempted to define the universe and compare our existing resources to the need, nor have we been able, with the limited amount of time we have had thus far, been able to actually cost out what would be needed to effectively staff and manage the risk-assessment process envisioned under 6311.

Mr. WITTMAN. Thank you. Just to put into context those questions, and the reason I asked them, is I am concerned about the level of effort. We see, just in the Chesapeake Bay, the frightening

increase in the number of nonnative species that are coming into the bay, and certainly there has been a lot of discussion about what we can do, whether it is ballast water, those sorts of things.

If we are really going to get our arms around this today, in this world economy with all kinds of potential for these nonnative introductions, we really want to understand the resources that it will take for us to, at least, either slow down or, hopefully, stop those right now.

I think we all watch our water bodies, and as we have those non-native introductions, they have the capacity to overwhelm the existing ecosystem, and I think we are all concerned about that when we are fighting right now to try to get the existing ecosystems to proliferate.

So that is just the basis behind my questions, and if you all could get that information to me, I would be very interested in it.

Ms. BORDALLO. I would like to thank the gentleman from Virginia, Mr. Wittman, and to also thank the panelists for being with us this morning, and, at this time, I would like to recognize the second panel of witnesses. I would also like to ask those standing in the back to please come forward and take the seats in the lower dais here.

[Pause.]

Ms. BORDALLO. The Chair would like to announce that there will be three votes, starting between eleven-thirty and eleven-forty-five, so if we stay within the five-minute limit, I think we can hear all of our panelists present their testimony.

I would like to recognize those on the second panel. Domingo Cravalho, Jr., the Inspection and Compliance Section Chief, Plant Quarantine Branch, Hawaii Department of Agriculture, aloha—

Mr. CRAVALHO. Aloha.

Ms. BORDALLO.—Marc Gaden, Legislative Liaison, Great Lakes Fishery Commission; Mr. George Horne, Deputy Executive Director, Operations and Maintenance Resources, South Florida Water Management District; Marshall Meyers, Executive Vice President and General Counsel, Pet Industry Joint Advisory Council; and Mr. Lawrence M. Riley, Division Coordinator, Wildlife Management Division, Arizona Game and Fish Department.

Again, I would just remind you about the five-minute time schedule that we have here, and your full testimony will be entered into the official record.

I now recognize Mr. Cravalho to testify for five minutes. I thank you for traveling all the way from the State of Hawaii. Please begin.

STATEMENT OF DOMINGO CRAVALHO, JR., INSPECTION AND COMPLIANCE SECTION CHIEF, PLANT QUARANTINE BRANCH, HAWAII DEPARTMENT OF AGRICULTURE

Mr. CRAVALHO. Aloha kako, Chairperson Bordallo, Members of the Committee. My name is Domingo Cravalho, and I represent the Hawaii Department of Agriculture today. Thank you for the opportunity to provide testimony on H.R. 6311, the Nonnative Wildlife Invasion Prevention Act.

The Hawaii Department of Agriculture strongly supports this bill. The impact of the high rate of nonnative introductions has al-

ready been felt in the State of Hawaii. Of all of the birds and plants known to have gone extinct in the United States, over 72 percent are from Hawaii, yet there is much more to be lost. The native plants and animals of Hawaii are among the most endangered in the world.

Stopping the influx of new, detrimental, nonnative species and containing their spread is essential to Hawaii's, and the nation's, future well-being. The present problem is severe, and the future is uncertain. Only legislation such as this measure will begin to address the continued loss of our nation's natural resources.

Hawaii state laws and regulations governing the entry of plant and animal species are intended to protect our agriculture, our environment, including native biota, and public health. As the "first line of defense," approximately five to six million dollars in state money is spent on prevention efforts in Hawaii. For over 50 years, our department has had in place a risk-based system, such as the one envisioned in this bill, to allow safe introductions to continue and to prevent detrimental introductions from entering the state.

As authorized by Hawaii Revised Statutes, Chapter 150A, the Board of Agriculture maintains the following three lists of animals.

First, there is a list of conditionally approved animals that require a permit for import into the state, and these species are normally used for resale efforts for the pet trade, for seafood for consumption, and for animals that can be used for propagation.

The second list is a list of restricted animals that require a permit for both import into the state and possession. The restricted list is further divided into a restricted list, Part A, which allows for research by universities and government agencies, for exhibition in municipal zoos and government-affiliated aquariums, as well as for medical and scientific research, as determined by the Board. Part B of the restricted list is allowed for commercial and private use, including research, zoological parks, and aquaculture production.

The last list is a list of prohibited animals that are prohibited entry into the state.

As you and I well know, these three lists would not be able to contain every list of animals currently in the world. As such, anything that is not on any of these lists are concerned prohibited until such time as it is reviewed and considered for future placement on one of these lists.

Throughout the listing process that we currently employ, it is an open and transparent listing process. There is established an Advisory Committee on Plants and Animals that is comprised of representatives from the following: the Department of Agriculture, the Department of Land and Natural Resources, members from the Department of Health, and Office of Environmental Control, as well as five other members with expertise in plants, animals, or microorganisms who are versed with modern ecological principles and the protection of natural resources.

The State of Hawaii's importation process provides a manageable, risk-based system for the import of nondomestic animals into the state. It is science based, with the various advisory committees' review and recommendations to the Board of Agriculture, as well as the public hearing process that informs the general public of the import process that protects Hawaii from invasive species.

Much has been written about the tragic loss of Hawaiian biota, which is unequaled in any other region of the United States. While nothing can be done about the 70 percent of endemic species that have already gone extinct, measures such as H.R. 6311 can bolster hope that we can protect those remaining.

As such, prevention of new, nonnative wildlife introductions and management of existing invasions require immediate attention. The establishment of a manageable, risk-based system and the establishment of allowable and prohibited lists of animals and for the import of nonnative wildlife and improved integration of Federal and state policies and programs would provide long-term protection of our natural resources that would benefit both the Nation and our individual states.

Thank you for the opportunity to testify on this important measure.

[The prepared statement of Mr. Cravalho follows:]

**Statement of Domingo Cravalho, Jr., Inspection and Compliance
Section Chief, Hawaii Department of Agriculture**

Chairperson Bordallo and Members of the Subcommittee:

Thank you for the opportunity to provide testimony on H.R. 6311.

The purpose of this bill is to prevent the introduction and establishment of non-native wildlife species that negatively impact the economy, environment, or human or animal species' health. The Hawaii Department of Agriculture strongly supports this bill.

The impact of the high rate of non-native introductions has already been felt in the State of Hawaii. Of all the birds and plants known to have gone extinct in the United States, over 72% are from Hawaii. Yet, there is much more to be lost. The native plants and animals of Hawaii are among the most endangered in the world. Hawaii has 282 listed threatened and endangered species including 150 species with fewer than 50 living. And of these, 11 species have fewer than 5 left on earth.

Stopping the influx of new detrimental non-native species and containing their spread is essential to Hawaii's and the Nation's future well-being. The present problem is severe and the future is uncertain. Only legislation, such as this measure, will begin to address the continued loss of our Nation's natural resources.

State laws and regulations governing the entry of new plant and animal species are intended to protect agriculture, environment, including native biota, and public health. As the "first line of defense," approximately \$5-6 million in state money is spent on prevention efforts. For over fifty years, our Department has had in place a risk-based system, such as the one envisioned in this bill, to allow safe introductions to continue and to prevent detrimental introductions from entering the State.

Chapter 150A, Hawaii Revised Statutes (HRS), short titled as the "Hawaii Plant Quarantine Law" provides the authorities for the Hawaii Department of Agriculture to regulate the importation of plants, non-domestic animals and microorganisms that are allowed entry into the State of Hawaii. For the purposes of the Non-Native Wildlife Invasion Prevention Act (H.R. 6311), this discussion will cover only the authorities that govern non-domestic animals. The term, "animal" as used under section 150A-2, HRS, is defined as follows:

"Animal" means any invertebrate and vertebrate species of the animal kingdom including but not limited to mammal, bird, fish, reptile, mollusk, crustacean, insect, mite, and nematode, other than common domestic animal such as dog and cat.

As provided for under section 150A-6.2, HRS, the Board of Agriculture (Board) pursuant to rules maintains one of the following three lists of animals:

- A list of conditionally approved animals that require a permit for import into the State;
- A list of restricted animals that require a permit for both import into the State and possession; and
- A list of prohibited animals that are prohibited entry into the State.

Any animal that is not on any of these lists is considered prohibited until the Board reviews and determines the future placement of the unlisted animal on any of these lists maintained by the Board. However, there are provisions that allow the importation and possession of unlisted species for the following:

- A special permit on a case-by-case basis for unlisted animals may be allowed for importation and possession for the purposes of remediating medical emergencies or agricultural or ecological disasters, or conducting medical or scientific research in a manner that the animal will not be detrimental to agriculture, the environment, or humans; and
- A short-term special permit on a case-by-case basis not to exceed 90 days may be allowed for the importation and possession of an unlisted animal for the purpose of filming, performance, or exhibition.

The above-mentioned special permits are contingent upon the importer being able to meet certain permit and/or bonding requirements as determined by the Board.

Section 150A-6.5, HRS, provides for exceptions in regards to prohibited animals in that no person shall possess, propagate, sell, transfer, or harbor any animal included on the list of prohibited animals that is maintained by the Board, except for as follows:

- The animal was initially permitted entry and later prohibited entry into the State; or
- The animal was continually prohibited but unlawfully introduced and is currently established in the State; and
- The animal is not significantly harmful to agriculture, horticulture, or animal or public health, and the environment.

However, the Board may permit possession of an individual animal under the circumstances described with the registration of the animal with the department while still prohibiting the species from importation, propagation, transfer, and sale.

Section 150A-10, HRS, provides for the establishment of an advisory committee on plants and animals that is comprised of representatives from the following:

- Department of Agriculture
- Department of Land and Natural Resources
- Office of Environmental Control
- Department of Health
- Five other members with expertise in plants, animals or microorganisms who are versed with modern ecological principles and the protection of natural resources

The committee's purpose is to assist and advise the Board in developing or revising laws and regulations to carry out the purposes of this chapter and to advise in problems relating to the introduction, confinement, or release of animals. In addition, this particular section authorizes the Chairperson of the Board to create ad hoc or permanent advisory subcommittees, as needed.

Pursuant to the rulemaking requirements under State law, Chapter 4-71, Hawaii Administrative Rules (HAR) aptly named "Non-Domestic Animals Import Rules", provides for implementing the requirements of Chapter 150A, HRS, by restricting or prohibiting the import of certain non-domestic animals that are detrimental to the agricultural, horticultural, and aquacultural industries, natural resources and environment of the State of Hawaii. Animal species that are found on the List of Prohibited Animals under section 4-71-6, HAR, are not permitted entry into the State. As such, no person shall introduce into Hawaii any animal from the prohibited animal list.

As provided for under section 4-71-6.5, HAR, the importation into Hawaii of allowable species shall be by permit for those animals that are found on the List of Conditionally Approved Animals or the List of Restricted Animals. Animals found on the conditionally approved list are allowed for individual possession, businesses, or institutions, and may be re-sold, propagated, or transported in the State; however, liberation is strictly prohibited.

Animals on the restricted lists are further divided into a Part A and Part B section. The List of Restricted Animals (Part A) are for species that are allowed for both import into the State and possession for research by universities or government agencies, exhibition in municipal zoos or government-affiliated aquariums, for other institutions for medical or scientific purposes as determined by the Board. Animals on the List of Restricted Animals (Part B) are for species that are allowed for both import into the State and possession for private and commercial use, including research, zoological parks, or aquaculture production. There are also added provisions that animals in the order Primates shall not be allowed for import or possession for private or commercial use other than for purposes described in Part A or for primate sanctuaries, as determined by the Board.

Since the various lists found under chapter 4-71, HAR, do not include all species that are known to exist, unlisted species are considered prohibited until the Board's review and future placement on one of the allowable lists. To list an animal, a permit application must be submitted to the Board and must include the following:

- Name and address of shipper and importer

- Approximate number and kind (common and scientific name) of animal
- Purpose or object of importation
- Safeguard facilities location and description
- Method of disposition
- Abstract of the animal, including biology and ecology requirements

The application will go through a three-tiered review process. An advisory subcommittee of technical consultants will review the information that is provided by the applicant and provide a recommendation and comments on the request. The information will be compiled by the department and then reviewed by the Advisory Committee on Plants and Animals, who will meet at a noticed public meeting where public comment and testimony are welcomed. The Advisory Committee will then make a recommendation for approval or disapproval on the request and the matter would be forwarded to the Board for review and determination. The Board's action to preliminarily review the species for future placement on a list has no legal effect and this procedure is solely for administrative ease in preparation for amendments to the various lists. At some future date, the proposed amendments will be brought to the Board for preliminary approval to go to public hearings. A species is listed in the rules only after following chapter 91, HRS, rulemaking procedures, which entail the public hearing process, board adoption, and governor's approval. Once a species is listed, the Board will then establish conditions for entry into the State upon application for an import permit.

The State of Hawaii's importation process provides a manageable risk-based system for the import of non-domestic animals into the State, which is science-based with the various advisory committees' review and recommendations to the Board as well as the public hearing process that informs the general public of the import process that protects Hawaii from invasive species.

Much has been written about the tragic loss of Hawaiian biota, which is unequaled in any other region of the United States. While nothing can be done about the 70% of the endemic land birds and land snail species that have already gone extinct, measures such as H.R. 6311 can bolster hope that we can protect those remaining. Hawaii is home to one-third of the Nation's federally listed endangered species. As such, prevention of new non-native wildlife introductions and management of existing invasions require immediate attention.

The establishment of a manageable risk-based system for the import of non-native wildlife and improved integration of Federal and State policies and programs would provide long-term protection of our natural resources that would benefit both the Nation and the States.

Thank you for the opportunity to testify on this important measure.

Ms. BORDALLO. Mahalo, Mr. Cravalho, for your insights on this legislation from your Hawaii perspective.

Now, I would like to recognize Dr. Gaden. Welcome, and you may proceed with your statement.

**STATEMENT OF MARC GADEN, Ph.D., LEGISLATIVE LIAISON,
GREAT LAKES FISHERY COMMISSION**

Mr. GADEN. Thank you very much, Madam Chair, and I appreciate the opportunity to testify before this Subcommittee. I am Marc Gaden. I am the legislative liaison for the Great Lakes Fishery Commission, and I am also an adjunct assistant professor at Michigan State University.

The Great Lakes Fishery Commission is an organization set up by treaty between the United States and Canada. We have the responsibility to take measures to improve and perpetuate the Great Lakes fishery resources.

The fishery commission also knows quite well the havoc invasive species wreak on ecosystems. The fishery commission is responsible for controlling the noxious sea lamprey, which laid waste to the fishery after it invaded the Upper Great Lakes in the 1920s.

The Great Lakes are tremendously valuable and worth protecting. Annually, the fishery alone is worth more than \$7 billion

and has enormous cultural value to the diverse peoples who live and fish in the region.

Invasive species are one of the biggest threats to the Great Lakes as more than 180 nonnative species are present. Many are destructive, costing the region billions of dollars, and, with globalization and vibrant trade, more species have more opportunities than ever to invade the waters of the United States.

For example, the U.S. Fish and Wildlife Service reports that an average of more than 200 million fish and tens of millions of reptiles, amphibians, birds, and mammals are imported into the U.S. annually.

Unfortunately, we have not learned the lessons that experience has taught. Ninety years after the sea lamprey invasion, more than \$300 million have been spent to control this one species. Canals, many unused and useless, continue to be pathways for invaders. Ship ballasts, which brought the notorious zebra mussel 25 years ago and brought many other invaders, remains the primary invasive species vector, yet ballast legislation has been pending for years.

Despite high-profile invaders, like snakeheads, the Asian swamp eel, Asian carp, which entered through the live trade, a meaningful process still does not exist to assess the risks of organisms prior to importation.

These problems illustrate a lack of a comprehensive policy to deal with invasive species. Your bill, H.R. 6311, by addressing the live trade, fills a major gap in that policy void.

The Great Lakes Fishery Commission supports your legislation.

Species and trade need to be valued because we have no evaluation process in place now, so, without review, we are just taking chances. Also, it is appropriate to be circumspect about handling live species because species have a history of escaping and invading, and it is always a good idea to be deliberate in our actions.

Moreover, it is appropriate to be cautious because species often surprise us. They take hold in places where we sometimes do not expect, and they cause unexpected damage.

Finally, if we do not take the time to evaluate importations, we are putting our native species, species which millions of people rely on for income, food, recreation, and a healthy environment, at risk, flippantly and permanently.

This legislation has many strong points, which are outlined in my written statement. Let me touch upon four.

First, the bill calls upon the Secretary of Interior to establish a process to evaluate all nonnative wildlife proposed for importation into the U.S. before the organisms are imported. This keeps out the harmful invaders before they spread, at which point it is often too late to do anything about the problem.

Second, the bill establishes solid criteria for the secretary to consider in evaluating the organisms, including demonstrating that the organism not be harmful. The factors for consideration, as presented in Section 3-B, are the factors that should be considered, as they relate to scientific realities. It is, indeed, correct to evaluate whether the species is likely to cause harm, whether it is well-suited to ecosystems in the United States, whether it is likely to

spread, and whether pathogens are likely to accompany the importation.

This is an appropriate list of factors and, when applied, should be protective.

Third, the bill establishes approved and unapproved lists for species and says that only organisms on the approved list can be imported. This is a much better approach than the current system, which essentially says a species is OK unless it is on the unapproved list.

Currently, the problem is, not every species is assessed, and the process to list a species as injurious, which is through the Lacey Act, is reactive and cumbersome.

Fourth, the bill establishes a Federal risk-assessment process to evaluate importations, yet still acknowledges the major role states can, and should, play in protecting the waters of the United States.

This bill is solid and addresses the problem appropriately. That said, the fishery commission has a few issues with the bill, as written. Those issues are outlined in detail in my written statement, and I ask the Subcommittee to consider them.

Let me conclude with a word about Canada, as meaningful invasive species action must occur in both countries. Like the current situation in the United States, Canada does not assess the risk of all importations. However, legislation is pending before the House of Commons that would grant such authority to the Federal government. The pending legislation in Canada, thus, is in the same spirit as your bill, and it is the commission's expectation that the legislation in both countries will inspire a coordinated approach. We also hope there will be coordination with Mexico.

Madam Chair, thank you again for inviting me to testify before this Subcommittee, and I wish you success in getting this legislation passed. Thank you.

[The prepared statement of Mr. Gaden follows:]

**Statement of Dr. Marc Gaden, Legislative Liaison,
Great Lakes Fishery Commission**

INTRODUCTION: THE INVASIVE SPECIES THREAT

Madam Chair, thank you for inviting me to appear before this subcommittee to discuss H.R. 6311, the Non-Native Wildlife Invasion Prevention Act. With the introduction of the Non-native Wildlife Invasion Prevention Act, we have a real opportunity to take a major step toward preventing the introduction and spread of harmful organisms.

My name is Marc Gaden. I am the Legislative Liaison for the Great Lakes Fishery Commission. I am also an Adjunct Assistant Professor at Michigan State University, Department of Fisheries and Wildlife.

The Great Lakes are an extremely valuable and unique resource for both the United States and Canada. The Great Lakes' commercial, sport, and tribal fisheries alone are valued at more than \$7 billion annually. The lakes provide drinking water for millions of people and are a rich tourist draw. A healthy, vibrant Great Lakes ecosystem is immeasurable in economic terms alone.

Despite the importance of the Great Lakes to the region, the lakes face tremendous threats ranging from pollution to habitat destruction to loss of species diversity. One particularly troubling problem is the influx of invasive species. The Great Lakes are constantly bombarded by new species from all over the world. Ballast water is a major vector and is the subject of legislation (the Coast Guard Reauthorization Act) recently passed by the House. Canals and waterways are another vector and much attention has been given in recent years to the construction of an electrical dispersal barrier on the Chicago Sanitary and Ship Canal, an artificial connection between the Great Lakes and the Mississippi River system. Recreational activi-

ties, aquaculture, and the trade of live organisms (for the live seafood industry, pet trade, ornamental gardens, food, etc.) are other vectors.

Today, the lakes harbor more than 185 non-native species (Lodge 2007; Mills et al. 1993; Ricciardi 2001; Sturtevant et al. 2008), many of which entered the lakes accidentally. The rate of introduction into the Great Lakes has not slowed in recent years, even with the welcomed institution of some invasive species control measures (e.g., ballast water exchange requirements starting as early as 1989); some estimate that a new invader enters the system every 9-12 months. Many in the scientific community also believe that the Great Lakes contain many more invasive species than have been discovered, as a coordinated, basinwide program to monitor new nonindigenous species does not exist (IAGLR 2008; Sturtevant et al. 2008). While much of the focus has been on large or prominent organisms, microorganisms and pathogens are also an increasing concern (particularly with the emergence of the VHS virus). The Great Lakes, essentially, are a welcoming, open door for invaders.

According to the International Association for Great Lakes Research, fortunately, only a small portion of the exotic species that enter the lakes become established, and only a small portion of those (up to 15%) prove to be invasive and harmful (IAGLR 2008). However, lest one find those odds reassuring, the small percentage that is harmful has cost the region dearly. Damage is difficult to quantify, but sources put the cumulative economic costs since 1900 in the hundreds of billions of dollars. The ecological costs, of course, are immeasurable. According to the Great Lakes Commission, just six of the 70 known harmful invasive species have caused more than \$1.6 billion in damages (Glassner-Shwayder 2007).

With globalization, more species have more opportunities than ever to invade the United States and the Great Lakes. Worldwide, shipping is vibrant and trade across continents is growing. The Saint Lawrence Seaway, for instance, is a direct pathway for foreign ships into the U.S. heartland. Those ships have been responsible for more than 1/3 of the Great Lakes invaders (Mills et al. 1993; Sturtevant et al. 2008). Also, the U.S. Fish and Wildlife Service reports that an average of more than 200 million fish, and tens of millions of reptiles and amphibians, birds, and mammals are imported into the United States annually. Fish for the pet trade are often collected in exotic locations throughout the world or reared in aquaculture facilities (Livengood and Chapman 2007), facilities which are prone to flooding, enabling escapement.

Invasive species are not a local or even a regional problem—they are a national and a global problem. Invasive species have a tendency to spread from region to region, so species introduced in one part of the country have enormous potential to move to other parts of the country. Eurasian Dreissenid mussels, for instance, entered the Great Lakes through ballast water from oceanic ships in the 1980s and have now spread throughout much of the United States. Asian carp, which are discussed below, escaped from aquaculture in the Deep South and are threatening the Great Lakes. Snakeheads were imported for the aquarium trade and for food fish and are now present in the northeast, the east, and the Mississippi River system. Specimens have also been found in Alabama, California, Florida, Kentucky, Texas, Washington, and Lake Michigan. Finally, it is estimated that more than 150 invaders nationwide are attributed to the aquarium trade (Padilla and Williams 2004) and their introduction into United States' waters anywhere raises the possibility of spread to other ecosystems. Solutions must be large in scope and based on the assumption that invaders do what they do best: invade.

LESSONS FROM THE SEA LAMPREY

The Great Lakes Fishery Commission, the organization for which I work, was established in 1955 by the Canadian and U.S. Convention on Great Lakes Fisheries, partially as a response to one of the most noxious invaders to enter the Great Lakes system: the sea lamprey. Sea lampreys are primitive fishes resembling large snakes and are native to the Atlantic Ocean. They invaded the Great Lakes through shipping canals in the early 1900s. Sea lampreys are fish parasites and not having predators in the Great Lakes, were able to wreak unimaginable damage on the ecosystem and cause significant economic harm to the fishers of the region. The commission's control program has been successful, reducing sea lamprey populations by 90% in most areas of the Great Lakes. Nevertheless, eradication is impossible.

The sea lamprey has taught resource managers some tough lessons:

- A single species can cause significant, permanent damage to the economic and ecological health of a region. Sea lampreys changed a way of life in the Great Lakes and even with effective control, they remain a permanent, destructive element of the Great Lakes fishery. Most—if not all—management decisions made by federal, state, tribal, and provincial agencies must take sea lampreys into account.

- Control, if it is even possible, is expensive and ongoing. The commission has spent more than \$300 million since 1956 controlling sea lampreys. This amount, while large, does not take into account the billions of dollars of revenue lost to commercial, tribal, and recreational fishers of the Great Lakes basin, nor does it take into account the billions of dollars spent by the state and federal governments over several decades to rehabilitate and propagate the fishery after the sea lamprey invasion. Moreover, this figure does not include the immeasurable damage to the ecology of the Great Lakes basin.
 - Prevention is key; eradication is not possible. The Great Lakes fishery will forever contend with sea lampreys and fishery officials at the federal, state, tribal, and provincial levels will always have to factor sea lampreys into their decisions.
 - Invasive species management programs are costly and borne by the taxpayers.
- If sea lampreys have taught us anything it is that prevention of new invaders is absolutely critical. Once a species enters an ecosystem and becomes established, few tools, if any, exist to manage invasive species let alone eradicate them. In fact, sea lampreys are the only aquatic invasive species in the Great Lakes that can be controlled, though control is ongoing and expensive.

It is not clear whether the lessons of the sea lamprey truly have been absorbed. Even with all we know about the damage of invasive species, and even though the pathways are generally known, precious little has been done to prevent new introductions. Ballast legislation has been pending for nearly a decade; the construction of the electrical barrier on the Chicago Sanitary and Ship Canal, while progressing, has been slow and is still not fully completed after years of wrangling; myriad canals and artificial connections exist between naturally distinct watersheds, leaving the Great Lakes region vulnerable to invasions from other parts of the United States and, in turn, being a source of invaders; the sea lamprey control budget is constantly under assault; and a meaningful process does not exist to assess the risk of proposed importations of live organisms or to manage the harmful species that have become established.

It is the last vector—the importation of live organisms—that is the subject of this testimony. The Non-native Wildlife Invasion Prevention Act presents us with a rare opportunity to take a major step toward prevention.

THE FAILURE OF THE CURRENT REGIME

Overall, the regime governing the trade of live organisms falls far short of what is necessary to protect the United States and the Great Lakes from invasive species. A meaningful process does not exist in the United States to assess the risk of organisms for injuriousness prior to importation, to inspect importations, and to properly enforce the law. This lack of a regime has left the United States and the Great Lakes region extremely vulnerable to biological invasions.

Importation, interstate commerce, and trade are among the most dangerous pathways for introduction of invasive species into the United States and the Great Lakes region. The transportation and sale of live organisms poses considerable risk to the biological integrity of the ecosystems they enter.

Unfortunately, the trade of live organisms poses a significant and increasing risk. While a large number of organisms are imported, serious problems and many loopholes in the trade regime exist. Programs for assessing the risk of importing live organisms are inconsistent throughout the United States, to the extent they even exist at all. Indeed, while states have considerable discretion in regulating live aquatic species, neither an overarching strategy nor a consistent, robust policy exist. Most states, in fact, have lists of fish species that are prohibited or regulated, but those lists tend to be short (Alexander 2004) and not usually based on a rigorous review of potential injuriousness. Importers are generally free to bring in live organisms so long as the organisms are not listed by the U.S. Fish and Wildlife Service as “injurious,” are not endangered, do not harm human health or livestock, or are not governed by other federal agencies or laws (Alexander 2004). Also, while some organisms are prohibited because they pose a human health risk, carry disease, or harm agriculture and forests, live organisms generally are not screened for potential injuriousness to the economy or to ecosystems. Instead, the number of prohibited species is quite small, giving importers nearly free-reign to import a large number of species.

Overall,

- existing federal, state, and local programs that address the trade of live organisms have evolved without coordination and are often reactionary;
- currently, the U.S. Fish and Wildlife Service charges only one person with the task of evaluating potentially injurious wildlife species (implementing the Lacey Act) while hundreds of species await review;

- federal and state law enforcement officers are stretched thin, making it virtually impossible for proactive enforcement to occur;
- in 2002, only 97 inspectors at the 32 United States ports designated for fish and wildlife importations were available to inspect the 223 million live fish that were imported;
- in the United States, when a shipment of live species arrives, complete inspection is nearly impossible due to the need for expediency; and
- most state requirements for licenses to sell live fish lack substance; typically, the payment of a fee and a documentation of sales are all that are required.

The story of three species of Asian carp—the silver, bighead, and black carp—present a clear example of how the trade of species can seriously threaten the ecosystem and why a risk assessment process for importation of species is needed. Asian carp were imported into the southern United States to keep aquaculture facilities clean and to serve the food fish industry. Grass carp were imported into the United States in 1962 from Taiwan and Malaysia. Black carp, native to China, contaminated these shipments and were later intentionally introduced in the 1980s. Bighead carp were imported from China in 1972. A year later, in 1973, silver carp were brought into the United States from China and eastern Siberia. These non-native fish escaped from aquaculture facilities during flooding events throughout the late 1980s and early 1990s. The floods provided extensive spawning and rearing habitat which facilitated high survival rates for offspring. In the early 1990s, the presence of these fish in the Arkansas River was reported.

Since their escape over a decade ago, bighead and silver carp have besieged the Mississippi River basin and Illinois River system. Between 1991 and 1993, the Upper Mississippi River Long Term Resource Monitoring Program documented a 100-fold increase in Asian carp numbers in an area known as Pool 26, which is on the Illinois River upstream of St. Louis. Commercial harvest of bighead carp in the Mississippi River Basin increased from 5.5 tons to 55 tons between 1994 and 1997. In the fall of 1999, an investigation of a fish kill in the off-channel waters of a National Wildlife Refuge near St. Louis documented that Asian carp made up 97% of the biomass. During this time period, commercial fisherman began reporting that they were abandoning their traditional fishing sites because they were unable to lift nets that were “loaded” with Asian carp. Between 1999 and 2000, the Upper Mississippi River Long Term Resource Monitoring Problem documented a 600-fold increase in Asian carp numbers in the LaGrange Pool, which is downstream of Peoria, IL. Sampling during the summer of 2000 in the off-channel areas and backwaters of the Mississippi River downstream from St. Louis documented the presence of bighead carp at a ratio of 5:1 to native paddlefish. They continue to migrate northward at a steady pace.

Asian carp are particularly troubling in that they grow to very large sizes by eating vast quantities of food. An Asian carp is capable of eating 40% of its body weight each day. Bighead and silver carp voraciously consume plankton, stripping the food web of the key source of food for small and big fish. Black carp are especially worrisome because they have the potential to wipe out native mussel populations in a relatively short period of time. According to the U.S. Geological Survey, a four-year-old black carp consumes an average of 3-4 pounds of mussels per day; older, larger black carp likely consume more mussels. At this rate of consumption, a single black carp could eat more than 10 tons of native mollusks during its life. To make matters worse, portions of the Great Lakes are perfectly suited for Asian carp, and biologists are very concerned that if Asian carp find their way into the Great Lakes, they will make the lakes home, spread, and deprive our most prized species of food. Observing the path of destruction on areas carp have already invaded, biologists are very worried indeed. Clearly, these fish have the ability to establish rapidly, reproduce in large numbers, and become the dominant species in an ecosystem. Once established, there is little chance fishery managers will be able to control Asian carp. Like the sea lamprey, they could well become a permanent element of the Great Lakes if they enter the system.

Existing federal law is inadequate to address the increasing threat posed by injurious species. The primary problem with the United States’ federal program is that the Lacey Act—the primary tool the U.S. Fish and Wildlife Service has to regulate harmful organisms—is not focused specifically toward proactively assessing the risk of importations before they occur. Implementation of the act has not been as aggressive as is needed, such that only a small number of species are listed as injurious under the Lacey Act. In fact, despite the proliferation of injurious species, only three families of fishes, one species of crustacean, one species of mollusk, and one reptile species are listed under the act. Hundreds await review and the list does not include many species that have been banned by state governments. Furthermore, the process for adding to the list is cumbersome. Although the Fish and Wildlife Service has

the authority to issue emergency regulations, it has generally operated through a standard notice and comment process. The average time it takes for the service to list a species (from the time it is first proposed) is nearly five years (Fowler et al. 2007). Species continue to spread and cause harm during that lengthy review process, perhaps making the final listing less meaningful. To make matters worse, the Lacey Act creates an almost impossible situation. To be listed under the act, a species must be proven to be injurious. To merit listing, a species must be shown to cause significant economic and environmental harm. The problem is, to prove such harm, the species must be causing damage. By the time such a determination is made, the species has likely spread to a point where management would be unfruitful. On the other hand, research has shown that of the species that were not in the country prior to a Lacey Act listing, none subsequently became established (Fowler et al. 2007). Clearly, proactive prevention, not an ex post facto review, is critical.

As the implementation of the Lacey Act and the lack of an effective risk assessment process demonstrate, most approaches to reducing and eliminating the release of aquatic invasive species from pathways involving trade and commerce are reactive rather than preventative. The existing trade regime has left the waters of the United States extremely vulnerable. Overall, a lack of sufficient resources to complete the cumbersome process to list species as injurious, and the lack of an effective risk assessment process to evaluate proposed importations, promote this vulnerability.

The current catastrophic floods in the Midwest offer another stark reminder of how exposed the United States remains to escapement. In addition to the human misery and enormous economic damage that are the result of these floods, the environmental harm is staggering and includes the spread of non-native species when aquaculture facilities are inundated. No fewer than 19 fish species are raised in aquaculture facilities in the State of Iowa alone, many in facilities near the Mississippi River flood plain. Some of the species raised (e.g., tilapia, grass carp, hybrid striped bass, blue and flathead catfish) are not present in the Great Lakes; some are not even indigenous to North America.

THE GREAT LAKES REGIONAL COLLABORATION

Addressing the invasive species threat is a top priority for the Great Lakes region, Congress, and the administration. In May, 2004, President Bush called for the development of a comprehensive Great Lakes restoration plan and identified invasive species as one of eight focal points. The “Great Lakes Regional Collaboration”—comprising representatives of government agencies at all levels, industry, the public, and non-government organizations—was formed to develop the restoration plan, which was submitted to government in December, 2005. Implementing the provisions contained in the restoration plan has been a challenge, with few major recommendations fulfilled. The Non-native Wildlife Prevention Act, if enacted, would address several key recommendations.

The Great Lakes Fishery Commission actively participated in this large endeavor by co-chairing the Aquatic Invasive Species (AIS) Strategy Team of the regional collaboration. The AIS team had the responsibility of developing the invasive species portion of the restoration plan. More than 1000 people participated in the Great Lakes Regional Collaboration and more than 150 people were a part of the AIS Strategy Team. The recommendations were developed by consensus.

The threat posed by the lack of a risk assessment process for the importation of live species was a major component of the AIS action plan. The complete report of the “organisms in trade” subcommittee of the AIS Strategy Team is included as an appendix to this testimony. The recommendations are summarized as follows:

“Federal and state governments must take immediate steps to prevent the introduction and spread of AIS through the trade and potential release of live organisms. Specifically governments should:

- implement...a federal screening process for organisms proposed for trade;
- [mandate] that the screening process...classify species proposed for trade into three lists—prohibited, permitted, and conditionally prohibited/permitted;
- develop a list of species of concern for the Great Lakes basin and an immediate moratorium by the States on the trade of species on that list, until the species are screened and approved for trade;
- develop and implement risk models for organisms in aquaculture.
- clearly state that the screening process established must place the burden of proof of non-injuriousness on the importer;
- allocate sufficient resources to heighten the number of species under the Lacey Act as “injurious,” to prevent the interstate transportation of harmful species;

the Fish and Wildlife Service (FWS) should list black, bighead, and silver carps as injurious under the Lacey Act; and

- significantly increase resources for the enforcement of laws governing the trade of live organisms.”

THE NON-NATIVE WILDLIFE INVASION PREVENTION ACT

A bill introduced by Chairwoman Madeleine Bordallo—H.R. 6311, the Non-native Wildlife Invasion Prevention Act—is welcomed legislation and badly needed. I commend Representatives Abercrombie, Kildee, Klein, Hastings, Kind, and McCollum for being original co-sponsors. As globalization continues to drive world trade regimes and policies, governments must redouble their efforts to eliminate the risk of dispersing harmful organisms. This legislation takes a significant step towards that goal. The legislation establishes a risk assessment process for organisms proposed for importation, closing a major vector for invasive species into the United States and the Great Lakes region. The legislation also fulfills many of the recommendations of the Great Lakes Regional Collaboration’s AIS Strategy Team. The Great Lakes Fishery Commission has reviewed this legislation and supports it.

The bill has many positive points:

- The bill calls upon the Secretary of Interior to promulgate regulations that establish a process to assess the risk of all non-native wildlife proposed for importation into the United States before the organisms are imported. The bill clearly outlines several factors that the secretary must consider to assess the risk of organisms proposed for importation. The list of factors is solid and protective, as it calls upon the secretary to consider such factors as the potential of the species to become established, the potential injuriousness to new ecosystems in the United States, and the likelihood that pathogens could accompany the imported species.
- The bill establishes both “clean” and “dirty” lists of species and only those species on the clean list can be imported. This is a major, positive element of the legislation, as experience has shown that reliance only on “dirty” lists alone does not provide the level of protection needed. For instance, a major shortcoming of the Lacey Act is that it is basically a “dirty” list; species that do not appear on the list are approved for importation (so long as they are not on other prohibited lists such as those governing endangered species). To make matters worse, not all imported or harmful species are scrutinized, only those are that have proven to be injurious and that have been petitioned to be added to the list (though the U.S. Fish and Wildlife Service can initiate a review as well). In contrast, by relying on a “clean” and a “dirty” list approach, this legislation is proactive and complete in its review of proposed importations. Only species that have been scrutinized and included on the “clean” list will be allowed.

The “grandfather clause,” under the heading “animals imported prior to prohibition,” is reasonable, as it allows individuals to continue to possess (but not rear) organisms that have been imported legally. In theory, organisms that were imported legally, but later prove to be injurious, should be addressed by the Lacey Act. However, problems with implementing the Lacey Act have precluded effective management of injurious species. The process to list a species under the Lacey Act as injurious is cumbersome, slow, and often ineffective in preventing the spread of an organism. The process proposed in the Non-native Wildlife Invasion Prevention Act is far superior to what we’ve experienced under the Lacey Act.

The legislation clearly states that in assessing the proposed species, the secretary must determine that the species is not harmful to the economy, the environment, or human or animal health. By demonstrating a lack of harm—as opposed to demonstrating harm—the burden of proof is stronger and more appropriately placed. History has demonstrated that simply expecting a species to not escape or invade an ecosystem is foolhardy. One must assume the worst unless proven otherwise.

The legislation creates an open, transparent process whereby the organisms are assessed. By mandating the publication of proposals in the Federal Register and by requiring input from interested parties, this legislation gives those with pertinent information, or those affected by the proposed listing, an opportunity to be heard. The Secretary of Interior will have some discretion about how, exactly, the risk assessment process will be established, and, once this legislation is enacted, the commission urges the establishment of a robust process that involves peer reviews, application of the best science available, consultation with other government agencies and university experts, and periodic improvement. The commission also urges that any process that is established be capable of undertaking the assessments in a quick and efficient manner.

The bill provides the secretary with emergency authority to act if a species poses a serious and imminent threat. Such authority, also granted under the Lacey Act,

is essential and, in fact, was important in the response a few years ago to the escapement of snakehead.

The legislation allows the states to be more protective of their ecosystems than the federal government. For most states, a strong federal policy is appropriate, as the federal government can oversee a national process to protect all of the United States. In other cases, however, states may wish to put in place special, unique protections for their ecosystems. This legislation allows states the flexibility to go beyond what the federal government requires, while still maintaining a national foundation of protection.

I respectfully offer the following comments for improvement or clarification:

- The legislation should clarify what should happen if a species is assessed but not enough information is available to state conclusively whether the species should be on the “clean” or the “dirty” list. While the legislation is clear that only species on the “clean” list can be imported, the legislation does not provide direction to the secretary about how to decide on which list to place a species when that choice does not present itself unambiguously during the risk assessment process. It appears the intent of the legislation is that such a species not be allowed for importation, but that intent should be explicit. An option would be to state that the secretary shall place the species on the “dirty” list until more information is presented. Another option would be to create an interim list (often called a “grey” list), where such species would be prohibited, but placed on the list until further scrutiny can be applied. The “grey” list approach has worked in many states and in other countries and would dissuade the reviewer from simply placing a species on an approved list for expediency or lack of information.
- The penalties and enforcement provisions of this act rely on the penalty and enforcement provisions of the Lacey Act. While the Lacey Act is one of the strongest laws on the books with respect to wildlife enforcement, the stronger penalties are rarely imposed and are often too low to dissuade behavior. Moreover, Lacey Act penalties are tied to the market value of the species that were imported, not the potential harm to an ecosystem. For instance, a violator could be fined based on the value of his shipment of fish (which might be small, but still large enough to establish a population) rather than the impact the fish would have on the environment. The committee is urged to consider improving the law enforcement provisions to ensure that this act serves as an effective deterrent and that penalties are truly commensurate with the threat to the ecosystem.
- The section establishing fees to recover the costs of the risk assessment process is important, as it requires the recovery of the costs of assessing the risk of species for the “clean” list. However, the legislation does not specify that the fee should be collected from those who propose an importation; the bill should be specific as such. Moreover, the bill should be more explicit about not requiring fees from citizens who petition for a species to be included on the “dirty” list. Such citizens are petitioning for the public good and, therefore, should not be dissuaded from asking for a species to be evaluated.
- The legislation does not include enforcement as a recoverable cost under the fee collection system and, therefore, the commission assumes that the service would have to find enforcement funds from within its regular budget, or request funds from Congress. We have learned from the implementation of the Lacey Act that even a strong, well-intentioned law is not implemented optimally if enforcement is not funded adequately. While it would be overly optimistic to expect every shipment of live organisms to be inspected, additional training and enforcement will be necessary to implement this legislation. More law enforcement officials will be required to be present at points of entry, law enforcement officials will require training to identify different types of species, and fines will have to be sufficient to deter lawbreakers. The committee should consider adding a specific “authorization of appropriations” for implementation or to specify that the fees should be sufficient to cover enforcement, as well as the risk assessment process.

ADDITIONAL IMPLEMENTATION ISSUE

The U.S. Fish and Wildlife certainly does not have to start from square-one when it comes to considering processes for assessing the risk of live organisms. Several models for risk assessment and management are in various stages of development. Such screening tools, though primarily developed for state use, would certainly support and complement the provisions of this legislation.

That said, implementation will be a significant undertaking, and the Great Lakes Fishery Commission remains concerned that the service will not have adequate re-

sources to do the job. The legislation calls upon the service to assess the risk of all organisms proposed for importation. It is expected that the initial list for review could be in the hundreds, if not thousands, of species. The legislation establishes a process to collect fees, which the commission supports, and urges the service, when this legislation is passed, to not let the potential cost of the undertaking deter the establishment of a robust, transparent risk assessment process.

The commission believes it is worth considering a recommendation by the Ecological Society of America that risk assessment processes could be undertaken by “independent organizations that are authorized to certify that species for sale are not likely to be invasive” (Lodge et al. 2006, p. 2042). While the intent of this recommendation might have been to encourage industry organizations (e.g., importers) to proactively and voluntarily assess the risk of organisms, this recommendation could also be used to add additional expertise and capacity in implementing the large task of screening organisms.

COORDINATION WITH CANADA

Although this legislation is limited to importations into the United States, other countries—primarily Canada and Mexico—will play a critical role in protecting connected ecosystems. Indeed, just as a national policy is needed because organisms spread from state to state, an international approach is needed to keep harmful organisms from migrating among contiguous countries.

Like the current situation in the United States, federal statutory authority does not exist in Canada which targets invasive species directly or explicitly. However, also like the United States, the importation of certain species is prohibited into Canada for health or disease reasons. Legislation, Bill C-32, is pending before the Canadian House of Commons that would grant the Minister of Fisheries and Oceans additional authority to manage invasive species. The bill also authorizes the Governor in Council “to make regulations for the conservation or protection of fish or fish habitat, including regulations for controlling aquatic invasive species, which in turn include regulations respecting the export of members of such species, their import, and their transport.” While this legislation does not explicitly establish a risk assessment process, it does call for imports to be managed. The pending legislation in Canada, thus, is in the same spirit as the Non-native Wildlife Invasion Prevention Act and it is the commission’s expectation that the legislation in both countries, together, will inspire a coordinated approach.

Moreover, the Mississippi Panel on Invasive Species has developed a risk assessment/risk management process that includes a risk assessment tool for use by U.S. states. This tool could be useful nationally and, as was discussed during a recent meeting of the Trilateral Committee for Wildlife and Ecosystem Conservation and Management (comprising officials from Canada, Mexico, and the United States), North America-wide. The hope is to develop one day a standardized protocol for risk assessment that could be used by all North American jurisdictions.

CONCLUSION

The Non-native Wildlife Invasion Prevention Act is sound legislation and, when implemented, will do much to protect the ecosystems of the United States. The legislation is well-conceived, is designed to close a major gap in invasive species control policy, and is generally consistent with the recommendations of the Great Lakes Regional Collaboration. The commission appreciates its introduction and urges its enactment. Madam Chair, thank you for the opportunity to offer my thoughts about your bill.

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Ms. BORDALLO. Thank you very much, Dr. Gaden, for your careful consideration of this legislation, especially as related to the Great Lakes.

Next, I would like to invite Mr. Horne to present his testimony.

STATEMENT OF GEORGE HORNE, DEPUTY EXECUTIVE DIRECTOR, OPERATIONS AND MAINTENANCE RESOURCES, SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Mr. HORNE. Good morning, Madam Chair and Members. I am the Deputy Executive Director of the South Florida Water Management District, Operations and Maintenance Division. Thank you for inviting me to speak.

The South Florida Water Management District manages one-and-a-quarter-million acres of land for various ecosystem benefits. We have 2,000 miles of canals and associated levees. We manage for flood control, water supply, and environmental enhancement.

In a time when we are concerned with national security and have strengthened our nation's laws to deal with outside threats to our country, we find ourselves in Florida being quickly overrun with outside threats which have very little regulation.

You may ask what that is. Well, it is the spread or escape of released exotic animals. Research has proven that a five percent reduction of a species changes the ecosystem. In Florida, we are currently dealing with 30 percent of our wildlife that is exotic.

Our canal systems and levees have become safe conduits, or highways, if you will, for their range extensions. The environmental threat that we are facing is they change the food web. The predator-prey relationship is changed, and, indeed, our predators have become the prey. They bring parasites and diseases.

We have infrastructure concerns. We have sailfin catfish digging on the inside of reservoirs, digging burrows, and iguanas on the outside digging, which can cause the failure of those levees.

We have had workforce impacts. We have had python inside our pump stations, and, indeed, chased one of our employees back to a vehicle when they were doing water sampling.

There is damage to agriculture, and I think this is probably one of the worst things. They are consuming our endangered and threatened species. We know, and can confirm, they are eating wood rats, wood storks, burrowing owls, and gopher tortoises, as well as many other species that are out there.

In the fishing industry, there are areas where guides are only taking people out to catch exotic fish because that is all that exists in that particular area.

But our biggest threat of all is the python. In the past four months, the South Florida Water Management District, in the Everglades National Park, has removed 32 pythons in a five-mile stretch in the heart of the Everglades, for a total of about 826 pounds of body mass.

Professor Stephen Secor of the University of Alabama determined in a lab that for every 2.2 pounds of body weight in the python, it takes 6.6 pounds of prey to sustain that. This suggests that the pythons removed in that five-mile area have consumed 1.4 tons, one and a quarter tons, of native mammals, birds, and reptiles.

The state and the Federal government are trying to protect those and restore the Everglades, but it is going to be an issue for us, particularly since one of our indicators for restoration is bird counts, and if they get into a rookery, they are going to stay there until they eat all of the birds.

What is sobering is those snakes were about three to seven years old. They live to be 25 years old. So you can only imagine how many. The climatological map shows that these creatures can live across the entire southern tier of the U.S. and almost as far north as Washington, D.C., and there are probably already subpopulations that exist in other areas where they have been released.

In closing, we, the South Florida Water Management District, encourage the passage of this legislation. We currently spend \$25 million for the control of exotic plants, and we have no budget for exotic animals. These animals are not essential to our survival, yet they impact and overwhelm our nature ecosystem and eliminate species that are totally unique to South Florida. This is to say nothing of the countless migratory birds that winter in our area and pass through during the migration, as well as many socioeconomic impacts to sport fishing, to tourism, to agriculture.

We view this as the first real control step to ensure our precious natural resources are not destroyed, and thank you for inviting me to be here.

[The prepared statement of Mr. Horne follows:]

**Statement of George Horne, Deputy Executive Director,
Operations and Maintenance, South Florida Water Management District**

Madam Chairman, thank you for the opportunity to testify before this Committee on a matter of great importance to the South Florida Water Management District, specifically H.R. 6311, "the Non-Native Wildlife Invasion Prevention Act." I am George Horne, Deputy Executive Director of Operations and Maintenance for the South Florida Water Management District. Our regional agency maintains 2,000 miles of flood protection and water management canals in South Florida's 16 counties and is actively engaged in many initiatives to protect and restore the South Florida ecosystem, which includes Lake Okeechobee, the second largest lake in the southeastern U.S. and America's Everglades. We have a long history of successful invasive plant management and experience, but only recently have we had to com-

mit more and more resources to the emerging populations of non-native animals appearing across our landscape. If effective preventative programs were in place to limit introductions of non-native animals, such as the legislation now under consideration, these much-needed taxpayer-funded resources could be re-directed to other important resource management efforts. Today, however, the negative impacts from the unlimited importation of new pest animals require active responses on our part. Effective prevention of additional introductions, as proposed in this bill, is the only path to prevent these costs from continually increasing.

While Florida, California and Hawaii are currently among the states most impacted by introduced invasive species, every state is affected. Globally, exotic invasive species, including pest animals, weeds and pathogenic diseases are a major cause of global biodiversity decline. In particular, non-native animals compete for food and habitat, upset existing predator/prey relationship, degrade environmental quality, spread diseases and, in our case, may threaten the integrity of flood protection levees and canal banks, and electrical power delivery. Nationally, more than 50,000 species of introduced plants, animals and microbes cause more than \$120 billion in damages and control costs each year (Pimentel 2005). Already, 192 non-native animal species are established in Florida, calling for the development of methods to forecast and respond to the potential economic loss, environmental damage and social stress caused by invasives whether new introductions or long-established organisms. Collaborative management, education, training and broadening public awareness along with baseline population analyses may provide a foundation for building effective control strategies and tools. Several states, including California, Hawaii and Idaho are currently devising non-native animal invasion prevention programs and/or lists. The federal initiatives included in the bill could serve to unify and standardize these efforts and provide a critical framework to evaluate current and potential problems.

Specific Support for H.R. 6311 “The Non-Native Wildlife Invasion Prevention Act”

The South Florida Water Management District supports the underlying premise of the draft language. Establishing compulsory risk assessments and a “clean list” of approved species represents a needed and important step for regulating the flow of potentially harmful non-native wildlife into the United States. Our specific comments on the draft bill include:

- Inclusion of a “gray list” of provisionally-approved species. Such a list could limit trade in species for which inadequate information exists to call for their complete prohibition. The animals to watch list could be used to assess their full importation risks. Requirements could mandate that these animals be imported and kept only under special containment. This action would allow fair commerce while not allowing unlimited importation of a potentially harmful species.
- The Non-Native Wildlife Invasion Prevention Fund, as proposed, is critical to the success of this initiative.
- The emergency rule provision, giving authority to temporarily place a species on the unapproved list, is another vital component of the draft legislation. This would prevent the establishment of potentially harmful animals while scientific and official processes proceed.
- The draft language correctly protects existing pets from being confiscated if that species is later prohibited from importation. This “grandfathering” clause should ease concerns of pet owners who legally purchased exotic animals.

Current Measures

In 2005, Florida’s Fish and Wildlife Conservation Commission created an invasive animals management section. One of their key recommendations led to a new Florida rule limiting commerce in “reptiles of concern” including the world’s five largest non-venomous snakes and the carnivorous Nile monitor. These animals were selected as most threatening because of their large size and extreme predatory natures. Now in force in Florida Administrative Code, the rule requires \$100 annual possession permits and they must be identified via implanted microchip. Prior to this action, however, these species were already present in Florida’s pet commerce and, to varying degrees, have been reported in Florida’s wilds. In fact, Burmese pythons are now thoroughly established in South Florida’s natural areas and already number from several thousands to more than 100,000. Uncertainty remains regarding their actual population and a comprehensive assessment of their numbers across the region would significantly help eradication. Currently, the Florida Fish and Wildlife Conservation Commission’s exotic animals section is engaged in serious

management efforts against species present only in isolated areas and in small populations. Broader management efforts would benefit from federal engagement.

Introduction Pathways—Florida's Pets on the Loose

In Florida, the introduction of invasive pest animals has primarily been through the pet trade. Other pathways of introduction include overseas transport of ballast water which has introduced zebra and quagga mussels to North America. These Asian mussels imperil our aquatic ecosystems and clog commercial and public utility intakes and processes. Accidentally imported within cargo pallet wood, the Asian longhorn beetles now threatens North American hardwood trees. But, to date, Florida's most threatening vertebrate pests have come to us via the pet trade.

Whether accidentally or intentionally released, when an animal succeeds in establishing a new population in South Florida the impacts may be broad and devastating or they may barely be detected. Better predictive methods would sufficiently gauge the risk posed by specific animals before they are regularly imported and bred as pets. Screening and risk assessment methods are imperfect, but must be developed. Several nations, including Australia and New Zealand, already have implemented pre-import screening and risk analysis systems that proscribe import of potentially harmful animals. Further, new economics research indicates that proactive screening measures can be economically beneficial in the long run for nations that implement them. These programs may provide valuable guidelines and lesson learned in the control of exotic animals.

Building upon the successes of other nations, this legislation and related funding would enable us to better regulate imports and determine the appropriate levels of limitations. Practices can be developed without tremendous adverse impacts on the pet industry and yield savings to taxpayers and decreased threats to the environment.

Public Education

Public education programs can be creative, such as the nationally-branded Habitattitude™ effort led by the Aquatic Nuisance Species Task Force. This program advises the public at pet shops never to release exotic aquatic fish and plants into any U.S. waters. Yet, releases continue regularly as evidenced by frequent appearances of new species in U.S. waters.

Sailfin catfish from South America appeared only within the past decade in Lake Okeechobee. Commonly sold as "plecostomus" as a fish tank "vacuum cleaner," these fish dig deep burrows in sediments and potentially threaten the integrity of canal banks and flood protection levees. They are also overtaking areas of rocky lake bottom, depriving native fish of their preferred spawning sites. The ultimate impacts of the establishment of this species in South Florida are still unknown, but many thousands of the fish already inhabit our lakes and canals, disrupting commercial fishing and displacing natives.

The actions specified in this bill would strongly influence the public to recognize the risk inherent in releasing exotic pets into our natural areas and better support the effectiveness of programs such as Habitattitude™.

Public Health Concerns

Invasive vertebrate pests may also harbor other threatening organisms such as parasites and disease. The three-pound African pouch rat has become established on Grassy Key in the Florida Keys and serves as a vector for African monkey pox virus. The first human infections from this virus were reported in Africa in the 1970s, arising from contact with monkeys and rodents. In the U.S., this virus was first reported infecting humans in 2003 and was traced to contact with pet African pouch rats. Fortunately, monkey pox is rarely a serious disease for humans with symptoms similar to mild chicken pox or smallpox. But, this disease spread to our shores directly as a result of importation of the African pouch rat as pets. What other species will be imported carrying currently unknown diseases or parasites?

Innovations Needed

There may be creative solutions that enable trade in some otherwise invasive species. For instance, Asian grass carp are legal for use in aquatic weed control in Florida only when the fish are certified as triply-chromosomed, sterile varieties created by treatments of the eggs. Research is needed to identify how other species could be rendered unable to establish wild populations. Tropical species could be legal for sale only outside their climate tolerance range, only males of a species may be legal for sale, or sterile hybrids may be developed. It is simply too irresponsible and too dangerous to keep trading in pest organisms capable of unlimited spread when, with appropriate research, credible ways may be found to allow trade in some of these species.

Management Case History: Brown Tree Snake

The Australian brown tree snake made its way to the U.S. territory of Guam in the late 1940s, most likely as stowaway in airplane cargo. This relatively small, nocturnal snake quickly spread and has devastated the island's native bird, lizard and flying fox populations, resulting in numerous extirpations of species. Also, brown tree snakes routinely climb across power lines leading to outages as the lines short circuit. There is promise for management of brown tree snakes, but only after decades of environmental and economic losses. Development of management methods has taken decades as the biology and susceptibilities of this snake were researched. One current management method involves baiting the snakes with mice treated with toxic doses of acetaminophen, although serious challenges remain such as how to place such baits in vast areas of isolated forest.

Select Invasive Species in South Florida

South American Apple Snails

Several species of South American apple snail are established in South Florida waters. The largest of these is the island apple snail reaching tennis ball size and producing many times more eggs than the smaller, native Florida apple snail. In Asia, these voracious mollusks are known to strip rice fields and wetlands of vegetation. They are displacing our native Florida apple snail with sheer overwhelming numbers and reported predation upon the native snail. Apple snails are the sole food of the Federally-endangered Everglade snail kite. Lake Tohopekaliga, an 18,000-acre located in Central Florida, now harbors thousands of island apple snails. During recent years of drought, this lake has been a critical refuge for snail kites. Because the exotic snails are larger, heavier and stronger than the native snail young snail kites have difficulty lifting and opening them to extract their meat. As a result, many young kites are not surviving to maturity there. Also, Lake Munson in the Florida panhandle was historically heavily vegetated, yet today has no vegetation due to the snail's arrival and proliferation. Rice crops in South Florida and the vast wetlands of the Everglades may become fodder to this rapidly spreading, readily reproducing pest snail.

Monk Parakeets

The South American monk parakeet is firmly established in South Florida, perhaps numbering as many as 150,000. To date, their numbers have doubled roughly every five years. Stable North American populations of the bird may also be found from Connecticut to Colorado. They breed rapidly and extensively damage grain, fruit and citrus crops in their native Argentina. As escaped pets in South Florida, they readily establish breeding colonies and build large colonial nests, often choosing power poles and niches in power substations and transformers. The accumulated nest materials damage power transmission hardware with accumulated humidity and serve as sources of ignition. Significant crop damages seem inevitable, but have not yet been documented in Florida. They are outlawed in many states, yet thousands are still sold annually in others. Enacting this bill will provide a standardized, nationwide mechanism for limiting further incursions of this species.

Burmese Python

Upfront prevention of the introduction of new pests will not only prevent damages to natural areas but would also preclude economic loss stemming from an injurious species' gaining economic value in the pet trade only to be regulated later. For instance, the Burmese python is a top predator that is known to prey upon more than twenty native Florida species. Notable among these are the federally-listed Key Largo wood rat, white tailed deer, American alligator, bobcat and numerous wading birds common to the Everglades. Our agency is deeply committed to preserving and restoring South Florida's environmental health and, unfortunately, the Everglades ecosystem is now home to these exotic snakes. Attempts to manage Burmese pythons divert taxpayers' funds from these other urgent primary restoration and protection tasks. Yet, failure to do so will leave this aggressive animal as a serious impediment to our Everglades restoration progress. This python also threatens agricultural interests as small livestock are also likely prey. In 2008, USGS published a climate tolerance model predicting that this snake will likely survive throughout most Southeastern states and westward across the southern reaches of the country to the Pacific.

Adverse experience already gained in Florida strongly indicates the need to regulate the importation and sale of this snake. The significant value of current sales of this snake would be affected if commerce in the species is regulated. Such economic loss could have been avoided if the Burmese python had earlier been identified as a serious potential pest and trade had focused on less threatening snakes.

Green Iguana

Central American green iguanas already number in the hundreds of thousands in South Florida. They are herbivores and prefer riparian sites where they dig extensive burrows on slopes such as highway embankments, canal banks and flood protection levees. The resulting erosion threatens canals and levees critical for flood control and water management. Their burgeoning numbers in South Florida recently spurred Palm Beach County commissioners to petition the Florida Fish and Wildlife Conservation Commission to add them to the State list of regulated "Reptiles of Concern." They are sold for as little as \$5 in area pet stores.

Spiny-Tailed Iguana

South American spiny-tailed iguanas are also established in Florida and are known to occupy the burrows of the federally-threatened gopher tortoise. Further, the USDA Wildlife Services has confirmed that this lizard preys on juvenile gopher tortoises. This is another aggressive predator threatening South Florida's environmental preservation and restoration goals.

Nile Monitor

The African Nile monitor is now established in a 20-square-mile area around Cape Coral, Florida. This lizard grows to seven feet and is highly aquatic, climbs well and runs very quickly. It consumes a large variety of prey including the State-protected burrowing owl. Stomach content analyses also indicate that the Nile monitor is a voracious egg eater, raising serious alarm for many of Florida's threatened native animals that are egg-bearing and/or occupy burrows. Wildlife biologists consider the Nile monitor to be a serious threat to gopher tortoises, burrowing owls, Florida gopher frogs and other ground nesting species. According to the USFWS Law Enforcement Management Information System (LEMIS), there were more than 60,000 Nile monitors imported through Florida's ports between 2000 and 2004.

Conclusion

While the South Florida Water Management District and other agencies try to contain the documented damage and growing threat of existing invasive animals in Florida, the flow of potentially harmful exotic animals into the state continues. For example, nearly 1,000 venomous puff adders were imported through Florida's ports between 2000 and 2005 (LEMIS data). This African viper is common in its native range and is considered to be one of Africa's most dangerous snakes. The Oriental water dragon is another popular imported species with a potential for establishment in south Florida. Between 2000 and 2005, more than 210,000 Oriental water dragons were imported through Florida ports (LEMIS data). More effective tools are needed to accurately predict if either of these reptile species will become established in Florida. Our state appears to offer an agreeable climate for both species and their broad feeding preferences suggest they are likely to adapt readily to our subtropical setting. Rather than wait for the next Burmese python or zebra mussel to become established in the United States, a proactive approach such as the proposed legislation being discussed today is urgently needed to protect our environment, economy and quality of life—not just in Florida but throughout the nation.

Citations

- Pimentel, D., L. Lach, R. Zuniga, and D. Morrison. 2005. Update on the environmental and economic costs associated with alien-invasive species in the United States. *Ecological Economics* 52:273-288.
- Rodda, G. H., et al. 2007. Climate matching as a tool for predicting potential North American spread of brown treesnakes. In: Proc. of managing vertebrate invasive species symposium. 7-9 august 2007, Ft. Collins, CO. USDA APHIS Wildlife Services, Ft. Collins, CO.

Ms. BORDALLO. Thank you very much, Mr. Horne, especially for the attachment, which we have shared up here with the Members of the Committee, which shows the types of invasive species you have to manage in South Florida.

Mr. Meyers, it is now your turn to testify, so please begin.

**STATEMENT OF MARSHALL MEYERS, EXECUTIVE VICE
PRESIDENT AND GENERAL COUNSEL, PET INDUSTRY JOINT
ADVISORY COUNCIL**

Mr. MEYERS. Madam Chair and Members of the Subcommittee, I appreciate being invited to testify, though I feel like I am the lone gladiator in a lion's den, being the only industry member here today.

The pet industry, like other industries, is dependent on the importation of nonnative species. The invasive species issue is not new to our industry. Our involvement dates back to the early seventies, when the Service desired to ban all nonnatives until proven innocent. This bill could cause the same result. It places an untenable burden on the trade, as well as the Service, to scientifically prove the unprovable, a negative: the absence of harm.

Absent a crystal ball, it is impossible to prove conclusively that no harm has ever occurred, nor will ever occur, anywhere in the United States.

Moreover, the Service has never been provided the resources, human or financial, to adequately implement existing programs. Until that is accomplished, this approach here will only cripple an already faltering program.

To provide some semblance of scale, thousands of nonnative species, involving hundreds and hundreds of millions of specimens, have been in the pet trade for decades. The overwhelming majority have never established feral populations. Even fewer have been demonstrated to have caused harm.

If 6311 is enacted, the Service would face a managerial nightmare. Assuming, *arguendo*, that the science was available to enable the risk-assessment process outlined in the bill, the Service would not be physically capable to complete a sufficient number of species assessments within the mandated time limits and permit industry to continue operating, or even put the oysters in the Chesapeake Bay, in the Gulf, or in Puget Sound.

Currently, it takes an average of four years to list a species as injurious, yet the Service is to establish multiple lists, possibly for thousands of species, in a scientifically credible and justifiable manner, within a 24-to-37-month period if trade is not to be crippled.

We urge the Committee to take into consideration the recommendations in the Invasive Species Management Plan incorporating the ANSTF concepts submitted to Congress in 1994. A phased-in screening approach, we supported then and support today, consisting of Phase 1, Federal agencies working with stakeholders to screen species proposed for first-time imports; and, Phase 2, the process would broaden to include systematic screening of species in trade without disrupting the trade.

This approach was proposed in several bills amending the National Aquatic Invasive Species Act. It called for establishing a catalog of organisms in trade. Species not in the catalog would be first-time introductions. Species in the catalog could still be subject to an assessment while trade continued. It was a clear and easy way to not disrupt trade while a screening went on.

We also urge the Committee to clearly incorporate risk analysis into the way forward. While that may have been what was intended in 6311, it is clearly absent.

Risk assessment is only one part of the process. Equally important is requiring the identification of measures that can be implemented to reduce or manage these risks, risk management, taking into account socioeconomic and cultural considerations. That means also looking at benefits, as well as harm, and should not be excluded from the analysis. We urge you to make that part of any congressionally mandated process.

I will briefly touch on several sections in the bill that cause some concerns.

Section 3 mandates specific listing factors but offers no direction on how those factors must be evaluated. There is a reasonable inference, however, that a positive finding of one or more of those factors is sufficient to prohibit import. Far greater statutory clarity is required. Would most nonnatives be banned if shown there is a likelihood that “environmental conditions suitable for the establishment or spread exist anywhere in the United States”?

Marine organisms would be banned in Kansas because they might become established in Hawaiian waters. A parakeet would be banned in Minnesota because it can survive in South Florida.

Section 4[c] provides for adding species to the list in a reasonable time period. Absent inserting a prescribed timeframe for action, “reasonable” means it simply will not happen.

Equally troublesome are the prescribed deadlines to implement the process. We think they are simply unrealistic. History has demonstrated time and again that agencies seldom comply with such congressionally mandated timeframes.

The prohibition and penalties section needs to be revisited carefully. Clarity is required since violators face felony sanctions.

The fee-based risk assessment system is fraught with problems which will result in rank discrimination, and small business just cannot compete. It is an expensive undertaking.

A clear definition of “wildlife” is essential in Section 11. Some animals, icons of the American family, such as cats, are technically nonnative species.

So, in conclusion, the debate here is not whether invasives is a valid issue. We all agree that invasives are a very valid concern. The issue on the table is whether this bill provides an effective way forward. We need to avoid falling into a reactionary crisis mentality that undermines the progress made to date, as well as our ability to take strategic steps forward. Other industries need to be at this table. This is not simply a pet industry issue.

We look forward to working with your Subcommittee in crafting legislation that will serve the public and affected industries alike in concert with the National Invasive Species Management Plan and Executive Orders calling for that plan. Thank you, Madam Chair.

[The prepared statement of Mr. Meyers follows:]

**Statement of Marshall Meyers, Executive Vice President and
General Counsel, Pet Industry Joint Advisory Council**

Madam Chair and members of the Committee, I am Marshall Meyers, Executive Vice President and General Counsel of the Pet Industry Joint Advisory Council

(PIJAC). Thank you for inviting me to submit comments on the Nonnative Wildlife Invasion Prevention Act (H.R. 6311).

PIJAC is a non-profit service-oriented organization comprised of members who care about pets and the pet industry. As a national trade association, PIJAC represents all segments of the pet industry: companion animal importers/exporters/breeders, wholesale distributors, product manufacturers, retail outlets, and affiliated hobby clubs, aquarium societies, and other industry trade associations. Our members serve the 63% of the U.S. households that care for and maintain pets of all types, sizes and descriptions: the majority of these pets fall within the purview of the regulatory system contemplated in H.R. 6311.

PIJAC's explicit mission is to:

"Promote responsible pet ownership and animal welfare, foster environmental stewardship, and ensure the availability of pets."

The pet industry, like several other industries, is dependent on the importation of non-native species, most of which are farm raised. Pet owners across the U.S. possess a wide variety of non-native species in significant numbers. This is not a new phenomenon. For generations, people have maintained a wide variety of non-native mammals, birds, reptiles, amphibians, and fish as companion animals. Unlike some industries dealing in nonnative species, it is not the intent of the pet industry or the majority of pet owners to place or release these animals into the natural environment.

Background

PIJAC is well aware of the problems posed by invasive species. Our involvement with this issue dates back to the early 1970s when the U.S. Fish and Wildlife Service (USFWS) published a proposed list of "Low Risk" wildlife. Like H.R. 6311, that proposal would have banned all wildlife not otherwise appearing on the clean list as being "injurious" (invasive) under the Lacey Act. We challenged that approach because (1) it failed to provide science-based support for how it classified "low" versus "high" risk species, and (2) it was premised upon broad-based conclusions that all nonnative species were per se injurious until proven innocent. We successfully challenged the proposed regulatory action by making government officials and stakeholders aware of the fact that it placed an untenable burden on the trade to "scientifically prove" a negative—i.e. the absence of harm.

For many years, PIJAC has been providing leadership on invasive species issues, serving as an advisor to and collaborator with numerous government agencies. The PIJAC staff serves on various Aquatic Nuisance Species Task Force (ANSTF) committees and regional panels, the Invasive Species Advisory Committee (ISAC) and a number of State invasive species advisory committees or working groups. Additionally, PIJAC leads several initiatives and proactive campaigns designed to minimize the introduction and impact of invasive species. These campaigns reflect a strong collaborative effort between industry, the government, and other stakeholders.

PIJAC believes that effective measures should be in place to reduce the risk of the adverse impacts of invasive species. We further believe that the appropriate directives for risk management are contained in the Lacey Act, the National Invasive Species Management Plan (per Executive Order 13112), and several ANSTF initiatives, among others. As we have testified previously, the requisite human and financial resources have yet to be made available to the relevant federal agencies so that they can fully and effectively implement and enforce existing policies and programs. Until the government is willing to invest in implementation and enforcement of the regulatory measures it has already enacted, additional regulations will serve only to cripple an already faltering system.

With regard to H.R. 6311, first and foremost I note that it reckons back to a failed, technically flawed approach of the early 1970s. As previously mentioned, it imposes on persons interested in importing or possessing a species for commercial or non-commercial purposes the task of having to scientifically prove a negative—that the species will not cause harm or be likely to cause economic or environmental harm or harm to human and animal species' health. Simply on the grounds of "Statistics 101" this is unworkable. Absent a crystal ball, it is impossible to prove conclusively that no harm has ever nor will ever occur at any time, anywhere in the United States.

Thousands of non-native species have been in the pet trade for decades, yet the overwhelming majority of them have never established feral populations and even fewer have been demonstrated to have caused harm to the environment, economy, or human health. In rare instances where former pets have become invasive, the impacts have generally been to localized areas in urban and suburban contexts which are already heavily impacted by habitat loss and degradation.

It is, thus, both unnecessary and unrealistic to conduct a risk assessment for every non-native species in the pet trade (e.g., more than 1600 freshwater fish), let alone those brought in by other industries as well.

While we recognize that the Lacey Act process is inefficient in many ways, it is clear to us that this is largely due to the lack of capacity both in terms of staffing and funding. Because H.R. 6311 mandates a far more comprehensive process than currently exists under the Lacey Act, it is set up for failure. If enacted as drafted, H.R. 6311 would force the Fish and Wildlife Service into a managerial nightmare. It would have to:

1. conduct risk assessments on more than 10,000 species currently in trade, many of which are not even scientifically identified to the species level let alone extensively studied, and complete those assessments in time to meet the statutory deadlines set forth in Sections 3 and 4; or, upon failure to do so,
2. shut down a number of industries dependent upon nonnative species—such as the pet industry, food aquaculture, and sports fishing.

Even if there was ample scientific information available to enable the risk assessment process, it is clear that the USFWS would not be physically able to complete a sufficient number of species assessments given its extremely limited staff and financial resources. It is also readily apparent that industries cannot exist on a handful of imported species for the short or long-term.

H.R. 6311 is an overly simplistic approach to a very complex problem which involves much more than running a series of risk assessments in order to publish a list of approved species. The socio-economic, as well as biological, issues impact hundreds of millions of Americans and a more reasoned approach is needed to address the invasive species conundrum.

I, therefore, urge the Committee to take into careful consideration the findings and recommendations of the National Invasive Species Management Plan, as well as initiatives of the Aquatic Nuisance Species Task Force and numerous state agencies that are dealing with this issue. Initiatives under these programs already reflect stakeholder-inclusive reviews on and recommendations to address the import of live organisms in the invasive species context.

For well over a decade, government and industry have been working collaboratively to enhance prevention, improve early detection and rapid response, develop screening mechanisms applicable to different animal types, identify pathways and pathway related problems, and increase public awareness on the importance of not introducing nonnative species into the environment. A major component of that process is recognizing that screening or risk analysis must be carefully constructed to ensure that the analysis is science-based, credible, transparent, involves stakeholders, and evaluates and promotes viable management policies. In our opinion, H.R. 6311 has the potential to jeopardize and set back achievements of the past several years.

For example, the 2001 National Invasive Species Management Plan (Plan), was developed through a transparent, science-based, stakeholder-inclusive process. It was intended to provide a constructive way forward for Federal agencies and partners to minimize the impact of invasive species in a manner that was timely, practical, and cost-effective. Plan developers concluded that a phased-in screening approach was the most effective way to reduce the risk of import of potentially invasive species. In the first phase of the process, relevant Federal agencies would work with stakeholders to screen species proposed for first-time imports into the US. Three years later, the second phase would broaden the approach for the systematic screening of species already in trade. PIJAC encourages Members of Congress to review the Plan, and meet with NISC Policy Liaisons and original members of the Invasive Species Advisory Committee (ISAC) in order to garner a better understanding of the process already agreed to by Federal agencies and stakeholders, as well as the underlying basis for the decisions made—such as the lack of scientific data, staff capacity, and economic implications.

If Congress decides to ignore the Plan, then we urge that H.R. 6311 be redrafted to direct a risk analysis process rather than a risk assessment. According to the definitions adopted under the Convention on Biological Diversity (and supported by the US), “risk analysis refers to: (1) the assessment of the consequences of the introduction and of the likelihood of establishment of an alien species using science-based information (i.e., risk assessment), and (2) the identification of measures that can be implemented to reduce or manage these risks (i.e., risk management), taking into account socio-economic and cultural considerations.”

As evidenced at several recent meetings dealing with screening processes and other analytical approaches, it has become abundantly clear that such a process is complex and that there is not agreement within the scientific community or other interested parties on how to deal with this complex problem. Screening is one part

of the process; risk management and evaluating socio-economic issues and other benefits is equally important and challenging. We do not believe that this can simply be resolved via legislation mandating criteria that needs to be subject to scientific and legal scrutiny. That should be left to the regulators.

Unless socio-economic and cultural considerations are adequately accounted for in this process, numerous domesticated animals (e.g., domestic cats and livestock) are likely to qualify for the “black list” as there is considerable scientific data to indicate that these nonnative wildlife species (as currently defined by H.R. 6311) have caused substantial economic harm when they become feral. Furthermore, there are already management measures in place for some species that would reduce the risk of invasiveness. For example, ferrets that are spayed/neutered cannot establish viable populations. Finally, in the current economic environment, Congress must carefully consider both the financial costs and benefits of imported species. The loss of certain high-income fish, for example, could result in the collapse of the entire ornamental fish industry and have significant repercussions for product manufacturers, distributors, and retailers throughout the country.

Understanding the broad biological and socio-economic implications of developing lists of approved and unapproved wildlife species, countries such as Australia and New Zealand explicitly employ risk analyses. Reference materials for their programs are readily available on the Web.

The following comments address key sections of H.R. 6311.

Risk Assessment Process (Section 3)

PIJAC questions the advisability of the Congress mandating specific criteria that the Secretary must factor into the Department’s assessment protocols. As evidenced by the work of the Invasive Species Advisory Committee and the ANSTF, the Department’s scientists need flexibility to design analysis protocols depending on the taxa, the purpose of introduction, and other relevant factors. A “one-size-fits-all” set of factors will not enable an effective result.

For example, it is not technically feasible to identify some species in trade—including some very high volume and income species—to the “species level” (Section 3(b)(1)). Many armored catfish, a staple of the aquaria trade, are only identified with “L” numbers; they have not been scientifically described. Nor is it clear how the prescribed process would deal with taxonomic name changes in cases in which molecular studies indicate that the classifications should either be “split” or “grouped.” If the scientific classification changes, would the risk analysis have to be repeated for the affected species? Furthermore, how would agency staff address the fact that some countries (particularly developing, exporting countries) are using different taxonomic names (often “old” versus “new”) than others?

Section 3(b)(2) requires information on the “geographic source of the species and the conditions under which it was captured or bred.” Is this section designed to identify the evolutionary origin of the species, the geographic location of its initial export, or the last country of export before entering the United States? What is the relevance of analyzing the “conditions under which it [the species] was captured?” Is this introducing an animal welfare element into the risk analysis process?

Section 3(b)(3) incorporates terms such as “established,” “harm” and “spread” without the benefit of definitions. Is the USFWS free to adopt its own definitions? Does “established” mean a self-sustaining reproducing population? Is an analysis as to benefit versus harm part of the evaluation?

Sections 3(b)(4) through (10) incorporate the subjective, non-scientific standard of “likelihood” for determining the probability that a species will become established, spread, do harm, or be accompanied by a “pathogenic species, parasite species, or free living species...” Does “likelihood” connote some level of probability—a specific statistical term—or is it merely a subjective conclusion that something might establish, spread, cause harm or be accompanied with parasites? The mere presence of parasites or other associated organisms is not necessarily problematic. Furthermore, an extremist could argue that any species has some probability of establishing somewhere in the U.S. given the right ecological conditions and propagule pressure. If that probability in scientific risk-based terms presents a negligible risk, how is it assessed under the “likelihood” doctrine? What methods would be used to determine or score “likelihood?”

Section 3 sets forth specific factors that must be taken into account in the USFWS’s evaluation of risk but offers no direction as to the manner in which such factors must be evaluated. A reasonable inference, however, is that a positive finding of one or more of those factors is sufficient to prohibit import. Far greater statutory clarity is required. Is the USFWS compelled to list a species as prohibited in any case in which some combination of these factors are determined in the affirmative? Is the mere absence of biological data, because it does not exist, sufficient to

compel the USFWS to ban a species that has been imported in the millions or farmed in this country for 30 to 50 years absent evidence of invasiveness?

Based on such a standard, common goldfish, many tropical fish, and myriad common species of birds and reptiles would be banned from the entire United States if it could be demonstrated that under Section 3(b)(4) there is a likelihood that “environmental conditions suitable for the establishment or spread...exist anywhere in the United States.” Marine organisms would be banned in Kansas because they might become established in Hawaiian waters; a parakeet would be banned in Minnesota because it could survive in south Florida. Absent inclusion of some qualifying language, the factors become mandates and mandates become prohibitions even though a likely adverse impact is never shown.

Transparency (Section 3(d))

Transparency is critical to the credibility of the process being mandated by this bill. Stakeholder involvement at all stages of the process is essential to attain the level of transparency recommended by the National Academy of Sciences’ National Research Council. PIJAC urges that language be inserted making it abundantly clear that there is stakeholder involvement at all stages of the process. Furthermore, language should direct that the persons making the management decisions are not the same people conducting the risk assessment(s).

List of Approved Species (Section 4)

The concept of assessing first-time introductions surfaced during the ANSTF “Intentional Introductions Policy Review” in the mid-1990s. In a report to Congress in 1994, the ANSTF focused on two main concerns:

1. “the need to make ecologically credible decisions; and
2. the need to strike a balance between greater risk reduction and accommodating current activities and economies that depend on the use of nonindigenous species.”

The ANSTF went on to conclude that:

1. “to the maximum extent possible, the decisions should be based on ecosystem considerations; and
2. the recommendations should generally apply only to new introductions.” (emphasis added)

The ANSTF further recommended establishing a Federal permit system for first-time imports coupled with a credible, science-based review process, and called for improvements in implementing the Lacey Act to include, *inter alia*, expediting the injurious species listing process, fostering compliance through clearer listings, and initiating a review system for species not listed. The ANSTF also made a series of proactive recommendations, including adoption of good business practices through codes of conduct promoting “continued commercial operations in a manner that is compatible with the conservation of natural ecosystems” such as education and public outreach programs targeting invasive species issues.

The National Invasive Species Plan incorporated that concept following lengthy deliberations among the Invasive Species Advisory Committee (ISAC) and National Invasive Species Council (NISC). The Plan, at page 32, specifically calls for

“...the development of a risk-based screening process for intentionally introduced species in a series of steps or phases. During the first phase a screening system for first-time intentional introductions will be developed...The screening system will then be modified...during the second phase to deal with species already in the U.S.”

Several iterations of bills amending the National Aquatic Invasive Species Act (NAISA) incorporated the establishment of a “catalog” of organisms in trade. That was to be accomplished as a collaborative effort involving the Fish and Wildlife Service and concerned stakeholders. The language which subsequently appeared in at least five bills in the House and the Senate was agreed to by a diverse group of stakeholders including various nongovernmental environmental organizations. Any species not appearing on that list would be subject to a screening process as a first-time introduction. The screening process would evaluate the “probability of undesirable impacts.”

That legislation did not exempt species appearing in the catalog from risk assessment and possible listing under the Lacey Act. Rather, the catalog was to ensure that species that have been in trade with no apparent ill effects would not suddenly be prohibited absent a science-based risk analysis. This was recognized as the only reasonable and feasible method of addressing thousands of species that have long been imported into the United States and for which no adverse consequences have been identified. Moreover, a number of species in trade have been captive raised within the United States for decades with no demonstrated detrimental impacts.

Section 4(c) provides a mechanism to add nonnative wildlife species to the approved list and requires the Secretary to make a determination “in a reasonable period of time” in accordance with the Section 3(b) factors. PIJAC urges the insertion of a specified time frame within which the USFWS shall make such determinations, similar to time limits imposed under other laws. If history is prologue, there is a high likelihood that few new additions will be made to the list absent a statutorily imposed deadline, and perhaps not even then.

When a list is published will there be any grace period for an importer or person possessing listed species already in the United States to revamp their operation(s) and ethically dispose of animals in their possession or do they become violators of this Act, as well as the Lacey Act, overnight? The perception, alone, that this would be the case is likely to motivate frightened individuals to abandon animals. In short, it could facilitate the introduction and establishment of numerous non-native species.

Deadlines (Sections 3(e) and Section 4(a)(1)).

The prescribed timeframes to implement H.R. 6311 are unrealistic. According to Section 3(e)(1), the proposed regulations and an initial list of approved species must be published within two years of enactment of HB 6311. The final regulations, the initial list of approved species and a notice of the list of prohibited species must be published, pursuant to Section 3(e)(2), no later than 30 days before the date on which the Secretary begins assessing the species. The assessment process must start within 37 months of H.R. 6311’s enactment (Section 3(e)(3)). Yet Section 4(a)(1) mandates that the list of approved species be finalized and published no later than 36 months following enactment. How is this possible?

History has demonstrated that agencies are often unable to comply with such mandated timeframes. Will the USFWS be provided adequate appropriations to fund this initiative? How will the USFWS be able to develop regulations, publish them in the Federal Register seeking public comment, review and finalize the regulations, seek and obtain OMB clearance and publish final rules and lists within such brief timeframes? To date, the USFWS has required an average of four years to accomplish such a process for a single species proposed for injurious wildlife listing.

The NISC and ANSTF approaches referenced earlier alleviate the USFWS’ need to expend significant effort assessing species documented as being in trade and allowed it to concentrate on first time introductions as well as go back and selectively review and assess any of the species in the catalog. The USFWS was not subjected to a series of artificial time frames it could not meet. We recommend a return to the previously agreed upon Catalog approach as a more workable mechanism—a mechanism that is science-based, measurable, transparent and implementable.

List of Unapproved Species (Section 5)

Section 5 calls for the Secretary to publish a list of nonnative wildlife species prohibited or restricted from entering the United States. The list would incorporate those species listed under the Lacey Act as well as any other species added pursuant to this Act. Is this intended to be an amendment to the Lacey Act?

Since violations of the proposed Act would also constitute a violation of the criminal provisions of the Lacey Act, full and complete lists of what is legal and illegal should be published by the USFWS to ensure adequate notice of what constitutes a violation of law. Due process calls for no less. To ensure proper notice and avoid confusion, the approved and unapproved lists should contain every species in the animal kingdom to ensure that the public is aware of what is illegal as well as legal inasmuch as they are subject to a strict liability criminal statute.

Prohibitions and Penalties (Section 3(f) and Section 6(3), (5) and (6)).

Interestingly, a person already engaged in the captive propagation or farming of a species in the United States that does make the “approved list” finds him or herself in the rather awkward position of being subject to conflicting provisions of the law. According to Section 3(f), the “Act shall not interfere with the ability of such people to possess an individual animals of a species that was imported legally.” Yet a close reading of the prohibitions in Section 6 raises significant issues which will undoubtedly compel millions of frightened people to kill or abandon their pets. Once a species appears on the “unapproved list,” the imaginary grandfather clause of Section 3 apparently evaporates because it would be illegal to breed, possess, sell, barter any nonnative species appearing on the Section 4 prohibited list!

The prohibition section will significantly impact not only the pet industry, but also food aquaculture, sport fisheries, the bait industry, and the livestock industry. These sections need to be revisited.

Fees (Section 8)

The establishment of a fee-based risk assessment system is fraught with problems. Apart from trying to ascertain how the amount of the fee(s) will be determined, this system will result in rank discrimination whereby small business will no longer be able to compete. It places the entire financial burden on larger companies willing to assume the financial risk of going through a nondescript assessment and listing process. This becomes a significant burden if the importer imports hundreds or thousands of species for which there is sketchy biological or scientific data, yet the species has been in trade in extremely large numbers for many, many years absent adverse impacts.

Unlike other areas of the economy where fees are assessed to seek government approval of a patented or proprietary drug or chemical product, importers of non-native species would be funding an assessment not only for themselves but for all of their competitors, and even other industries that trade in the same species for other purposes. How will the USFWS determine which importer is selected to bare the costs? Risk assessments and risk analyses are expensive undertakings. Will the fees be \$10,000, \$25,000, \$50,000 or \$100,000 or more per assessment per organism? How will the figures be determined and consistently applied?

Definitions (Section 11)

Failure to provide a clear definition of "wildlife" further adds confusion to H.R. 6311. As crafted, "nonnative wildlife species" includes "any species that is not a native species." The definition goes on to specifically cover the entire animal kingdom including insects, mollusks, crustaceans, arthropods, coelenterates, and all other invertebrates.

By this definition, many species of animals that are longstanding staples of the pet industry, food aquaculture, sports fishing, and livestock would have to go through the process to ascertain if they pose the "likelihood" of harming the environment or other factors set forth in H.R. 6311. These would include cattle, cats, dogs and numerous animals considered "domesticated." A clear definition of "wildlife" is essential.

Conclusion

On behalf of the Pet Industry Joint Advisory Council (PIJAC), thank you for providing us an opportunity to share our thoughts and concerns regarding H.R. 6311. Despite our reservations about H.R. 6311, we remain committed to working with your Subcommittee to address this important environmental issue.

We believe that we have raised a number of valid issues regarding H.R. 6311 and its potential for shutting down several industries dependent on nonnative species. Additionally, it could end up encouraging rather than preventing the release of non-native animals.

We respectfully suggest that the bill as currently crafted sets the USFWS up for failure. Its whole approach is one that defies practical implementation, and demands exorbitant resources. In short, it would not visit upon the public the beneficial results to which it aspires. The measure demands the nearly impossible task of conducting thousands of scientifically valid risk assessments in a short time-frame, and presumes that all species subject to these assessments shall be prohibited pending a contrary finding, even though no evidence of adverse impact exists. Unlike a risk analysis, it does not explicitly account for socio-economic and cultural considerations. The bill assigns such an impossible task to an agency woefully bereft of resources for the job, and holds hostage several vital sectors of a challenged economy.

We believe that there is a better way to achieve a superior result. To that end, we recommend that a working group comprised of various stakeholders be convened to offer recommendations on the most effective method for moving the screening process forward, as called for in the National Invasive Species Plan. A number of key industries need to be at the table. This is not simply a pet industry issue. A number of pathways have proven to be far more significant vectors of nonnative species than pets.

We look forward to working with your Subcommittee in crafting more realistic legislation that will serve the public and affected industry alike in concert with the National Invasive Species Management Plan and the Executive Orders calling for such a plan.

Ms. BORDALLO. Thank you very much, Mr. Meyers, for your testimony, and, finally, our final witness, Mr. Riley. I invite you to present your statement.

STATEMENT OF LAWRENCE M. RILEY, DIVISION COORDINATOR, WILDLIFE MANAGEMENT DIVISION, ARIZONA GAME AND FISH DEPARTMENT

Mr. RILEY. Thank you, Madam Chair. I am here on behalf of the Association of Fish and Wildlife Agencies. It is a quasi-governmental organization that brings together the state wildlife agencies and wildlife authorities, as well as territorial Canadian provinces, the government of Canada, and the government of Mexico.

I would like to thank you and the Committee for your leadership in bringing this legislation forward at this point.

The association is supportive of H.R. 6311, and we find the bill to be well conceived and pretty well organized. We especially applaud the inclusion of language in Section 3 that requires consultation with the states and, in Section 10, which recognizes the states' authority to exercise more stringent regulations.

The bill, however, could be improved in a few specific areas, and the association would very much like to work with you and the Committee to address those areas. I will touch on those very briefly.

We believe, in general, that the mechanism described in Section 3 of the bill establishes a much-needed framework to determine risk in advance of importation, including process transparency and critical consultation with state authorities.

Section 3 of the act requires the Secretary of the Interior to carefully consider the identity of organisms. This is a new challenge. With the advance of science, we have not only new tools but also new challenges in identifying organisms that are arising and will arise in the future. These advances should be considered. The act identifies things like viable eggs as items that can be regulated. It does not, however, address other gametes, such as milt or sperm, which is more readily preserved for transportation, storage, and later use in the creation of hybrids or like individuals.

Likewise, the act does not identify or address treatment of hybrid wildlife, transgenetic animals, or genetically modified organisms. All of these should be considered in some manner.

We believe that the considerations in Section 3, the "consideration factors," will differ greatly from within the contiguous United States to the island states and territories and to Alaska, and, thus, such risk assessment may benefit from regional consideration. The challenge is how to undertake that with a national listing process.

We believe this highlights the importance of the partnership and collaboration among the states and the Executive Branch in preventing nonnative wildlife invasions.

The provisions of Section 10 of the act, ensuring that the states can maintain and establish prohibitions stricter than those established in Federal regulation are critical.

Additionally, we support the idea in Section 3 of evaluating the likelihood of parasites, pathogens, diseases in free-living organisms accompanying species proposed for importation.

But the thresholds of these components of risk assessment must certainly be scientifically based, but they must also reasonably evaluate the potential transmissibility of parasites and disease agents to humans, resident wildlife, livestock, pets; must evaluate the potential for establishment of unplanned hitchhikers; and must

fairly consider the reasonable mitigation of those risks in making determinations.

The bill does consider the complexity of issues involved in regulating the possession of wildlife. While Section 3[f] of the bill addresses animals imported prior to prohibition of importation and allows persons to possess animals that would later be identified as prohibited, the details of the importation or acquisition are rarely held by the owners and may not always be traceable. So some provision should be provided to allow folks to disclose or declare their pet at the time or at the time period before an animal being listed is unapproved.

Section 8 of the act sets forth a system where proponents would reasonably be assessed the cost of determination, but there are challenges in this financing strategy. While we generally favor user-pay programs, please consider these three challenges.

First is the challenge of program establishment during the first 37 months of operation, the second is the challenge of long-term program sufficiently, and perhaps a third, less immediately apparent, challenge, but a critically important one, is inspection and enforcement. The Department of the Interior and other Federal agencies are already stretched, and this bill will place further demands upon the departments to inspect and enforce.

We believe the best way to implement this framework envisioned by the bill is to be unified across jurisdictions. Assessing risk and regulating importation and possession of wildlife is a role that the states hold in common with the Federal government, and the two systems must work in concert.

H.R. 6311 ensures collaborative law enforcement by allowing state peace officers to take into possession unapproved animals, but consideration should be given to protecting those officers enforcing both this act, as well as state prohibitions, and to protect those employees, contractors, agents, or designees that may hold and care for those animals under a chain of evidence or custody until final disposition of the animal can be determined.

I appreciate the opportunity to provide you with these thoughts.
[The prepared statement of Mr. Riley follows:]

**Statement of Lawrence M. Riley, on behalf of the
Association of Fish and Wildlife Agencies**

Thank you, Madam Chair. I am Lawrence Riley, Wildlife Management Division Coordinator of the Arizona Game and Fish Department, and Vice Chair of the Invasive Species Committee for the Association of Fish and Wildlife Agencies (Association). I appreciate the opportunity to share with you the Association's perspectives on H.R. 6311, the Nonnative Wildlife Invasion Prevention Act. The Association was founded in 1902 as a quasi-governmental organization of public agencies charged with the protection and management of North America's fish and wildlife resources. The Association's governmental members include the fish and wildlife agencies of the 50 United States and U.S. Territories, Canadian Provinces, and federal governments of the U.S., Canada, and Mexico. All 50 states are members. The Association has been a key organization in promoting sound resource management and strengthening federal, state, and private cooperation in protecting and managing fish and wildlife and their habitats in the public interest. The cross jurisdictional nature and North American perspective of the Association is of particular relevance in that nonnative wildlife, introduced either intentionally or accidentally, respect no boundaries and are an issue of local, State, regional, national, and international concern.

The State fish and wildlife agencies have broad statutory authority and responsibility for the conservation of fish and wildlife resources within their borders, both

native and nonnative. Because of our responsibility for and interest in the conservation of fish and wildlife resources, state fish and wildlife agencies have vested concerns in the prevention and control of unwanted and unplanned introductions of nonnative species that can cause damage to our wildlife resources, ecosystems, the economies of our states and the nation, or pose risks to animal or human health. To that end, the Association maintains a standing committee on Invasive Species and has been active with the Aquatic Nuisance Species Task Force (ANSTF) virtually since its inception as an ex officio member, and is also represented on the Invasive Species Advisory Committee.

Madam Chair, on behalf of the Association, I would like to thank you for your leadership in bringing forward this important legislation. As a result of the Association's roles and involvement in planning for Invasive Species, we are supportive of H.R. 6311. We find the bill to be well-conceived and well-organized. It is consistent with our Invasive Species Committee's principles for federal legislation and is aligned with strategies of the Aquatic Nuisance Species Task Force and the Invasive Species Advisory Committee. We especially applaud the inclusion of language in Section 3 (c) that requires consultation with the States as well as with the ANSTF and the National Invasive Species Council, and in Section 10 (a-b) which recognizes States' authority to exercise more stringent regulations. In addition, we are supportive of the establishment of fees to create a Nonnative Wildlife Invasion Prevention Fund to manage the costs of assessing risk. Still, the Association believes that the bill could be strengthened in a few specific areas; we would be glad to work with you and your staff to do so. We present here suggestions for your consideration.

Risk Assessment Considerations

The application of a Risk Assessment process for importation of nonnative wildlife into the United States, if conducted in a fair, equitable, and transparent manner, is a key element of managing the challenges that Invasive Species pose to wildlife, ecosystems, economies, and human and animal health. The Association recognizes that some nonnative species can be valued assets as a component of wildlife resources, as economic assets for agriculture or forestry, as subjects of educational displays and scientific research, and in some circumstances as pets. In a number of cases, State wildlife agencies manage introduced species as components of a State's wildlife resources. We believe that the mechanism described in Section 3 of H.R. 6311 establishes the much-needed framework to determine risk in advance of importation, including process transparency and critical consultation with the State authority, and provides promise of making reasoned determinations that consider and balance potential risks and benefits from import.

Section 3 (b) (1) of the Act requires the Secretary of the Interior to carefully consider "the identity of the organism to the species level, including to the extent possible more specific information on its subspecies and genetic identity." This is an important provision, as the subspecific and genetic characteristics of species can greatly contribute to the invasive (or non-invasive) nature of an organism. That said, with the advance of science, new challenges in identifying organisms are arising and will arise in the future. To the extent possible, these advances should be considered in regulations that emerge from this Act. The Act identifies viable eggs as items that can be regulated. It does not identify gametes other than eggs, such as milt or sperm—which is more readily preserved for transportation and storage. Likewise, the Act does not identify or address treatment of hybrid wildlife, transgenic animals, or genetically modified organisms. While it may not be necessary to address them specifically in legislation, the manner in which such organisms would be addressed should be considered as part of the development of plans to implement resulting regulations.

We also believe that the considerations in Section 3 (b) (4-9) will differ greatly from within the contiguous United States to island States and Territories and to Alaska; and thus such risk assessment may benefit from regional considerations. The variety and breadth of ecosystems within the United States presents a large spectrum of vulnerabilities. This highlights the importance of the partnership among the States and the Executive Branch in preventing nonnative wildlife invasions. The provisions of Section 10 of the Act, ensuring that States can maintain and establish prohibitions stricter than those established in federal regulation, are critical. Specifically, ensuring that a species otherwise "Approved" for importation into the United States under federal regulation can still be prohibited from importation into a particular State based upon that State's laws and regulations, is an essential companion to federal regulations resulting from this bill.

In addition, we support the idea in Section 3 (b) (10) of evaluating the likelihood of parasites, pathogens, diseases, and free-living organisms accompanying species proposed for importation as part of risk assessment. Realistically, most wild animals

are likely to carry some parasites or pathogens, and almost any shipping strategy may pose a risks with regard to free-living hitchhikers. The thresholds of these components of risk assessment must be scientifically-based; must reasonably evaluate the potential transmissibility of parasites or disease agents to humans, resident wildlife, livestock, and pets; must evaluate the potential for establishment of unplanned hitchhikers; and must fairly consider the reasonable mitigation of those risks through handling and shipping procedures.

H.R. 6311 appropriately considers the complexity of issues involved in regulating the possession of wildlife, particularly in Section 6. However, while Section 3 (f), Animals Imported Prior to Prohibition of Importation, allows persons to possess animals that were “imported legally even if such species is later prohibited” from importation, however, the details of importation or acquisition may not always be traceable in the case of nonnative wildlife kept legally (per individual State and/or local statutes and regulations) as pets in the United States. Thus it may be important to include considerations for pet owners to declare their pet at or during a period before the time of listing as “Unapproved” and thus maintain possession of non-native pets (if legal in their state of residence) even following prohibition, with the understanding that the provisions regarding eggs or progeny stated in Section 6 (a) (1) will apply to that animal. Because State Law Enforcement personnel are often involved in the regulation of wildlife kept as pets, such a provision could reduce the law enforcement burden for the States.

Financing Nonnative Wildlife Invasion Prevention

Section 8 of H.R. 6311 sets forth a system where proponents for an importation would be reasonably assessed the costs of risk assessment and public process for making determinations. State wildlife agencies have long relied upon user-pay, user-benefit approaches to wildlife conservation. It is a tried and true strategy. However, there are challenges that the Subcommittee should consider in adopting this strategy for this program.

The first challenge is program establishment during the first 37 months of its operation. The legislation does not address appropriations to initiate program development and risk assessment. Therefore, if federal agencies are intended to reallocate resources to initiate this program, the Association would like to work with you and your staff to ensure that such a reallocation would add to, rather than replace, existing federal activities or missions critical to the States.

The second challenge is program sufficiency. At this point of development, it is unclear what federal cost would be for a user requesting evaluation of a species for listing, either as an “Approved” or and “Unapproved” species. We assume that the cost would not be trivial. While these factors will certainly be weighed during the process of regulation development as a result of this bill, having an understanding of potential costs and reasonable charges to requestors would help us gauge the potential sufficiency of the program envisioned by this Act. A less immediately apparent federal cost, but a critically important one, is inspection and enforcement. We believe that the Department of Interior’s capacity is already stretched to inspect incoming deliveries of live wildlife, and the process improvements described by this bill will place further demands upon the Department to inspect and enforce. Workforce needs for inspection and enforcement should be considered as Congress develops a financing strategy for this effort.

Prevention is, of course, always the most cost-effective method of addressing potentially invasive species, and this bill is an excellent step in the right direction. This bill should be viewed as one step in development of a comprehensive approach that will included provisions for, and funding toward, Early Detection and Rapid Response if “Unapproved” species are detected in the early stages of establishment in the wild. Further, a comprehensive approach would enlist the assistance of States through implementation of their existing Aquatic/Terrestrial Invasive Species management plans and partner with State Wildlife Law Enforcement to extend the effectiveness of federal enforcement.

Building Unified Lines of Defense

H.R. 6311 provides a framework to address incursions of potentially invasive species so that their importation can be rationally controlled and losses to our natural resources and economies can be avoided. The best way to implement this framework is to be unified across jurisdictions. The proposed legislation to utilize scientifically credible and defensible risk assessment to identify animals “Approved” for importation into the United States is a reasonable approach to regulating the risks posed by animals that can, once introduced, directly affect the ecosystems in the United States.

Assessing risk and regulating importation and possession of wildlife is a role that the States hold in common with the Federal Government. The Federal role is focused on our national boundaries and importation into the United States, while the States regulate the possession, sale or exchange of wildlife resources into and within their borders. The two systems must work in concert. Because our roles are allied and intertwined, close consultation and coordination among the States and between the State and Federal approaches is essential. Recognizing the role of the States in Section 3 of the bill is a key provision to ensure coordination and collaboration, while Section 10 appropriately recognizes the role of States in establishing laws and regulations and does not preempt the States' authority to be more restrictive.

H.R. 6311 ensures collaborative law enforcement between federal and state jurisdictions in Section 6(c) by allowing State peace officers to take into possession any "Unapproved" animals. However, consideration should be given to protecting those officers enforcing this act as well as State prohibitions, and to protecting those employees, contractors, agents, or designees that may hold and care for those animals under a chain of evidence or custody until final disposition of the animals can be determined.

Finally, it is important to remember that the United States shares borders with neighbor nations, thus building our lines of defense in collaboration with our neighbors is a prudent strategy. The Association, whose membership includes the Canadian Provinces and federal government of both Canada and Mexico, is committed to working through our members to continue to align our approaches. This Act would provide a strong foundation for a North American strategy to reduce the occurrences of unwanted and unplanned invasions of nonnative wildlife.

Concluding Remarks

Madam Chair, the Association believes that H.R. 6311 as introduced is an excellent start in providing a mechanism for risk assessment of nonnative wildlife species proposed for importation, and in turn reducing opportunities for such species to become problematic or invasive. We applaud you for your efforts to raise this important legislation. However, given the attention to this issue, and the management burden of nonnative wildlife invasions in the States, the bill as currently drafted could be strengthened to be more comprehensive in its treatment of preventing nonnative wildlife invasions. Again, the Association would very much like to work with your staff, the Subcommittee, and the Executive Branch as this bill is refined and moves toward implementation by federal wildlife authorities in the Department of the Interior.

Again, thank you for providing us with the opportunity to testify on this legislation.

Ms. BORDALLO. Thank you very much, Mr. Riley, for your support of the legislation, and I want to thank all of the witnesses.

We will begin. I have a few questions here, and, hopefully, my colleagues will return from voting and will join me also with a few questions.

The most important question I have is to Mr. Cravalho. Are there any brown tree snakes in Hawaii?

Mr. CRAVALHO. Other than the eight finds that we have had since 1984, we are unaware of any brown tree snakes in Hawaii.

Ms. BORDALLO. When you say "eight finds," is that a single snake?

Mr. CRAVALHO. We have had, over a period from 1984 to 1998, eight finds of brown tree snakes. It would entail not only live specimens but dead specimens as well.

Ms. BORDALLO. So when you say a "find," is that a single snake, or is it a colony?

Mr. CRAVALHO. A single find.

Ms. BORDALLO. A single find. You are very fortunate. I do know that a lot of the funding that goes to Hawaii for eradication, it is the eradication of the snakes. Isn't that correct?

Mr. CRAVALHO. Currently, the funding that I am aware of that we obtain from the Office of Insular Affairs under U.S. DOI is

about \$210,000. That money is utilized by our Detector Dog program, monitoring at least 98 percent of commercial flights that come in from Guam, as well as maritime ships, and about 96 percent of our military flights that arrive into Hawaii are also monitored by our dog program.

Ms. BORDALLO. So how about DoD? Is there any funding from there?

Mr. CRAVALHO. I am unaware of any DoD funding that is forwarded to the State of Hawaii.

Ms. BORDALLO. Another I have is, Section 10[a] of my bill allows stricter approaches by states and territories to nonnative wildlife imports. Why would you say this provision is important to Hawaii?

Mr. CRAVALHO. It is very important to the State of Hawaii. For example, being an island state, as Guam is as well, we have natural barriers that prevent things from coming into the area, and, as such, we need to ensure that what can come into our part of the world is not going to be a problem to Hawaii.

It may not be a problem for the continental U.S. and the State of Alaska, but Hawaii has a very unique situation, being in the middle of the Pacific, and, as such, we would like the opportunity to have the potential of being much more stricter.

For example, snakes in the pet trade could be done here in the U.S. mainland. In Hawaii, all snakes are strictly prohibited from entry into the state, except for two males, nonvenomous snakes that are allowed for the zoo for exhibition, as well as for the State of Hawaii bringing in four sterile, male brown tree snakes, which our Detector Dog program can use as a target to ensure that they are finding snakes.

So it is essential that states can reserve the right to be a lot stricter than existing law under 6311.

Ms. BORDALLO. Thank you. Another question is, what is the average length of time it takes to list a species in Hawaii once a permit application is received?

Mr. CRAVALHO. Once a permit is received, it is reviewed for completeness. Upon acceptance of the permit, it may take anywhere from six months to one to two years to get an animal listed. You have to imagine that the listing process is an ongoing process throughout the year, and we try to incorporate all of these changes throughout the year, with one rule revision on an annual basis.

Ms. BORDALLO. And then I have a final question. Can you give an example of an animal on the list of restricted animals that requires a permit for both import into the States and possession, and explain why it is given that listing?

Mr. CRAVALHO. OK. The restricted listed animals are allowed into the state for import, as well as possession. A good example for that would be grass carp. Grass carp is allowed into the State of Hawaii for algae control, as well as aquaculture production for food. It is a requirement for a permit to be issued that the facility that is holding this animal is biosecure. In other words, the animal cannot escape into natural environs and will not pose a problem or introduce any parasites or pathogens with the introduction.

So prescreening processes from the source would be a requirement prior to entry, and anyone touching that animal in the State of Hawaii would then require a permit for possession as well.

So, for example, I, as the aquaculture producer that brings the animal into the state initially, would need an import permit, and then if I was to sell that product as a live product to another facility for usage, then that facility would require the same inspection requirements for a biosecurity facility, and then a permit would be issued by the Department.

Ms. BORDALLO. Thank you very much.

Dr. Gaden, are the factors to be considered in a risk-assessment process listed in Section 3[b] appropriate to evaluate nonnative wildlife species? Would you say that?

Mr. GADEN. I would say so, and it is a good list. As I stressed in the spoken statement, the list does include factors that you should consider. Is it going to be harmful to an ecosystem potentially in the United States? Has it caused harm in other places?

What I particularly like on the list, as well as the pathogen question, "Is it likely to bring in a pathogen?" because the sort of new frontier of invasive species problems in the Great Lakes Basin seems to be, among other things, viruses and pathogens, and, as far as I know, this is the first piece of legislation that explicitly includes that, though there are entities looking at whether ballast water brings in pathogens and transports them around.

So, yes, I think this list is appropriate. I also understand that there has been considerable input on these types of factors on the appropriateness of them from outside entities who have reviewed them and discussed this at length over the years.

We are not starting from square one here. There has been quite a bit of discussion about these kinds of factors that you would use to evaluate it.

I also think that, while we have considerable faith in the Fish and Wildlife Service, as they would develop the regime to assess the organisms, to actually establish a suitable process that would take these factors into account and have it be transparent, peer reviewed, and all of the things, scientifically based, that need to occur for it to be a meaningful process.

Ms. BORDALLO. I have another question. Why do species in trade need to be evaluated under a risk-assessment process?

Mr. GADEN. The problem on the most basic level right now is that we do not do it. There are problems when species enter new ecosystems. They do not have predators. They sometimes can find the ecosystems to be very suitable. Not every species or critter that gets into a new ecosystem will take hold, will reproduce or spread and cause harm, but the small percentages that do can cause enormous damage, and I use the sea lamprey as an example.

This is a species that came in, not through trade but through canals, but the single species alone has cost the taxpayers of the United States and Canada more than \$300 million over 50 years to control, and that is one species.

So we need to be deliberate about what we do when it comes to the movement of species, the importation and the trade of those species, and we have to be very clear, in our minds, is this species going to be a problem? Is it likely to invade, and is it likely to cause harm?

If you are not deliberate about that, and if you do not think about that ahead of time, you are taking enormous chances. You

cannot predict often what that species will do, and I would suggest to the Committee that it is far better to think about these things ahead of time than to try and, as somebody said earlier, close the barn door after the horse has left, because you will not be able to control the species, in all likelihood.

In the Great Lakes region, for example, the sea lamprey is the only aquatic species that we can control out of hundreds that are nonnative species in the basin. So prevention is what needs to occur, above everything else.

Ms. BORDALLO. I certainly agree with that. Given the devastating floods in the Midwest, is the Great Lakes Fishery Commission worried about the escapement of invasive species from aquaculture facilities, and could this maybe have been prevented?

Mr. GADEN. In answer to the first question, absolutely. One of the species that is causing the region enormous headaches right now is Asian carp, actually three species of Asian carp—black, silver, and bighead carp—which escaped when there were devastating floods back in the nineties from the southern United States.

These carp, after they escaped, spread throughout the Mississippi River system. They became, in some places, 97 percent of the biomass found; put commercial fishermen out of business. Their nets are choked full of these Asian carp. They grow to enormous sizes, and if they get into the Great Lakes, which is connected artificially to the Mississippi system through the Chicago Sanitary and Ship Canal, we expect similar results in the Great Lakes and certainly in some parts of the lakes, which are well-suited to Asian carp.

So that gives us a very real example of why aquaculture is a vector that we are very concerned about. We have to assume, once brought into North America, that a species will escape and will spread and could cause harm.

The Asian carp were reared in aquaculture facilities. They were enclosed facilities, but when they were inundated with flood waters, they were allowed to escape and have been spreading since.

The current floods that are taking place in Iowa and other parts of that region certainly do cause us concern because there are, I believe, somewhere around 16 or 20 species that are raised in aquaculture facilities in Iowa alone, many of which are currently not in the Great Lakes and many of which are not even native to North America. We know, from history, that floods like this are a vector for the spread of these species. So, yes, we are very concerned about it.

Could it have been prevented? I think, if there had been a meaningful screening process 20 years ago or more, 30 years ago, we would have had a chance to consider some of these issues before the species that were raised in aquaculture would have been allowed entry into North America.

Ms. BORDALLO. Thank you. Thank you very much.

Mr. Horne, Section 10[b] of my bill encourages the voluntary surrender of invasive, nonnative wildlife species. Can you speak to the effectiveness of Florida's amnesty days and why this is an important provision in the bill?

Mr. HORNE. Yes, I can. It has been effective. With time, I guess we will tell truly how effective it has been, but the first one that

we did, the last one, we collected 220 animals. There were actually some of the injurious species that were in there that were actually microchipped and licensed and put back out because we allowed them to be readopted.

So I think, with time, that is going to be a proven entity, especially if it is extended to where reptiles, in particular, and other invasive species can be surrendered to Animal Control, but, as of right now, most will not take reptiles, in particular, so that would be something that would certainly help in the future, or even something that the industry could to help assist in surrendering animals that people no longer wanted.

Ms. BORDALLO. Another one is your Governor, Governor Christ, recently announced the agreement between the U.S. Sugar Corporation and the State of Florida that would work toward Everglades restoration. Will preventing the import of invasive, non-native, wildlife species also contribute to the ecosystem health of the Everglades?

Mr. HORNE. Well, it will not contribute to the restoration because one of the things that we are finding with particularly pythons, tegos, now monitors, is they are eating a lot of the species that we are actually looking for restoration counts. One of the things we have to do is bird counts, which is critical to the restoration efforts. It is one of our key indicators, and, of course, we know, from the ones that we have captured and did necropsies on their stomachs, most of the contents in there are birds and native wildlife.

So it will be hard for us to determine truly what is restoration, particularly as these creatures move further and further north, and there are certainly indicators that they are not just in the Everglades. We have actually captured pythons enough to say that they are there in the Melbourne area, which is midway the state, and as food depletes, they will move to find additional food.

Ms. BORDALLO. Thank you very much.

I have a question also for Mr. Meyers. Given the inadequate authority, under the Lacey Act, to ban the species on a pre-import basis, inadequate authority that PIJAC pointed out in its October 2007 testimony, what new steps would PIJAC propose to reduce the risk of harm from imported animals?

Mr. MEYERS. There are two aspects to that. Number one, I would go back to the 1994 recommendation of coming up with a catalog of species in trade so it is clear, any species not on that catalog must go through some form of a risk analysis before it would be allowed to come into the country. That is number one.

Number two, on some species that are in trade, we think that more work could be done with CDC and others on what type of screening should be done to make sure there is screening for health issues and things of that nature.

Had health certificates been required, or some screening or testing prior to the importation of the Gambian pouch rat, or whatever the animals were that brought the monkeypox in, that would have been prevented. We would like to work with getting those things put into place.

Ms. BORDALLO. Very good. I have another question. Your testimony states that the H.R. 6311 places an untenable burden on the

trade to scientifically prove a negative; example, the absence of harm.

Now, isn't it true that Federal laws require similar efforts by other industries? For example, those who want to introduce new pharmaceuticals, new food additives, new food contact materials, medical devices, and so on; they all have to go through a similar process of demonstrating their products are not harmful before introducing them into commerce.

So why can't the pet industry, then, meet this burden for its products, as other industries already do?

Mr. MEYERS. Well, because if you look at the harm that you go through on approving a drug, it is a lot different than trying to meet all of the criteria of harm that are listed here. That is why the risk-management aspect, I think, is very important to put in juxtaposition because risk assessment is only part of that, proving the harm or not providing the harm.

We think it has to be part of a risk-analysis process to where you can take into account and make some of those types of judgmental factors because the science is not as clear on proving harm to my body with a drug or a chemical as it may be to the introduction of some animals where some of the science may be a little nebulous, and also all of the different factors.

I happen to have been on the black carp assessment protocol that we did to try to test the system, and I will tell you, had the catalog system been in effect, and that risk assessment had been done prior to its coming in, I suspect that the black carp would not have been allowed in the United States, and that is why we support the first-time-introduction approach because I think there are different criteria, both in terms of looking at the risk assessment, looking at harm or potential, as well as the management that can go with it.

Ms. BORDALLO. Thank you. I have a question for Mr. Riley.

Section 3[c] requires consultation with the United States, as well as other stakeholders, and 3[d] requires transparency. Now, why are these provisions important to fish and wildlife agencies?

Mr. RILEY. Madam Chair, the states have broad authority within their own boundaries to regulate the possession and importation, the exchange, sale, barter of resident wildlife, both native and non-native. These are key provisions, and a bit of that discussion came up when Dr. Frazer talked a little bit about the long-arm provisions of the Lacey Act. Those state authorities work in concert with Federal authorities.

One thing to consider, in terms of enforcement, was if we are going to do this, we probably ought to enforce it as well. There are probably, at least in my state, about 15 times the number of wildlife enforcement officers at the state level as there are with the Fish and Wildlife Service. In many instances, it is the state wildlife officer that is the one that makes contact with an individual with regard to either permitting or an enforcement contact with regard to illegal possession of an animal.

The complementary roles and the collaborative roles between the state and the Federal authorities are crucial in terms of making a system like this work.

Ms. BORDALLO. Another question I have. In a hearing we had earlier this week, Mr. Wittman asked a question to the Director of

the Virginia Department of Game and Inland Fisheries about the exasperated effect of invasive species in the face of climate change. With increasing temperatures in Southwestern lands and rivers, is this an additional reason to control the import of invasive, non-native wildlife species?

Mr. RILEY. Madam Chair, it certainly is. As climate change progresses, however it manifests itself, habitats will change. Habitats that are already stressed are those that are most likely to be susceptible to wildlife invasions. So maintaining the health of habitats and restoring habitats, so that they can be resilient is a key strategy in maintaining their protection against invasions.

We may also find ourselves in the position of making interesting and difficult decisions in the future where, because of the species complement changes, we may need to consider, is there a nonnative that will provide a service, an ecological service, to replace something that is perhaps not savable? Those will be very, very difficult decisions, and so part of our emphasis within our states certainly has to be on restoration and maintaining the resilience of ecosystems.

Ms. BORDALLO. Thank you.

Mr. Meyers, I will go back to you again, just to clarify for the Committee here, for first-time introductions, you want a screening process similar to my bill, and for species in trade, you recommended a phased-in approach, just to clarify.

Mr. MEYERS. Thank you, Madam Chair. I think, for first-time introductions, while the management plan calls for a screen, there is a lot of discussion as to what is a screen versus a risk assessment? A risk analysis should be done on a first-time introduction to screen it, determine whether or not there is a potential problem, and to deal with the risk-management aspect.

For species in trade, we are not opposed to their having a screening process, an expedited screening process, or something that is clearly not going to happen under the current injurious wildlife structure. But any species in trade should still be able to be subject to an analysis to determine whether or not it ought to go on a prohibited list, but to have a de facto prohibition because it cannot be done within the timeframe prescribed under a statute just puts a lot of species out of trade that may be of absolutely no harm whatsoever.

We are not opposed to having species in trade looked at, reviewed, and having certain types of controls. Again, by letting the states have stricter domestic measures, or stricter measures, that also allows them to control more vigilantly what may come into their state that they do not want that may be allowed somewhere else in the country.

You must remember, a person knowingly bringing that in has a Lacey Act violation, which has very serious consequences. So the stricter state authority is very critical.

Ms. BORDALLO. Just one final question to you, Mr. Meyers. To the extent data are limited in understanding the scope of the potential issue with the pet trade, would PIJAC or its partners be willing to make available to the Committee and/or independent scientists the available records on which species have been imported, when, and how many individuals?

Mr. MEYERS. We had already started that process in anticipation that the catalog would have gone through in the earlier legislation for the ornamental fish trade, and we are pulling together because, unfortunately, the LIMAS database quite often just puts down "tropical fish," and they do not have the species data.

So we had asked the major importers in the United States to provide to us the lists of all of the species that they have imported over, while the earlier drafts said "as long as 15 years," we asked them for the last five years or 10 years. I do not remember exactly. We have compiled that list. It has been reviewed. It will probably be published in some type of a journal.

We have no problem making that available, and we will work through all segments of the industry to gather that data, work with the agency and other stakeholders, environmental organizations, to verify that these are legitimately species in trade, and one way to do it is going back to the lists of people that are licensed to commercially import.

Ms. BORDALLO. What would be the timetable on this? Could you give us some idea?

Mr. MEYERS. It took us, to develop the freshwater fish list by using biologist interns, probably about eight or nine months, and I believe one of those papers may be actually published by that student as part of her thesis work.

I would say that it could probably be done, and I may be overly optimistic, within an 18-month time period.

Ms. BORDALLO. Very good. Thank you very much, Mr. Meyers.

The Subcommittee now welcomes our guest from Florida, The Honorable Congressman Klein, and I ask unanimous consent that Mr. Klein from Florida be allowed to join the Subcommittee on the dais to participate in the hearing. Hearing no objection, so ordered.

I would like to ask you, Mr. Klein, to ask the questions that you wish to.

Mr. KLEIN. Thank you, Madam Chair. I really appreciate the democracy in action here at this Committee. Thank you very much for holding this hearing, a very important issue, and thank you to the guests on the panels that have been with us today to talk about this and find ways to work with the Chair and other Members of the Congress to make a more efficient and streamlined process to deal with what many of us around the country are concerned with, in terms of nonnative wildlife and the impact it is having on our states.

One of the main reasons that I have taken an interest in combating this, invasive nonnative species, relates to the Florida Everglades. The Florida Everglades are a big part of the State of Florida. As many of us know in the Congress, there has been a tremendous effort, at the state and Federal level, and one of the largest combined efforts in U.S. history to work together as state and Federal governments to the Corps and other agencies to protect what we know as the "River of Grass."

Because there are so much of the resources that are being invested in this, there is a great stake of making sure that the plans are working, that the water is restored in many ways to sheet flow, and that the impact to the ecology and the environment of the area and the entire state is restored as much as possible.

The issue of nonnative wildlife is a big issue, and, for number of reasons, there are a lot of different types of wildlife that have gotten into the Everglades in the wild and have created a very, very significant problem, which are changing, in many cases, the impact of the native species and impacting the Everglades themselves.

The Burmese python is something that has been mentioned by Mr. Horne and others, and this is something that we know, in our area, is a big issue. If it is OK with the Chair, my good friend, Alcee Hastings, Congressman Hastings, from Florida, was unable—he has got a competing scheduling item today, but he has a written statement, and if I could submit it, with your consideration, to be admitted to the record, I would appreciate that.

Ms. BORDALLO. No objection, so ordered.

Mr. KLEIN. Thank you.

[The prepared statement of Mr. Alcee Hastings follows:]

**Statement of The Honorable Alcee L. Hastings, a Representative in
Congress from the State of Florida**

Thank you, Chairwoman Bordallo, for introducing the Non-Native Wildlife Invasion Prevention Act and for holding this extremely important hearing on this legislation today.

First, I would like to thank our distinguished panel of witnesses for attending the hearing. In particular, I appreciate the presence of Mr. George Horne, Deputy Executive Director of the South Florida Water Management District.

The introduction of non-native species can often be effectively managed. But sometimes, as is evident now in Florida, invasive species pose a major threat to the health of the native species and humans alike and harms our environment and economy.

The Lacey Act's injurious wildlife provision is the main regulatory safeguard from invasive animal species introductions in the United States. It is my belief that the Act, last amended in 1988, does not comprehensively address the challenges of today's world, as it does not take into account the increasing flow of commerce and globalization and the growing emergence of non-native species.

Specifically, the Lacey Act only lists a limited amount of species as injurious and the average time between initiation and final actions of listing reviews has increased to over four years in the last decade. Further, the Act only evaluates species after they have caused widespread damage to the environment and to human and animal species' health.

In my judgement, we need a fresh approach to confronting the threats posed by non-native species. The increasing emergence of non-native species can strain our management resources and cause long-term damage to our environment. We need more effective preventive measures to limit intentional importation of invasive species. This bill seeks to accomplish just this by evaluating the risk of such species before it is imported and established.

My interest in this issue initially arose because of the impact of Burmese pythons on Florida's Everglades. The Burmese python preys on more than twenty species native to Florida. Their presence threatens the endangered species and plants of the Everglades' unique ecosystem and hinders Everglades restoration efforts. Further, it has the serious potential to cause harm to the people visiting and living in the Everglades and surrounding communities.

This problem is not merely relegated to Florida. A 2008 United States Geological Survey model predicted that the Burmese python may snake its way up the Southeast and even toward the Pacific states.

Last September, Congressman Ron Klein (D-FL) and I wrote to the Director of the United States Fish and Wildlife Service (27 January 2009USFWS) expressing concern over the sharp rise of wild Burmese pythons in and around Everglades National Park. We urged USFWS to fast track the injurious wildlife review of this harmful invasive species. We also called on USFWS to establish a task force to its internal injurious listing process to ensure that the Lacey Act is implemented commensurate with the contemporary challenges we face with invasive species.

State agencies, including the Florida Fish and Wildlife Conservation Commission, have developed and implemented python control programs in Florida to prevent the

species from becoming more widespread. However, our state lacks sufficient resources to continue to effectively manage this species.

Florida isn't alone. States across the nation are increasingly attempting to tackle the same threats. If we are to successfully address this issue in the long-term then we need to comprehensively address non-native species introduction and importation.

I strongly support the provisions in this bill that assist with the regulation of potentially harmful non-native wildlife into the United States. Our nation would benefit from federal policies that enhance the screening process and increase management, control, and enforcement measures of these species. This bill puts us on the path toward finally doing just that.

Mr. KLEIN. Senator Nelson and Congressman Hastings have been taking a lead on dealing with the Burmese python, and, again, it is just one example of a number of various species, but that one, in particular, I am highlighting because I know the water management district has petitioned the Fish and Wildlife Service to list the Burmese python as an injurious species, and this has, unfortunately, been going on for quite some time, and it does not seem like we are where we need to be, and it just seems to be taking an inordinate amount of time.

If I can direct a question to Mr. Horne, in what ways have these types of delays hampered the efforts to prevent the spread of the Burmese python in the Everglades, and if you could explain to us what you believe the impact of that is?

Mr. HORNE. Well, there is very little effort going on out there except for the fact that there is some assistance from Everglades National Park. They have licensed one of our employees. He carries a weapon. In his daily runs, he takes pythons. Last month, I believe he had taken seven in one day. You can go down the same levee every single day and pick up a python.

They are eating the wildlife at enormous rates. In some areas where you used to see lots of rabbits and birds, you see nothing, but you find pythons every time you go there.

As I stated earlier, one of our key indicators in restoration is bird counts, and if we are successful, we have reestablished those rookeries in the 'Glades, and the fact that the pythons are there and that they are establishing themselves in and around rookeries means that the bird counts are going to go down, and some of the species which are not in threat now will be because they are going to eat them, and every time you find one, you know, they typically always have a bird in it.

So it is going to really hurt our ability, or our measures for restoration are going to have to change, but I think birds are one of the critical things that truly attract people to the Everglades and have made it what it is today, and they may not be there if we do not have, you know, a concerted effort to extinguish these animals.

They need to disappear. The mere fact that there are anywhere between five to 40,000 animals out there, according to estimates from biologists, that means we are probably never going to get them under control. In other species that are going to spread—the Nile monitor, we already know they have a 20-square-mile area they have established, and tegos are in Everglades National Park, and we have captured one of those recently in cages that our staff helped manufacture.

So they are there. They are not going to go away. We need a concerted effort to eliminate them, and this provision certainly helps control new things coming in, and maybe go back and look at some of the other animals that are there to limit their spread.

Mr. KLEIN. May I follow up, Madam Chair?

Ms. BORDALLO. You have as much time as you wish to consume.

Mr. KLEIN. Thank you very much, Madam Chair.

Thank you for that explanation. The reason I brought up the python is because that is a very significant identified issue, but there are others. I think the concern that we have with the Everglades, and, again, similar to other parts of the country, is that many of these are in an earlier stage, and, if not stopped now, we will continue to have a proliferation of the types of nonnative animals that will impact the ecology and the various other types of wildlife in the Everglades, which will have a damaging effect on the Everglades itself.

As a follow up to this, obviously, the Everglades are a very large area, but it is also surrounded by a very vibrant agriculture business in Florida, and the other concern that we have, of course, is that these pythons do not necessarily know borders or what is public land and what is private land, and there is a concern also in the agriculture industry that these could migrate into other areas and consume livestock and do other things which would impact the agriculture industry. Any sense of the threat of that?

Mr. HORNE. Well, indeed, some of that has happened already. One of the snakes that was being tracked had actually eaten a farmer's goose, which is adjacent to the Everglades.

Mr. KLEIN. Did the goose have a name?

Mr. HORNE. I am sure it probably did, and it probably squawked quite loudly for a moment, but they have spread out, and, of course, there are lots of chicken farms and other things that are in the 'Glades. If they get there, they will get in, they will eat the livestock, and, of course, the critical thing with the python: They can eat 80 percent of their body mass, and they can weigh up to in excess of 200 pounds. So there are not many things that it cannot eat, so they are an absolute threat.

Mr. KLEIN. Thank you for that information as well. Again, I think this is a very significant issue, and, again, the python is the example because of the size and the proliferation and its ability to consume large animals, large quantities as well. But, again, I am very concerned about the overall impact in the agricultural community and the wild.

A lot of people are not necessarily familiar, even in Florida, of the fact that when you have a large area like the Everglades, there is a responsibility to maintain. It is not just letting wild be wild. We have an invasive species of plant life that is creating problems, which the water management district is working on, as well as the animals.

A second question: I know there has been some activity in Florida, and maybe some other states that you can comment on, to try to creatively deal with invasive species, and I understand the Chairwoman has been very interested in this as well, and I appreciate that. But maybe you can talk to us regarding some of their

ideas about amnesty and other ways they are trying to get the public to participate in the elimination.

We know that, unfortunately, many animals get into the wildlife based on dumping of snakes and things like that into that area, and then they grow very rapidly, but can you share with us some ideas and programs that are out there that the public can work with us on, and we can encourage as well?

Mr. HORNE. We have actually started an amnesty day in Florida where you can come in and surrender your pets, and, of course, they put them back out for readoption. If they are an injurious animal, they will have microchips placed in them and licensed. The pythons, for instance, you have to pay a license now. You have to register. You have to pay a \$100 fee to own the python, and, of course, report its loss or transfer, if you are going to get rid of it.

Our agency has printed cards so we can have, like, a first responder. If you see a python, we have a number for our employee. You can call, and he will come and take it out or contact the Park Service in Everglades National Park, and they will come out and assist with that as well.

So we have some programs started, but it needs to be far expanded to take care of all animals, and, particularly, not just an amnesty day. It needs to be where you can surrender these animals at any time because my biggest concern is what happens the week after you have an amnesty day, and someone decides they want to get rid of their large reptile? So we need to expand that program, but I think it is going to work well. There just needs to be more of it.

Mr. KLEIN. And, Madam Chair, as we work through this issue, obviously, ideas from around the country would be helpful in working with our agencies and the state and Federal government, in terms of coming up with ideas.

Clearly, the piece of legislation that is being considered, I think, goes a long way in moving in the right direction. Obviously, there is an interest of pet owners to own pets and have the enjoyment of that, but there is also a major public policy concern that impacts cost of operations and maintenance of large areas like the Everglades or other park systems or water systems, as well as the impact that it has on the local communities.

So the balance of interests is there, but, at the same time, I think we would all agree that something that is against the law should not be allowed in the country, and something that should be considered a threat; there needs to be a process to, using science and the best science available, to make decisions expeditiously and appropriately, with everybody at the table, and then when that happens, we have the resources available, through our various levels of government, to enforce and to work with local communities to make sure that we do not have problems that get out of control.

So, Madam Chair, thank you for allowing me to participate today, and I look forward to working with you on this legislation.

Ms. BORDALLO. I thank the gentleman from Florida, Mr. Klein, for his input. He may have problems in his state, but we have problems in our territory, and that is the brown tree snake, Mr. Klein. You have the pythons; we have the brown tree snake.

I want to thank all of the witnesses for their participation in the hearing today, and Members of the Subcommittee may have some additional questions for the witnesses. We were interrupted with the votes, and some of them wanted to come back. So we will ask you to respond to these in writing. The hearing record will be held open for 10 days for these responses.

If there is no further business before the Subcommittee, the Chairwoman again thanks the Members of the Subcommittee and our witnesses, and the Subcommittee now stands adjourned.

[Whereupon, at 12:25 p.m., the Subcommittee was adjourned.]

