

S. HRG. 111-1219
LEGISLATIVE HEARING TO CONSIDER THE FOLLOWING
ITEMS: S. 373, A BILL TO AMEND TITLE 18, UNITED
STATES CODE, TO INCLUDE CONSTRICTOR SNAKES; S.
1519, NUTRIA ERADICATION AND CONTROL ACT OF
2009; S. 1421, ASIAN CARP PREVENTION AND CONTROL
ACT; S. 1965, FERAL SWINE ERADICATION AND CON-
TROL PILOT PROGRAM ACT OF 2009; H.R. 2188, JOINT
VENTURES IN BIRD HABITAT CONSERVATION ACT OF
2009; S. 1214, NATIONAL FISH HABITAT CONSERVATION
ACT; H.R. 3537, JUNIOR DUCK STAMP CONSERVATION
AND DESIGN PROGRAM REAUTHORIZATION ACT OF
2009; H.R. 3433, TO AMEND THE NORTH AMERICAN
WETLANDS CONSERVATION ACT; AND H.R. 509, MARINE
TURTLE CONSERVATION REAUTHORIZATION ACT OF
2009

HEARING
BEFORE THE
SUBCOMMITTEE ON WATER AND WILDLIFE
OF THE
COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE
ONE HUNDRED ELEVENTH CONGRESS
FIRST SESSION
DECEMBER 3, 2009

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ONE HUNDRED ELEVENTH CONGRESS
FIRST SESSION

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ACT OF 2009; S. 1214, NATIONAL FISH HABI-
TAT CONSERVATION ACT; H.R. 3537, JUNIOR
DUCK STAMP CONSERVATION AND DESIGN
PROGRAM REAUTHORIZATION ACT OF 2009;
H.R. 3433, TO AMEND THE NORTH AMER-
ICAN WETLANDS CONSERVATION ACT; AND
H.R. 509, MARINE TURTLE CONSERVATION
REAUTHORIZATION ACT OF 2009**

THURSDAY, DECEMBER 3, 2009

**U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON WATER AND WILDLIFE,
*Washington, DC.***

The subcommittee met, pursuant to notice, at 2 p.m. in room 406, Dirksen Senate Office Building, Hon. Benjamin L. Cardin (chairman of the subcommittee) presiding.

Present: Senators Cardin and Bond.

**OPENING STATEMENT OF HON. BENJAMIN L. CARDIN,
U.S. SENATOR FROM THE STATE OF MARYLAND**

Senator CARDIN. Well, good afternoon everyone. I am pleased to convene the Subcommittee on Fish and Wildlife of the Environment and Public Works Committee.

Let me just point out the challenge we are going to have here. There are scheduled votes at quarter of three, so we are going to try to get as much of the hearing done as possible by that time.

We will see how far we can get, and we will see whether we need to take a recess, or how we will complete the hearing.

I have talked to Senator Crapo's staff, and the two of us are going to defer our comments to later in the hearing.

And with that, I would recognize Senator Bond.

[The prepared statement of Senator Cardin follows:]

STATEMENT OF HON. BENJAMIN L. CARDIN,
U.S. SENATOR FROM THE STATE OF MARYLAND

I want to welcome my colleagues and our witnesses to today's important legislative hearing that will look at nine critical wildlife bills that have been referred to this committee.

Habitat loss and invasive species are two of the largest threats to biodiversity in the United States. We lose an estimated 6,000 acres of open space each day in this country, a problem for wildlife habitat that is only compounded by other sources of stress like climate change and invasive species.

We have a responsibility to preserve wildlife and their habitat as part of being good stewards of the earth. But we have an economic responsibility as well that gains more importance in these difficult times.

According to the 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, 87.5 million U.S. residents fished, hunted, or watched wildlife in 2006. They spent over \$122 billion pursuing their recreational activities, contributing to millions of jobs in industries and businesses that support wildlife-related recreation.

Today we will look at two very important habitat conservation bills, H.R. 2188, Joint Ventures in Bird Habitat Conservation Act of 2009 that was introduced in the House of Representatives by my friend from Maryland, Congressman Frank Kratovil, and S. 1214, the National Fish Habitat Conservation Act introduced by Senator Lieberman.

We will look today at three pieces of legislation that are intended to address threats to our wetlands:

- S. 1519, the Nutria Eradication and Control Act of 2009,
- S. 1965, the Feral Swine Eradication and Control Pilot Program Act of 2009, and
- H.R. 3433, a bill that would amend the North American Wetlands Conservation Act to make its funding mechanism more flexible.

We know that our wetlands are important natural resources that provide numerous values to society, including fish and wildlife habitat, flood protection, erosion control and water quality preservation. Maryland provides a good case in point for how our Nation's wetlands are threatened by invasive species and habitat loss.

For nearly six decades at the Blackwater National Wildlife Refuge in Maryland, nutria have been killing wetland grasses that provide vital habitat for native shorebirds, muskrats and blue crabs not to mention the role these grasses play in maintaining water quality.

Nutria are responsible for the loss of more than 5,000 acres of wetlands in Blackwater refuge alone. The loss of these wetlands, which are vital to the fishery, was estimated to cost Maryland's economy nearly \$4 million annually.

In 2000, Congress established a Federal funding source to develop a successful public-private partnership program to address nutria in Maryland. Healthy wetlands are returning to places where nutria have been removed both in Maryland and in Louisiana. But the job is not yet done.

That is why I have introduced the Nutria Eradication and Control Act of 2009 that would continue and improve the successful nutria eradication program in Maryland and Louisiana and expand it to other impacted States including Oregon and Washington.

Senator Landrieu has introduced S. 1965 to implement a pilot program to control feral swine which are reversing the progress made in Louisiana's wetlands as a result of nutria eradication.

We will also look today at two bills to control the import of deadly constrictor snakes and Asian carp into the United States. We heard dramatic testimony from Senator Nelson in front of this subcommittee this past July on the number of invasive constrictor snakes in Florida and the dangers these snakes pose to humans and to the environment.

I am especially interested in acting on this issue. USGS projections show that, with climate change, the eastern shore of Maryland could become a suitable home

to these deadly snakes. Meanwhile, Asian carp are becoming an ever increasing threat to biodiversity in the Great Lakes.

We will consider H.R. 509, the Marine Turtle Conservation Reauthorization Act of 2009 which reauthorizes this critical program.

Last we will look at H.R. 3537, Junior Duck Stamp Conservation and Design Program Reauthorization Act of 2009. This bill would reauthorize the oldest youth focused conservation program run by the Federal Government.

I ask unanimous consent that statements from the sponsors of the bills that we will consider here today be entered into the record.

I want to thank our Agency and expert witnesses for coming before this subcommittee. Our panelists have been on the front lines of preserving our wildlife habitat and conserving our native species.

You are the ones doing the research and implementing programs on the ground to address these problems. You know what works and what does not work when it comes to stopping the loss of habitat and the spread of invasive species. I look forward to hearing your views on the bills we are examining here today.

**OPENING STATEMENT OF HON. CHRISTOPHER S. BOND,
U.S. SENATOR FROM THE STATE OF MISSOURI**

Senator BOND. Thank you very much, Chairman Cardin. A real pleasure to be with you. There is no better committee. As an outdoorsman, I enjoy the hunting and fishing subcommittee. You throw in a little clean water so you can drink a little with the hunting and fishing, and it is as good as it gets.

But I thank you and Senator Crapo for holding this hearing of the hunting and fishing subcommittee. Whether you like to fish, as I do, or you are just interested in preserving the beauty of our aquatic treasures, S. 1214, the National Fish Habitat Conservation Act is something that you ought to support, as we strongly support it.

I am proud to cosponsor this bill with Senator Lieberman as well as Senators Crapo, Cardin, Murkowski, Casey, Whitehouse, Klobuchar and others. We ought to be able to get that out of committee.

Senator CARDIN. Sounds as if you are off to a good start.

Senator BOND. Yes, we are moving along. I think this is an example of how Senators can come together and legislate in a bipartisan fashion, and I am thankful for the full committee Chair and Ranking Member agreeing to put this bill on the agenda.

The National Fish Habitat Conservation Act has its roots in a bill I have been proud to support for years, the Fishable Waters Act. The basic premise of the two bills is the same: provide support to local efforts to protect fish habitat based upon the recommendation of all stakeholders involved in the problem and the solution. This includes not only traditional government, environmental and conservation interests, but also fishermen and anglers, farmers, foresters, developers, even miners. They all play a role in the problems facing fish habitat, and therefore all need to have a role in providing solutions to protect fish habitat.

Only when everyone is sitting at the table can we come up with local, fair, balanced and lasting solutions to achieve our environmental goals. This bill may be modest. Its authorization level is only \$75 million per year, but I hope this bill and efforts it inspires can provide a model for coming together from the ground up to solve our problems.

There are concerns about provisions in the bill giving authority to the Secretary of the Interior to acquire water rights as part of

a project to protect fish habitat. Of course, we should always be careful when we are giving power like that to the Federal Government. I hope the way this program is structured, including agricultural, development and commercial interests in the decisionmaking process, it will help to alleviate some of those concerns. I do support working on any adjustment that might help ease these concerns.

Now, I am very thankful for including this legislation today. I am delighted to see representatives of the American Sport Fishing Association here today. I appreciate the contributions they make. I talk about it and think about it a lot, but I just wish I had more time to do sport fishing.

I also know that many groups and individuals from the conservation community put a great deal of work into the legislation. I thank them, as well. Without your hard work, we would not be here today.

And I thank all the Government officials from different agencies for cooperating on hammering out a process that will work. There can be only one chief in the tribe, but the contributions of many agencies will be vital to this effort. I thank all of the groups for working together.

And I would say, Mr. Chairman, that we have embarked on a number of these projects in Missouri where we have worked with the EPA, the State Department of Natural Resources, the landowners, the University of Missouri. They have developed agricultural methods to lessen significantly the amount of pollution running off from farms. We still have pollution running off from development areas where there are roads and shopping centers. But all of these things can best be dealt with when you get all of the affected parties working together.

I am very proud of and would be happy to take any of my colleagues or others who are interested to see what we have been able to do to improve the fishing. I am going to be leaving here in 2011, and I want to make sure that fishing is good in Missouri when I get finished.

Thank you very much, and we look forward to seeing this bill pass.

[The prepared statement of Senator Bond follows:]

STATEMENT OF HON. CHRISTOPHER S. BOND,
U.S. SENATOR FROM THE STATE OF MISSOURI

Thank you, Senators Cardin and Crapo, for holding this hearing in what I affectionately like to refer to as the Hunting and Fishing Subcommittee.

Whether you like to fish, as I love to do, or you are just interested in preserving the beauty of our aquatic treasures, S. 1214, the National Fish Habitat Conservation Act is for you.

I am proud to cosponsor this bill with Senator Lieberman, as well as Senators Crapo, Cardin, Murkowski, Casey, Whitehouse, Klobuchar and others.

This is an example of how Senators can come together and legislate in a bipartisan fashion. I am thankful that the Chairman and Ranking Member agreed to put this bill on the agenda.

The National Fish Habitat Conservation Act has its roots in a bill I have been proud to support for years, the Fishable Waters Act. The basic premise of the two bills is the same: provide support to local efforts to protect fish habitat based upon the recommendation of all stakeholders involved in the problem and solution.

This includes not only traditional government, environmental and conservation interests, but also fisherman and anglers, farmers, foresters, developers, even miners.

They all play a role in the problems facing fish habitat, and therefore all need to have a role in providing solutions to protect fish habitat.

Only when everyone is sitting at the table can we come up with local, fair, balanced and lasting solutions to achieve our environmental goals.

This bill may be modest, its authorization level is only \$75 million per year, but I hope this bill and efforts it inspires can provide a model of coming together, from the ground up, to solve our problems.

There are concerns about provisions in this bill giving authority to the Secretary of the Interior to acquire water rights as part of a project to protect fish habitat. Of course, we should always be careful whenever giving power to the Federal Government.

I hope the way that this program is structured, including agricultural, development and commercial interests in the decisionmaking process helps alleviate some of the concern.

Additionally, the bill specifically preserves all existing private property rights.

Furthermore, the bill specifically prohibits the purchase of land or water rights without the express, written consent of property owners.

That said, I do support working on any adjustment that might help ease concerns in this regard.

But for now, thank you again for including this legislation today.

I see Gordon Robertson of the American Sportfishing Association is here today. I want to thank him for his contribution today and on the bill.

I also know that many groups and individuals from the conservation community have put a great deal of work into this legislation, and I want to thank them as well. Without your hard work we would not be here today.

Similarly, I want to thank the government officials from the different agencies for cooperating on hammering out a process that will work. There can only be one chief in the tribe, but the contributions of many agencies will be vital to this effort. I thank you for your work now and in the future.

Thank you.

Senator CARDIN. Well, Senator Bond, I want to thank you for your leadership on this issue. S. 1214 is a critically important bill that will do much good in protecting our fish habitat. It is not only important for clean water and for environment. It is a critically important industry and brings in significant revenues to our communities. And it is part of the way of life here for many of us. I thank you for your strong leadership on this issue, and I am proud to be a co-sponsor of that bill.

We do have nine bills on the hearing this morning dealing with invasive species and conservation. There is a bill that has been introduced by my colleague in the House, Congressman Kratovil, H.R. 2188, dealing with bird habitat conservation, and a bill that I have introduced, S. 1519, dealing with nutria eradication.

One of the bills on our list is S. 1421, the Asian Carp Prevention and Control Act.

Senator Levin, it is a pleasure to have you before our committee.

**OPENING STATEMENT OF HON. CARL LEVIN,
U.S. SENATOR FROM THE STATE OF MICHIGAN**

Senator LEVIN. Thank you very much.

Chairman Cardin, Senator Bond, thank you for holding this hearing. Thank you so much for all the great work you do. The area you described I know up close and personal being a Representative or Senator now from a Great Lakes State just how these invasive species can do massive damage to our environment and to our lakes.

We, I think, are familiar with the Asian carp. There has been a huge effort made to try to control the Asian carp to make sure it does not get into the Great Lakes. Barriers have been built. Poisons have been installed. Descriptions of how much they can eat,

40 percent of their weight every day. There is a picture of one of the species here, the bighead, which as you can see is just about as big as the Fish and Wildlife officer that is holding it up.

And there is an urgent problem here. The problem is that some people actually bring these carp in live into the United States. And if they are released into the lakes or into our streams, they then, of course, reproduce at warp speed. The older they get, the more they reproduce.

Most of the varieties of the Asian carp have been banned in terms of the Lacey Act bringing them into the United States. This one particular variety, the bighead, has not been banned. And so we simply are asking the committee, subcommittee then committee in the Senate and Congress then to do is to make sure that the big-head variety of the Asian carp is prohibited, as the other varieties are.

There is a report that has been issued now by the U.S. Geological Survey, a biological environmental risk assessment. The conclusion is that the risks associated with all components of the probability of establishment of the bighead carp are rated high. At the end of that quote, which I have in full in my printed or my prepared statement, it says that this classification of high risk, unacceptable risk justifies mitigation to control negative effects and means—and these are the key words—bighead carp are organisms of major concern for the United States.

So I know we are trying to stop them from getting into the Great Lakes by building dispersal fences. We have poison programs, but the best way to stop them is prevent them from coming into the United States without a license. And the Lacey Act is there for this purpose. Our bill would amend the Lacey Act to include the big-head carp as a prohibited import in the United States without a special license.

[The prepared statement of Senator Levin follows:]

STATEMENT OF HON. CARL LEVIN,
U.S. SENATOR FROM THE STATE OF MICHIGAN

Thank you, Chairman Cardin and the members of your subcommittee, for holding today's hearing on a very important bill to reduce the threats to our wildlife from a species of Asian carp. It is a bipartisan bill co-sponsored by my co-chair, Senator George Voinovich, and five other colleagues.

As a Senator from a Great Lakes State, I have seen up close the consequences of allowing aquatic invasive species to enter our waters. About 180 non-native organisms have been identified already in the Great Lakes. While there are some particularly destructive invasive species, like the zebra and quagga mussels, that have already been established in the Great Lakes, the Asian carp would dramatically change the fishery make-up of the Great Lakes. The Asian carp grow very big, reproduce quickly, and are now the most abundant fish in parts of the Mississippi River. It's important to Michigan, the other Great Lakes States, and the Canadian provinces of Quebec and Ontario to prevent these fish from entering the Great Lakes and destroying the native fishery.

Because invasive species can quickly spread throughout the country, the best chance that we have against invasive species is prevention. The Asian Carp Prevention and Control Act would include the bighead carp on the list of injurious species under the Lacey Act. Such a listing would prevent the importation and interstate commerce of live bighead carp without a permit. Limiting the movement of live bighead carp will lower the risk of an introduction of these fish into the Great Lakes which has a fishery valued at \$5 billion–\$7 billion annually.

The Asian carp grow very big, reproduce quickly, and are now the most abundant fish in the Mississippi River. As USA Today described it, the bighead carp “doesn't have a stomach, so it eats constantly. By vacuuming plankton, algae and everything

else in its way, the fish can grow to more than 4 feet and 85 pounds. The older and bigger it gets, the more it reproduces." The article also states that Asian carp "can consume 40 percent of their body weight every day." The U.S. Fish and Wildlife has already listed other species of Asian carp (silver, large-scale silver, and black) under the Lacey Act but has so far failed to complete consideration of the bighead carp for inclusion despite the strong evidence of the harm that these fish will do. We believe that the failure to include bighead carp in the listing is clearly an administrative oversight, but we cannot wait any longer. The risk is too great. In 2005, the U.S. Geological Survey (USGS) provided a biological synopsis and environmental risk assessment to the Fish and Wildlife Survey about Asian carp. The USGS concluded:

"The risk associated with all components of the probability of establishment (organism within pathway, entry potential, colonization potential, and spread potential) was rated high for bighead carp. Therefore, the probability of establishment earned a high rating. Two components of the consequences of establishment were rated medium to high (economic and environmental impacts), and one was rated medium (perceived or social impacts), requiring that the consequence of establishment be rated as medium to high. The organism risk potential of bighead carp in the United States, therefore, which combines the probability of establishment and the consequences of establishment, was determined to be a high, or an unacceptable risk. This classification justifies mitigation to control negative effects and means that bighead carp are organisms of major concern for the United States."

So the impact that the bighead carp would have if it made it into the Great Lakes would be severe. The U.S. Army Corps of Engineers has spent \$9 million on an electric dispersal barrier to keep Asian carp and other invasive species out of the Great Lakes. It would undermine that effort and expenditure of Federal resources if the bighead carp were to be introduced into the Great Lakes because the Government did not do everything that it could to block the pathways of introduction into the lakes. So I encourage this committee to support this bill, and I want to thank the members of the subcommittee for today's hearing.

Senator CARDIN. Well, Senator Levin, I thank you for bringing this bill to our attention. We are familiar with the damage being caused by this invasive species. The amount of food that it takes in every day is having a dramatic impact on the balance within the region.

So it is an important issue. We thank you for bringing it to our attention, and we will try to give it quick review.

Senator LEVIN. Well, we thank you very much, Mr. Chairman and Senator Bond. One request is that not just my statement, but that a letter from the Governor of the State of Michigan to the Attorney General of the State of Michigan be incorporated into the record, and also my thanks to the Fish and Wildlife Service for their support of this legislation.

[The referenced letter was not received at time of print.]

Senator CARDIN. Thank you. Thank you, Senator Levin.

Dan Ashe serves as the Deputy Director for Policy for the U.S. Fish and Wildlife Service. He has dedicated many years of work to ensuring that future generations will continue to enjoy the benefits of abundant and diverse wildlife that we enjoy today.

Prior to his appointment as Deputy Director, Mr. Ashe served as the Science Adviser to the Director of Fish and Wildlife Service, leading the organization's renaissance for science and professionalism within the Service.

Mr. Ashe, it is a pleasure to have you before the subcommittee.

STATEMENT OF DAN ASHE, DEPUTY DIRECTOR, U.S. FISH AND WILDLIFE SERVICE

Mr. ASHE. Thank you, Senator. And thanks for the opportunity to be here today. Most of all, thanks for your leadership on these important bills.

I want to say we support all the bills that are the subject of today's hearing. With respect to S. 1214, we strongly support the legislation but would like the opportunity to work with the subcommittee to address some concerns that were expressed during the interagency review of our testimony. I would characterize them as minor and technical changes, and we look forward to working with the subcommittee on them.

With respect to S. 373, the constrictor legislation, we would urge amendment of the bill to include all nine of the constrictor species we recommend based on their identified risk to wildlife and ecological systems in South Florida and potential risk beyond South Florida.

I think the bills before you today represent a cross-section of 21st century challenge and opportunity. We are working against great forces that are based principally in human ecology and economy. I think, Mr. Chairman, you know well the environmental and economic damage that is associated with invasive species like the nutria.

As we work with partners to protect great natural resources like the Chesapeake Bay, we are dealing with the effects of human use on the land and water, habitat destruction and fragmentation, waste disposal, species invasion, and now the challenges associated with a changing climate system. The end result is that the ability of our natural landscapes to support diverse, abundant and healthy populations of fish and wildlife and plants is increasingly compromised.

The bills you are considering today that address nutria, constrictor snakes, Asian carp and feral hogs are emblematic of the challenges that we face. Our efforts at nutria eradication illustrate that we can be successful with adequate science and resources and time. But our experience with constrictor snakes, Asian carp, feral hogs and myriad other invasive species tell us that better prevention is the only true salvation.

The bills strengthening the North American Wetlands Conservation Act and the Marine Turtle Conservation Act and giving legislative authority to the Migratory Bird Joint Ventures and the National Fish Habitat Action Plan support very important directions of change in conservation. We can't deal with 21st century conservation challenges without significantly strengthened science, expanded resources and more enduring partnerships. These bills will help achieve this.

The North American Wetlands Conservation Act is a model. Under this framework, we have worked with partners across the North American continent. We have established common objectives. We have built the science to understand the relationships between populations and factors like habitat, harvest, invasion, predation, and disease.

We worked with Congress to acquire the resources to protect and restore nearly 26 million acres of wetlands and associated uplands. As a result of this, today's waterfowl populations are diverse, abundant, distributed, and healthy. Expanding this model is essential in helping us deal with 21st century conservation challenges. The Migratory Bird Joint Ventures and the National Fish Habitat part-

nerships represent this kind of expansion, and therefore H.R. 2188 and S. 1214 provide key support.

As we consider the immense challenges that are posed by human driven changes in the climate system and other complex challenges like non-native species invasion, it is increasingly apparent that we have to envision and design conservation strategies across very large geographies. Successes in nutria control, multinational species conservation, bird joint ventures, and fish habitat partnerships are important, but they are not sufficient.

Therefore, the Service is working with other Interior Department bureaus, with our State partners and other conservation partners on a new generation of science-driven landscape conservation cooperatives, or LCCs. These LCCs will house partner-based scientific and technical capacities to support landscape scale conservation through strengthened mechanisms like NAWCA, the joint ventures, and NFHAB partnerships.

In fiscal year 2010, Congress provided us with \$20 million to begin building this capacity and \$5 million in support for the USGS partner efforts. In concert with these new authorities that you and the subcommittee are considering today, this presents us with the opportunity to build capacities that will allow us to design and achieve a 21st century conservation agenda addressing great challenges like changing climate.

Chairman Cardin and members of the subcommittee, thank you for the chance to be here today, and again most importantly, thank you for your leadership on these key issues.

[The prepared statement of Mr. Ashe follows:]

TESTIMONY OF DAN ASHE, DEPUTY DIRECTOR, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR, BEFORE THE SENATE ENVIRONMENT AND PUBLIC WORKS SUBCOMMITTEE ON WATER AND WILDLIFE ON H.R. 2188, THE JOINT VENTURES BIRD HABITAT CONSERVATION ACT OF 2009; H.R. 3433, TO AMEND THE NORTH AMERICAN WETLANDS CONSERVATION ACT; H.R. 3537, THE JUNIOR DUCK STAMP CONSERVATION AND DESIGN PROGRAM REAUTHORIZATION ACT OF 2009; S. 1214, THE NATIONAL FISH HABITAT CONSERVATION ACT; S. 1421, THE ASIAN CARP PREVENTION AND CONTROL ACT; S. 373, TO AMEND TITLE 18, U.S. CODE, TO INCLUDE CONSTRICTOR SNAKES OF THE SPECIES PYTHON GENERA AS AN INJURIOUS ANIMAL; S. 1519, THE NUTRIA ERADICATION AND CONTROL ACT OF 2009; S. 1965, THE FERAL SWINE ERADICATION AND CONTROL PILOT PROGRAM ACT OF 2009; AND H.R. 509, THE MARINE TURTLE CONSERVATION REAUTHORIZATION ACT OF 2009

December 3, 2009

INTRODUCTION

Chairman Cardin, Ranking Member Crapo, and Members of the Subcommittee. I am Dan Ashe, Deputy Director of the U.S. Fish and Wildlife Service (Service). I appreciate the opportunity to testify today before the Subcommittee on a number of bills that address important and growing conservation issues before the Department of the Interior (Department) including landscape conservation, the spread of nonnative invasive species, and international wildlife conservation. This Congress, the Service has already testified on behalf of the Department on H.R. 2188, H.R. 3433, H.R. 3537, and H.R. 509, as well as H.R. 2565, a companion bill to S. 1214 before the House Natural Resources Subcommittee on Insular Affairs, Oceans and Wildlife. The Department greatly appreciates the Subcommittee's leadership and support for the conservation of our Nation's wildlife.

Our natural landscapes are under significant pressure from a number of factors including climate change and invasive species. Invasive species are among the primary factors that have led to the decline of native fish and wildlife populations in the United States and one of the most significant natural resource management challenges facing the Service. More than 400 of the over 1,300 species protected under the Endangered Species Act (ESA) are considered to be at risk primarily due to displacement, competition and predation by, invasive species.

Climate change is presenting new problems for fish and wildlife, including more frequent and intense droughts, accelerating sea level rise and coastal erosion, and the shifting of plant communities to higher elevations or northern latitudes. Climate change is also expected to impact our natural landscapes—including our major estuaries, prairies, lakes and rivers, forests, wetlands, and other natural communities—and exacerbate existing threats and introduce new challenges for sustaining vibrant, healthy ecosystems.

In order to address these issues, the Department is building a strong foundation for the science-based landscape and species conservation approaches we will need to develop to address and overcome these conservation challenges. A key part of our foundation is strong science

programs to investigate and work with partner agencies, academia, and stakeholders to conduct the monitoring and research needed to inform an adaptive management approach to fish and wildlife conservation. On September 14, 2009, Secretary Salazar issued a Secretarial Order on Climate Change. The Secretarial Order establishes a Climate Change Response Council to execute a coordinated effort among the Interior bureaus that will consider and analyze climate change impacts when conducting long-range planning, setting research priorities, and making decisions regarding resource use. It calls for up to eight Regional Climate Change Response Centers (RCCRCs) and a network of Landscape Conservation Cooperatives (LCCs) that will work together to provide scientific support for decision-making and to inform climate change adaptation response. The Order also calls for bureaus to implement a Carbon Storage Project which will examine the potential for geological and biological carbon sequestration on public lands, and a Carbon Footprint Project which will develop a greenhouse gas reduction program to lower our emissions and energy use.

Recently, the U.S. Fish and Wildlife Service released for public comment its draft Climate Change Strategic Plan and 5-Year Climate Change Action Plan. These documents will complement key strategies and actions under the Department of the Interior's overall framework, as well as in other federal agency plans, and state wildlife action plans. When finalized, the plans will help focus the Service's operational activities, partnerships and funding requests to address our climate change efforts.

As we continue to consider the immense challenges posed by human-driven changes in the climate system and other complex challenges including non-native species invasion, water scarcity, habitat loss and fragmentation, and disease, it is increasingly apparent that we must be able to envision and design conservation from large scales. And we cannot simply try to repeat and amplify past successes. The successes in nutria control, multinational species conservation, migratory bird Joint Ventures, and fish habitat partnerships are important, but they will not be sufficient. The climate change LCCs will build upon the joint venture model, housing partner-based scientific and technical capacities to support landscape-scale conservation. This is a crucial direction of change which will allow the Service to address great challenges like changing climate.

H.R. 2188, JOINT VENTURES FOR BIRD HABITAT CONSERVATION ACT OF 2009

H.R. 2188 would authorize the Service's participation in and support for Joint Ventures and codify the mechanisms currently in place to establish and support the Joint Ventures operating across the United States. The Department supports H.R. 2188.

The first Joint Ventures were formed to implement the North American Waterfowl Management Plan (Plan), agreed upon by the United States and Canadian governments in 1986. Mexico joined in 1994. The Plan is a continental approach to waterfowl conservation with a focus on regional implementation of habitat protection, restoration, and enhancement projects. In 1998, the Plan was amended to focus on waterfowl conservation that is guided by biologically-based planning that, when implemented, provides landscape-scale conditions needed to sustain waterfowl and to benefit other wetland-associated species.

After more than 23 years, the Plan is among the most successful collaborative conservation efforts in wildlife conservation history, and its success depends upon the strength of regional partnerships. Joint Ventures include federal, state, provincial, tribal, and local governments, businesses, conservation organizations, academia, and individual landowners and citizens. As of January 2009, Joint Ventures have guided the investment of more than \$4.5 billion to protect, restore, and/or enhance 15.7 million acres of waterfowl habitat and to conduct research and population management projects.

Joint Ventures are regional, self-directed partnerships that work to conserve migratory birds. The Service coordinates and oversees the national Joint Ventures Program, and we significantly support the role of Joint Ventures toward achieving healthy and sustainable populations of migratory birds. The Service approves Joint Venture management plans and provides funds and technical assistance to the Joint Ventures Management Boards and partners to administer the program.

In addition to their real and potential contribution to migratory bird conservation, Joint Ventures are well positioned to help address the impacts of climate change at the landscape scale. From mapping anticipated sea-level rise along the Pacific Coast to exploring reforestation and carbon sequestration projects on abandoned minelands in the Appalachian Mountains, Joint Ventures are using adaptive-management strategies to address anticipated effects of climate change on bird habitats. Joint Ventures are leaders in identifying and addressing the data gaps that will help land managers, private landowners, decision makers, and other partners understand how to respond to climate change.

The Service provides oversight for Joint Ventures and their migratory bird conservation approaches and use of federal funds, while allowing sufficient independence for each Joint Venture to mold its migratory bird conservation planning and activities to reflect the most up-to-date science and fluctuations of regional conditions over time. Throughout the 15 year history of the current Joint Ventures program, it has expanded to 21 Joint Ventures.

H.R. 3537, JUNIOR DUCK STAMP CONSERVATION AND DESIGN PROGRAM REAUTHORIZATION ACT OF 2009

The Federal Junior Duck Stamp Conservation and Design Program (Program) was authorized through the Junior Duck Stamp Conservation and Design Act of 1994 (Public Law 103-340), which was enacted on October 6, 1994. The Act authorizes the Secretary of the Interior to carry out the Program, including conducting an annual art competition to create a stamp and licensing and marketing the stamp. The proceeds from these efforts are used to support conservation education programs, awards, and scholarships for Junior Duck Stamp Program participants.

In addition to the annual art contest for the design of the Stamp, the program features a science and art-based curriculum designed to help teach wetland and wildlife conservation principles, by pairing science and the arts for children from kindergarten through high school. The program's goal is to encourage students to become conservation stewards.

In 2009, nearly 28,000 students across the United States, including the District of Columbia and the territories, entered the contest, and thousands more participated in the curriculum. In the 18th

year of the Program, the 2009 national winning design of a wood duck -- entered by a 16-year-old student from Ohio -- is featured. In 2008, Junior Duck Stamp sales raised more than \$172,000 for awards, environmental education activities throughout the United States and its territories, and Junior Duck Stamp marketing materials.

H.R. 3537, reauthorizes the program, increases authorization for appropriations to \$500,000 per year, removes limitations on the use of funds for administrative expenses, and amends the Program's reporting requirements. The Department supports H.R. 3537 as it would enable the Service to more effectively implement the Junior Duck Stamp Program.

H.R. 3433, A BILL TO AMEND THE NORTH AMERICAN WETLANDS CONSERVATION ACT

The North American Wetlands Conservation Act (NAWCA) is an internationally recognized conservation program that supports partnerships to conserve waterfowl and other wetland-associated migratory birds. Since 1990, thousands of partners have been involved in 1,946 NAWCA grant projects. More than \$1 billion in grants has leveraged more than \$2 billion in matching funds to affect approximately 25.5 million acres of wetlands and associated uplands across the continent.

H.R. 3433 amends NAWCA to allow up to 50 percent of the required "non-federal" match for projects in Canada to be composed of Canadian funds. Under current law, all such funds must be from U.S. sources, and Canadian funds contributed to NAWCA projects cannot be counted as part of the "non-federal" match. The Department supports H.R. 3433 and its proposed change to NAWCA as long as at least 50 percent of the "non-federal match" would still come from U.S. sources. The change in this historic conservation statute would better acknowledge the importance of the U.S. partnership with Canada and would be more consistent with the non-U.S. funding match that is already allowed for Mexican NAWCA projects.

NAWCA grants act as catalysts in bringing together partnerships to support wetland projects and leverage non-federal funding. Grants have brought together a group of diverse partners including conservation organizations; federal, state and local government agencies; private industry; and thousands of private landowners. Partners have carried out projects in all 50 U.S. states, Puerto Rico, the U.S. Virgin Islands, 13 Canadian provinces and territories, and 32 Mexican states.

S. 1214, NATIONAL FISH HABITAT CONSERVATION ACT

S. 1214 would codify the National Fish Habitat Action Plan (Action Plan) and offers a historic opportunity to reverse the declines in aquatic habitat and species across the nation. Recognizing that funds for conservation are limited, the Action Plan focuses financial and technical resources on the root causes of habitat declines in a way that no other program or initiative has been able to do. The Department supports S. 1214, with technical amendments.

Aquatic species are some of the most at risk organisms in the United States. Since 1900, 123 freshwater species have become extinct in North America. Hundreds of other fish, mollusks,

crayfish and amphibians are imperiled. Numerous studies point to the loss and degradation of aquatic habitat as the primary reason for the vulnerable condition of aquatic species.

S. 1214 would foster science, communication, and partnerships to unite diverse stakeholders and focus voluntary action on conserving priority habitats. The bill would provide mechanisms and incentives for government agencies and the private sector to work across boundaries of jurisdiction and land ownership to achieve common goals for conserving fish habitats.

The Action Plan places a priority on protecting intact and healthy aquatic systems, because protection is less costly and more successful than restoring aquatic systems after they have been degraded. In that regard, S. 1214 authorizes an important new tool for protecting aquatic systems, i.e. obtaining a real property interest in land or water, including water rights, where appropriate, to address strategic fish habitat priorities.

S. 1214 authorizes the National Fish Habitat Board and allows it to designate Fish Habitat Partnerships. The Fish Habitat Partnerships are the primary work units of the Action Plan. Since 2006, the National Fish Habitat Board has designated fourteen regional-scale Fish Habitat Partnerships to conduct scientific assessments and identify strategic priorities on behalf of diverse public and private partners. An additional seven partnerships are in development. All 50 states are engaged with one or more Fish Habitat Partnerships.

To date, the Fish Habitat Partnerships have made limited progress in biological planning and conservation design, supported by various grants and in-kind contributions. S. 1214 would establish the National Fish Habitat Conservation Partnership Office (Partnership Office) within the Service to support operational needs of Fish Habitat Partnerships. This core funding would leverage partner contributions to provide the support that is needed for effective biological planning and conservation design on a landscape scale. S. 1214 provides for the Partnership Office to be managed under an Interagency Operational Plan, an appropriate mechanism to establish and maintain a true partnership across federal agencies, and with states and Indian tribes, to effectively administer the Action Plan.

Finally, the Action Plan promotes science to assess and classify the nation's fish habitats and identify landscape-scale causes for declining fish populations. S. 1214 authorizes funds for technical and scientific assistance to enhance the field capacity of the Service, the National Marine Fisheries Service, and the U.S. Geological Survey (USGS) to employ state-of-the-art science in developing projects, evaluating results, and measuring outcomes as changes in the condition of aquatic resources.

There remain a number of technical comments and recommended amendments to S. 1214 that the Service would like to work with the subcommittee on following the hearing.

S. 1421, ASIAN CARP PREVENTION AND CONTROL ACT

S. 1421 would list the bighead carp as an injurious species under the Lacey Act. Based on the native climate for these fish, bighead carp could eventually be found in many of the waters of the United States. The Department is greatly concerned about the impact of bighead carp on our

natural resources. Although the Department generally prefers the administrative process to run its course, we support S. 1421.

The Service, in collaboration with its partners, has assessed the spread and impacts of the bighead carp and other carp species and methods to prevent and control the proliferation of these species. The Service received a petition in 2002 from 25 members of Congress to list three species of Asian carps—the silver, large-scale silver, and bighead carp. We initiated rulemaking for those species soon thereafter and listed the silver, large-scale silver, and black carp as injurious under 50 CFR 16 in 2007. The bighead carp was not listed at that time despite the fact that the risk assessment for bighead carp, indicated that the probability of establishment in natural waterways in the United States is high; the economic and environmental consequences of establishment in the United States is medium to high; and the overall organism risk potential is high. In retrospect, the failure to list bighead carp was a mistake.

Last month, State of Illinois officials announced that DNA samples of the Asian carp recently were found between an Army Corps of Engineers barrier and Lake Michigan, although the fish had yet to be spotted in the area. Asian carp are voracious eaters of plankton and are known to overtake waterways and starve out fisheries important to both anglers and commercial fishers. As a result of the DNA finding, State of Illinois environmental officials dumped the toxic chemical rotenone into a nearly 6-mile stretch of the Chicago Sanitary and Ship Canal Wednesday in hopes of keeping the bighead carp from entering the Great Lakes while an electrical barrier operated by the Corps is turned off for maintenance. The State took this drastic action because of fears that infiltration by the Asian carp could lead to the collapse of the Great Lakes sport and commercial fishing industry.

Under the Lacey Act, the Secretary of the Interior is authorized to regulate the importation and interstate transport of species determined to be injurious to humans, the interests of agriculture, horticulture or forestry, and the welfare and survival of wildlife resources of the United States. Species listed as injurious may not be imported or transported across state lines by any means without a permit issued by the Service. The Service considers a variety of factors when evaluating a species for listing as injurious, such as the species' survival capabilities, its ability to spread geographically, its impact on habitat and ecosystems, its impact on threatened and endangered species, its impact on human beings and resource-based industries, and resource managers' ability to control and eradicate the species.

If a species is found to be injurious, the Service publishes a proposed rule in the *Federal Register* to add the species to the list of injurious wildlife and requests public comment on the proposal. We evaluate public comments received and any additional data gathered, and either publish a final rule to add the species to the list or a notice explaining why the species will not be listed. This evaluation process and the timeframe under which we accomplish it varies based on the availability of data and the complexity of the analyses that may be required under the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act, executive orders, and other mandates.

In September 2009, the Service received another petition from members of Congress urging us to list bighead carp. The Service has completed some of the steps required in our rulemaking processes for bighead carp, including a risk assessment, the Initial Regulatory Flexibility Analysis, and an economic analysis, although not all have gone through public review. The Service will decide whether to initiate a proposed rule in 2010.

S. 373, A BILL TO AMEND TITLE 18, U.S. CODE, TO INCLUDE CONSTRICTOR SNAKES OF THE SPECIES PYTHON GENERA AS AN INJURIOUS ANIMAL

S. 373 would amend Title 18 Section 42, U.S. Code, to include constrictor snakes of the *Python* genus as an injurious animal. The Department appreciates Senator Nelson bringing attention to this important conservation issue. While the Department generally prefers the administrative process to run its course, we support S. 373, and recommend amending the legislation, in light of a USGS risk assessment published in October, to include the nine species of large constrictor snakes that were evaluated by the risk assessment. The nine species that were assessed include the Burmese python, northern African python, southern African python, reticulated python, green anaconda, yellow anaconda, Beni or Bolivian anaconda, DeSchauensee's anaconda, and boa constrictor.

The threat posed by the Burmese python and other large constrictor snakes is evident. Thousands of Burmese pythons are now breeding in the Everglades, and threaten many imperiled species and other wildlife. In addition other species of large snakes are or may be breeding in the Everglades including the Boa Constrictors and Northern African Pythons. Given the value of the Everglades, its biological diversity and the threat of invasive species, the Department is committed to addressing this threat and restoring the ecosystem.

In June 2006, the Service received a request from the South Florida Water Management District to list Burmese pythons as an injurious species under the Lacey Act. At the time the petition was submitted, no scientific information had been compiled on Burmese pythons that would enable a rigorous assessment of risk and potential impacts to the Everglades and other ecosystems. As a result, in 2007 the Service partnered with the National Park Service to jointly provide funds to USGS towards completion of a risk assessment of nine non-native boa, anaconda, and python species considered invasive or potentially invasive in the United States. USGS finalized the risk assessment on October 13, 2009. The assessment considered what effects these species could have on the ecology of the United States if they became established in the wild.

Of the nine large constrictor snakes that were assessed, five were shown to pose a high risk to the health of the ecosystem, including the Burmese python, northern African python, southern African python, yellow anaconda, and boa constrictor. The remaining four large constrictors—the reticulated python, green anaconda, Beni or Bolivian anaconda, and Deschauensee's anaconda—were shown to pose a medium risk. None of the large constrictors that were assessed was classified as low risk. As compared to many other vertebrates, giant constrictors pose a relatively high risk as potential invasive species, especially in terms of risk to stability of native ecosystems.

While a few of the very largest species have been known to attack humans in their native range, such attacks appear to be rare. Most of these species are difficult to detect in the field,

complicating efforts to identify the range of populations or deplete populations through visual searching and removal of individuals. While the Department of the Interior, U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS), and the State of Florida entities have conducted limited research on control tools, there are currently no such tools available that would appear adequate for eradication of an established population of giant snakes once they have spread over a large area.

In addition to the recent USGS risk assessment the Service published a Notice of Inquiry in the *Federal Register* on January 31, 2008, to solicit biological, economic, or other data related to the potential of adding large constrictor snakes to the list of injurious wildlife. During the public comment period, which closed on April 30, 2008, the Service received 1,528 responses.

The Service is using the information provided by the public and the USGS risk assessment in our ongoing evaluation of adding large constrictor snakes under the Lacey Act. The Service is now completing an economic analysis of a potential Lacey Act rulemaking, which is a requirement under the Regulatory Flexibility Act and Executive Orders 12866 and 13272. In addition, we are drafting documentation required under NEPA. The Service expects to complete our internal review and determine the appropriate Lacey Act role by early 2010. Should a Proposed Rule be issued, the publication would be followed by a public comment period and a final decision most likely within one year thereafter. Given the importance of this issue, the Service is working diligently to thoroughly and expeditiously complete the required reviews.

S. 373 includes the entire *Python* genus and the Service notes that some of the species in the genus are not considered large constrictors and may not pose a threat. The nine large constrictor snakes evaluated in the recently finalized USGS risk assessment will be the focus of the Service's internal assessment under the Lacey Act, and we recommend the legislation be amended to include the nine species of large constrictor snakes that USGS evaluated in its risk assessment.

S. 1519, THE NUTRIA ERADICATION AND CONTROL ACT OF 2009

S. 1519 extends the successful nutria eradication and control programs in Maryland and Louisiana to Delaware, Virginia, Washington, and Oregon and authorizes the program through fiscal year 2014. The Department supports S. 1519 and would like to thank Senator Cardin for sponsoring the legislation.

Nutria, an invasive, aquatic rodent, was brought to the United States to bolster the fur trade in the early 20th Century. By the early 1990's, the Chesapeake Bay/Delmarva Peninsula population was estimated to exceed 150,000 animals. Nutria eat aquatic plants, such as the Olney three-square, saltmarsh hay, and smooth cordgrass in marshes of the Delmarva Peninsula, and they burrow through contiguous marsh, causing significant erosion. Nutria damage to marshes exacerbates the damaging impacts of ongoing land subsidence and sea level rise. Maryland and Louisiana were first to attempt systematic eradication and control of nutria.

Nutria are found in all three Delmarva Peninsula states--Maryland, Virginia, and Delaware. Because of its tremendous capacity to reproduce, it is important that nutria be removed from the Peninsula in order to protect the entire Chesapeake Bay Marshlands National Wildlife Refuge

Complex and other Refuges on the Peninsula, as well as hundreds of thousand wetlands acres on state and private lands. To that end, the Chesapeake Bay nutria eradication program is managed by the Service in close partnership with the Maryland Department of Natural Resources, USGS, USDA, APHIS Wildlife Services, the University of Maryland, and hundreds of private landowners bordering Blackwater National Wildlife Refuge and congressional support. The goal of the project is to eradicate nutria from the Peninsula by 2014. To date, the cooperative science and management approach in Maryland has resulted in the extirpation of nutria from about 150,000 acres of the approximate 400,000 acres infested with nutria on the Peninsula, and nutria have been extirpated from the Blackwater National Wildlife Refuge. The project's success lies, at least in part, in its enduring and diverse partnership and its ability to adapt its techniques as new data informs the project's efforts. The partners have worked together to undertake the science needed to identify the precise damage nutria causes to the marsh as well as its biology and population dynamics. This information has been used to develop and fine tune methods to eradicate nutria from the Blackwater National Wildlife Refuge. The team coordinated with Louisiana to improve efforts in both states.

To evaluate and improve the effectiveness of the program and to inform similar efforts, the Service has invited an independent assessment, which was conducted in September by three world-wide authorities on nuisance mammal eradication and control. A report and recommendations are expected in January 2010.

Partners in Louisiana, Oregon, and Washington use lessons learned in Maryland and their own research and techniques to understand and control nutria populations to minimize the damage done to their marsh habitats. Four national wildlife refuges located in Southeast Louisiana (Big Branch Marsh, Bayou Sauvage, Delta, and Mandalay NWRs) are experiencing moderate to severe marsh habitat damage caused by nutria as is Gulf Islands National Seashore (a unit of the National Park Service). In the Northwest, partners are working to understand the growing nutria population there and its impacts, which differ somewhat from those in the East. For example, one of the most significant forms of damage attributed to nutria in the region appears to be the destruction of water control structures and associated erosion caused by nutria burrowing.

The Department is committed to completing the Chesapeake Bay nutria eradication project, and supporting nutria eradication across the country where nutria are harming native fish and wildlife habitats.

S. 1965, FERAL SWINE ERADICATION AND CONTROL PILOT PROGRAM ACT OF 2009

S. 1965 authorizes the Secretary of the Interior to provide financial assistance to the State of Louisiana for a pilot program to develop measures to eradicate or control feral swine and to assess and restore wetlands damaged by feral swine. The Department supports S.1965 and would like to thank Senator Landrieu for sponsoring the legislation.

Feral swine are invasive animals first introduced in the continental United States during the 1500s by European sailors. Large numbers of feral swine exist on federal lands, including national wildlife refuges and national parks, as a result of illegal releases and high reproductive rates. They are known to be the most prolific large mammal in North America. With adequate

nutrition, breeding occurs throughout the year. Females often breed at less than a year old and can produce two litters in a year with an average of four to eight piglets per litter. Large predators of swine, such as wolves and mountain lions, have been extirpated from most of the area where feral swine range, leaving few natural controls. Feral swine can spread more than 30 diseases and 37 parasites, including swine brucellosis and pseudorabies, which can have devastating effects on livestock and wildlife.

Feral swine compete directly with many native animals such as deer, squirrels, ducks, turkeys, and bears for food and destroy habitat for many other wildlife species. They are omnivorous and their diet includes wildlife, such as, ground nesting birds, reptiles, and amphibians. Feral swine dig for food (rooting) and create wallows, thereby destroying vegetation and ruining water holes used by other wildlife. Rooting activities in marsh and other wetland habitats leads to increased erosion, displacement of native wildlife, loss of habitat value and quality, and destruction of sensitive vegetation. Damage is often severe and in some cases may be nearly irreversible. Rooting activities in forested habitats impact forest regeneration and vegetation structure and may lead to increases in invasive plants, including Chinese tallow tree and cogon grass. Severe rooting and damage has occurred on hurricane protection levees and other water control structures.

Feral swine are found on National Wildlife Refuges (refuges) and in units of the National Park System throughout the Southeast from coastal marsh habitats to the Appalachian Mountains. Many of these public lands implement some form of swine control programs on an annual basis either through bureau employees or contractors. In Southeast Louisiana, several refuges allow trapping by permitted individuals and take by sport hunters. More than 300 feral swine are removed each year; however, this is not enough to control or prevent an increase in swine populations on the refuges. This can in part be attributed to the presence of feral swine beyond refuge boundaries in areas such as agricultural production lands where they damage crops such as soybeans, watermelon, and other row crops.

At Sabine National Wildlife Refuge in southwest Louisiana, a pilot project was conducted in 2007 in partnership with the U.S. Department of Agriculture's Wildlife Services for feral swine removal using methods such as traps, snares, and night shooting. A total of 223 swine were removed during the year at a cost of more than \$33,000.

The feral swine population on Lake Ophelia National Wildlife Refuge in central Louisiana is at an epidemic level with an estimated one swine per four acres of habitat. Roughly 30 to 50 percent of grain crops planted on the refuge to support waterfowl populations are destroyed by feral swine.

An aggressive and sustained effort utilizing multiple techniques is needed to control feral swine populations on national wildlife refuges and parks in order to protect native wildlife and their habitats. Integral to this effort is the work of the USDA's National Wildlife Research Center to develop new control techniques for feral swine such as immunocontraceptives and more effective baits. The Department remains committed to this effort and looks forward to working with the State of Louisiana to ensure that the most highly impacted lands, including federal lands, are included in such a pilot project.

H.R. 509, THE MARINE TURTLE CONSERVATION REAUTHORIZATION ACT OF 2009

The Department would also like to express its support for H.R. 509, the Marine Turtle Conservation Reauthorization Act of 2009, which addresses some of the most urgent conservation issues regarding marine turtles. The Department has a long history of proactive programs addressing international wildlife species conservation. Our experience has shown that relatively modest sums, if judiciously applied to well-designed and implemented projects, can leverage considerable resources and, just as importantly, the interest of communities, governments, and the world. Working with our international partners, we see clear signs of the effectiveness of our combined efforts.

Marine turtles disperse and migrate throughout the world's oceans, and as a result, they are important indicators of coastal and marine environmental health on local, regional and global scales. Less than 60 years ago, marine turtles were abundant and widespread nesting on beaches was common. Today however, six of the seven marine turtle species—the Kemp's ridley, the Olive ridley, the Loggerhead, the Leatherback, the Hawksbill, and the Green turtle—are listed as endangered or threatened under the Endangered Species Act (ESA). Threats facing marine turtles continue to include overexploitation of eggs and turtles, trade in turtle parts, bycatch mortality, and loss of habitat.

Under the Marine Turtle Conservation Act, for fiscal years 2005 through 2009, the Service funded 113 conservation grants and approximately \$3.9 million in funds appropriated leveraged roughly \$5.9 million in matching and in-kind contributions from partner organizations to support the conservation of marine turtles. These grants enable the Service to support projects such as intensified nesting beach conservation in Mexico, Costa Rica, Indonesia, and Papua New Guinea.

Implementation of the Marine Turtle Conservation Act is based on the pattern established in the previous Multinational Species Conservation Act initiatives. Through the Act, the Service has implemented a streamlined process that allows for timely approval of projects and quick action in emergency situations. Each project funded is a cooperative effort with foreign governments, non-governmental organizations, or private sector entities. No in-country project is approved unless it has the full support of in-country government officials and has been identified as a project that will address the country's conservation priorities. H.R. 509 would enable the Service to continue in its role as a provider of dedicated funding for comprehensive, global coordination and collaboration in developing countries where resources and capacity for marine turtle conservation are limited.

The Department would like to recommend that the Subcommittee consider that in lieu of a twenty percent set-aside for domestic marine turtle conservation, the legislation direct these funds to protecting freshwater turtles and tortoises. While marine turtle conservation continues to be a critical conservation need, we also recognize that freshwater turtles and tortoises are severely imperiled. Among the more than 300 species of freshwater turtles worldwide, twenty-five percent are facing imminent peril or extinction in the next decade. By focusing on these species and their habitats, it is likely that ecologically critical areas of the planet will be

considered and managed more adequately. We welcome the opportunity to continue our cooperation and work with other countries and partners to conserve the world's magnificent turtles, particularly in light of the challenges climate change may pose.

CONCLUSION

Chairman Cardin, Ranking Member Crapo, and Members of the Subcommittee, thank you for this opportunity to testify on this legislation. The Department recognizes the significant threats to our landscapes and wildlife as a result of invasive species and climate change. We are committed to strengthening our capacity to effectively address these threats. We greatly appreciate the Subcommittee's efforts to assist our efforts through the authorities and resources provided in the bills being considered today. The Department thanks you for your continued leadership and interest in the conservation of our fish and wildlife resources. I would be glad to answer any questions you may have.

**Environment and Public Works Committee Hearing
December 3, 2009
Follow-Up Questions for Written Submission
Questions for Dan Ashe**

**Questions from:
Senator James M. Inhofe**

Invasive Bills-Pythons and Asian Carp

1. I understand that Fish and Wildlife has the emergency authority, if necessary and appropriate, to expeditiously list a species as injurious. If this is the case, why has the agency not acted on this authority with respect to the Asian Carp and Burmese Python? Do you believe it is necessary to statutorily designate these species as injurious?

The injurious wildlife provisions of the Lacey Act do not contain a specific emergency authority. However, under subsections 553(b)(B) and 553(d)(3) of the Administrative Procedure Act (APA), the U.S. Fish and Wildlife Service (Service) has authority to dispense with certain procedures for rule makings when there is “good cause” to do so—such a finding could be found when normal rulemaking requirements are found to be “impracticable,” “unnecessary,” or “contrary to the public interest.” The Service has not made a “good cause” finding with respect to the Bighead carp (a species of Asian carp) or the Burmese python, but has issued a notice of inquiry to solicit additional information from the public for the possible addition of the Bighead carp to the list of injurious wildlife and a proposed rule to list the Burmese python as injurious wildlife. Due to the significant threats posed by each species, the Service similarly supports the proposed statutory designation of the Bighead carp and Burmese pythons.

2. S. 373, as amended and S. 1421 will statutorily ban 9 species of Constrictor snakes and 2 species of Asian carp outside of the normal listing process under the Lacey Act. Are you concerned that this course of action undermines the authority of Fish and Wildlife by effectively opening the door to changes to Fish and Wildlife laws with little or no input from the agency with the expertise to manage natural resources?

While the Service generally prefers the administrative process to run its course, as we stated in our December 3, 2009, testimony, we support S. 373 and S. 1421 due to the high

threat that each of these species pose. Both bills would complement the Service's focus on protecting our Nation's native natural resources.

3. In a November 6th House Committee Hearing Deputy Director Ashe stated that amending title 18 to include Pythons as S.373 will not stop their future spread in the Everglades. The pet industry and the US Chamber of Commerce have asked, instead, that Congress create laws that require inventories, electronic identification systems, secure caging, and community outreach for large snakes to ensure irresponsible individuals and illegal breeders are held accountable for criminal acts. Do you believe this would be a more effective approach than statutorily banning this particular species?

Unfortunately, there is no silver bullet that will comprehensively address the conservation challenges raised by the introduction of Burmese pythons and other large constrictor snakes in the Everglades. Burmese pythons and other large constrictor snakes are highly adaptable to new environments and opportunistic in expanding their geographic range. Steps to help address these challenges will require a multi-pronged approach including: trapping and other control technologies, increasing public awareness, rapidly responding to sightings of snakes in the wild, and detecting the snakes and preventing their further spread. To be completely effective, though, State and Federal regulatory approaches will also play an important role in this effort.

4. How many species are currently being evaluated as to whether they should be listed as "injurious" in the future? Is it true that there have only been two new listings since 1991 and that the U. S. Fish and Wildlife Service only has one dedicated employee charged with the designation of "injurious wildlife". What is the average time frame to list an injurious species? Could we expedite this process if Congress appropriated more money to the Service's invasive species staff?

Currently, the Service has seven sets of listings at various stages of evaluation:

- Bighead carp (*Hypophthalmichthys nobilis*)
- *Boiga* genus (tree snake)(33 species)
- Venomous snakes for which no anti-venom is available (7 families including vipers of Africa, Europe, and Middle East, cobras, mambas, coral snakes, sea snakes of southeast Asia and coastal waters of Australia)
- Swamp eel family (17 species)
- Asian and European fishes (~15 species)
- Large constrictor snakes (9 species including Burmese python)
- Amphibians in trade unless free of chytrid fungus

Five listings, covering at least 32 species, have occurred since the zebra mussel was listed in 1991. Four were at the species level and the other listing was for the Snakehead family of Channidae. Additionally, during this time, the Service considered species such as the green iguana and Asian swamp eel, but did not come to a final listing decision for those species.

The species identified below have been listed since 1991.

- Brush tail possum, *Trichosurus vulpecula*, 6/2002
- Snakehead fishes, Family Channidae, 28 species, 10/2002
- Silver carp, *Hypophthalmichthys molitrix*, 7/2007
- Largescale silver carp, *H. harmandi*, 7/2007
- Black carp, *Mylopharyngodon piceus*, 10/2007

Since 2000, the Service's Fisheries and Habitat Conservation Program has spent approximately 1 full-time equivalent (FTE) and an additional \$60,000 per year on injurious wildlife evaluations. In 2010, a second FTE was added. This includes publishing *Federal Register* notices and contracting out for biological synopses and economic analyses. This does not include staff time and funding by other involved Service Programs such as Law Enforcement, International Affairs, and the Division of Economics. An additional \$42,500 was provided annually to the Service's Southeast Region during fiscal years 2009 and 2010 for the large constrictor snake listing process.

It is difficult to provide an average timeframe to list a species as injurious because the analysis is dependent on the scale and nature of the listing. Two recent examples on either end of the timeline include the listing of the black carp, which took seven years, and the snakehead, which was completed in two years. The President's budget considers the many competing needs facing the Service and provides for adequate funding for the highest priorities. This balancing of priorities is part of a long and thoughtful budget development process that looks at all of the needs of the Service. Additional staff and funding above the President's requested level for any individual program would likely undermine this process and, if the difference in funding would have to be found from within the Service's budget, would potentially lead to the Service not being able to accomplish other priorities and goals.

5. As Congress evaluates potential policy reforms to the Lacey act listing process, what changes would the Fish and Wildlife Service recommend?

At the recent direction of Secretary Salazar, the Service is developing recommendations that will help improve our ability to achieve the goals of the Lacey Act. The Service is currently examining proposals to create a more proactive and comprehensive approach to preventing the spread of invasive species. We are exploring ways to streamline the evaluation process, including an assessment of the requirements of the federal rulemaking process, existing statutes, and Executive Orders. The Service is also looking at gaps in the injurious wildlife listing process, rapid screening, updates to the risk assessment process, Lacey Act enforcement, increased social marketing and public education, and programmatic performance metrics.

Marine Turtle bill

6. The Marine Turtle Conservation Act reauthorization expands eligibility to US states and territories. I have been involved first-hand in efforts to save marine

turtles and know current resources being spent in the US are nowhere near sufficient. Do you agree there are currently insufficient resources being spent to protect marine turtles in the US and its territories?

The greatest threats to sea turtles are degradation of nesting beach habitat from light pollution and coastal armoring, the overexploitation of eggs and turtles, and bycatch from commercial fisheries. Five sea turtle species nest in the United States. The U.S. hosts one of the two largest loggerhead sea turtle nesting populations in the world—these turtles nest from Florida to North Carolina with 90 percent of them nesting in Florida. Hawksbill, Leatherback, Kemp’s Ridley and Green sea turtles nest primarily in Florida, Texas, Puerto Rico and the U.S. Virgin Islands. In comparison to expenditures on international populations of sea turtles and freshwater turtles, there are numerous resources dedicated to sea and freshwater turtle populations through both Service and National Oceanic and Atmospheric Administration (NOAA) funds. Under the Marine Turtle Conservation Act, for fiscal years 2005 through 2009, the Service funded 113 conservation grants and approximately \$3.9 million in funds appropriated and leveraged roughly \$5.9 million in matching and in-kind contributions from partner organizations to support the conservation of marine turtles. While long-term trend data suggest a decline in sea turtle populations, it would be fair to conclude that our current conservation efforts are adequate to address high priority needs in the U.S. and its territories.

Invasive Bills-Pythons and Asian Carp

7. I understand that there are hundreds of thousands of small business and owners of constrictor snakes, that pose little to no threat to the environment, which will be negatively affected by S.373. Do you believe it is necessary to ban all species of Python constrictor snakes nationally, in an effort to eradicate the Burmese species from South Florida?

In general, S.373 would not affect intrastate movement/commerce or private ownership of these constrictor snakes and therefore, will have limited effect on private citizens or small business in this regard. The Service has published the proposed rule in the *Federal Register* to list nine species of large constrictors as injurious wildlife under the Lacey Act. The Service used the U.S. Geological Survey’s risk assessment (based on procedures published by the Aquatic Species Nuisance Task Force in 1996) and all of the best available scientific and socio-economic information in our analysis. We also made available to the public a draft economic analysis and draft environmental assessment. The public will have 60 days to comment on the proposed rule, and a final determination will be published after consideration of the public comments received.

Fish Habitat Bill

8. I am troubled that S. 1214, the National Fish Habitat Conservation Act, grants authority to the Federal Government to purchase water rights and property to meet

the goals of the program. Is there anything that would prevent these goals from being achieved through public-private partnerships instead?

No, these goals could be achieved through such partnerships; however, in some instances it makes sense to have the acquisitions tool available, such as when a private landowner wants to divest himself of the land completely. Acquisition of real property interest in land and/or water is a vital tool for protecting habitat, as has been demonstrated for many years through the North American Wetlands Conservation Act. Removing the authority to acquire real property would significantly weaken the effectiveness of S.1214 in protecting fish habitat. It is important to remember that acquisition need not only be accomplished by the Federal government. Recipients of grants (e.g. private conservation groups, State governments, Tribal governments) could acquire real property rights and subsequently manage the property for conservation under the National Fish Habitat Conservation Act. Conservation projects can employ a broad range of acquisition tools, from fee title acquisition to limited easements that continue private ownership of the land. In practice, the most limited form of acquisition is preferable because it allows the most effective use of conservation dollars.

Junior Duck Stamp Act

9. The current authorization levels for the [Jr.] Duck Stamp are set at \$350,000 but this bill would increase that to \$500,000 per year. Is this increase necessary considering that the program's most recent appropriation was only \$250,000?

Today, more than 30,000 students throughout the U.S., American Samoa, and the U.S. Virgin Islands submit entries to a state or territory to the annual Junior Duck Stamp Art Contest and many thousands more participate in the program through its curriculum. Program expenses include National Contest awards, distribution of award regulations and other materials, first day of sales events, and other efforts supporting the purposes of the program, as described in 16 U.S.C. 719. Funding for the program, other than for fiscal year 2010, has come from a portion of administrative funds provided for the Federal Duck Stamp Program.

The Junior Duck Stamp Program, first authorized by Congress in 1994, has continued to function at its current level primarily through the use of discretionary funds and resources from other conservation and education programs within the Service and participating State fish and wildlife agencies. The funding of the fiscal year 2010 request for \$250,000 for the program allowed the program to begin to: update its current curriculum and increase its use; increase the awareness of teachers about the program; and, increase student participation in the program. Successes include an increase in student participation in Colorado from 376 students in 2009 to 813 students in 2010, 198 students in Kentucky in 2009 to 1,113 in 2010, and 653 students in Nebraska in 2009 to 901 in 2010.

Senator CARDIN. Well, no, I thank you for what you are doing. We appreciate very much the strength that you bring to this effort, and we look forward to working with you.

Let me just underscore the points that you made. There are nine bills on the hearing schedule today. You are supporting without qualification seven of those nine, if I understand correctly.

Mr. ASHE. That is correct.

Senator CARDIN. And the National Fish Habitat Conservation Act, S. 1214, your concerns you are characterizing as basically technical and clarifying?

Mr. ASHE. Right. We have a few minor concerns. Again, these came up during the clearance process of our testimony. We made the commitment to OMB that we would work with you on those concerns. There were some concerns about insurance balance representation and succession on the Fish Habitat Board, clarifying that the Land and Water Act acquisition authorities in the bill are going to use and build upon existing authorities, or that new authorities are more clearly spelled out. And then more precisely conditioning the Secretary's authority to waive the match requirement.

So I would characterize them as just minor and clarifying changes.

Senator CARDIN. Would you please try to get those to us as quickly as possible? And particularly make sure that copies are made available to the bill sponsors so that we can try to resolve that as quickly as possible.

Mr. ASHE. We will do that.

Senator CARDIN. I appreciate that.

Now, in regards to the S. 373, a bill to amend title 18, United States Code, to include constrictor snakes, if I understand what you are saying is that you are recommending that we amend this to basically cover nine species of snakes, that you have specifically nine that you want covered.

Mr. ASHE. Correct. This is the same position as we presented in the House, before the Judiciary Committee in the House. There were nine species of snakes, of Burmese python, North African python, reticulated python, southern African python, boa constrictor, yellow anaconda, DeSchauensee's anaconda, green anaconda, and Beni anaconda, that were all identified as having medium to high risk in the risk assessment that was performed for us and the Park Service by the U.S. Geological Survey.

It is our recommendation that we include all nine of those snakes in the Lacey Act.

Senator CARDIN. So this is consistent with the USGS report?

Mr. ASHE. Completely consistent. Yes, sir.

Senator CARDIN. And the impact on the bill, as I understand it, is to narrow its application in many respects, but to add a couple of additional species that were not included in the original bill. Is that correct?

Mr. ASHE. Correct.

Senator CARDIN. Have you reviewed that with Senator Nelson, the changes? If you haven't, I would appreciate again if you would make sure that you have reviewed this with Senator Nelson. I think we have your specific comments so we are prepared to move

forward. I will also alert him to contact you if there is additional concerns in that regard.

Mr. ASHE. We will contact Senator Nelson's office directly, and I would say in the House, the House bill sponsor, Congressman Meek, was very happy with our testimony. I would expect Senator Nelson would be as well.

Senator CARDIN. Well, Senator Nelson—we had a hearing once before, and he brought us the skin of the snake, the python, the Burmese python, and that got our attention.

Mr. ASHE. They are pretty intimidating.

Senator CARDIN. Right.

He also got my attention when he told me that the weather changes in the Chesapeake Region are conducive for pythons surviving, so that got my attention also.

Mr. ASHE. Yes, you definitely don't want them up here.

Senator CARDIN. Understand.

Many of the bills here are dealing with conservation efforts, and you are supporting all those bills. I just make this an open invitation. If there are other ways that Congress can be helpful on conservation in giving you additional opportunities, I would just make that an open invitation to let us know. This committee is very interested in following what Senator Bond was saying and being a constructive player and preserving our natural habitat for our fishermen and our hunters and the recreational users. And I know these bills here are all being improved, but there may be some other efforts. Please let us know.

Mr. ASHE. Thank you, Senator. I would just reiterate that the group of bills that you are considering today, particularly the amendments to the North American Wetlands Conservation Act, the Migratory Bird Joint Venture bill, the NFHA Partnership Act; those are really providing us with foundational elements of change.

And we are working with our State partners and our conservation community partners to really build capacity that is going to allow us to deal with really some of the biggest challenges that we have facing us. And so I think the things that you are considering today are going to be just essential to us as we move forward.

Senator CARDIN. Well, thank you very much. Appreciate your testimony.

Mr. ASHE. Thank you.

Senator CARDIN. We will now move to our panel. Mr. Edmond C. Mouton, who is the Biologist Program Manager for the Louisiana Department of Wildlife and Fisheries, where he has worked for 16 years. He is the highest level technical expert on fur and marsh management issues in Louisiana and serves as the Scientific and Technical Adviser to the Department's administrative staff.

Eric C. Schwaab is the Deputy Secretary of the Maryland Department of Natural Resources. He joins us today on behalf of the Association of Fish and Wildlife Agencies. The Association is composed of public fish and wildlife agencies from across North America and is dedicated to promoting sound resource management and strengthening of the Federal, State and private cooperation in protecting and managing fish and wildlife in their habitats.

And Robert Bendick is the Director of U.S. Government Relations and the Acting Director of the External Affairs of The Nature Con-

servancy. The Conservancy is the leading advocacy organization for protection and conservation of natural wildlife and habitat and control of invasive species. It is well respected for its collaborative science-based approach.

So on this panel we have two governmental and one of our most active private sector players.

And then we are last joined by Gordon Robertson, who is Vice President for Government Affairs from the American Sportfishing Association. The Association represents the sportfishing industry and promotes the economic and conservation values of sportfishing in America. Mr. Robertson has spent over 23 years working on important fish and wildlife management issues at the national level and in West Virginia and is well known to our committee.

We welcome all four of you.

Mr. Mouton, we will start with you.

STATEMENT OF EDMOND C. MOUTON, JR., BIOLOGIST PROGRAM MANAGER, COASTAL AND NONGAME RESOURCES, LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES

Mr. MOUTON. Thank you, Chairman Cardin.

One thing I would like to mention is part of my responsibilities is to implement and manage and monitor the coast-wide Nutria Control Program in the State of Louisiana.

I greatly appreciate the opportunity to present testimony in support of S. 1519, the Nutria Eradication and Control Act of 2009, and S. 1965, the Feral Swine Eradication and Control Pilot Program Act of 2009. Enactment of this legislation will be central to the Department's longstanding efforts to mitigate and restore damage to our precious wetlands by these invasive non-native species.

We are very grateful to you and the sponsors of this legislation for keeping these issues and important programs on the forefront of the subcommittee's wildlife legislative agenda.

I am also pleased to be here with my colleague from Maryland and defer to him on his views concerning the other bills being considered by the subcommittee.

Louisiana and Maryland have worked very closely over the years on the nutria problem and other wildlife challenges facing our States, and we are pleased to do so again today. As most of you are aware, the Gulf Coast marshes of Louisiana are deteriorating at an alarming rate. Current estimates are that over 15,000 acres of Louisiana marsh are lost annually to coastal erosion and subsidence.

The marsh loss is detrimental to the coastal fisheries industry, agriculture and all other renewable resources which are products of the surrounding estuaries and wetlands. These wetlands provide protection from storms and hurricanes for the residents of South Louisiana and are very important to the oil and gas industry infrastructure.

One of the variables contributing to the deterioration of these wetlands has been the extensive habitat destruction resulting from nutria herbivory. Fortunately, the Coastwide Nutria Control Program, which is funded by the Coastal Wetlands Planning, Protection and Restoration Act, also known as CWPPRA, has been very successful over the past 7 years in controlling this problem.

During this time, Louisiana trappers have harvested over 2 million nutria, thus reducing damage to coastal wetlands from over 90,000 acres coast-wide to approximately 20,000 acres coast-wide presently. This equates to a very impressive 78 percent reduction in nutria-related marsh deterioration.

Other projects included multiple capture trap studies, nutria lure research, nutria lure and trap trails, zinc phosphide studies on nutria and alligators. These projects were conducted to improve trapping efficiency and catch effort for the trappers. These efforts have addressed the goals of the Nutria Eradication and Control Act of 2003 in reducing nutria populations and restoring wetlands damaged by nutria. The continuance of this program by reauthorizing the Nutria Eradication and Control Act would provide funding for this very positive and successful program in coastal Louisiana and allow the Department to further pursue these problems.

Unfortunately, much of this recovered acreage is now experiencing severe negative impacts due to the activities of another non-native invasive species, feral swine. Populations of feral swine are increasing in density and are dispersing throughout coastal Louisiana. Data from coastal aerial surveys have documented an increase in feral swine populations, especially throughout the deltaic plain of Southeastern Louisiana. This is especially significant because it is an area of the Louisiana coast that is experiencing the highest rates of coastal erosion.

The Department is concerned that these animals are following the same pattern as nutria in their population growth and in their consequent impacts to our coastal marsh recovery efforts. The Feral Swine Eradication and Control Pilot Program Act of 2009 would provide funding for Louisiana to develop measures to eradicate or control feral swine and to assess and restore wetlands damaged by feral swine.

Knowledge and expertise developed in existing nutria control programs would be utilized to carry out the activities of this beneficial program to Louisiana and allow the Department to address this problem.

Our proposed solution is to determine feral swine population densities and distributions, identify habitats impacted, and develop techniques to control feral swine and coastal marsh habitats. We would use the same successful methodologies developed for the Coastwide Nutria Control Program. Methodologies would include coast-wide aerial surveys and development of techniques for on the ground and serial control of this invasive species.

Thank you again, Mr. Chairman, for this opportunity to highlight challenges to Louisiana's efforts to mitigate and restore wetland damage and to register our support for this important legislation.

Also on behalf of the Department and the State of Louisiana, we appreciate and concur on the supportive and positive remarks received on feral swine and nutria from Dan Ashe and the Administration, and we look forward to work with those Federal agencies.

We look forward to working with the subcommittee, and I would be pleased to answer any question you have.

Thank you.

[The prepared statement of Mr. Mouton follows:]

**TESTIMONY OF
EDMOND MOUTON
BIOLOGIST PROGRAM MANAGER FOR COASTAL AND NONGAME RESOURCES
LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES
BEFORE THE
SUBCOMMITTEE ON WATER AND WILDLIFE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE**

December 3, 2009

Thank you Chairman Cardin, Ranking Member Crapo, and Members of the Subcommittee for the opportunity to submit this testimony in support of S. 1519; the "Nutria Eradication and Control Act of 2009" and S. 1965; the "Feral Swine Eradication and Control Pilot Program Act of 2009". Enactment of this legislation will be central to the Department's longstanding efforts to mitigate and restore damage to our precious wetlands from these invasive non-native species. We are very grateful to you and the sponsors of this legislation for keeping these issues and important programs on the forefront of the Subcommittee's wildlife legislative agenda.

Since 2001, annual coast wide aerial surveys assessing herbivory in Louisiana have documented approximately 26,273 acres of marsh converted to open water due to nutria vegetative damage. (This acreage is actual observed acreage multiplied by a constant to account for land not seen from the transects.) This loss of marsh in Louisiana is devastating to the people that depend on it for their livelihood as well as people that use it for recreation. It is vital to the people of Louisiana to protect the wetlands from destruction whenever possible. In order to remove the threat of land loss due to nutria, the Coastwide Nutria Control Program was developed.

The nutria (*Myocastor coypus*) is a large semi-aquatic rodent indigenous to South America. The first introduction of nutria to North America occurred in California in 1899; however it was not until the 1930's that additional animals were introduced in seven other states. These importations, primarily for fur farming, failed during the Second World War as a result of poor pelt prices and poor reproductive success. After the failures of these fur farms, nutria were released into the wild. Sixteen states now have feral populations of nutria.

The Gulf Coast nutria population originated in Louisiana in the 1930's from escapes and possible releases from nutria farms. Populations first became established in the western coastal portion of the state and then later spread to the east through natural expansion coupled with stocking. During the mid-1950s muskrat populations were declining, nutria had little fur value, and serious damage was occurring in rice fields in southwestern Louisiana and sugarcane fields in southeastern Louisiana; farmers complained about damage to crops and levee systems, while muskrat trappers blamed the nutria for declining numbers of muskrats. In 1958, the Louisiana Legislature placed the nutria on the list of unprotected wildlife and created a \$0.25 bounty on every nutria killed in 16 south Louisiana parishes, but funds were never appropriated.

Historically nutria populations were controlled by fur trapping, especially from the early 1960's when markets for the fur were developed to the late 1980's until the price held. The harvest peaked in 1976 at 1.8 million pelts worth \$15.7 million to coastal trappers (Figure 1).

During the strong market period for nutria pelts, there were no reports of wetland damage caused by nutria. However, before the market developed and after the market declined, reports of marsh vegetation damage from land managers became common. Such complaints began in 1987 and became more frequent during the early 1990's. In response, the Fur and Refuge Division of the Louisiana Department of Wildlife and Fisheries (LDWF) initiated limited aerial survey flights, particularly in southeastern Louisiana. Survey flights of Barataria and Terrebonne basins were conducted during the 1990's, with initial support from Barataria-Terrebonne National Estuary Program (BTNEP) and later support from Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA). From 1993 to 1996 these flights showed acres of damage increasing from approximately 45,000 to 80,000 acres within the basins. The first CWPPRA funded coast wide survey, conducted in 1998, showed herbivory damage areas totaling approximately 90,000 acres. By 1999 this coast wide damage had increased to nearly 105,000 acres. This rapid and dramatic increase in damaged acres prompted LDWF to pursue funding for the Coastwide Nutria Control Program (CNCP) in January 2002.

By the close of the decade, nutria was added to the U.S. Council in Invasive Species' list. In addition, nutria was also listed by the Invasive Species Specialist Group of the International Union for the Conservation of Nature as being of the top 100 worst invasive species in the world.

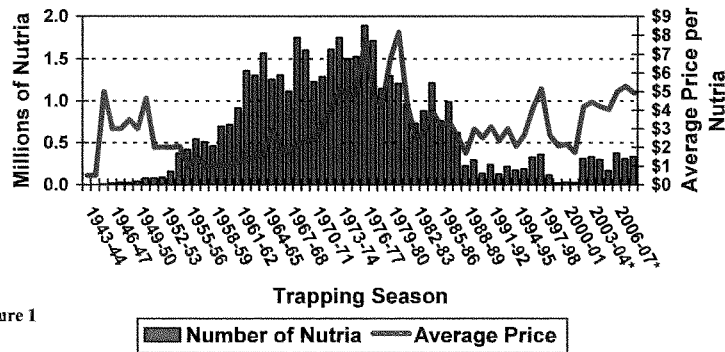


Figure 1

A Solution

After analyzing a number of programs, one rose to the top as having the best potential to reduce nutria populations and the resulting degradation of coastal marshes. An incentive program designed to encourage trappers to trap nutria would increase the harvest of these rodents to a level that will decrease the population and damage to marshes and crops. The project is funded by the CWPPRA through the Natural Resources Conservation Service (NRCS) and the Louisiana Department of Natural Resources (LDNR) with the LDWF as the lead implementing agency. Task number 1 requires LDWF to conduct an annual aerial survey to evaluate the herbivory damage caused by nutria. Task number 2 of the LDNR and LDWF Interagency Agreement No. 2511-02-29 for the CNCP requires LDWF to conduct general project operation and administration. LDWF is required to 1) conduct and review the registration of participants in the CNCP; 2) establish collection stations across coastal Louisiana; 3) count valid nutria

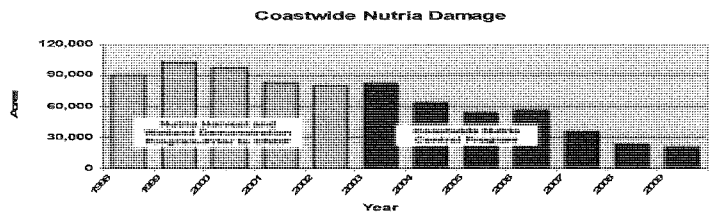
tails and present participants with a receipt/voucher; 4) deliver tails to an approved disposal facility and receive documentation that ensures the nutria will be properly disposed of and shall not leave the facility; and 5) process and maintain records regarding participants, number and location where tails were collected. Task 3 requires LDWF to provide incentive payments to program participants and task 4 requires LDWF to provide a report regarding the distribution of the harvest by township, section and lease.

The program area is coastal Louisiana bounded to the north by Interstate-10 from the Texas state line to Baton Rouge, Interstate-12 from Baton Rouge to Slidell, and Interstate-10 from Slidell to the Mississippi state line. The project goal is to significantly reduce damage to coastal wetlands attributable to nutria herbivory by removing 400,000 nutria annually. This project goal is consistent with the Coast 2050 common strategy of controlling herbivory damage to wetlands. The method chosen for the program is an incentive payment to registered trappers/hunters for each nutria tail delivered to established collection centers. Initially, registered participants were given \$4.00 per nutria tail. To encourage participation, the payment was increased to \$5.00 per tail in the 2006-2007 season.

Wetland Damage

Five years prior to the implementation of the “Coastwide Nutria Control Program”(CNCP) damage to coastal wetlands in Louisiana due to nutria herbivory averaged approximately 90,000 acres per year. Since the implementation of the CNCP the damage to coastal wetlands caused by nutria herbivory was reduced to approximately 20,000 acres coastwide. Also, the severity of the majority of the damaged acreage presently is ranked as minor damage, indicating those acres may soon recover with the continued level of harvest without any additional detrimental impacts.

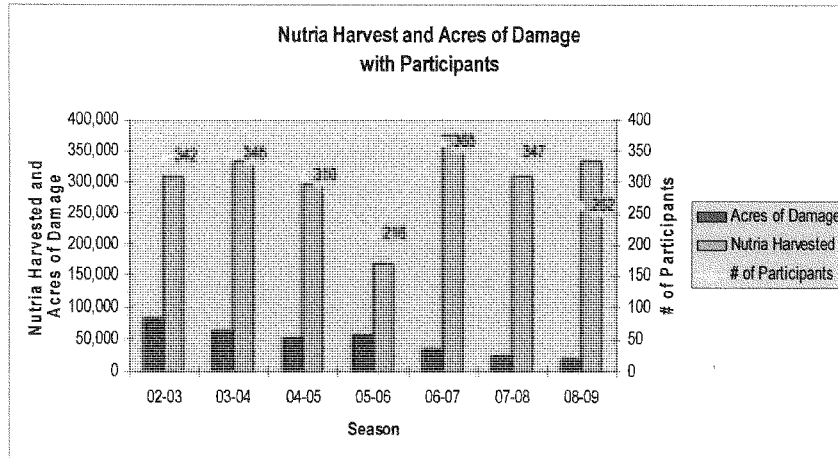
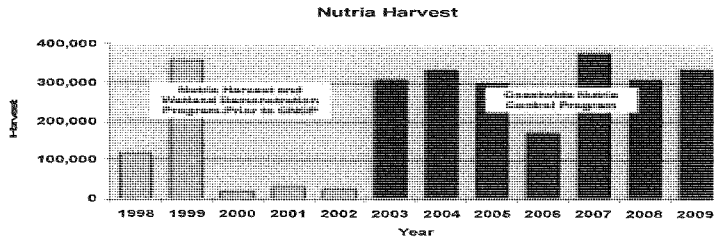
These efforts have addressed the goals of the “Nutria Eradication and Control Act of 2003” in reducing nutria populations and restoring wetlands damaged by nutria. The continuance of this program by re-authorizing the “Nutria Eradication and Control Act” would provide funding for this very positive and successful program in coastal Louisiana and allow the Department to further pursue these problems. The concern now is the increased populations of non-native invasive feral swine along the coast which are impacting these recovered acres of nutria damage. This problem needs to be addressed by collecting baseline data on population densities and documenting areas of damage. Subsequent to this assessment methodologies on control techniques can be determined and implemented similar to the strategies utilized for the control of nutria.

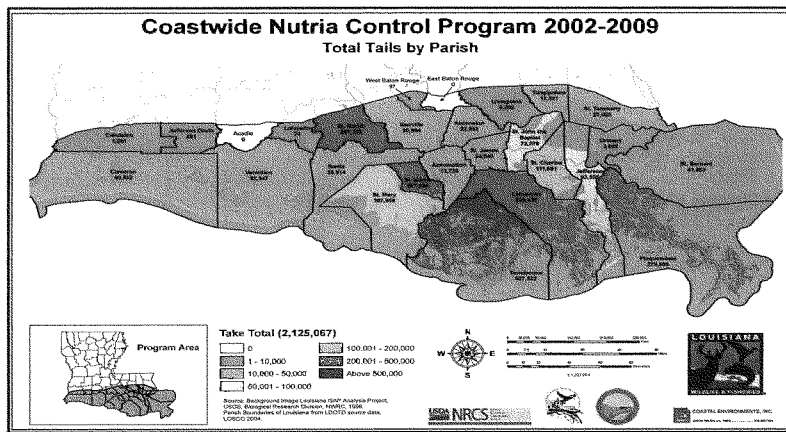
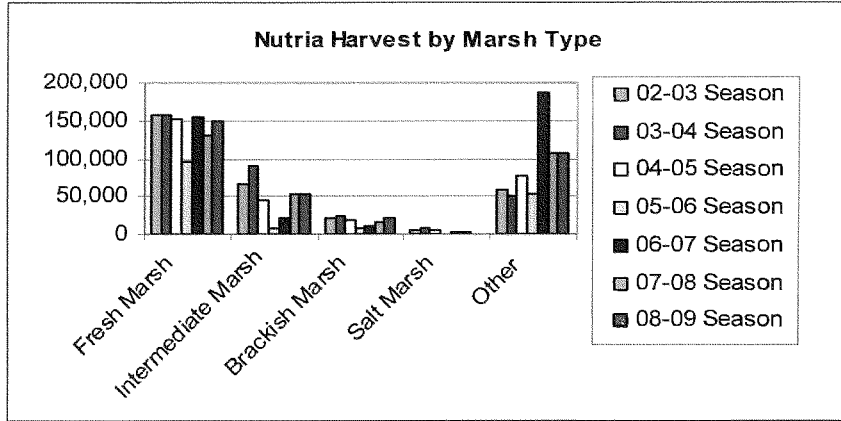


Harvest Results for the CNCP

Louisiana’s open trapping season begins each year on November 20th and runs through March 31st. Trapping efforts normally peak between January and March. It is at this time that the nutria are most active and most visible to hunters and trappers, this is primarily due to die back in vegetation that occurs

in late winter. This die back of vegetation makes access to the nutria's preferred habitats easier for trappers and hunters and the increased visibility exposes the nutria to hunters utilizing rifles and shotguns. Over the past seven years of the program, annual nutria harvest has averaged approximately 300,000 nutria per year. To date almost 2.5 million nutria have been harvested through this program and incentive payments of over 9.5 million dollars have paid to the participants. The CNCP has averaged approximately 300 active participants annually. Of these participants, approximately one-third of them harvest over 800 nutria annually per hunter, with some participants harvesting over 5,000. During most years approximately half of the participants' preferred method of take is shooting nutria with a rifle while slightly less than half of the participants prefer to set traps, with the remainder of the participants using shotguns. Most of the nutria harvested are from fresh marshes in the southeastern half of the state, with Terrebonne Parish having the highest harvest. Terrebonne parish and the Barataria-Terrebonne estuary are experiencing some of the most rapid land loss rates in the state and removal of nutria from these areas is critical.





Non-native Invasive Feral Swine in Coastal Louisiana

In 1999, Executive Order (EO) 13112 established the National Invasive Species Council (NISC), co-chaired by the Secretaries of the Interior, Agriculture, and Commerce. NISC members include the Secretaries of Transportation, State, Defense, Homeland Security, Treasury, and Health and Human Services; the Administrators of the Environmental Protection Agency and the National Aeronautics and Space Administration; as well as the Director of the U.S. Agency for International Development and the

U.S. Trade Representative. NISC was charged with providing coordination, planning and overall leadership for federal invasive species programs and reaching out to state, tribal, local and private partners.

Invasive Species introduced into the United States from around the globe are affecting plant and animal communities on our farms, ranches and coasts; and in our parks, waters, forests, and backyards. As global climate patterns shift, the distribution of species will change, and so will the susceptibility of particular habitats to the impacts of new species introductions. Human activity such as trade, travel and tourism have all increased substantially, increasing the speed and volume of species movement to unprecedented levels. Invasive species are often unintended hitchhikers on cargo and other trade conveyances. Still more species are deliberately introduced as pets, ornamental plants, crops, food, or for recreation, pest control or other purposes. Most nonnative species, including most of our sources of food and fiber, are not harmful; and many are highly beneficial. A small percentage of nonnative species cause great harm to the environment, the economy or human health. Nonnative species that cause harm are collectively known as invasive species.

Invasive species (such as kudzu, snakehead fish, zebra mussels, emerald ash borers, sea lamprey, tree of heaven, hydrilla, nutria, West Nile virus, and Sudden Oak Death pathogen) may prey upon, displace or otherwise harm native species. Some invasive species also alter ecosystem processes, transport disease, interfere with crop production, or cause illnesses in animals and humans; affecting both aquatic and terrestrial habitats. For these reasons, invasive species are of national and global concern.

Feral swine are an introduced species that pose a number of threats to humans, livestock and wildlife. Among these threats is the ability of feral swine to harbor a variety of zoonotic pathogens that are federally regulated and whose presence would result in severe economic loss to livestock industries. Estimates of economic losses to agriculture and the environment average \$800 million annually. Feral swine have established populations in 38 states and are spreading rapidly. United States Department of Agriculture / Wildlife Services (USDA/WS) removed 28,472 swine in 29 states in FY 2008. (The National Invasive Species Council / NISC)

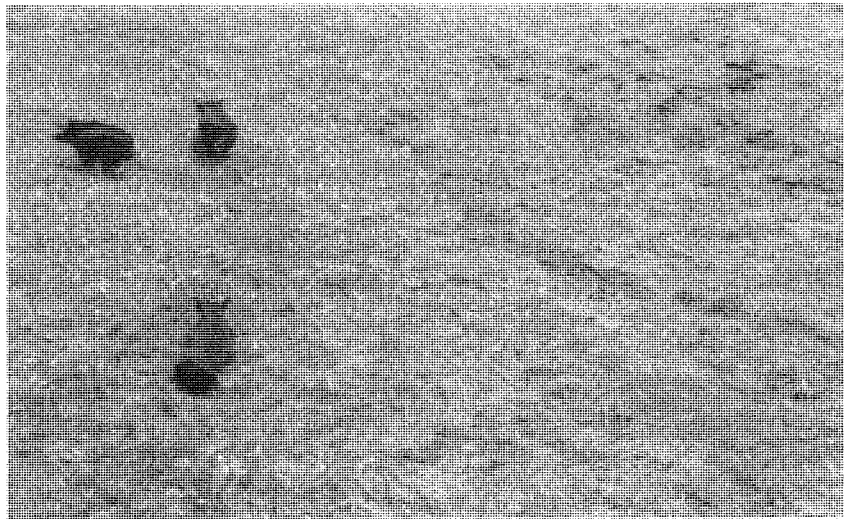
Non-native Invasive Feral swine populations in "Coastal Louisiana" are severely impacting wetlands especially acreages recovering from the negative impacts of nutria herbivory. Submergence of coastal wetlands in Louisiana is currently rapid and widespread. Recent studies on the "Effects of vertebrate herbivores on soil processes, plant biomass, litter accumulation and soil elevation changes in a coastal marsh" indicate that feral swine can have a negative effect on soil building processes, primarily by reducing below-ground production and expansion of the root zone. These negative impacts may lead to destruction of habitat and can further exacerbate the coastal erosion processes.

These animals severely impact alligator nests and alligator nesting habitat. Recently, coastal landowners were voicing their concern to the department on the monetary losses they have encountered from feral swine destroying numerous alligator nests. Along with other wetland resources feral swine can be detrimental to levee systems which protect people and communities from coastal flooding. Aerial coastal surveys conducted for the "Coastwide Nutria Control Program" and the "Coastwide Alligator Nest Survey" have documented an increase in feral swine population's coastwide especially throughout the Deltaic Plain (southeastern coastal Louisiana). The damage feral swine cause to coastal wetlands is becoming more and more evident as these populations expand throughout the coastal landscape. If this problem is left unchecked negative impacts to coastal wetlands may increase to 90,000 or more acres experienced prior to the implementation of the "Coastwide Nutria Control Program". Louisiana State University researchers have determined that feral swine damage to coastal wetlands is very similar to nutria damage, however, is more severe.

The "Feral Swine Eradication and Control Pilot Program Act of 2009" would provide funding for Louisiana to develop measures to eradicate or control feral swine and to assess and restore wetlands damaged by feral swine. Knowledge and expertise developed in the existing nutria control programs

would be utilized to carry out the activities of this beneficial program to Louisiana and allow the Department to address this problem.

The feral swine problem is similar to the nutria problem. A potential solution is to follow the same methodologies in the development of a control program. The goals of the Feral Swine Eradication and Control Pilot Program would be as follows; (1) study and assess the nature and extent of damage to wetlands in Louisiana caused by feral swine, (2) determine population densities and distributions of feral swine along coastal Louisiana, (3) develop methods to eradicate or control feral swine in Louisiana that may also be used in other States, and (4) develop methods to restore wetlands damaged by feral swine. Given the proper resources the Department can take a proactive approach and address this issue before it becomes a major threat to coastal wetlands as previously caused by nutria.



For more information on the "Coastwide Nutria Control Program" please visit www.nutria.com or contact Edmond Mouton, Biologist Program Manager @ (337) 373-0032.

**Environment Public Works Committee Hearing
December 3, 2009
Follow-Up Questions for Written Submission**

Questions for Edmond Mouton

Question from:

Senator David Vitter

1. **Between Nutria and Feral Swine, Louisiana faces significant challenges from the management of nonnative species and their impact on farmland as well as wetlands. Can you discuss the differences between managing and reducing populations of these two species as well as the possibility of coordinated efforts on the two species?**

Answer: Both Nutria and Feral Swine are responsible for extensive negative impacts to coastal wetlands and agronomic crops. Fortunately, through funding from the "Coastal Wetlands Planning, Protection Act" (CWPPRA) the nutria problem has been drastically reduced through eight (8) years of implementation of the "Coast Wide Nutria Control Program" (CNCP). Prior to the implementation of this program approximately over 90 thousand acres of coastal wetlands were negatively impacted due to nutria feeding activities. Through efforts of the CNCP this acreage has been reduced to approximately 20,000 acres coast wide. This equates to a very impressive 78% reduction in nutria related marsh deterioration. The Aerial Coast Wide Survey this spring will probably result in a lower acreage of negatively impacted acres coast wide as a result of harvest during the 2009 – 2010 Trappings Season, 435,033 nutria. The nutria problem is managed and implemented by paying trappers an incentive (\$5.00) for nutria tails collected from nutria harvested during the trapping season, November 20th thru March 31st. The "Aerial Coast Wide Survey" in the spring of each year following the harvest provides for an annual index of success of the program. The re-authorizing of S. 1915 the "Nutria Eradication and Control Act of 2009" would provide funding for ancillary research associated with this very positive and successful program in coastal Louisiana and allow the Department to further pursue these problems. For more information on the CNCP please visit www.nutria.com.

Feral swine are classified by Louisiana Law as "Outlaw Quadrupeds" and may be taken year round by licensed hunters during daylight shooting hours with some exceptions. Like Nutria, Feral Swine cause extensive damage to agronomic crops, coastal wetlands and upland habitat in the State of Louisiana. However, the hunting pressure at this time is not a sufficient effort to control populations of Feral Swine in Louisiana. The Louisiana Department of Wildlife and Fisheries has been working with the United States Department of Agriculture Wildlife Services in Louisiana in developing potential control techniques for Feral Swine in Louisiana. The pursuit of S. 1965, the "Feral Swine Eradication and Control Pilot Program act of 2009" would secure funding for a pilot study to

develop and test different control methodologies and utilize some of the methodologies from the Nutria Control Program in assessing population distributions and extent of damage. Different types of control techniques would be required in the different habitat types and possibly a combination of several could be utilized. Some pilot studies by USDA/Wildlife Services have demonstrated success in Feral Swine control by aerial shooting coupled with night work and other on the ground techniques. Coast Wide Aerial Surveys have proven to be a very useful tool in assessing nutria population distribution and documenting the damage they cause especially in the coastal wetlands. These type surveys would be crucial in determining the extent of Feral Swine populations and the damage they cause in coastal wetlands and potentially in other habitat types.

2. In regards to Feral Swine, please discuss the specific challenges that these animals pose given their significant size both in terms of economic and property damage.

Answer: The specific challenges associated with control of Feral Swine in “Coastal Louisiana” would begin with assessing population densities and distributions; identify habitats impacted and development of efficient and economical techniques of control in coastal marsh habitats. Utilization of these control techniques could be expanded to other habitat types once proven successful. Listed below are issues directly related to “Feral Swine in Coastal Louisiana”.

- Non-native Invasive Feral Swine populations in “Coastal Louisiana” are severely impacting wetlands especially acreages recovering from the negative impacts of nutria herbivory.
- Louisiana is experiencing high rates of coastal wetland loss and feral swine are exacerbating this process. Other Gulf Coast States are not experiencing these high rates of coastal wetland loss.
- These animals severely impact alligator nests and alligator nesting habitat. Recently, coastal landowners were voicing their concern on the monetary losses they have encountered from feral swine destroying numerous alligator nests.
- Louisiana Dept. of Wildlife and Fisheries Biologist have documented that feral swine are detrimental to nesting shorebirds and water birds by destroying their nest.
- Along with other wetland resources, feral swine can be detrimental to levee systems which protect people and communities from coastal flooding.

- Aerial coastal surveys conducted for the “Coastwide Nutria Control Program” and the “Coastwide Alligator Nest Survey” has documented an increase in feral swine population’s coastwide especially throughout the Deltaic Plain (southeastern coastal Louisiana).
- The damage feral swine cause to coastal wetlands is becoming more and more evident as these populations expand throughout the coastal landscape. If this problem is left unchecked negative impacts to coastal wetlands may increase to 90,000 or more acres experienced prior to the implementation of the “Coastwide Nutria Control Program”.
- Louisiana State University researchers have determined that feral swine damage to coastal wetlands is very similar to nutria damage, however, is more severe.
- The feral swine problem is closely related to the nutria problem and the solution is to follow the same methodologies in their control.
- A recent survey conducted by Michael Kaller, Ph.D. of Louisiana State University indicated that among the coastal parishes in Louisiana, 55% (31/56) of landowners have problems with feral swine.
- Statewide, feral swine cause severe economic impacts to agronomic crops, property and natural resources and contribute to concerns of human health and safety including infectious diseases such as brucellosis and salmonella.

Senator CARDIN. Mr. Mouton, thank you very much for your testimony. I appreciate your work.

Mr. MOUTON. Yes, sir. Thank you.

Senator CARDIN. Mr. Schwaab.

**STATEMENT OF ERIC C. SCHWAAB, DEPUTY SECRETARY,
MARYLAND DEPARTMENT OF NATURAL RESOURCES, ON BEHALF OF THE ASSOCIATION OF FISH AND WILDLIFE AGENCIES**

Mr. SCHWAAB. Thank you, Mr. Chairman, for the opportunity to testify before you today on behalf of both the Maryland Department of Natural Resources and the Association of Fish and Wildlife Agencies which represents all 50 States.

I would like to focus my remarks—while I have provided testimony in written form on seven bills, I would like to focus my remarks on three of those bills here today: the National Fish Habitat Conservation Act, the Joint Ventures for Birds Conservation Act, and the Nutria Eradication and Control Act. All three share significant characteristics: a habitat-based approach to pressing conservation concerns, a framework to bring together partners to coordinate efforts, and a science-based approach to setting priorities and measuring results.

We are particularly pleased to offer strong support for the National Fish Habitat Conservation Act. The Act establishes a coordination framework, a process for action, and authorizes funding to help implement the National Habitat Action Plan.

Mr. Chairman, we have worked for decades in this country to reverse overfishing and deal with other challenging issues related to fishing removals. This work has required substantial effort and coordination across a number of Federal agencies, State and tribal partners, industry and other private sector partners. And it has yielded success.

But controlling overfishing alone will not ensure a healthy and productive future for our fisheries. Without large scale coordinated and strategic efforts to protect fish habitat, the hard work and expended resources and sacrifice by fishermen and fishing communities to rebuild fish stocks could be undermined.

In 2004, the Association partnered with Federal agencies, tribal interests and others to develop a national scale fish habitat conservation model. That resulted in the National Fish Habitat Action Plan, which has already instigated significant development of fish habitat partnerships across the country.

This partnership model brings strategic perspectives and provides a framework for coordinated efforts. It creates opportunity for agencies and organizations to come together around landscape scale habitat concerns, prioritize actions, and develop work toward common goals and objectives.

Past aquatic habitat conservation approaches and models, often regulatory in nature and fragmented, have simply not stemmed the tide. A new model is needed, one that is grounded in science, coordinated partnerships, and priority habitat improvement projects of the scale that is effective. That is this model provided for and supported by the Fish Habitat Conservation Act.

Regarding the Joint Venture for Bird Conservation Act, as a forerunner to the National Fish Habitat Action Plan, the North American Waterfowl Management Plan was the first landscape scale effort to address key habitat concerns of migratory birds. The plan became the foundation for a series of joint ventures that developed under broad authorities afforded the States and the U.S. Fish and Wildlife Service.

Like many fish species, migratory bird patterns of birds dictate a landscape scale conservation effort. They dictate partnership-based action and coming together around common challenges.

Maryland is, by the way, a member of the Atlantic Coast Joint Venture and has benefited significantly from focused conservation of habitat work along the Atlantic flyway that has resulted through that effort. We strongly urge favorable action on this opportunity to lend greater structure and statutory support to these strategically important efforts.

Mr. Chairman, we particularly appreciate your personal attention to the Nutria Eradication and Control Act. We strongly support S. 1519 and the continued authorization of this vital program that is instrumental in managing this destructive non-native species.

Nutria are prolific breeders and voracious feeders that out-compete native species and cause permanent loss of wetlands by destroying the root systems of wetland plants. Marsh destruction from nutria was so significant in the Chesapeake Bay estuary that nutria control was made an integral part of the Chesapeake Bay Agreement, the interstate blueprint for Chesapeake Bay restoration.

To date, through past efforts and support of Congress, the Maryland Nutria Partnership has removed 13,000 nutria from 150,000 acres on the Eastern Shore of the Chesapeake Bay. This nutria-free zone was the epicenter of the Maryland population and had the highest nutria population density. The Partnership aims for a nutria-free DelMarVa Peninsula by 2014. Studies shown that marshes, once nutria removed, recover very quickly.

It is critical that all nutria be eradicated from the region. Without total removal, the nutria population will recover and re-infest, and we will lose the progress that we have made.

Mr. Chairman, we urge favorable action to ensure continuation of this important project and completion of the task.

Thank you for the opportunity, and I would be happy to answer any questions.

[The prepared statement of Mr. Schwaab follows:]

TESTIMONY BEFORE THE SENATE ENVIRONMENT AND PUBLIC WORKS
SUBCOMMITTEE ON WATER AND WILDLIFE ON SEVERAL BILLS TO CONSERVE FISH
AND WILDLIFE, AND MANAGE INVASIVE SPECIES

By Eric C. Schwaab
Deputy Secretary, Maryland Department of Natural Resources
December 3, 2009

Thank you, Chairman Cardin and Senator Crapo for the opportunity to represent before you today the perspectives and support of both the Maryland Department of Natural Resources and the Association of Fish and Wildlife Agencies on several significant fish and wildlife conservation bills, including the National Fish Habitat Conservation Act (S1214), the Joint Ventures for Bird Conservation Act (HR2188), the Nutria Eradication and Control Act (S1519), and others. I am Eric Schwaab, Deputy Secretary, Maryland Department of Natural Resources. The Association represents the collective perspectives of the 50 State fish and wildlife agencies, which have statutory authorities within their borders for conserving fish and wildlife, including on most public lands. We also affiliate ourselves with and endorse the testimony of my colleague Edmond Mouton from the Louisiana Department of Wildlife and Fisheries on nutria management (S1519) and a pilot study to control feral swine in Louisiana (S1965).

The Association promotes sound fish and wildlife management, and it is the collective voice of North America's fish and wildlife agencies. The Association provides member agencies with coordination services that deal with a range of conservation interests across the taxonomic and habitat spectrum as well as conservation education, leadership development, and international relations. The Association represents state fish and wildlife agencies on Capitol Hill and before the Administration on the pressing conservation issues including climate change, energy development, invasive species, and fish and wildlife funding. On these issues and many more, the Association works to ensure a high level of collaboration among states and between states and the federal government and non-governmental organizations. The National Fish Habitat Action Plan (S1214), the North American Wetlands Conservation Act technical adjustment (HR3433), and the Migratory Bird Joint Ventures authorization (HR 2188), all offer perfect examples of such engagement on behalf of the states.

S1214 National Fish Habitat Conservation Act

State fish and wildlife agencies have broad trust responsibilities for fish and other aquatic resources (e.g., mussels, crayfish, and amphibians) and they understand the importance of quality habitat and cross-boundary coordination and collaboration to manage such resources. These agencies are on the front lines of fish population and habitat management. State fish and wildlife agencies have also participated in the work of the North American Wetlands Conservation Act (NAWCA) and observed firsthand the benefits of landscape level habitat conservation for waterfowl, other biota,

and sustaining ecological integrity of these habitats. The habitat conservation approaches associated with NAWCA are ecologically and institutionally transferable to the fisheries world and state agencies are advocates for that very outcome as represented in the architecture of S1214. We strongly support S1214 and urge favorable Committee action.

There is a critical aquatic habitat conservation need across this country. Nationally, regionally and locally we have worked for decades to reverse overfishing. This work has required substantial coordination across federal agencies, with state and tribal partners, and involving industry and other private sector partners. And it has yielded success as fishing rates have been brought to sustainable levels for many stocks. Yet at the same time, controlling overfishing alone will not ensure healthy and productive futures for our fisheries and the social and economic benefits they support. We face substantial declines in fish habitat across the country. These declines threaten to undermine gains in productivity realized through effective management of fishing related removals. Without a companion, large scale strategic effort to protect and enhance fish habitat, much of this hard work and sacrifice to rebuild fish stocks will not be sustained.

In 2004 the Association coordinated and partnered with federal agencies, non-governmental organizations, tribal interests, industry, and other interested stakeholders to create both a leadership team and a technical work group that would develop a fish habitat conservation model on a national scale. The genesis of this effort and resulting National Fish Habitat Initiative (Initiative) was initially based on recommendations from the Sport Fishing and Boating Partnership Council. Several state fish and wildlife agencies provided staffing to the various planning efforts that ensued as well as start-up funds to support that work. The Association assisted with coordination, devoted staff participation, and secured grant funding to help support all aspects of the development of a national plan. It is important to highlight state agency and Association involvement from the very beginning to emphasize the importance of this bill to state fish and wildlife agencies. It is equally important to emphasize that this continues to be a state-driven partnership effort. The overall strength and benefits from this partnership model are attributed to its strategic perspective, and its structure, providing a framework for coordinated voluntary collaborative actions of state, federal, and local agencies, industry, non-governmental conservation organizations, and other partners. This effort creates an opportunity for these agencies and organizations to come together around landscape scale habitat concerns, prioritize strategic actions, and develop and work toward common goals and objectives to protect, restore and enhance our nation's most important freshwater, estuarine and marine fish habitats. By strategically addressing habitat concerns, the collaborative efforts can best reverse declines of fish species and enhance fishing opportunities and improve the health of aquatic habitat.

The Association and its partners always believed that a national initiative to conserve fisheries habitat would benefit greatly from federal legislation (modeled on the proven success of NAWCA). This legislation will validate the nationwide scope of the

work, empower, guide and coordinate federal agency participation, and help to secure adequate funding to achieve an ambitious mission. This National Fish Habitat Initiative started as a vision, has blossomed into a reality as the National Fish Habitat Action Plan, and will bear even more fruit with passage of this enabling legislation. Before elaborating on the positive aspects of this Act and the Association's strong support for it, it would be desirable to pause and reflect on the considerable success to date at conserving and restoring aquatic habitats on a national scale.

The development and endorsement (April 2006) of the National Fish Habitat Action Plan (Plan) was a critical accomplishment. The Plan's mission is to "protect, restore, and enhance the nation's fish and aquatic communities through partnerships and foster fish habitat conservation and improve the quality of life for the American people." It is grounded in science and driven by regional partnerships with the capacity to successfully achieve these fish habitat conservation goals and objectives. The Plan has become the blueprint for the success we know today and for shaping the National Fish Habitat Conservation Act.

The Plan's implementation is currently guided by a 22-member Board comprised of national conservation leaders who are committed to aquatic habitat conservation. In only three years and with limited funding, the Board has demonstrated an enviable record of accomplishments including: establishment of science and data and communications teams; approval of a Charter; approval of interim conservation strategies and targets; development of guidelines for formation of Fish Habitat Partnerships (FHPs) and an application process for Board recognition of partnerships; development of operational budgets; and, assistance with delivering conservation dollars to regional FHPs. In sum, the footing has been laid, and architecture developed, to manage the Plan.

Fish Habitat Partnerships are the delivery mechanism for habitat conservation planning and projects; most are regional, some are system or taxonomically based. These Partnerships are analogous to Joint Ventures under NAWCA. The 2006 Plan calls for the establishment of at least 12 FHPs by 2010. Not only has that target been proven to be reasonable, it is likely to be exceeded. Nationally, the regional interest for establishing voluntary FHPs consistent with Plan and Board guidelines has far exceeded the expectations of the drafters of the Plan. To date, nine FHPs have been officially recognized by the Board and 11 additional Partnerships are considered as "candidates."

The energy and excitement are palpable from within and from without as the Partnerships meet, organize, develop strategic plans, and implement science driven conservation projects for brook trout and pacific salmon, coastal habitats and reservoirs, lakes and rivers, desert systems and pristine Alaskan waters. Nearly the entire country is now encompassed by one or more of these Partnerships supported by strong state leadership and participation in each one.

In Maryland, we are pleased to be active in two Fish Habitat Partnerships: the Eastern Brook Trout Joint Venture and the Atlantic Coastal Fish Habitat Partnership. The brook trout effort is focused on protecting habitat for the only trout species native to the east coast. Brook trout throughout the range have suffered particularly from lost and degraded habitat. The Eastern Brook Trout Joint Venture formed to identify, prioritize and address major threats to brook trout. By working together, states, federal agencies and conservation partners have developed strategies to protect key watersheds, prioritize corrective actions and pool resources to treat the most significant threats first. This triage approach is resulting in better conservation success with limited resources.

The Atlantic Coast effort is geared to protecting key estuarine and inshore coastal habitats for important migratory species along the Atlantic coast. By working together at the landscape scale, partners can ensure that local conservation action is strategically undertaken across the range of a species, from spawning and nursery habitat to migratory pathways. Consider for example the striped bass, one of the most important commercially and recreationally sought fish on the east coast. With a migratory range from North Carolina to Maine, and key spawning and nursery areas in the Chesapeake Bay, North Carolina and the Hudson River, concerted action is needed to ensure range-wide habitat protection. Further, failure to protect key habitats could easily undermine the gains achieved through careful management of fishing rates that has made this a fishery management conservation success story.

Let me reflect now on some conservation actions that are already underway. In the past three years the U.S. Fish and Wildlife Service has supported Board and Fish Habitat Partnership priorities and invested \$8.5 million supporting 188 conservation projects in 36 states. Partnership match contributed to these projects is valued at nearly \$20 million. These dollars have funded riparian vegetation management, removal of barriers, such as culverts and old dams, and bank stabilization. Most importantly, these funds have been coordinated and strategically based on the collective scientific knowledge of local experts. In addition, other federal agencies, such as the U.S. Forest Service are reprogramming base funds to conduct aquatic habitat improvement projects within National Forests that will address Board and Fish Habitat Partnership priorities.

The Plan's work is based on science. State fish and wildlife agencies, the U.S. Geological Survey, the National Marine Fisheries Service, and the U.S. Fish and Wildlife Service have been engaged in a first ever comprehensive national aquatic habitat assessment. That initial assessment and a resulting status report will be completed in 2010. In the meantime, the work of the Board and the Partnerships has been guided by a habitat framework and interim conservation strategies and targets. Partnerships are expected to consider and have the science and other capacity of Partnership members to successfully integrate this national guidance in the development of their own strategic plans, establish objective priorities for conservation projects and assess funding requirements. Partnerships are also expected to have sufficient partners to demonstrate the capacity to implement

projects successfully, measure their benefits, account for all expenditures and report on outcomes. In addition, the Board's state and federal co-chaired Science and Data Team has devoted considerable attention to data needs, data management and reporting systems in part to ensure that local monitoring and evaluation protocols used by Partnerships will provide for a national accounting of expenditures and accomplishments.

The message is clear. The National Fish Habitat Action Plan and this legislation represent a thoughtful, planned, and strategic endeavor with the organization, science, and collaboration mechanisms to make it work. Indeed, the Plan is working and the Association supports all elements of the National Fish Habitat Conservation Act without exception or hesitation to assure its continued future success.

Let me address the question of why legislation is necessary, given that a Plan is in place, and it is producing positive conservation results based on voluntary actions. The simple reality is that the Action Plan requires formal legislative endorsement to establish the architecture and funding needed to orchestrate uniform and long-term federal direction for combining these new and related existing resources across at least 19 federal agencies. At the same time, it is coupled with appropriate acknowledgment of and provision to support and engage active state fish and wildlife agency and tribal participation to accomplish science based conservation projects supported by voluntary regional Fish Habitat Partnerships at a scale necessary to make a difference. These are among the key elements provided for in S1214 and are absolutely critical to moving this Plan to the next level of sustainable success as elaborated below.

The delivery and coordination of science-based conservation projects at a scale that will be meaningful is expensive and needs to be accountable. Bulldozers and backhoes, nursery stock and rip-rap cost money. Partnerships are expensive to administer, grant processes and accountability mechanisms require staffing, the delivery of science and technical assistance needs funds, and the Board's oversight work is not without cost. The Association appreciates these are difficult economic times, but the National Fish Habitat Action Plan outlines a plan of cost-effectiveness - treating root causes, helping to prevent more costly interventions, and leveraging additional funds. It also provides the leadership for better coordinating existing related resources of over 19 federal agencies to avoid redundancies and achieve science-based conservation outcomes that can be measured, tracked and reported. Looking at the success of the NAWCA model, this comparable effort for fish and aquatic resources will provide an overall cost savings and at the same time insure that the most important projects will be funded and long-term measurable outcomes achieved in order to benefit the American public in all regions of our country.

The Plan offers an investment strategy to support and formalize a fledgling infrastructure already working hard unto that end. The investment will pay rich dividends -- clean water, healthy ecosystems, abundant fish, fewer ESA listings, and quality water-based places to recreate, which will also provide important economic

opportunity. Absent the funding contemplated in the Act, it will be difficult to sustain the existing momentum and voluntary coordination of federal and state agencies in progress. The Plan provides a national vision, based on lessons learned about why past investments have not adequately addressed declining fish populations associated with the failing health of our Nation's freshwater, estuarine and marine habitats. Without formal recognition of the Plan and long-term bridge resources to nurture its growth and actions, the present energy and enthusiasm needed to raise and leverage matching funds, write grants, and develop budgets cannot be sustained by the current patchwork of base funding. Even though a number of state agencies assist with funding for basic coordination and science work of the Board and Partnerships, these resources are inadequate to meet long-term goals and cannot be guaranteed to continue. States spearheaded the Plan development and recognize the necessity for this legislation. They understand that past regulatory efforts to implement conservation strategies were not adequately funded and coordinated to successfully accomplish desired outcomes. And they found that most past actions were not adequately tracked.

In order to remedy this outdated and ineffective pattern of the past, states invested seed money into this effort to demonstrate tangible benefits that will be realized with long-term and sufficient investment in the Plan outlined in the NFHCA. They now seek Congressional support and actions to take our country to the next stage and reap the same or greater benefits as achieved by NAWCA. The Plan also recognizes there will be opportunities to coordinate with NAWCA, State Wildlife Action Plans, and other programs to avoid redundancies when resources can be integrated effectively to achieve outcomes that benefit all and that would otherwise not be achieved alone.

On the project funding side of the equation, the Fish and Wildlife Service has been able to carve only \$3 to \$7 million out of its base budget in any given year to support Partnership projects when the documented need exceeds over \$55 million over five years for 416 projects. In response to the National Oceanographic and Atmospheric Administration's request for proposals for habitat conservation projects funded by their portion of the American Recovery and Reinvestment Act, approximately 800 applications were received requesting over \$3 billion dollars.

In addition to the funding needs that can be addressed by the National Fish Habitat Conservation Act, there are a number of other vital benefits. The Act defines the Board and its work, ensuring legislated governance and management of Board goals over time. The Association supports the new and additional slots dedicated to Board representation (i.e., it will grow from 22 to 27 members). This validates the broad spectrum partnership foundation of the Plan and ensures the private interests of farmers, woodlot managers, and fishermen are fully represented with other interests in the delivery of voluntary, non-regulatory fish habitat conservation projects.

Funding needed for effective delivery of successful science-based conservation projects at a scale that makes a difference, combined with accountability, are keys to

success -- the efficient tracking and use of funds and outcome reporting are vital. In addition, day-to-day coordination among federal agencies, state agencies and Partnerships, are essential. The provision for a new Partnership Office is the perfect solution to effect national level coordination in support of the governing Board and Plan implementation, including ensuring the best possible level of collaboration among multiple federal agencies and others with a stake in aquatic resource conservation. To date staff support has been made available in an ad-hoc way -- one that has worked at the limited demonstration level achieved to date -- but a Partnership office is required to cost effectively deliver and support the outcomes envisioned for the long haul.

The Association is pleased to see explicit recognition of the need for state participation throughout the Act. Regional state representation on the Board, state representation in the Partnership Office, and the explicit directive for coordination in Section 10 regarding activities within states, are highly desirable.

Science must be at the heart of the Plan and the Act ensures that can be a reality by designating federal dollars for science and technical assistance to support states, tribes and Partnerships with assessment data and monitoring approaches. Even though several federal agencies have redirected staffing or funding to make sure the science foundation is not overlooked in the development and early implementation of the Plan, more secure and dedicated funding will be invaluable. States also contributed to science and data efforts, especially with respect to their fish population and habitat roles and expertise. Climate change, energy development and transmission, and invasive species and their implications for the health of the nation's waterways, all point to the need for increased technical resources or capabilities to ensure the Plan is, in fact, able to remain contemporary in the face of such pressures.

If any doubt remains, let us not forget what is at stake. The American Fisheries Society reported last year that America's fish populations are facing a conservation crisis. Nearly 40 percent of our fish species, 700 in total, are listed as imperiled and habitat degradation is clearly a driving factor. The country has been dedicated for decades to important work aimed at eliminating overfishing of many ecologically and commercially valuable fish stocks. Yet without companion efforts to restore and protect habitats, these efforts could be for naught.

Past aquatic habitat conservation approaches and models, often regulatory in nature and fragmented, have simply not stemmed the tide. A new model is needed -- one grounded in science, coordinated partnerships, and priority habitat improvement projects of a scale that is effective -- the model provided in the National Fish Habitat Action Plan. States support this approach and have invested in the Action Plan and its implementation to demonstrate to the potential benefits of full implementation. The Association of Fish and Wildlife Agencies does as well. We have seen the Action Plan bring partners together that have the needed science expertise and more importantly the collective capacity for successful outcomes that could not be accomplished alone. We respectfully ask Congress to take the next step to build upon this support and

momentum demonstrated by these diverse science based Partnerships to implement conservation projects at a scale necessary to improve our nation's aquatic resources and contribute to the health of all Americans. We ask Congress to act expeditiously to legislatively endorse the forethought and sound conservation vision that the National Fish Habitat Conservation Act outlines in order to address our nation's aquatic habitat needs.

HR2188 The Joint Ventures for Bird Conservation Act

Bird conservation, whether for waterfowl or other migratory species, must be comprehensive in addressing the full array of bird habitat needs in all geographies where these needs exist, which is a fundamental principle of the North American Bird Conservation Initiative (NABCI). We thus strongly support HR2188 in providing the statutory architecture for the joint ventures, and urge favorable Committee action. Birds are invaluable to our society. With their relative freedom to move among suitable habitats, the relative ease of monitoring birds, and their important role as indicators of ecosystem health, birds are extraordinarily useful for evaluating the effects of human and environmental impacts on ecosystems and actions taken to protect or recover them. Worldwide, birds bring people from different countries together around the common goal of conservation for future generations. They are essential economic and ecological components of biodiversity and are of broad cultural significance.

Bird-watching is the fastest growing form of outdoor recreation in the United States, and has become a major component of our tourism, travel, and sporting industries. The *2006 National Survey of Fishing Hunting and Wildlife Associated Recreation* estimated the number of people that observe birds in the U.S. at 47.7 million. The 2002 national survey on bird-watching in the United States estimated that while watching birds, and other wildlife in 2001, the public generated \$85 billion in overall economic output (about 1% of GDP), \$32 billion in retail sales, and \$13 billion in state and federal income taxes. The 2006 national survey estimated about 2.3 million migratory bird hunters who spent approximately \$1.3 billion in 2006.

To ensure their survival, conservationists must address the threats to bird populations throughout their lifecycles. Some of the greatest threats include: (a) direct habitat loss through conversion for human uses; (b) habitat degradation; (c) food depletion for migrant birds using coasts and shorelines; (d) mortality near human population centers; and (e) habitat degradation on wintering grounds south of the U.S. border. The need is urgent and the time is right for major public-private initiatives for bird conservation.

As early as 1916, the United States and Canada recognized the need to collaborate to conserve shared bird species and established the Migratory Birds Convention. Two years later, the U.S. Congress enacted the Migratory Bird Treaty Act (MBTA) to give effect to this convention. In 1936, the United States entered into a similar agreement

with Mexico. By then, wildlife management agencies and conservation groups were actively cooperating to monitor migratory waterfowl on a continental basis. The creation of the Flyway Councils in the 1950s formalized the state-federal consultation processes for the major flyways. In 1986, the governments of Canada and the United States initiated the North American Waterfowl Management Plan (NAWMP), now a tri-national collaboration to conserve dwindling wetland habitat and restore diminishing populations of ducks, geese, and swans. Mexico joined the partnership in 1994 to make it a truly continental effort.

Public and private organizations alike recognized the advantages of working together at the national and international levels to coordinate and strengthen the growing number of partnerships on the continent for birds. In 1999, representatives from government and non-government organizations in Canada, the United States, and Mexico created the NABCI. NABCI works to advance conservation for the long-term health of the continent's native bird species and the habitats on which they depend. In 2005, the Minister and Secretaries of the environment in the three countries formally recognized the ambitious vision and goals of NABCI by signing the *Declaration of Intent for the Conservation of North American Birds and their Habitat*. The NABCI Declaration acknowledges that to safeguard migratory birds and their habitats for future generations, conservation must take place in every stage of a species' lifecycle – throughout the geographic range of nesting, migration, and wintering habitats – the full spectrum of bird conservation.

The future of many of the 1,400 bird species that occur in North America is in jeopardy. Many populations are in decline, some moderately, some precipitously, as habitats continue to be degraded or lost throughout their ranges which can span countries, continents – even hemispheres. The recently published *State of the Birds* Report identifies the sobering declines of many bird populations as a signal of the failing health of our ecosystems. The report highlights the status, threats and solutions in connection to specific habitat types such as wetlands, grasslands, and forests. As the Report indicates, it is imperative, especially in light of future impacts of climate change, that we maintain enough high quality habitats across the hemisphere to sustain viable populations of migratory birds. This is why the Joint Ventures for Bird Habitat Conservation (HR2188) Act which emphasizes habitat conservation and management across the hemisphere, are so critical.

Joint Ventures remain one of the key programs in migratory bird conservation in United States. The bird habitat joint ventures are committed to developing their capacity to become the regional delivery agents for bird habitat conservation priorities outlined in the national, regional and international bird plans. These partnerships are the most effective delivery mechanism for bird habitat conservation in history. With modest operating budgets supplied by the U.S. Fish and Wildlife Service, Joint Ventures leverage orders of magnitude more money from partners for on-the-ground conservation projects. Joint Ventures are supported by both parties in Congress every year, but they remain under-funded. They are often described as the “delivery arm” of the major migratory bird initiatives, developing the biological

foundation for management at regional scales, and facilitating local habitat conservation through implementation plans designed to attain continental goals. They exemplify the intent of integrated bird conservation. They also provide some of the best examples of strategic habitat conservation or landscape scale planning. Strategic habitat conservation is a science-based approach to conservation focused on providing landscapes capable of sustaining fish and wildlife populations at objective levels in this case identified by the bird conservation initiatives. The Joint Ventures exemplify the benefits of private and public partnerships. The State Fish and Wildlife Agencies, including Maryland DNR, are major partners in the Joint Ventures.

Maryland is a member of the Atlantic Coast Joint Venture (ACJV). The ACJV partnership is focused on the conservation of habitat for native bird species in the Atlantic Flyway of the United States from Maine south to Puerto Rico. The joint venture coordinates planning and delivery of bird habitat conservation on a landscape-level scale throughout the flyway, resulting in more effective and efficient conservation.

Maryland's magnificent Chesapeake Bay and coastal bays provide habitats critical to countless species of migratory birds. Over 120,000 acres of wetlands and associated uplands are being protected through acquisition, restoration, and enhancement in 20 projects approved through the North American Wetlands Conservation Act (NAWCA) since 1991. More than fifty partners have collaborated with \$65 million to match \$16 million in NAWCA funds to secure protection of these valuable wetlands. One of the most significant projects is The Chesapeake Bay Initiative. This initiative is a four-state partnership lead by Ducks Unlimited, Inc. with Virginia, Delaware, Maryland, and Pennsylvania joining forces to improve water quality within the Chesapeake Bay by restoring close to 54,000 acres of wetlands throughout the watershed.

Wintering waterfowl and waterbird species such as Canvasback, Redhead, loons and grebes depend heavily on the presence of submerged aquatic vegetation (SAV) beds in portions of the Chesapeake Bay in Maryland. Historical estimates of the geographic extent of SAV beds supported by the Bay are estimated at greater than 200,000 acres. As of 2003, seventy percent of the bay grasses had been lost. Such declines can have a dramatic impact on wintering waterfowl populations. The restoration of SAV has long been an important goal of the Chesapeake Bay Program (CBP) and its partners. In 2003 Maryland and its Bay Partners proposed a new goal and strategy to accelerate the protection and restoration of submerged aquatic vegetation in the Chesapeake Bay and its tidal tributaries. The enhanced bay grass restoration goal calls for the protection and restoration of 185,000 acres of bay grass by 2010. In 2003, after a careful site selection process, the Maryland Department of Natural Resources has undertaken large-scale eelgrass restoration projects in the Potomac and Patuxent Rivers and efforts are well underway to reseed and restore several locations in these important Chesapeake Bay tributaries.

The Playa Lakes Joint Venture is using strategic conservation to identify grassland habitats key to the survival of the Lesser Prairie-Chicken. In conjunction with the

Natural Resources Conservation Service, they are strategically enrolling land into Farm Bill conservation programs such as the Conservation Reserve Program. Grasslands are recognized by many as the most imperiled ecosystem worldwide. The unique avian assemblages associated with grasslands are likewise in danger -- grassland bird populations have shown steeper, more consistent, and more geographically widespread declines than any other guild of North American bird species. The *State of the Birds* report indicates that 48% of grassland birds are of conservation concern and 55% show significant declines. The need for information on abundance, productivity, habitat use, seasonal distribution, and effects of management practices is widely recognized among resource managers. Grasslands are threatened by overgrazing, conversion to croplands, frequent haying, field abandonment and a lack of fire (both of which encourage woody growth), invasive plants, resource extraction, and urbanization.

The Intermountain West Joint Venture (IWJV) has worked closely with its conservation partners in the Upper Snake River Region of Idaho to protect critical wetlands, riparian areas, and shrub-steppe habitats over the last decade. The IWJV helped the Teton Regional Land Trust (TRLT) and Ducks Unlimited secure a series of NAWCA grants that have been the catalyst for the perpetual protection of over 25,000 acres of valuable ranchlands in the region. NAWCA funding has enabled 6,000 acres of the 9,000 acres of conservation easement acquisitions in the Teton Basin. According to the TRLT, the staff support and science foundation provided by the IWJV was instrumental in securing of the NAWCA funding. The IWJV is currently developing science-based conservation planning tools for northern pintail, lesser scaup, sandhill cranes, and other priority species. In addition, the IWJV provided a capacity grant to a new conservation initiative in the Island Park Caldera, Henry's Lake, and Shotgun Valley area to maintain the ecological integrity of the area's intact ranchlands and improve avian habitats. Lastly, the IWJV is fully engaged with the Natural Resources Conservation Service in facilitating provision of Farm Bill funding to farmers and ranchers for priority habitat projects.

HR 3433 Amending the North American Wetlands Conservation Act

NAWCA is one of the most successful conservation programs in the U.S. and leverages on average 2 dollars for every 1 dollar of federal money. In the last 20 years, some 4,000 partners have received more than \$1 billion in grants and contributed another \$2 billion in matching funds. Over 25 million acres of habitat has been affected. HR3433 would allow the non-federal share of the US contribution to the costs of wetland conservation projects carried out in Canada to include cash contributions from non-US sources and allow funds from Canadian sources to account for up to half of the non-federal share of project costs. This legislation would allow Canadian projects to meet their non-federal match requirements and further enhance the Canadian and U.S. partnership through NAWCA. We strongly support HR3433 and urge favorable Committee action.

HR 3537 Reauthorization of the Junior Duck Stamp Conservation and Design Program Act -

The Act authorizes the Secretary of the Interior to carry out the Junior Duck Stamp Program, including conducting an annual art competition to develop a stamp and licensing and marketing of the stamp. The proceeds from the stamp are used to support conservation education programs, awards and scholarships. The program also has curriculum designed to help teach wetland and wildlife conservation principles to K-12 students. H.R. 3537, reauthorizes the program, increases authorization for appropriations, removes limitations on the use of funds for administrative expenses and amends the Program's reporting requirements. The AFWA supports H.R. 3537 because it will help effectively implement an important conservation education program, and we urge favorable Committee action.

S1519 Nutria Eradication and Control Act

We strongly support S1519 and the continued authorization of this vital program that is instrumental in managing this non-native species.

Nutria are listed among the world's 100 worst invasive alien species by the International Union for the Conservation of Nature (IUCN). Introduced from South America in the 1930's as a fur resource, they have subsequently invaded wetland and riparian habitats in 17 states in the US, damaging millions of acres of wetlands and countless miles of shoreline.

Nutria are prolific breeders and voracious feeders that outcompete native species and cause permanent loss of wetlands by destroying the root systems of wetland plants. Marsh destruction from nutria was so significant in the Chesapeake estuary that nutria control was made an integral part of the Chesapeake Bay Agreement, the interstate blueprint for Chesapeake Bay restoration.

Chesapeake marshes are the critical interface between land and water that allow the Chesapeake Bay to function ecologically. Chesapeake marshes protect water, land, and living resources. They protect agricultural lands and forests from flood events, erosion, and salt water intrusion; filter nutrients, pollutants and sediments from run-off destined for the Bay; and provide critical habitat for many species of fish and wildlife that are economically, ecologically and culturally important, including Rare, Threatened and Endangered species. By destroying marshlands, nutria threaten to interrupt and severely damage the chemical and biological underpinnings of the Chesapeake estuary.

According to economic studies, loss of marshlands has severe economic ramifications for commercial and recreational fisheries and tourism.

To date, The Maryland Nutria Partnership has removed 13,000 nutria from 150,000 acres on the Eastern Shore of the Chesapeake Bay. This 'nutria-free zone' was the epicenter of the Maryland population and had the highest nutria population density. The Partnership aims for a nutria-free Delmarva Peninsula by 2014.

Studies have shown that marshes from which nutria are removed have an astonishing ability to recover if the nutria are removed in time. Nutria eradication is by far the most economical method for wetland protection and restoration in the Chesapeake Bay watershed.

The Delmarva Nutria Eradication Project is a model program and the techniques and methodologies developed there will be invaluable in helping to manage, eradicate, and control the spread of nutria throughout the United States and around the world.

The partnership recently convened an international team of invasive species experts to provide an independent review of the administrative and operational strategies employed by the project to date. The review team was highly impressed by the program's accomplishments to date and provided strong encouragement that the goal of nutria eradication on the Eastern Shore can be accomplished.

From 2000 through 2009 the project has used \$10,834,532 in federal monies. The project is expected to continue at a cost of 1.5 million per year until completion in 2014, requiring an additional \$7,500,000. Post-eradication monitoring will continue for at least four additional years at a reduced annual cost below 1,000,000. Non-federal partners have contributed more than \$1,000,000 in cash and services since 2000.

It is critical that all nutria be eradicated from the region. Without total removal, the nutria population will recover and re-infest the 150,000 acres of marshland from which they have been eradicated, resulting in further degradation of Chesapeake Bay marshlands and the utter loss of the funding already invested in the project.

S1421 Listing Asian Carp as Injurious

Although time consuming, the deliberative review process conducted by the Fish and Wildlife Service in response to petitions to list species as injurious under the Lacey Act is comprehensive, science based, allows thorough engagement of the state fish and wildlife agencies, requires public and industry participation, and is peer reviewed. The Secretary of the Department of the Interior has emergency authority to expeditiously list a species as injurious if necessary and appropriate. However, we do support S1421 which would statutorily designate bighead carp as injurious given that other Asian carp species are already listed as injurious, there are existing control and eradication programs for Asian carp in general, and adding bighead carp to the Lacey Act will provide another enforcement tool to minimize human-assisted spread of this species.

HR509 Marine Turtle Conservation Reauthorization Act

The Association supports the reauthorization of this important conservation program and would observe that priority focus and expenditures should remain in the international aspect of this work.

Thank you, Mr. Chairman, for the opportunity to share these perspectives and support of these significant fish and wildlife conservation bills, and I would be pleased to address any questions.

**Environment and Public Works Committee Hearing
December 3, 2009
Follow-Up Questions for Written Submission**

Questions for Schwaab

Questions from:

Senator James M. Inhofe

1. I am troubled that S. 1214, the National Fish Habitat Conservation Act, grants authority to the Federal Government to purchase water rights and property to meet the goals of the program. Is there anything that would prevent these goals from being achieved through public-private partnerships instead?

Answer: S1214 never intended to give the federal government additional authority to purchase water rights and property. Because of concerns expressed by Senator Inhofe and others, the Association of Fish and Wildlife Agencies and others in the fisheries conservation community worked with the majority and minority Committee staff, and the Administration, on the language reflected in the Amendment in the Nature of a Substitute that was unanimously reported out of the Committee on December 10, 2009. That language precludes the use by the federal government of funds made available under the bill to acquire property or secure water rights.

2. Much of the criticism of the existing Fish and Wildlife framework for dealing with Invasive species is that it utilizes a "dirty list" to identify certain species as harmful to the environment, considering all species not on the list as safe. Some say this approach is too reactive because it only addresses species after they have been introduced as harmful. Is there a reason we cannot work within the Lacey Act to initiate proactive screening as called for in the National Invasive Species Management Plan?

Answer: The Association believes that the most effective and important role for the federal government in invasive species management is to keep these species out of the country in the first place. We support proactive screening as a means of enhancing border controls against invasive species. The fundamental question is whether the Lacey Act is the appropriate statutory framework within which to accomplish this (with relevant amendments); or, do we need to look at a new federal statute constructed for this purpose. The Association would be pleased to continue to work with the Committee to address this most fundamental question.

3. In a November 6th House Committee Hearing Deputy Director Ashe stated that amending title 18 to include Pythons as S.373 will not stop their future spread in the Everglades. The pet industry and the US Chamber of Commerce have asked, instead, that Congress create laws that require inventories, electronic identification systems, secure caging, and community outreach for large snakes to ensure irresponsible individuals and illegal breeders are held accountable for criminal acts. Do you believe this would be a more effective approach than statutorily banning this particular species?

Answer: The Association did not offer testimony on S.373. However, we would refer you to recent (March 2010) testimony (attached) to the House Natural Resources Committee from the Florida Fish and Wildlife Commission on this subject of managing pythons in Florida.

TESTIMONY OF SCOTT HARDIN, EXOTIC SPECIES COORDINATOR, FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, JOINT OVERSIGHT HEARING OF THE SUBCOMMITTEE, MARCH 23, 2010

Madame Chair and Mr. Chairman:

I am Scott Hardin, Exotic Wildlife Species Coordinator for the Florida Fish and Wildlife Conservation Commission, the state agency with the responsibility for regulating native and non-native species. I have represented my agency on the Gulf and South Atlantic Panel on Aquatic Invasive Species (a regional panel of the Aquatic Nuisance Species Task Force) since 2001. In addition, I am a member of the Florida Invasive Species Working Group, which coordinates state agency action on invasive plants and wildlife; a representative on the Florida Invasive Animals Task Team that advises the South Florida Ecosystem and Restoration Task Force and Working Group on invasive animal issues affecting Everglades Restoration; chairman of the Aquatic Nuisance Species committee of the Southeastern Association of Fish and Wildlife Agencies; informal participant on the Invasive Species Committee of the Association of Fish and Wildlife Agencies; and a member of the Transgenic Animal Task Force convened by the Florida Department of Agriculture and Consumer Services.

The Florida Fish and Wildlife Conservation Commission (Commission) appreciates the opportunity to provide testimony regarding Burmese pythons in south Florida, as well as the broader issue of exotic and invasive species. We have been actively engaged in management of Burmese pythons, collaborating with our federal and state partners while initiating our own programs to arrest the spread of the current population and prevent the future establishment of non-native constrictors. The Commission's initiatives illustrate our commitment to control Burmese pythons, and our programs reflect several factors unique to Florida that have guided our approach to the larger issue of non-native species management. We believe that additional capacity is needed to address the risks of the trade in non-native species, and we recommend programs to empower the states to assess the risks of non-native species, to properly regulate risky species, and to marshal an effective enforcement effort to intercept illegal animal shipments. The Commission advocates a federal-state partnership as a means to increase capacity, and we believe the model for such a relationship can be found in the successful Federal Aid in Sportfish and Wildlife Restoration programs.

Background and History

Florida has long been an epicenter for exotic fish and wildlife. Over 500 species of non-native birds, fish, reptiles, amphibians, mammals and invertebrates have been observed outside of captivity. At least 100 species are established, i.e., reproducing and unlikely to be eliminated without significant human intervention. Fortunately, most of these illegally introduced animals have not caused adverse ecological impacts, but their successful reproduction highlights Florida's vulnerability to the establishment of wildlife from other tropical regions.

For decades, Florida has been the destination of countless roadside zoos, traveling circuses, and other tourist attractions featuring exotic animal exhibits. This led to the development of a substantial industry dealing with the culture and exhibition of non-native species. Fueled by

Florida's subtropical climate and a burgeoning tourist industry, the captive wildlife trade has evolved into a multi-million dollar industry with nearly 4000 facilities holding regulated wildlife species, ranging from tropical fishes to exotic birds, and, of course, non-native constrictors. Not surprisingly, exotic pets are very popular and are in the possession of many Floridians throughout the state.

Non-native Species and Captive Wildlife Regulations in Florida

The Commission has a long history of regulating and managing introduced species. Recognizing the threat posed by the widespread possession and often substandard housing of exotic animals, in 1967 the Commission initiated captive wildlife regulations to provide for public safety, animal welfare and the legitimate use of wildlife for personal, educational or exhibition purposes. In 1973, a special law enforcement unit was created to enforce these regulations. The Commission's Wildlife Inspectors had specialized training in zoology or wildlife biology along with law enforcement certification, and were responsible for inspecting major zoos and attractions, privately owned pet stores, and individual pet owners. Today, this function is performed by a broader Investigations unit that also deals with illegal trafficking in regulated non-native wildlife. The Commission's captive wildlife regulations have been modified several times since then, with notable changes for non-native constrictors, and today are among the most comprehensive in America.

In the 1970s, the Commission addressed the threat of illegally released non-native aquatic species from the aquaculture industry and aquarium trade. To prevent further releases and establishment of non-native fishes, those species that posed ecological risks, or risks to human health and safety, were given conditional status and could only be possessed by commercial import/export businesses under strict bio-security. Subsequently, these species were re-examined, and possession of animals that posed substantially greater ecological risks was prohibited (except by accredited exhibitors or researchers).

Currently, 1546 species have restrictions on possession in Florida, including permit requirements, documentation of knowledge and experience, containment, or outright prohibition. The vast majority of these species are non-native.

Regulations for Burmese pythons

In response to the reproducing population of Burmese pythons in south Florida, in 2005 the Commission began consideration of restrictions on this species and other large constrictors. The Commission had convened a stakeholder group to advise the agency on revisions to its captive wildlife regulations. In 2006, the Commission focused on five non-native constrictors that routinely exceed 12 feet as adults, thus posing a threat to human safety as well as potentially causing adverse ecological impacts. Preliminary regulations were developed to require permits to possess these non-native species, and to require permanent marking of individual snakes to identify owners in the event animals were released or escaped.

Concurrent with the Commission's development of constrictor regulations, the 2007 Florida Legislature created a new regulatory classification, the Reptiles of Concern, and directed the

Commission to create a list of reptile species in this category. The legislation authorized a \$100 annual license to possess Reptiles of Concern, along with reporting and transportation requirements. The Commission subsequently designated five constrictors, including Burmese pythons, and one lizard (Nile monitor) as Reptiles of Concern. Effective January 1, 2008, these six species could be possessed only after purchasing the \$100 license, and all Reptiles of Concern in personal possession had to be implanted with a permanent micro-chip identifying the individual reptile. Dealers and breeders were exempted from micro-chipping animals in their inventories. All license-holders were required to maintain records and report changes in inventory. Violation of these requirements could lead to civil or criminal penalties up to a first degree misdemeanor, depending on the severity of the infraction.

In addition, the Commission imposed bio-security restrictions on Reptile of Concern owners, including caging and enclosure standards, access restrictions, and, perhaps most significant, the requirement for a Critical Incident Plan that details measures to secure Reptiles of Concern in the event of an impending hurricane or flood. These regulations closed a significant vulnerability from the 1990s, when Hurricane Andrew led to the release of many Burmese pythons in close proximity to Everglades National Park.

We believe that the Reptile of Concern regulations are a significant step in reducing the risk of future establishment of non-native constrictors. The license requirement has virtually eliminated the impulse purchase of Burmese pythons by uninformed buyers, reducing the risk of release as these animals grow too large. Increased bio-security and disaster preparedness have mitigated the risk of escape of large numbers of animals from commercial entities. Although it is not possible to know how many pythons were sold prior to these requirements, relatively few Burmese pythons have been sold in Florida since the regulations went into effect. The Commission issued 398 licenses over the past two years. Through December 2009, there were 480 inspections, 98 citations for non compliance, 132 warnings, and 73 Reptiles of Concern were seized. Furthermore, required reports from dealers indicate that the majority of all Reptiles of Concern are sold outside of Florida, in states with low risks of establishment.

The Commission continues to examine its regulation of Burmese pythons. Recently, a Reptiles of Concern stakeholder group provided recommendations to Commission staff on regulations for pythons. The group was comprised of representatives from state regulatory and management agencies, the reptile industry, conservation organizations and animal welfare advocates. Its recommendations included extending the Commission's amnesty program to allow surrender of Reptiles of Concern to licensed individuals at any time, and reducing the minimum size for permanently marking reptiles with microchips. These recommendations were approved by the Commissioners, and will be incorporated into new regulations in 2010.

Increased regulation of exotic constrictors is part of a multi-faceted approach to management of non-native species that seeks to protect Florida's native wildlife, allowing the legitimate use of some exotic animals by responsible parties, while restricting or prohibiting more problematic species. The Commission's list of 716 prohibited species largely consists of animals that were not integral components of the trade, and this was an effort to "get ahead of the game." However, many non-native species are already in widespread personal possession or are important in Florida's wildlife trade. Accordingly, the Commission has chosen to pursue a well regulated

industry rather than contend with the difficult proposition of controlling underground traffic in popular species.

The Commission supports appropriate restrictive measures to further reduce the prospects of another established non-native snake. However, Florida is in a unique position with regard to non-native species. The port of Miami is a principal entry point for a vast array of exotic animals, and this has led to the establishment of import/export businesses, breeders, wholesalers and dealers. Some of these animals are purchased by Florida pet owners, but many more are destined for markets in other states and countries. As the Commission has tightened the requirements to possess Burmese pythons and other Reptiles of Concern, we have proceeded in a measured way to ensure that we did not inadvertently create a class of value-less, and therefore, disposable animals. In short, blanket prohibition of species in widespread possession may have unintended consequences, and flexible regulatory approaches are needed.

Burmese python control and management in south Florida

The Burmese python population in south Florida covers roughly 2000 square miles, with the core population in Everglades National Park and surrounding lands, including South Florida Water Management District (SFWMD) property, and Big Cypress National Preserve. Understandably Everglades National Park and the SFWMD have assumed principal roles in monitoring, research and development, and control activities. The Commission has supplemented this effort by aggressively implementing programs on our managed lands to limit the spread of pythons from the core area.

The Commission manages hunting, fishing and wildlife habitat in five Wildlife Management Areas in the vicinity of, or overlapping the Burmese python population. Our strategy in these areas is to provide opportunistic control and containment to curtail the further expansion of the population until more effective removal techniques are developed. In July 2009, we issued permits to 15 volunteers to patrol these management areas to search for and dispatch pythons. These herpetological enthusiasts were selected based on their knowledge of pythons and ability to collect biological data. During 2009, these volunteers removed 39 pythons. Permits have been renewed for six permittees for 2010, although unusually cold weather has reduced the python population and, consequently, the number of pythons removed.

In 2008, the Commission approved rules allowing the take of non-native species on private land throughout the year, using legal methods and with landowner permission. In 2009, an executive order extended this to selected public hunting lands in south Florida, allowing licensed hunters to kill pythons (or other Reptiles of Concern) encountered while they were pursuing game during established hunting seasons. Identification guides to help hunters distinguish pythons from native snakes were provided at check stations and on the Commission's web site. This executive order was codified in Commission regulations effective December, 2009. The south Florida hunting community has embraced this opportunity to assist the Commission's efforts to control the spread of Burmese pythons. At their last meeting, our Commissioners authorized a special season in certain Wildlife Management Areas, further extending the opportunity for our partners in the hunting community. The special season continues through mid-April when pythons are vulnerable during their breeding season.

The Commission's enforcement staff in south Florida has the opportunity to access some of the remote regions on the leading edge of the python population, and officers who encounter pythons dispatch these animals and provide the information to the Commission's database. We also network with staff in state and county parks to record any large snakes they observe or have reported by their visitors.

Together these programs demonstrate our commitment to contain Burmese pythons within extreme south Florida and to prevent establishment of Burmese pythons elsewhere in Florida.

Management of non-native species

The Commission's management of non-native species focuses on preventing their establishment. Restrictive regulations serve as an important deterrent to the release of exotic species, and very few of the species with restrictions on possession have become established. However, outreach and education are equally important in communicating that releasing non-native species in Florida is, first and foremost, illegal but also ecologically unwise. The Commission has engaged in outreach through its biological and enforcement divisions, and through interagency efforts with its state and federal partners.

Our amnesty program is both a prevention and outreach effort developed in anticipation of increased restrictions on possession of Burmese pythons. Previous federal designations of species as injurious wildlife (e.g., walking catfish, snakeheads) have been followed by observations of these animals in new locations. Presumably this resulted from owners of these animals who either incorrectly believed they could no longer possess their animals legally, or felt they had no legitimate outlet to get rid of their pets.

In 2006, the Commission held its first amnesty event in Orlando, where anyone in possession of exotic fish or wildlife could surrender their animal, no questions asked. Donated animals would be placed with qualified individuals, and no pets would be euthanized except for very sick animals at the advice of an attending veterinarian. Since that time, amnesty events have been held in the Tampa Bay area, Miami, Orlando area and Jacksonville. In 2008, the Commission approved a rule formalizing the amnesty program. Altogether these events have resulted in the surrender of approximately 600 animals, providing an outlet for owners of recently restricted pets. Moreover, they have been instrumental in increasing public awareness of the issue of illegal release of non-native wildlife. Local, state and federal agencies and non-governmental organizations have cooperated in the amnesty program, and plans are nearly complete to provide technical support for local communities to sponsor their own amnesty events.

Florida's citizens are ethnically diverse, particularly in the southern part of the state where most non-native species have been observed. Many of Florida's recent residents are unaware of the legal and cultural issues of non-native wildlife. The Commission has begun to reach out to the next generation of Floridians by incorporating age-appropriate exotic species activities in the classroom using the long-established Project WILD program. We hope to instill a conservation ethic, including respect for native species, in Floridians whose parents have come from all over the world.

Unfortunately, prevention is not foolproof. The Commission maintains a database of non-native species observations and cooperates with other agencies to share information on recently reported exotic animals to improve our chances of eliminating incipient populations and to reduce potential impacts and the costs of long term management. A multiagency effort to eliminate a small population of the African sacred ibis appears to be successful. Similarly, the prospects for eradicating a localized population of Gambian pouched rats in the Florida Keys are excellent.

How to improve non-native species management

The Commission acknowledges the need for increased capacity to identify potentially invasive species prior to their importation or widespread trade. Risk analysis - assessing the likelihood of establishment of a non-native species and its consequences – should be implemented for species currently in or proposed for commercial trade. While some species are problematic at the national level, e.g., zebra mussels, other animals pose local or regional threats, and flexible legal and operational solutions are needed.

We propose the concept of a federal-state partnership, where the states conduct risk analyses under the auspices of federal administration, similar to the highly respected Federal Aid in Sportfish and Wildlife Restoration programs. Results from analyses conducted by the states would have regional or national application as risks and mitigation measures are identified. Species found likely to cause adverse ecological or economic impacts at the national level would be candidates for Injurious Wildlife listing under the Lacey Act and prohibited from importation or interstate shipment. Species with high risk of impact at the state or regional level would fall under state-based restrictions. Significantly, interstate shipments violating such state laws would be subject to federal prosecution under the Lacey Act, bringing into play the significant deterrent value of this legislation.

Finally, we believe enforcement capacity must be increased concurrent with additional regulations on non-native species. Increased state law enforcement, in cooperation with existing federal programs, should play a pivotal role in this undertaking. Joint enforcement by state officers and U.S. Fish and Wildlife Service Investigators and Special Agents would increase the capacity at international ports. State officers would be charged with enforcing their own laws, but with enhanced communication with the U.S. Fish and Wildlife Service.

We hope this testimony confirms our commitment to reducing the risk posed by non-native species and we thank you again for the opportunity to provide input on these important topics of both state and national interest.

Senator CARDIN. Well, Mr. Schwaab, thank you for your testimony. I am particularly proud of the work that has been done in Maryland and I congratulate you on that.

Mr. Bendick.

**STATEMENT OF ROBERT L. BENDICK, DIRECTOR, U.S.
GOVERNMENT RELATIONS, THE NATURE CONSERVANCY**

Mr. BENDICK. Mr. Chairman, I, too, appreciate the opportunity to testify here today on behalf of The Nature Conservancy. We thank you for your terrific leadership on conservation issues.

The Nature Conservancy is an international nonprofit conservation organization with a mission to protect the diversity of fish and wildlife habitat on Earth. We have programs and site-based projects in all 50 States and in 35 other countries. And we own and maintain the largest system of private nature preserves in the world.

This extensive experience in the field informs our legislative positions and is relevant to the bills being considered at this hearing.

First, we strongly support S. 373, 1519, 1421, and 1965 to control and eradicate exotic invasive wildlife species. Studies have shown that invasive species are threatening the survival of almost half of the 1,800 federally listed threatened and endangered species. We have done a survey, and invasive species are a significant threat to 94 percent of our own nature preserves. I will highlight just two of the specific positions discussed in my written testimony.

If passed, S. 373 would immediately place all species of the python genus on the Federal Injurious Species List under the Lacey Act. While we do not feel that there is the body of scientific evidence to support listing of the entire python genus, we do agree with the U.S. Fish and Wildlife Service that this bill be amended to include all nine large constrictor species assessed by the recent USGS report on this subject.

Two of these species, the Burmese and northern African pythons, are already present in very large numbers, some say 100,000 individuals, on conserved lands in Florida, and are predicted to spread much farther north.

And as former Director of the Conservancy's southern U.S. region, I have seen first-hand the damage feral hogs cause to natural areas. We have faced similar problems on the Channel Islands of California and in Hawaii. We are very pleased to see legislation that provides critical cost share funds to the State of Louisiana to study the extent of hog damage to wetlands and to develop methods to eradicate feral swine.

Second, we urge the subcommittee to enact authorizing legislation for the National Fish Habitat Conservation Act and to codify procedures for the successful U.S. Fish and Wildlife Service's Joint Ventures for Bird Habitat Conservation. Within 40 percent of all North American freshwater fish species are vulnerable to extinction, and many other marine and freshwater species are also threatened. Habitat loss and degradation is one of the primary causes of this decline.

A National Fish Habitat Conservation Act would provide a sound framework for implementation of the National Fish Habitat Action

Plan, a collaborative, multi-stakeholder effort to conserve and restore fish and aquatic organism habitat across the U.S.

A good example of the potential of this legislation is the Southern Aquatic Resource Partnership in which I have participated. It brings together 14 States to accomplish projects like the restoration of stream side habitat on the biologically diverse Duck River in Central Tennessee.

For birds, the Joint Ventures science-based partnership-driven approach is an excellent model for the collaborative efforts necessary to sustain healthy and productive landscapes across America. The Nature Conservancy is engaged in many of the 19 JV partnerships across the U.S., and we strongly support H.R. 2188 to formalize the coordination and financing of Federal, State, nongovernmental organizations, tribes and landowners to conserve bird habitat, but with two amendments that are spelled out in my written testimony.

Finally, we also support an amendment of the North American Wetlands Conservation Act to authorize the use of Canadian funds as matching funds. Currently, the provision that all NAWCA match come from U.S. sources means that a large amount of Canadian match generated by conservation partners is effectively left on the table and does not count.

Given that NAWCA projects often attract two to three times the amount of Federal dollars invested, this legislation can only help improve our ability to conserve wetlands in North America.

NAWCA, the Bird Joint Ventures and the fish habitat legislation all bring together diverse interests, including landowners, and the different levels of government in just the kind of cooperative, voluntary, constructive and practical efforts needed to conserve America's natural systems for all their benefits.

Thanks again for allowing me to testify here today.

[The prepared statement of Mr. Bendick follows:]



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**Statement of Robert L. Bendick
Director of Government Relations
Before the Subcommittee on Water and Wildlife
Committee on Environment and Public Works
December 3, 2009**

Mr. Chairman and members of the Subcommittee, on behalf of The Nature Conservancy I appreciate the opportunity to provide testimony in support of legislation before this subcommittee on three major themes:

- (1) Control of exotic invasive wildlife that harm native ecosystems;
- (2) Expressly authorize and formalize landscape-scale habitat conservation collaboratives such as the U.S. Fish and Wildlife Service's Joint Ventures for Bird Habitat Conservation and, the similar activities authorized by the National Fish Habitat Conservation Act; and
- (3) Amendments to the North American Wetlands Conservation Act (referred to as NAWCA).

My statement today will provide support and comments on seven bills before you today:

- S. 373 and S. 1421 that will prohibit exotic invasive Pythons and Asian Carp from being shipped or imported into the United States.
- S. 1519 and S. 1965 to provide financial assistance to coastal states to control both the South American nutria and feral swine.
- H.R. 2188 to expressly authorize the U.S. Fish and Wildlife Service's Joint Ventures for Bird Habitat Conservation.
- S. 1214 to authorize the National Fish Habitat Conservation Act.
- H.R. 3433 which amends NAWCA to allow Canadian funds to match federal funds.

Introduction

The Nature Conservancy is an international non-profit conservation organization whose mission is dedicated to the conservation of biological diversity. Our mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

We pursue our conservation efforts in all habitat types—forests, freshwater, marine areas, grasslands and aridlands. We have programs and projects in all fifty states and in 35 other countries. The majority of our conservation work involves site-based projects that achieve tangible conservation on the ground and in the water. As part of these field activities, we own and maintain the largest system of private nature preserves in the world. Our experience in the field informs our policy work—we advocate for policy action that will produce tangible conservation results.

In order to determine what policy actions are needed to achieve lasting conservation, we have developed a methodology called *Conservation by Design* which helps us to identify the most important places for conservation, the threats to the ecological health of those places, the best strategies to reduce those threats, and how we can monitor the results to determine if the strategies are effective. We have applied this approach in a systematic way to hundreds of places across the United States.

The cumulative findings are relevant to the legislative measures that are being considered in this hearing, including:

- Invasive exotic species have a profound impact on natural areas and can impact the health of whole ecosystems;
- Freshwater habitats are among the nation’s most endangered ecosystems, and they are adversely affected by a range of threats;
- Within freshwater systems, wetlands are particularly important in making watersheds resilient to climate change; and
- It is essential to conserve and manage whole natural systems to achieve lasting conservation results.

We applaud the Subcommittee for hearing legislation today that addresses the threat of exotic invasive wildlife to prevent further damage to our native ecosystems, and legislation that promotes national public and private conservation partnerships, led by the U.S. Fish and Wildlife Service, that seek to conserve natural systems focused on native fish habitat and for migratory birds.

First, and of utmost importance, we strongly support S. 373, S. 1519, S. 1421 and S. 1965 to control and eradicate exotic invasive wildlife species.

Background

Invasive species, such as feral hogs, nutria, pythons and Asian carp pose a continuous threat to conservation. Studies have shown that invasive species are threatening the persistence of almost 50% of 1,880 federally listed threatened and endangered species. The Conservancy owns more than 1,340 preserves in the United States – the largest private system of nature sanctuaries in the world. An overwhelming 94% of our sites across the United States have identified invasive species as a significant threat to the native species and communities that we are working to protect.

The United States needs comprehensive legislation addressing all taxa of wildlife, focused on preventing new invasions as well as addressing established invaders. By this, we mean the restriction of importation and sale of non-native wildlife species that are either not present in the wild or are newly found in the wild and are predicted to be harmful as well as those species that are established invaders that are already causing harm. This is important not only for preventing a new

species from being imported, but also to reduce the “propagule pressure” of those newly established and established species. We should be using the best available science for risk assessment and adopt a pre-import screening tool prior to allowing importation of non-native wildlife into the United States. Prevention is the least expensive and most effective way to promote native wildlife conservation and to avoid long-term management responsibilities.

S. 373

If passed, S. 373 would immediately place all species of the Python genus on the federal injurious species list under the Lacey Act. While we do not feel that there is the body of scientific evidence to support the listing of the entire Python genus, we do recommend that this bill be amended to include all 9 large constrictor species assessed by the U.S. Geological Survey in the report, "Giant Constrictors: Biological and Management Profiles and an Establishment Risk Assessment for Nine Large Species of Pythons, Anacondas, and the Boa Constrictor," dated 2009. This comprehensive scientific risk assessment reviewed nine species of large constrictor snakes and found that all nine pose high or medium risk to our environment. Two of these species, the Burmese and North African pythons are already present in conservation lands in Florida and are predicted to spread farther north. The harm caused by the Burmese python to the native wildlife of Florida is well documented and includes predation on state-listed wading birds, the federally-endangered Key Largo wood rat as well as more common species from round-tailed muskrats to small bobcats.

The South Florida Water Management District petitioned the U.S Fish and Wildlife Service to include the Burmese python as an injurious wildlife species under the Lacey Act (18 UNITED STATES.C. 42) in June 2006. The Nature Conservancy has written letters to support this petition as well. To date, the Service has not made a determination for listing this species. This delay in listing is not unique to the Burmese python. In October of 2007, the black carp was designated as injurious by the Service, seven years after the original petition. During that time, the black carp spread to Arkansas, Illinois, Mississippi and Missouri, harming both native fish and mussel populations. This delay in regulatory action highlights not only the current need for S. 373 to expedite the overall listing process for the Burmese python and the other 8 large constrictor species in the USGS report, but it also demonstrates the need for an overall revision to the Lacey Act and the process for listing species as injurious.

S. 1421 - Asian Carp Prevention and Control Act

Similar to S. 373 to control exotic invasive pythons, this legislation would also add “bighead carp” to the list of injurious species that are prohibited from being imported into the United States or shipped across inter-state borders under the Lacey Act.

Bighead carp (*Hypophthalmichthys nobilis*) and Silver carp (*Hypophthalmichthys molitrix*) are collectively known as Asian carp and are considered among the most problematic aquatic invasive species in the Mississippi River Basin. Together they arguably pose the most imminent threat to the Great Lakes as both species are migrating through the man-made Chicago Sanitary and Ship Canal that connects the Great Lakes to the Mississippi River Basin. These fish have the potential to deplete plankton populations and will directly compete with the young of most native fish species. The successful introduction of Asian carp into the Great Lakes has the potential to devastate water

quality and commercial and recreational fisheries, the latter are valued at \$4.54 billion. Placing bighead carp (*H. nobilis*) on the federal injurious species list would be consistent with the previous listing of Silver carp (*H. molitrix*) under the Lacey Act. The federal government is already spending many millions of dollars to prevent the colonization of the Great Lakes through the Chicago Ship and Sanitary Canal, but these efforts could be undone if Bighead carp were introduced via live trade pathways. This listing would help close this potential invasion pathway.

S. 1965 - Feral Swine Eradication and Control Pilot Program Act of 2009

Provides cost-share funds to the State of Louisiana from the Department of Interior to study the extent of damages to wetlands, develop methods to eradicate feral swine and retire wetlands.

As former Director of the Conservancy's Southern United States Region, I have seen first hand at many locations the damage feral hogs cause to natural areas. We have faced similar problems on the Channel Islands of California and in Hawaii.

Rooting and foraging by feral swine results in damage to crops and natural ecosystems. Feral hogs turn over large volumes of soil surface injuring native plants and cause soil erosion which increases sedimentation in streams and wetlands. Feral hogs are also responsible for an estimated \$800 million in damage to agricultural commodities in the United States annually. In addition, feral swine populations can serve as vectors of diseases such as swine brucellosis and pseudo rabies which can be transmitted to domestic livestock, other native wildlife, pets and humans.

S. 1519 - Nutria Eradication and Control Act of 2009

Nutria are large rodents native to South America. They inhabit freshwater, brackish, and riverine wetlands, and are now be found in sixteen states. Because of their resemblance to beavers, they were first imported to fur farms in 1899 and 1930, but the industry failed due to falling fur prices and the low reproductive rates in captivity. Many nutria were released into the wild, and nutria have now been reported in every Maryland Eastern Shore county, and from Bombay Hook National Wildlife Refuge in Delaware, through the Delmarva Peninsula to Virginia's Eastern Shore.

Unlike native muskrats which consume surface vegetation, nutria use their beaver-sized incisors and powerful forefeet to dig under the marsh surface to feed directly on the root mat, leaving the marsh pitted with holes and deep swim canals, thereby damaging the vegetation that holds a functioning wetland and marsh together. Nutria are voracious, opportunistic feeders that consume about 25% of their body weight daily. Their diet includes marsh vegetation but they also eat crops, lawn grasses, and ornamentals adjacent to aquatic habitats.

As a result of the nutrias' destructive feeding habits, the habitats of native wildlife species, such as waterfowl, wading birds, and muskrats, and the nurseries of young crabs and fish are threatened. Nutria also diminish the other functions marshes provide, such as improving water quality by functioning as sediment/nutrient filters, and providing flood and storm surge protection for coastal communities.

Previous efforts to address this non-native species have yielded results. For example, nutria caused significant marsh loss in the Blackwater National Wildlife Refuge on the Eastern Shore of

Maryland over the last few decades. A partnership between the USFWS and Maryland Department of Natural Resources to implement an eradication program has nearly depleted the population. MD DNR also implemented a much smaller eradication program at a small watershed on the Western Shore. The Coastwide Nutria Control Program funded through the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) as noted in the legislation, has reduced the numbers of nutria impacted marsh from about 80,000 to 23,000.

A national program by the Secretary of Interior to control and eradicate nutria in the States of Delaware, Oregon, Virginia and Washington and continuing support of efforts in Maryland and Louisiana are vital to efforts to remove this exotic species from our native wetland ecosystems.

Second, we urge the Subcommittee to enact authorizing legislation for the National Fish Habitat Conservation Act, and to codify procedures for the successful U.S. Fish and Wildlife Service's partnership-based Joint Ventures for Bird Habitat Conservation.

S. 1214 - National Fish Habitat Conservation Act

More than 40% of all North American freshwater fish species are vulnerable to extinction, and many marine species are threatened as well. Habitat loss and degradation is one of the primary causes of this decline and it is clear that America needs a robust, comprehensive national strategy to restore fish habitat. To address these national needs, the National Fish Habitat Conservation Act would establish a national framework for implementation of the National Fish Habitat Action Plan (NFHAP). NFHAP is a collaborative, multi-stakeholder effort to conserve and restore fish and aquatic organism habitat across the United States. The Nature Conservancy strongly supports this legislation and urges its speedy passage.

Modeled on the successful North American Waterfowl Management Plan and the subsequent North American Wetlands Conservation Act (NAWCA), NFHAP focuses attention and funding on habitat protection and restoration projects, identified and designed locally, that further the goals of the regional Fish Habitat Partnerships. Each Fish Habitat Partnership includes representatives from a wide variety of stakeholders, including state wildlife management agencies, federal agencies, industry, conservation organizations, and other local stakeholders. Using the best conservation science available, partners determine the highest-priority needs for fish and aquatic organism habitat within their area. As with NAWCA, a national board prioritizes the project proposals submitted by the partnerships and approves new partnerships that seek official status.

The collaborative, science-based nature of these partnerships mirrors our own conservation philosophy and enables these stakeholders to work as an effective team. While the NFHAP program has received only modest federal funding so far, there have been several conservation success stories.

Below, we provide four examples of partnerships and projects that illustrate accomplishments of a few fish habitat partnerships and demonstrate the potential of the larger program.

- The Atlantic Coastal Fish Habitat Partnership (including states from Maine to Florida) was granted official recognition by the national NFHAP board this fall, and the strategic plan and project evaluation criteria was drafted by the Conservancy. Early work by the Conservancy

and partners allowed conservation project proposals to be evaluated for funding within a matter of weeks – an efficient use of the federal start-up funds. Other Fish Habitat Partnerships across the country, such as the Alaska Matanuska-Susitna Basin Partnership and the Southeast Aquatic Resources Partnership (VA, NC, SC, GA, FL, MS, AL, TN, KY, MO, AR, LA, OK, TX) have also used our methodology and expertise to craft their own strategic plans, helping to allocate limited resources to the places where they will have the greatest possible impact.

- The Southwest Alaska Salmon Partnership is an excellent example of how the Conservancy participates in a partnership to provide technical expertise and assistance in coordinating the partnership. The Conservancy convenes the partnership meetings and provides GIS support to the technical committee. Federal grants to the partnership have resulted in completing salmon distribution surveys (an atlas that identifies fish passage needs), and securing water rights for fish in salmon bearing streams.
- One of the largest fish habitat conservation partnerships including 14 states on the south Atlantic Coast and on the Gulf of Mexico is the Southeast Aquatic Resources Partnership (SARP). A significant project of this partnership is the restoration of streamside habitat along the Duck River in central Tennessee. The Duck is remarkable for its biological richness. Over 650 riverine species have been documented in its waters and those of its tributaries. 46 species of freshwater mussel are found there along with 146 species of fish, including sportfish such as largemouth and spotted bass. Despite some earlier conservation successes, the Duck has been stressed by agriculture, wastewater, and urbanization. Guided by a Nature Conservancy pilot study in 2005, SARP has enabled private landowners, federal agencies and local partners to work together, restoring miles of streamside habitat along the Duck River to protect it from runoff and sediment
- The Matanuska-Susitna ("Mat-Su") Basin Salmon Partnership recently received funds to complete a culvert replacement project on Colter Creek in Alaska. At present, four poorly-designed and maintained culverts constrict the stream, creating a barrier to salmon migration. Using a combination of public and private funding, the Mat-Su Partnership enables a remarkable collaboration between The Nature Conservancy, private landowners, the National Oceanic and Atmospheric Administration (NOAA), the U.S Fish and Wildlife Service, and the Wasilla Soil and Water Conservation District. This diverse partnership will enable the replacement of all four culverts with high arch pipes will allow the full free movement of salmon, help keep the creek in its bed during high-water events, and provide environmental education for local schoolchildren.

H. R. 2188 - Joint Ventures for Bird Habitat Conservation Act of 2009

The migratory bird joint ventures are outstanding examples of multiple stakeholders working together to plan on a whole ecosystem basis for the recovery of a range of species.

This legislation would expressly authorize the U.S. Fish and Wildlife Service's current program of participating in and supporting Joint Ventures (JVs) and would codify procedures to establish and support new JVs across the United States.

JVs build partnerships that get conservation done. The partnerships use a science-based approach that targets conservation actions to the highest priority habitats and geographic areas within their respective Joint Ventures. This approach is a credible one that has leveraged a large amount of partner funding and actions with a relatively small amount of federal funding.

The track record of JV partnership building accomplishments nationwide is impressive and it is at a landscape scale that is really making a difference. The Nature Conservancy is engaged in many of the 19 JV partnerships across the United States, including those formed in the Missouri Coteau (North Dakota), Rainwater Basin (Nebraska), San Luis Valley (Colorado), San Francisco Bay and Central Valley (California) and Montezuma Wetlands (New York). These partnerships are enduring examples of on-the-ground efforts that continue to benefit bird conservation.

Joint Ventures have guided investment of more than \$4.5 billion in public and private funds to protect, restore and enhance over 15 million acres of waterfowl habitat and to conduct research and population management.

We strongly support H.R. 2188 to formalize the coordination and financing of federal, state, nongovernmental organizations, tribes and private landowners in Joint Ventures to conserve bird habitat.

Recommended Revisions to H.R. 2188. The Conservancy strongly supports H.R. 2188, however we have a number of specific suggestions that we believe would improve the bill. Please consider the following change and addition:

- Under Section 6. Grants and other Assistance, it is worth reiterating that grants to support JVs should be to provide an infrastructure for partnership formation, conducting sound conservation science and planning and to a limited degree for conservation project development. The emphasis in this Section should be on the development and publishing of guidelines for how funding will be allocated among JVs for the support activities of the JV (6.a.1). Either in this section or the guidelines that result, criteria should be established regarding the allocation of funding among the respective JVs. For example, these criteria need to address such characteristics as the size and complexities of the various JVs; the number of bird conservation regions in the JVs; number of high priority species from each of the bird initiatives occurring in it; track record of the JV in meeting the goals of its implementation plan, and other available resources.
- The bill would be enhanced by adding specific recommendations on annual funding authorization levels for Joint Ventures. To meet the ambitious goals for bird conservation that the Joint Ventures have already set for themselves, and the expectations of additional work to accomplish the "all-bird" conservation as is clearly needed, we do note that regular, annual increases in JV budgets will be necessary. The Association of Joint Venture Management Boards has recently recommended that given the greater scope of responsibilities that JVs have been given it recommends an increase of funding in the next five years from \$15.0 million in FY 09 to \$30.0 million in FY13. The Association makes the

case that such funding is warranted because the expanded investment will continue to leverage public – private partnerships that put habitat acquisition and restoration projects on the ground; will help accelerate the implementation of JV landscape conservation plan; fund new Joint Ventures to expand services nationally; provide green jobs in local communities through habitat restoration projects; and serve as an economic stimulus for communities through increased wildlife watching and outdoor recreation opportunities. We recommend that the Association’s five year plan to increase JV appropriations be included in the legislation

Finally, we strongly support an amendment to NAWCA to authorize the use of Canadian funds as matching funds.

HR. 3433 – Amending NAWCA

The North American Wetlands Conservation Act (Act or NAWCA) of 1989 provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation projects in the United States, Canada, and Mexico for the benefit of wetlands-associated migratory birds and other wildlife.

NAWCA is one of the most successful conservation programs ever enacted by Congress.

The legislation amends the Act to allow up to 50 percent of the non-federal share of projects in Canada to be paid for by Canadian conservation supporters, and will allow and encourage our Canadian conservation partners to fund a greater number of important wetland preservation projects in Canada.

In the 20 years of the program, there have been more than 1,600 NAWCA projects that have conserved more than 25 million acres of habitat across North America. Each project requires at least a 1:1 match for each dollar from the federal government – however, the projects often attract 2-3 times that from conservationists, local governments, and others. Over \$1 billion in federal grants have been allocated for NAWCA projects – a figure that has leveraged an additional \$3 billion from matching and non-matching funds.

Summary

Thank you for the opportunity to provide testimony on the important legislation before the Subcommittee. Taken together these measures advance conservation on several fronts. We are grateful to their respective sponsors for introducing these bills, support their passage, and are willing to continue to provide specific information. If you have any further questions, please do not hesitate to contact me (rbendick@tnc.org) or Gabrielle Horner, Sr. Policy Advisor (703/841-7425).



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April 10, 2010

The Honorable Barbara Boxer
Chair
Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, DC 20510

The Honorable James M. Inhofe
Ranking Minority Member
Senate Committee on Environment and Public Works
456 Dirksen Senate Office Building
Washington, DC 20510-6175

Dear Chairman Boxer and Senator Inhofe:

Thank you for the opportunity to testify before the Senate Committee on Environment and Public Works, Subcommittee on Water and Wildlife December 3, 2009. I write today in response to follow-up questions I received in a letter from Senator Inhofe dated April 6, 2010.

My original testimony for the Subcommittee was in support of legislation (1) related to control of exotic invasive wildlife that harm native ecosystems; (2) authorizing the U.S. Fish and Wildlife Service to formalize landscape-scale habitat conservation collaborative such as Joint Ventures for Bird Habitat Conservation and the National Fish Habitat Conservation Act; and (3) amending the North American Wetlands Conservation Act (NAWCA) to allow Canadian funds to match federal funds. We are very pleased that the amendment to NAWCA was enacted in law just a few weeks ago.

My response to Senator Inhofe's questions is provided below.

Questions from:
Senator James M. Inhofe

1. I am troubled that S. 1214, the National Fish Habitat Conservation Act, grants authority to the Federal Government to purchase water rights and property to meet the goals of the program. Is there anything that would prevent these goals from being achieved through public-private partnerships instead?

Answer:

The National Fish Habitat Conservation Act is modeled on the very successful North American Waterfowl Management Plan and Act (NAWCA), which was recently amended to allow use of

Canadian funds as match. We believe the advent of federal authority, structure and funding provided by Congress is a key factor for the success of NAWCA. Public-private partnerships are the heart of NAWCA, stimulated annually by federal appropriation and a federal framework. The purpose of the federal funds authorized in this legislation is to support projects recommended by these public-private partnerships. Further, legislation requires a 50% non-federal cost-share to be provided, allowing the federal investment in fish habitat conservation to be greatly leveraged through the addition of private and other non-federal funds.

Finally, the bill, as revised by this committee, makes clear that state, local and other non-federal are the primary entities which may acquire interests in real property to further the purpose of this act.

The legislation limits federal acquisition of fish habitat to narrowly focus on in holdings of existing federal properties, under existing federal authority. However, even these projects would need to be recommended by a Fish Habitat Partnership and approved by the national Fish Habitat Board, ensuring that such projects are held to the same high standard as other conservation projects.

S1214 never intended to give the federal government additional authority to purchase water rights and property. Because of concerns expressed by Senator Inhofe and others, the Conservancy, the Association of Fish and Wildlife Agencies and others in the fisheries conservation community worked with the majority and minority Committee staff, and the Administration, on the language reflected in the Amendment in the Nature of a Substitute that was unanimously reported out of the Committee on December 10, 2009. That language precludes the use by the federal government of funds made available under the bill to acquire property or secure water rights.

2. Much of the criticism of the existing Fish and Wildlife framework for dealing with Invasive species is that it utilizes a "dirty list" to identify certain species as harmful to the environment, considering all species not on the list as safe. Some say this approach is too reactive because it only addresses species after they have been introduced as harmful. Is there a reason we cannot work within the Lacey Act to initiate proactive screening as called for in the National Invasive Species Management Plan?

Answer

We agree with your statement that a criticism of the Lacey Act is that it does use a "dirty list" approach. We agree proactive screening would be much more effective. However, some species – such as Asian carp and pythons -- require immediate action by Congress due to the Lacey Act's lengthy regulatory review and the tremendous damage these species are causing to ecosystems.

One of the primary rules of a successful eradication program is stopping the continued introduction. The Lacey Act could be an effective tool to prevent the intentional introduction of invaders if the execution of the Lacey Act if the U.S. Fish and Wildlife Service was more rapid, which may include additional new authority. The Florida Chapter of The Nature Conservancy has provided the five recommendations below that are consistent with recently published literature for your consideration. These recommendations, if implemented, would result in a strong Act to prevent new invaders, and would protect native ecosystems and result in reduced costs to

implement the Lacey Act. *These recommendations are largely based on previous analyses from governmental committees, peer-reviewed research, and technical reports (cited below).*

- *Time limits for regulatory review of injurious wildlife petitions are needed.* The execution of Lacey Act injurious wildlife provisions is severely limited by lengthy regulatory reviews. The average time for the USFWS to complete petition reviews is 3.6 years¹. Establishing finite time limitations on the review process should increase the success rate of the injurious wildlife provision.
- *The Service should be given authority to provisionally restrict importation of any species.* Unless sufficient scientific information is available to reasonably establish the invasive risk of a species, the Service should have the authority to temporarily ban importation until adequate risk assessments can be completed.
- *All organisms should be identified prior to importation.* According to a recent report², over 133 million animals without identification to species were imported into the US between 2000-2004. The Service's Office of Law Enforcement branch should be given authority to require species identification of all animals prior to importation.
- *Invasive risk analyses of all imported species should be compulsory.* Roughly 44% species listed as injurious wildlife were already established outside captivity in the United States before listing was finalized³. The "dirty list" approach to screening invasive species should be replaced with a clean list model that utilizes mandatory risk assessments for all incoming species. According to a U.S. Congress Office of Technology report³, a consistent and proactive national policy using a "guilty until proven innocent" approach should be adopted to reduce future introductions of harmful and costly invasive species.
- *Increased appropriations for regulatory review are required.* With rapid growth in international trade and increased awareness of invasive species impacts, the regulatory demands on the US Fish and Wildlife Service (Service) have increased dramatically in recent decades. Funding should be adequate to meet the modern threat of biological invasions in the United States.

3. In a November 6th House Committee Hearing Deputy Director Ashe stated that amending title 18 to include Pythons as S.373 will not stop their future spread in the Everglades. The pet industry and the US Chamber of Commerce have asked, instead, that Congress create laws that require inventories, electronic identification systems, secure caging, and community outreach for large snakes to ensure irresponsible individuals and illegal breeders are held accountable for criminal acts. Do you believe this would be a more effective approach than statutorily banning this particular species?

¹ Andrea J Fowler, David M Lodge, and Jennifer F Hsia. 2007. Failure of the Lacey Act to protect US ecosystems against animal invasions. *Frontiers in Ecology and the Environment*.

² Broken Screens: The Regulation of Live Animal Imports in the United States. 2007 Defenders of Wildlife, 1130 17th Street, N.W. Washington, DC 20036-4604

³ Harmful Non-Indigenous Species in the United States OTA-F-565 GPO stock #052-003-01347-9 NTIS order #PB94-107679

Answer:

On March 12, 2010 the U.S. Fish and Wildlife Service published a proposed rule in the Federal Register [Docket FWS-R9-FHC-2008-0015] to list the Boa Constrictor, four Python species and four Anaconda species as injurious reptiles under authority granted by the Lacey Act. The proposed rule includes the availability of a draft environmental assessment and draft economic analysis. Public comments will be accepted until May, 2010.

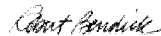
The Nature Conservancy has reviewed the risk assessments completed for the nine species of constrictor snakes proposed for listing under the Lacey Act. We support the conclusion that the Burmese python be added to the list of injurious wildlife to mitigate the risk this snake poses – now and in the future -- habitats/wildlife in the U.S.

We also believe the pet industry's recommendations for inventories, etc. should also be enacted for species that demonstrate a lesser risk.

As stated previously in my comments on your second question related to improvements to the Lacey Act, we believe that some species need immediate action by Congress and we support S. 373 to stop the import of the Burmese python into the United States.

Thank you again for the opportunity to testify on these critical habitat issues facing the U.S. and for your thoughtful questions. Please do not hesitate to contact me if you have additional questions.

Sincerely,



Robert Bendick
Director of Government Relations
The Nature Conservancy

Senator CARDIN. Thank you very much for your testimony.
Mr. Robertson.

**STATEMENT OF GORDON ROBERTSON, VICE PRESIDENT,
AMERICAN SPORTFISHING ASSOCIATION**

Mr. ROBERTSON. Thank you, Mr. Chairman, for the opportunity to speak today on the National Fish Habitat Conservation Act, Senate 1214.

My name is Gordon Robertson, and I am Vice President of the American Sportfishing Association. The ASA is the sportfishing industry's trade association, committed to representing the interests of the sportfishing and boating industries.

Now, you may ask what our interests are in the National Fish Habitat Conservation Act. Well, they are two-fold. First, for a healthy business climate, our members depend on abundant fish populations accessible to the public for recreational fishing.

And second, our manufacturing members since 1950 have paid a 10 percent Federal manufacturers excise tax each quarter on the products they sell.

Along with the import duties our members pay and that part of the Federal fuel tax attributable to motor boat use, that amounts to approximately \$8 billion over the last 60 years for fish conservation and angler and boater access. These moneys are distributed to each State based on its licensed angle population and size.

And along with fishing license fees are the backbone of fisheries conservation in this country, paying salaries, providing the necessary equipment, surveys, research and general infrastructure for a solid fish management program in each State.

It also provides some moneys for fish habitat work but falls far short of identified needs.

So we strongly support S. 1214 and view this Act as complementary to the existing moneys that our industry and anglers pay.

ASA has been involved in discussions about this legislation since they began in 2000. We have worked hard to assure that it represents the needs of the fishery resources in this Nation and the desires of the industry and the recreational angler. We believe it contains the necessary components for an efficient national fish habitat effort.

ASA believes it is necessary to have a robust National Fish Habitat Conservation Act that identifies habitat needs and addresses them in a structured fashion that functions from the bottom up, is State-centric, and maximizes the available dollars, labor and expertise of a wide variety of partners. All those points are embodied in S. 1214.

Most don't think of recreational fishing as an industry, but it most surely is. Recreational fishing supports over a million jobs in this country, provides an annual economic impact of \$125 billion, \$45 billion in annual direct expenditures and results in over \$16 billion in tax revenues to Federal, State and local governments.

Our members continue to support the 150 million or so dollars each year in excise taxes and import duties they pay because they fundamentally believe it is a good business investment for them and for the Nation. Recreational fishing creates jobs and a healthy economy. For many waterside communities, it is the economy, and

improving fish habitat is an important part of the national economics and job equation.

Mr. Chairman and members of the subcommittee, I also want to express our support for S. 1421, a measure to ban the importation of Asian carp into the United States. We testified in support of a similar measure in the House of Representatives in November 2005 and continue to support such measures.

ASA believes strongly in habitat restoration and supports H.R. 3433. The North American Wetlands Conservation Act is a success and the Act to which we and others in the recreational fishing community turned when seeking a successful model for the drafting of the National Fish Habitat Conservation Act.

Thanks again, Mr. Chairman, and we urge this committee's passage of the National Fish Habitat Conservation Act.

Mr. Chairman, thank you for your support and leadership of the National Fish Habitat Conservation Act bill, and I would be glad to answer any questions.

[The prepared statement of Mr. Robertson follows:]



**Testimony on the National Fish Habitat Conservation Act (S 1214)
Before the Senate Committee on the Environment and Public Works
Subcommittee on Water and Wildlife**

**By Gordon Robertson, Vice President
American Sportfishing Association
December 3, 2009**

Thank you for the opportunity to submit written testimony for the record regarding S 1214, the National Fish Habitat Conservation Act. The American Sportfishing Association (ASA) is the sportfishing industry's trade association, committed to representing the interests of the sportfishing and boating industries.

ASA also invests in long-term ventures to ensure the industry will remain strong and prosperous as well as safeguard and promote the enduring social, economic, and conservation values of sportfishing in America. America's 60 million anglers generate over \$45 billion in retail sales with a \$125 billion impact on the nation's economy creating employment for over one million people.

In addition, through the Federal Aid in Sport Fish Restoration Act, passed in 1950 at the request of the recreational fishing industry, special excise taxes on fishing gear and boating fuel have contributed over \$8 billion for fish conservation. Added each year to this are the nearly \$650 million in annual fishing license sales plus approximately \$200 million in private donations by anglers for conservation efforts.

ASA and its member companies pride themselves on being conservationists first and foremost. The sportfishing industry is dependent upon healthy and abundant fish populations and habitat being available to the public. The landscape scale projects now being conducted by partnerships under the umbrella of the National Fish Habitat Action Plan will help to ensure our nation's aquatic resources are conserved and available for future generations to enjoy through recreational fishing and boating. Because it will provide a significant boost to America's fisheries resources and the recreational fishing community, ASA fully supports the National Fish Habitat Conservation Act.

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ASA Testimony regarding S 1214
December 3, 2009
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Compliment to Current Programs

Currently, the majority of fisheries management programs are conducted by state and insular territory fish and wildlife agencies through funding from the Sport Fish Restoration Program (SFRP) and recreational fishing license fees. The former is generated primarily from a federal manufacturers' excise tax on recreational fishing equipment and that part of the federal fuel tax attributed to motorboat and small engine use. These monies are used for a variety of essential and beneficial fisheries projects, such as research, surveys, fish hatchery operations, and fishing and boating access. While projects currently conducted by state agencies are necessary and essential to fisheries throughout the United States, agencies are unable to fully address the suite of challenges facing fish populations and habitats solely through license revenue and the SFRP alone.

Unfortunately, many of our nation's aquatic habitats are degraded to the point that many fish are struggling to survive, and these habitat needs are greater than current funds can meet. Aquatic systems face threats from a variety of fronts, including dams, water diversions, point- and non-point source pollution, and human development. The impacts humans have made on aquatic systems have not bypassed fish – over one-third of North American fish species are listed as imperiled. The projects under the SFRP address the core management strategies that are the backbone of fisheries management in our country, but cannot fully tackle the challenges that are facing our nation's fisheries. What is needed is a comprehensive program and dedicated funding source that can begin to address the threats to fish and their habitat at a regional and landscape scale through a variety of on-the-ground projects.

This need is demonstrated by the three billion dollars in grant requests received by the National Oceanic and Atmospheric Administration's National Marine Fisheries Service for the American Recovery and Reinvestment Act monies for fish habitat projects and the \$55.8 million identified by the Department of the Interior for habitat grant needs for fiscal year 2010.

The National Fish Habitat Action Plan is designed to work with and enhance existing fisheries programs. The Action Plan focuses available funds and resources on high priority projects to provide watershed level impacts, while encouraging collaboration among organizations to achieve project goals. Additionally, the Action Plan is not regulatory, and will not establish any new mandates on how or what work is to be done. These voluntary and incentive-based programs address species and habitat needs over their entire range, whether it is in one state, several states, or an entire coastal system. By pooling funds and resources among partners and forgoing

ASA Testimony regarding S 1214
December 3, 2009
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“ownership” and a possessive mind-set, the Action Plan will result in greater conservation benefits than individual efforts would.

What Legislative Action Will Do

Passage of the National Fish Habitat Conservation Act will provide several benefits to the Action Plan that are not currently available. The bill will give appropriate Congressional endorsement, standards and guidelines to the infrastructure and oversight under which the Fish Habitat Partnerships are formed. Through the multi-stakeholder National Fish Habitat Board that the bill establishes, projects will be recommended to the Secretary of Interior for funding. The bill authorizes a meaningful amount of funding (\$75 million) annually for conducting priority habitat improvement projects through the regional Fish Habitat Partnerships. While the current level of allocations provided by the U.S. Fish and Wildlife Service for the Partnerships has been extremely beneficial for getting partnerships up and running, this funding has been piecemeal and considerably less than what is needed to fully address the challenges facing fish habitat.

The Act will also provide federal authorization for acquisition of fish and aquatic habitat, which does not currently exist in federal law. All land acquisition is voluntary and non-regulatory, providing protection for private landowners’ rights. Additionally, the “bottom-up” nature of the partnerships assures that priority areas, species, and systems are identified by partners with a working knowledge of what habitats most need to be addressed.

Conclusions

ASA greatly appreciates the opportunity to provide testimony on S 1214. Despite the current economic challenges that our country faces, we believe that our country must take decisive action now to commit to conserving our invaluable fisheries resources. The National Fish Habitat Conservation Act provides the necessary investment in fish habitat to continue supplying quality recreational fishing opportunities to the people and businesses that depend on them.

In addition to its high economic value, the heritage of fishing as a family friendly outdoor activity plays a vital societal and conservation role in this Nation. Fishing is a traditional American pastime that introduces new generations to the great outdoors and reconnects others with outdoor activities. By improving the health of aquatic habitat and enhancing fishing opportunities across the country, the National Fish Habitat Conservation Act will help ensure that this tradition continues for generations to come. We look forward to working with the Chair and members of the Subcommittee on this very worthwhile and important legislation.



April 20, 2010

The Honorable Barbara Boxer
Chair
Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, DC 20510

The Honorable James M. Inhofe
Ranking Minority Member
Senate Committee on Environment and Public Works
456 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Boxer and Senator Inhofe,

Thank you for the opportunity to testify before the Senate Committee on Environment and Public Works, Subcommittee on Water and Wildlife on December 3, 2009. I write today in response to follow-up questions I received in a letter from Senator Inhofe dated April 6, 2010. My original testimony to the Subcommittee was in support of S. 1214, the National Fish Habitat Conservation Act, which would establish a comprehensive national framework for conserving, restoring and enhancing fish habitats throughout the U.S., and in support of S. 1965, the Asian Carp Prevention and Control Act.

My response to Senator Inhofe's questions is provided below.

**Questions from:
Senator James M. Inhofe**

1. I am troubled that S. 1214, the National Fish Habitat Conservation Act, grants authority to the Federal Government to purchase water rights and property to meet the goals of the program. Is there anything that would prevent these goals from being achieved through public-private partnerships instead?

Response: Responding to discussions and concerns with Committee staff and members, Section 13 – the Secretary's authority to acquire water rights – was deleted when the bill passed Committee. Furthermore, the unanimous consent of the Committee for the amendment in the nature of a substitute (ANS) and its specific language to address concerns for the purchase of water and property rights makes it clear that there is no additional authority given to the federal government to purchase land or secure water rights and the ANS precludes the federal government from using funds made available under the Act for those purposes

In addition, I wish to stress that the National Fish Habitat Conservation Act is voluntary and incentive-driven. The rights of private landowners and the prerogatives of state governments have been fully protected through its provisions in the sale or leasing of land and water rights, and the fisheries community has accepted language changes in the bill to

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assure this level of protection. There are no regulatory elements in the bill. Second, the purchase of water rights and property would be the exception rather than the rule. The bill focuses on restoration work, but there will be the rare occasion when the purchase of property may be considered on a voluntary seller basis for the benefit of fish. Any such action will be totally voluntary and in conformance with state laws, especially state water laws.

2. Much of the criticism of the existing Fish and Wildlife framework for dealing with invasive species is that it utilizes a "dirty list" to identify certain species as harmful to the environment, considering all species not on the list as safe. Some say this approach is too reactive because it only addresses species after they have been introduced as harmful. Is there a reason we cannot work within the Lacey Act to initiate proactive screening as called for in the National Invasives Species Management Plan?


Response: In my testimony I spoke briefly in support of Senate 1421 to prohibit the importation of Asian carp into the U.S. The answer to the questions is yes. For decades the fisheries community has been concerned with the excessive time taken to react to aquatic invasive species that are a proven detriment to sportfishing and recreational fishing. We need common sense legislation that establishes a proactive mechanism to screen potential introduced species and addresses established invasive species. Whether this is through an amended Lacey Act or other legislation, the U.S. is currently taking much too long to react to demonstrated problems.

3. In a November 6th House Committee Hearing Deputy Director Ashe stated that amending title 18 to include Pythons as S.373 will not stop their future spread in the Everglades. The pet industry and the US Chamber of Commerce have asked, instead, that Congress create laws that require inventories, electronic identification systems, secure caging, and community outreach for large snakes to ensure irresponsible individuals and illegal breeders are held accountable for criminal acts. Do you believe this would be a more effective approach than statutorily banning this particular species?

Response: I did not speak to this issue and have no specific expertise in this area.

Thank you again for the opportunity to testify on these critical issues facing the U.S. and for your thoughtful questions. Please do not hesitate to contact me if you have additional questions.

Sincerely,



Gordon Robertson
Vice President

Senator CARDIN. Well, let me thank all four of you for your testimony and for your support of the bills that are moving forward here.

Let me first just try to get a little further clarification of the risk factors on these invasive species, whether we are dealing with the nutria, whether we are dealing with the feral swine. It is clear that they do spread diseases. They affect the native species that are there. They do property damage for the landowner, including crops. And they also affect wetlands.

I think one thing that may not be known, I know this is very true in Louisiana and Maryland, and I would appreciate getting your further clarification on it, the loss of wetlands affects the entire ecology of that region. It is one of our major problems, at least in the State of Maryland, has been wetlands now. And Blackwater, in our State, where the nutrias are very prominent, we lost a lot of wetlands, thousands of acres of wetlands were lost.

Can you just enumerate from Louisiana and Maryland's point of view what these loss of wetlands mean in regards to our efforts to try to deal with water quality or the environment?

Mr. MOUTON. Well, especially in Louisiana, the wetlands that are being lost have contributed to a downfall in the fisheries industry, causing problems with the oyster industry, and there are also water quality problems as well, as wetlands act as filters for water.

And many other effects as in, I had mentioned before, a lot of the renewable resources that depend on wetlands and estuaries. And most of the wetlands that were lost, which don't include that 100,000 number initially, nor the 20,000 that we have now, is a large chunk of wetlands that actually did convert to open water and will not return as wetlands and will remain as open water.

Senator CARDIN. And in Maryland, what has been the impact of the loss of our wetlands?

Mr. SCHWAAB. Yes, sir, thank you.

They certainly provide the kind of nutrient cycling and filtering benefits that Mr. Mouton suggested. They also, by the way, and you are familiar with Blackwater, provide some of the finest habitat for a variety of species that we have throughout the Chesapeake Bay region.

And also noteworthy, Mr. Chairman, is the resiliency that they provide against some storm events, something that in the lower Eastern Shore we are particularly vulnerable to. You know, wetlands offer the opportunity to mitigate storm surges and floodwater rises, and the kind of resiliency that is inherent in those wetland environments is important, particularly to us in Maryland as, you know, we face rising sea levels and land subsidence in that region.

Senator CARDIN. Whether it is Federal efforts on conservancy or whether it is dealing with invasive species, it is an effort to work with the private sector. We can't do this alone. I would value your observations, our two witnesses from the private sector as to how effective our efforts have been to work with private organizations in our mutual goal to enhance our environment.

Mr. BENDICK. Well, I think that is what is so terrific about the fish habitat legislation, the NAWCA, and the Joint Ventures is they really reach out to all segments of the community to create partnerships, including non-profits and landowners and businesses

to develop a common plan for an ecological area and then to implement that plan.

I think in our view the wave of the future is represented by these pieces of legislation. We think it is incredibly valuable to have the opportunity to participate with Government in setting plans and ideas and then carrying them out. And so it is very exciting to see that becoming a more prevalent way of the Federal Government doing its business.

Senator CARDIN. Mr. Robertson, in regards to your group's interest in protecting fish habitat and protecting recreational fishing, how effective has been the relationship between the Government policies and the private sector efforts?

Mr. ROBERTSON. They have been very effective. When we drafted this bill, we thought, OK, how do we get the biggest bang for the dollar? How do we get the biggest impact on the ground? And we worked hard to make this bill reflect a direction where groups on the ground, where private organizations, local governments, individuals work together to effect effective habitat changes for fisheries.

So we thought it was very important that it be in that fashion, not a top-down Federal Government program saying this is the way you are going to do it, but a bottom-up situation where local communities, local organizations like Bass Anglers Sportsman Society, Trout Unlimited, and a host of others took interest and took the matter into their own hands and were really leading the way on it.

So we think it is very important. We have a foundation at the American Sportfishing Association called the Fish America Foundation. It grants money from Interior and NOAA and from our own members' donations. And I think it is a rare situation when that doesn't get matched at least three times over. So it is extremely effective.

Senator CARDIN. Glad to hear that.

Mr. Bendick, in your oral and written testimony, you talk about two suggestions on H.R. 2188. I just want to make sure I understand the two points that you are raising.

The first appears like it could be handled through the regulatory process, not through legislation itself. I just want to get your observations on that.

And the second is funding levels, which is something that I am always very sensitive about. You probably have my support, but that is not always an area that we have a lot of leeway here.

Mr. BENDICK. Yes, again, we think the joint ventures are extremely useful cooperative instruments. We would like to see a bit more money there. I think they are being used more frequently, and so increasing the appropriations would be money well spent because it leverages so much other money and so much other effort. So we strongly agree with that.

And on the first point, I think it conceivably could be done through the regulatory process, but we think it could be incorporated in the legislation.

Senator CARDIN. I appreciate that.

I will also make the observation this is a House bill which also complicates the funding level issues, but we will certainly take a

look at that, and I am sure that we would want to get the most robust participation possible with the Joint Ventures, so I think we share your interest in that.

Mr. BENDICK. Thank you.

Senator CARDIN. Well, once again let me thank all of our witnesses for being here today, but more importantly, for what you do for your environment. You are making a huge difference. We can't do this alone. The government partners, at the Federal, State and local levels, along with the private sector are what we need in order to be able to deal with the dangers of invasive species and the conservation efforts.

And we would hope that the legislation we are considering today will make these tools more effective so that we can get the job done together. And I can pledge to you that this committee is very interested in figuring out ways that we can even be more effective in carrying out our responsibilities for future generations.

Thank you all very much, and with that, the subcommittee will stand adjourned.

[Whereupon, at 2:50 p.m. the subcommittee was adjourned.]

[Additional statements submitted for the record follow:]

STATEMENT OF HON. JAMES M. INHOFE,
U.S. SENATOR FROM THE STATE OF OKLAHOMA

Good afternoon. I would like to thank the subcommittee Chairman for holding this hearing. I welcome the opportunity to examine the merits of the bills before us today. I am, however, concerned about the troublesome precedents some of these bills would create.

The four bills that will we examine today—the Asian Carp, S. 1421; Python, S. 373; Feral Swine, S. 1965; and Nutria Eradication, S. 1519—address the threat posed by particular invasive species to the environment. We must be cautious about new laws that interfere with the Fish and Wildlife Service's management practices, as they could impose changes to environmental laws with little or no input from other Federal agencies. As we chart a course of action to address harmful species, we must be careful to avoid subverting or overturning established processes within the Department of the Interior for determining the threat a particular species may have on the environment.

Common sense reforms are needed to prevent the proliferation, importation or breeding of species that would be harmful to ecosystems, but I am cautious of the precedent of addressing these species outside normal agency channels. Any policy that Congress considers for invasive species should include a reasonable "risk analysis" process with input from States and industry. Unfortunately, some of the bills we are examining today take a different and less effective approach.

With respect to the National Fish Habitat Conservation Act, S. 1214, I have serious concerns with the portions of the bill that give the Federal Government the ability to purchase water rights and property. I cannot support such an approach. This should be done through public-private partnerships. Such partnerships can leverage State and local resources as well as preserve private ownership, which together can help conserve more fish habitat. The bill in its current form allows for this but also gives the Federal Government the authority to work unilaterally—a provision I oppose. I look forward to working with my colleagues on both sides of the aisle to address my concerns.

Finally, we will be looking at the Junior Duck Stamp Conservation and Design Program Reauthorization Act of 2009, H.R. 3537, and the Marine Turtle Conservation Reauthorization Act of 2009, H.R. 509. I strongly support the former program and was chair of this committee when we reauthorized it back in 2006. I also helped create the Marine Turtle Conservation Act in 2004 with Senator Jeffords. I look forward to discussing both of these bills today but would like to highlight the successful approach of the turtle bill and other multinational species conservation programs. These programs are successful because they leverage significant non-Federal money and work with NGOs to maximize their benefits. For example, the turtle program leverages over a dollar in matching funds for every Federal dollar spent. We should refrain from giving the Federal Government the ability to purchase water

rights and land as the Fish Habitat Conservation would allow. This should be done working with property owners—such as the Partnership for Fish and Wildlife Program.

STATEMENT OF HON. BILL NELSON,
U.S. SENATOR FROM THE STATE OF FLORIDA

Thank you, Chairman Cardin, Ranking Member Crapo, and members of the subcommittee for holding today's hearing on legislation addressing the topic of invasive species and the threat they pose to the environment.

As a Senator from Florida, I have seen firsthand the impacts of invasive species like the Burmese python. These nonnative, giant constrictor snakes have overrun the Everglades and are reproducing at an alarming rate. Not only do these animals wreak havoc on the south Florida ecosystem, but they can be deadly.

This summer, a 2-year-old girl was killed by a Burmese python while she slept in her crib. This tragic occurrence was unfortunately not an isolated event. In fact, I have included for the record a list of incidences involving giant constrictor snakes in the United States over the last several years. I filed a bill in February which amends the Lacey Act and declares pythons as injurious animals. This will halt the importation and interstate commerce of these deadly and invasive snakes.

Since the subcommittee's hearing on invasive threats in July, the United States Geological Survey (USGS) released a risk assessment on nine giant constrictor snakes, including the Burmese python. The risk assessment shows that all nine of these species pose either a medium or a high threat of establishing a wild breeding population in the United States. Of the nine, three of those snakes are already breeding in south Florida: the boa constrictor, northern African rock python, and the Burmese python. The study also showed that this is not just a Florida problem. Many of those snakes have the potential to establish breeding populations in other areas of the country as well.

Based on the USGS risk assessment and testimony from State and Federal resource managers, it is not enough to deal with only the Burmese python. There are already thousands of Burmese pythons breeding in the Everglades alone, and we must act swiftly before the next invasive species has a chance to gain a foothold in the United States. As such, I support two courses of action. First, list the nine species which have been found to pose a medium or high risk of establishment as injurious under the Lacey Act, halting their further import and interstate transport in this country. This includes the Indian/Burmese python, northern African rock python, southern African rock python, reticulated python, boa constrictor, yellow anaconda, green anaconda, DeSchauensee's anaconda, and Beni anaconda. Listing these nine now deals with the animals that the United States Department of the Interior knows are a current threat.

We also have to deal with the threat of species that have not yet been studied. The Lacey Act in its current application has not provided an efficient mechanism of preventing importation of invasive species due to the long process involved in listing animals as injurious. The listing process needs to be simplified. With increased global access, exotic "pets" are available with the click of a button over the Internet without consideration of their impact on the environment or the threat they may pose to human safety.

It is time to move forward and find a better way to screen animals for potential invasiveness. I intend to continue working with my fellow Members of Congress to find solutions that prevent invasions so that we do not have the next Burmese python destroying the ecosystems that we work so hard to protect.

[The referenced information follows:]

Fact Sheet

Incidents Demonstrate Risks to Public Health and Safety, Animal Welfare, and the Environment

November 2009 (California): A 5-foot boa constrictor was found along the edge of a lagoon in Carlsbad. Source: *North County Times*

November 2009 (New York): A 5-foot boa constrictor was found on a Yonkers street. The snake was said to be lethargic but alive in the 42-degree weather. Source: WCBSTV.com (AP)

November 2009 (Florida): A dead 9-foot boa constrictor was found in a ditch next to a condominium in north Naples. The snake appeared to have been hit by a vehicle. Source: Florida Fish and Wildlife Conservation Commission Division of Law Enforcement Field Operations Weekly Report

November 2009 (Florida): A 7-foot python was found in a backyard in Broward County. Source: Florida Fish and Wildlife Conservation Commission Division of Law Enforcement Field Operations Weekly Report

November 2009 (Florida): A man was charged with animal cruelty after authorities found numerous dead snakes along with two live boa constrictors and one live python in his Citrus Park home. Source: www.cfnews13.com and Hillsborough County Animal Services

October 2009 (California): A 7-foot boa constrictor on the loose went under a car and was found wrapped around the car's engine compartment. The snake was reportedly one of three snakes someone left in a box on a corner in Compton. Another one was taken by a neighbor, and the third one was dead. Source: Fox 43

October 2009 (Massachusetts): A 5-foot boa constrictor was caught in a makeshift trap in the attic of a six-family dwelling in Fall River. It was unclear where the snake came from. The snake was thought to be sick with an upper respiratory infection and about 10 pounds underweight. Source: *The Boston Globe*

October 2009 (North Carolina): Two brothers found an injured 7-foot boa constrictor in a driveway. Source: Star News Online



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October 2009 (Florida): A mother and daughter found an 8 or 9-foot Burmese python in their residential neighborhood in Vero Beach, the second nonnative snake caught in Vero Beach this year. Source: 12 News

October 2009 (Florida): Authorities found an 11-foot Burmese python crawling uncaged in a Crestview man's home. Source: Florida Fish and Wildlife Conservation Commission

October 2009 (Florida): Charges were filed against a Wewahitchka man after his 11-foot Burmese python escaped and was killed in a neighbor's chicken coop. The man had no cage for the snake, who crawled freely about his Wewahitchka apartment. Source: Florida Fish and Wildlife Conservation Commission

September 2009 (Florida): A 10-foot boa constrictor was on the loose in Hillsborough County. Wildlife officials say they are not going after the snake because so many people have dumped pet snakes, and they don't have the resources to go after them all. Source: Fox Tampa Bay

September 2009 (Florida): Authorities were alerted to an 18-foot Burmese python at an Apopka home. The snake reportedly weighed 400 pounds and was 30 inches around. Source: WBIR.com

September 2009 (Florida): Authorities removed two large Burmese pythons from a Lakeland home, an 11-foot male and a 17-foot female who weighed more than 150 pounds. Source: Florida Fish and Wildlife Conservation Commission

September 2009 (Florida): A 7-foot reticulated python was found near a state park. Source: *Sarasota Herald-Tribune*

September 2009 (Florida): An 8-foot python was found along a roadside in Placer County. Source: KTVU.com

September 2009 (New York): A 10-foot Burmese python was on the loose in Elmira Heights. This was the second time one of the owner's pythons escaped into the neighborhood. Source: WETMtv.com

September 2009 (Arkansas): An 11-foot Burmese python escaped from an enclosure in a garage, was found in a neighbor's yard, and was recaptured. Source: *The Morning News*

September 2009 (Florida): A dead 10-foot python was found in the water at the Largo Nature Preserve. Source: *Largo Leader*

August 2009 (California): A boa constrictor between 6 and 8 feet long was found on a road in Escondido. Source: *North County Times*

August 2009 (New York): A 4-foot boa constrictor was found in a Manhattan laundromat. Source: NY1

August 2009 (Florida): A 5-foot boa constrictor was found on a Daytona Beach road. Source: News Journal Online

August 2009 (California): An 11-foot Burmese python escaped from a Riverside County home and was found in a neighbor's yard. Source: *The Press Enterprise*

August 2009 (Missouri): A 9-foot Burmese python was spotted at a park and captured a few days later. Source: *St. Joe News*

August 2009 (Oregon): A 10-foot python was found on a road. Source: KVAL News

August 2009 (Utah): An 8-foot Burmese python was found outside a woman's home. Source: *Deseret News* (Associated Press)

July 2009 (Florida): A 2-year-old girl was killed by an 8-foot Burmese python who escaped from an enclosure in her home. Source: Florida Fish and Wildlife Conservation Commission

July 2009 (Florida): A 17-foot Burmese python was found on the grounds of a veterinary hospital. The snake was spotted by the 11-year-old nephew of the hospital owner. Source: *Miami Herald*

July 2009 (Indiana): A 5-foot-long red-tail boa constrictor escaped and was missing. Source: *The Republic*

July 2009 (Illinois): An 8-foot boa constrictor was caught after escaping and being on the loose for a few weeks. The snake was a few houses away. Source: *Connect Tristates*

July 2009 (Florida): A large boa constrictor was found hiding in the gutter of a vacant Pasco home. Source: FOX Tampa Bay

July 2009 (Florida): Two Burmese pythons, one 8 feet, one 9.5 feet, were captured after escaping from a home. Source: *The Ledger*

July 2009 (Florida): A 12-foot plus Burmese python was found loose around a neighborhood of town homes. Source: *Orlando Sentinel*

July 2009 (Pennsylvania): A 10-foot albino Burmese python and 9-foot reticulated python were found. Both snakes were malnourished. The owner reportedly

admitted to releasing the snakes because he could no longer afford to care for them. Source: *Lebanon Daily News*

July 2009 (Maryland): A 3-foot Burmese python escaped from a home. Source: *The Gazette*

July 2009 (Arizona): A Yuma family found a 6-foot long python on their front porch. Source: *The Arizona Republic*

May 2009 (Florida): A Punta Gorda police officer removed an injured 4.5-foot python from an intersection. The snake suffered from a broken jaw and died soon afterward. Source: NBC2 News

May 2009 (Florida): An investigation into the escape of a 10-foot Burmese python in Pinellas Park determined the snake had escaped almost two months earlier. Source: Florida Fish and Wildlife Conservation Commission Division of Law Enforcement Field Operations Weekly Report

May 2009 (Maine): A 2-foot boa constrictor escaped from a cage in a high school. He hid in an old computer printer, and was not discovered until the school gave the printer to a student to take home and dismantle. Source: WHNT 19News (AP)

February 2009 (Wisconsin): Two Burmese pythons were turned over to a shelter after the owners were arrested on drug-related charges. Source: *Beloit Daily News*

January 2009 (Nevada): A 3-year-old boy was bitten and squeezed to the point of unconsciousness by an 18-foot python. His mother stabbed the snake with a kitchen knife and freed the child. The snake had been in the home for four to six weeks. Source: kvbc.com and *Las Vegas Review-Journal*

January 2009 (New York): A 7-foot reticulated python escaped from an enclosure, and authorities were called to capture and remove the snake. Source: *New York Daily News*

January 2009 (New York): A Burmese python was found in a field in Brooklyn. The cold weather had taken a toll on the animal who had lost an eye and developed an infection, causing some teeth to fall out. Source: *York Daily Record*

December 2008 (Ohio): A man called animal control when his 6-foot boa constrictor became aggressive during a nighttime feeding. Authorities helped find the snake a new home. Source: WLWT

November 2008 (Florida): Investigators captured three Burmese pythons, ranging from 9 to 11 feet, within a 50-yard span of an area known as the 8.5 Square Mile in

Miami-Dade County. Source: Florida Fish and Wildlife Conservation Commission, Division of Law Enforcement Field Operations Weekly Report.

November 2008 (Florida): A woman nearly tripped over a 10-foot boa constrictor in Punta Gorda. Source: nbc-2.com

October 2008 (Virginia): A woman was found dead by asphyxiation, and her 13-foot pet reticulated python, who she was apparently medicating, was found outside his enclosure. Source: *The Virginian-Pilot*

October 2008 (Colorado): A woman was attacked by her 6-foot albino Burmese python. The animal was sprayed with a fire extinguisher to get him to let go of her finger and then according to the woman it took five paramedics to hold the snake down. Source: KRDO.com

October 2008 (Florida): A 12-foot 100-pound Burmese python was found crossing a road in Jupiter Farms. The snake appeared to be injured and may have been hit by a car. Source: South Florida Sun-Sentinel.com

September 2008 (Oklahoma): A woman found a 4-foot boa constrictor in her motor home. Source: *The McAlester News-Capital*

September 2008 (Florida): A Myakka City homeowner found a 10-foot albino Burmese python in her driveway. Source: *Sarasota Herald-Tribune*

August 2008 (Nevada): A 13-year-old girl was visiting her father and was attacked by a pet Burmese python; her father killed the approximately 15-foot snake to rescue her. The snake reportedly escaped from a large tank with locks. The same day, a student zookeeper in Venezuela was crushed to death by a Burmese python. Source: KVBC

August 2008 (Michigan): A state trooper shot and killed a nearly 7-foot long snake, believed to be a Burmese python, seen on a Port Sheldon Township road. Source: *The Grand Rapids Press*

July 2008 (Maine): A man discovered an 8- to 9-foot reticulated python under the engine compartment of his pickup truck in Wilton. It was the second such incident in Maine in less than a week. A Gorham woman found a reticulated python in a washing machine on Wednesday. The snake had injuries on its upper jaw from being dragged. Source: *Sun Journal*

June 2008 (Florida): A woman found a 7-foot Burmese python in her Key Largo yard. She and a friend killed the snake. Source: *The Reporter*

June 2008 (Illinois): A woman found a 4-foot albino Burmese python in a Starbucks parking lot in Rockford. Source: rrstar.com

June 2008 (New York): A 14-foot 80-pound Burmese python was found after more than two days on the loose in the Jordan-Elbridge area. He had been at a reptile rescue center and the owner believed someone cut the bungee cords on his cage, letting him get out. Source: news10now.com

May 2008 (North Carolina): A 4-foot python was found loose in a restaurant. Source: WECT TV6

May 2008 (Florida): Firefighters battling fires in the Everglades encountered pythons, boa constrictors, and other exotic animals. Source: National Geographic News

April 2008 (Oregon): A pet store owner reached into a cage to show a customer a 12-foot Burmese python when the snake bit her hand and coiled around her arm, throwing her to the floor. It took several emergency responders to unwrap the snake. Source: MSNBC (Associated Press)

April 2008 (Florida): Deputy Secretary of the U.S. Department of the Interior Lynn Scarlett found an 8- to 9-foot Burmese python while hiking in the Everglades. Source: People, Land & Water, U.S. Department of the Interior

April 2008 (Connecticut): A 6-foot python escaped from a home and was found two days later curled up in the yard. Source: *The News-Times*

April 2008 (Florida): A Burmese python about 8-feet long was found in the rafters of a Marco Island Executive Airport hangar. Source: *Naples Daily News*

April 2008 (Illinois): A red-tail boa was among the animals who escaped when a car crashed into a home and broke open their tanks. Most of the animals were recaptured. Source: *Belleville News-Democrat*

March 2008 (Kentucky): Authorities seized a boa constrictor and python, along with venomous snakes and other reptiles, from a man's home. At the time of the seizure, the owner of the animals was in the hospital having two fingers amputated because of a snake bite. Source: LEX 18 News

March 2008 (California): A woman pleaded guilty to animal cruelty. A nearly 15-foot Burmese python was one of more than 200 animals found in her home, many of them malnourished and in need of veterinary care. Source: *The Sacramento Bee*

February 2008 (Florida): A 4-foot python was found beneath a water heater in a newly rented home. Source: *Sarasota Herald-Tribune*

February 2008 (Florida): A 13-foot python was seen in a Wal-Mart parking lot. A rescue worker found the animal in a culvert more than two weeks later. Source: *Sarasota Herald-Tribune*

February 2008 (Florida): A woman was arrested for animal cruelty after authorities found a Burmese python and other animals living in deplorable conditions in her home. The snake was kept in a small dog crate that was full of feces and shedded snake skins. Source: *St. Petersburg Times*

January 2008 (Montana): A man was driving with a 5-foot long Burmese python when the animal crawled out of a pillow case and into the van's duct system. Auto mechanics retrieved the snake. Source: *Great Falls Tribune*

December 2007 (Ohio): A 7-foot African rock python was found in the Metzger Marsh State Wildlife Area. The animal was alive though it was 37 degrees and sleeting. Source: *The Toledo Blade*

December 2007 (Florida): A man mowing the lawn for the county ran over and killed a 16-foot python. An animal control officer said the snake was among the largest of the 20 large pythons or boas he has found in the past decade in Indian River County, comparable in size to one found two years before. Source: tcpalm.com

October 2007 (Florida): A Summerland Key resident was cited for allowing the escape of captive wildlife and inadequate cage size for a reptile. The incident began after citizens saw a 14-foot python in the bushes along a public parking lot. The owners of the snake – who used the animal for photos with tourists – said the snake had escaped two days before. Source: Florida Fish and Wildlife Conservation Commission Field Operations Weekly Report

September 2007 (Florida): His barking dog alerted a man to the presence of an 11-foot Colombian red tail boa constrictor in a park. Source: local10.com

September 2007 (Florida): An animal control officer was bitten twice by a 5-foot boa constrictor, on the back of the hand and on the finger. The snake was being removed from underneath a woman's car, where he had wrapped himself around coil springs in the wheel well. Source: abc3340.com

September 2007 (Florida): Firefighters responding to a Delray Beach warehouse found more than 100 snakes in the building, including 8-foot boa constrictors and pythons between 12- and 17-feet long. Several small snakes were killed in the fire. The owner says he sells the animals to retailers. Source: firstcoastnews.com

September 2007 (Florida): Officials removed a python from beneath the deck of a private residence in Collier County. Source: Florida Fish and Wildlife Conservation Commission Field Operations Weekly Report

August 2007 (Ohio): A man brought a 10-foot python to a festival. The snake was killed by a boy who stomped on the animal's head. Source: 13abc.com

August 2007 (Florida): Two large snakes were captured in Lee County: a 10-foot Burmese Python found by two maintenance workers at an apartment complex and a boa constrictor longer than 6 feet who was spotted in the middle of an intersection. Source: *Naples Daily News*

July 2007 (Florida): A reticulated python approximately 15-feet long was found in a yard in a residential community. Source: WFTV.com

July 2007 (New York): Two Burmese pythons were found on the loose in Albany. An 8-foot snake had escaped from a second-floor pen and was claimed by the owner. No one had claimed the 4-foot snake. Source: *The Times Union*

July 2007 (Rhode Island): A man took a 6-foot boa constrictor to the police, claiming he found the snake along the road. The police discovered the snake belonged to the man, and he had tried to sell the animal to a pet store the day before. Though the store declined to buy the boa, the man purchased a small python even though he could no longer care for the larger snake. Source: The Providence Journal's Daily News Blog

June 2007 (Pennsylvania): Officials caught a 9 1/2-foot Burmese python, but a second large snake remained on the loose. That snake was thought to have killed a cat, a bird, and several kittens. Source: Courier Times

May 2007 (New York): A firefighter found a large Burmese python in the basement of a home after a fire was doused. Source: *The New York Times*

April 2007 (Florida): A 7.5 foot Burmese python was captured on Key Largo. The animal was found by researchers tracking a Key Largo wood rat -- an endangered species -- fitted with a radio transmitter collar. The remains of two wood rats along with the radio transmitter were found inside the python. Source: keynoter.com

April 2007 (Florida): A 3-year-old boy was bitten in the face by a 6-foot boa constrictor when posing with the snake for a photograph at a theme park, and was taken to a hospital for treatment. Source: CBS4

March 2007 (Alaska/Alabama): An Alaska woman took in an 8-foot Burmese python around 2002 after a landlord found the animal without food in an empty apartment, two weeks after the previous resident was evicted. The snake grew to 16 feet,

outgrowing the home. The snake was shipped to an Alabama zoo, but during transport she spent many hours in cold temperatures in a small crate. The snake died four weeks later. Source: *Anchorage Daily News* and *KTUU.com*

December 2006 (Ohio): A man died at the hospital after being strangled by his pet python. Source: *United Press International*

December 2006 (Florida): A 14-foot, 14-year-old Burmese python being exhibited at an aquarium wrapped around the handler's arm and waist and bit her. A police taser was needed to get the snake to let go. The woman was treated at the hospital for wounds to her hands. Previously a man was bitten when feeding the snake. Source: *St. Petersburg Times*

September 2006 (Indiana): A 23-year-old man with experience handling reptiles was killed by his 14-foot reticulated python. A medical examiner determined that the death was consistent with asphyxiation caused by compression of the neck and chest. Source: *MSNBC* and *The Corydon Democrat*

September 2006 (Montana): A man trying to enter Canada with five snakes turned them over to U.S. authorities rather than obtain the proper permits to export them. Two red-tail boa constrictors were among the animals who were dehydrated and had mites. Source: *Great Falls Tribune*

August 2006 (Michigan): A woman reported her 6- to 7-foot boa constrictor missing. Source: *The Macomb Daily*

August 2006 (Florida): A 9-foot Burmese python was found near the Tallahassee airport. After police initially captured and put the snake in a bag, the animal escaped from the back seat of the patrol car and had to be recaptured. Source: *KHOU-TV Animal Attraction Blog*

July 2006 (Michigan): Two boa constrictors were on the loose in a matter of days. Source: *WJRT-TV*

June 2006 (Connecticut): Officials investigating a report of an alligator in an apartment also found 36 snakes including boas, pythons and an anaconda. The tenant had been evicted the previous day. There were two dead lizards and the remaining reptiles were left in extremely dirty and unhealthy conditions, with no food or water. Source: 2006 Annual Report, State of Connecticut, Department of Environmental Protection, Division of State Environmental Conservation Police

June 2006 (Utah): A couple returned surprised to find a former roommate's pet 7-foot red-tailed boa possibly preparing to attack their pet cat. Source: *KSL TV*

April 2006 (California): A firefighter found a 6-foot anaconda alive among the debris after a fire gutted a music studio. The owner of the studio and snake was arrested on suspicion of setting the fire. Source: *Orange County Register*

March 2006 (Florida): A man driving with his pet snake wrapped around his neck crashed his car into roadwork barricades after the snake began biting him. According to reports, when police first encountered the man, he had numerous small cuts on his body, and freshly dried blood on his forehead and right hand. Source: *Naples Daily News*

March 2006 (Colorado): An evicted renter abandoned a 7-foot constrictor snake in an apartment. Source: *Glenwood Springs Post Independent*

February 2006 (Florida): A man walking his dog – an 8-pound rat terrier – let the dog off his leash. A neighbor's pet python had gotten free and grabbed the dog by the head, wrapping around him. The man used a golf club to get the snake to release the dog, but the dog ran away and was found dead the next day with injuries consistent with constriction. Source: *orlandosentinel.com* (AP)

February 2006 (Idaho): After being missing for two weeks, a Burmese python was found in the bathroom ceiling of the apartment below the one she from which she escaped, apparently through a hole in the wall. Source: *Foxnews.com* (AP)

December 2005 (Hawaii): A 4-foot boa constrictor was found in the laundry area of a home. The home was undergoing renovation and the door may have been left open during construction. Source: *Hawaii Department of Agriculture*

November 2005 (Georgia): A woman found a 7-foot Burmese python in a pillowcase in her backyard. Source: *The Associated Press*

October 2005 (Florida): A woman looking for her pet Siamese cat instead found a bulging Burmese python in her backyard. X-rays showed that the snake had eaten the cat. Source: *NBC6.net*

October 2005 (Florida): A 10-foot African rock python was found after crawling into a turkey pen and eating a turkey. The bulging snake was too large to fit back through the fence. Source: *NBC6.net*

September 2005 (Delaware): An 8-foot boa and three 4- to 6-foot boas were abandoned at an apartment complex after a tenant's eviction. The local animal shelter was helping place those snakes, plus a fifth one about 5-feet long who was seized the same week from a man walking in the street with the snake around his neck. Source: *The News Journal*

September 2005 (Florida): Captured in a now-famous photograph, the body of a Burmese python who tried to swallow an alligator was found in the Everglades. Exactly what happened may remain a mystery, but with the Burmese python as a new top predator in the Everglades, each of the snake's potential prey species could be at risk. Source: *St. Petersburg Times*

August 2005 (Missouri): A UPS driver found a 9-foot Burmese python among packages in his truck. The teenager who ordered the snake instead received an empty box. The python was shipped in a plastic container that was taped shut and placed inside the box. The tape was intact but the container was cracked and the cardboard box had tears in it. Source: First Coast News (AP)

July 2005 (California): A 15-foot Burmese python was discovered in a Sacramento warehouse. The animal belonged to a man who worked down the street. He had unknowingly poked a hole in the cage with a forklift. This was the snake's third escape. Source: *The Sacramento Bee*

July 2005 (Pennsylvania): The owners of a 9-foot Burmese python turned the snake over to authorities. The animal was reportedly underfed and living in a cage that was too small. Source: *The Intelligencer Journal*

June 2005 (Arkansas): Wildlife officials say there have been two sightings of yellow anacondas in the Wapanocca National Wildlife Refuge, one by a person fishing in 2004 and a recent sighting by a wildlife official. Source: KAIT8.com

June 2005 (Florida): Police responded twice in a month to reports of snakes roaming a neighborhood. A 13-foot Burmese python was recaptured, then got loose and was recaptured again. An 8-foot python (and five monitor lizards) remained at large. Source: News4jax.com

February 2005 (Florida): A giant python was found sprawled across a busy street in Englewood. Source: *Venice Gondolier-Sun*

November 2004 (Connecticut): A New Haven couple reported their 15-foot python was missing. Authorities responding did not find the python, but did find other animals the couple had illegally including an Argentinean boa. Source: WTNH

September 2004 (Michigan): A 6-foot boa constrictor escaped from a home. Source: cm-life.com

September 2004 (Mississippi): A 17-foot Burmese python missing for four days was lured out of hiding with a rabbit. The snake had escaped from the bathroom where she was being kept when the door was left open, and taken refuge underneath insulation in the attic of the apartment building. Source: *The Sun Herald*

August 2004 (Florida): A green anaconda was collected from Big Cypress Swamp in Collier County. Source: U.S. Geological Survey Nonindigenous Aquatic Species Database

August 2004 (Texas): Authorities searched for weeks for a large snake who was reported missing. A 7-foot python believed to be a different animal was caught the previous week at a landscaping company. The curator of the Houston Zoo's herpetology department said his department receives dozens of calls each week from people looking to turn over a snake to the zoo -- 15 to 20 calls per week just on boas. Source: *Brenham Banner-Press* and *The Associated Press*

July 2004 (Florida): A 16-foot-long Burmese python was captured on a city street. An animal control officer said he had picked up dozens of loose Burmese pythons and boa constrictors over the years, but this was the largest. Source: *cbsnews.com*

June 2004 (Kansas): A teenager was showing off the family's 15-foot pet python when the animal coiled around his arm and began to squeeze, turning the boy's arm blue. The snake bit the teen and his mother, and they called 911. Emergency crews used a fire extinguisher to get the snake to loosen his grip. Source: *News4Jax.com*

February 2004 (Florida): A 14-foot reticulated python escaped. Source: *Local6.com*

October 2003 (New Jersey): Pythons, boa constrictors, and an anaconda were among the 180 reptiles authorities took into custody when their caretaker had not been seen for a week. The man was in the hospital being treated for a venomous snake bite. Source: *The Star-Ledger*

September 2003 (Virginia): A Burmese python about 12-feet long was found after being on the loose for more than three weeks. The snake had pushed open a window to escape. Source: *The Virginian-Pilot*

September 2003 (Florida): A teenager took his 9.5 foot Burmese python into the backyard and the animal disappeared. He found the snake 20 hours later in the neighborhood. Source: *The News-Press*

September 2003 (Florida): A couple walking their dogs spotted a boa constrictor. They called rescue workers who picked up the animal. Source: *St. Petersburg Times*

August 2003 (Illinois): A man was doing plumbing work at home when he heard that a snake had gotten loose in the area. Two days later, after driving many miles, he found the 6-foot boa constrictor under the hood of his van. Source: *Chicago Daily Herald*

August 2003 (Washington): A man found an escaped 7-foot python passing through his yard. The week before, a park ranger found a similar-size python in a lake. The

local animal shelter generally takes in about 10 loose snakes a year. Source: *The Seattle-Post Intelligencer*

August 2003 (Arizona): Authorities took a 12-foot Burmese python from a yard. The mobile homes on the property seemed to be vacant, and the animal appeared to be abandoned. Source: The Associated Press

August 2003 (Florida): A 12-foot Burmese python escaped from a Florida home and was on the loose. Source: United Press International

July 2003 (Connecticut): A 3-foot boa constrictor was found outside a condominium complex. Source: *Connecticut Post*

July 2003 (Florida): A man reported his 12-foot Burmese python was missing and had not eaten for a week. A neighbor found the snake the next day. The python had a bulge in his stomach but it was unclear what he had eaten. Source: *The Bradenton Herald*

July 2003 (Rhode Island): A 14-foot Burmese python escaped from his tank and through a window screen. Source: The Associated Press

June 2003 (Florida): A 13-foot Burmese python escaped from a home. The mother of the snake's owner found the snake in the yard wrapped around her 3-year-old Mountain Feist dog. She was able to free the dog, but the snake then wrapped around her leg. Rescue workers freed her and returned the snake to his cage. Source: *Florida Today*

June 2003 (Maryland): A man was charged with animal cruelty following an investigation of conditions at a reptile wholesale business in a warehouse. Boa constrictors were among the animals being housed in the facility; 199 animals were found dead. Source: *Washington Post*

June 2003 (Florida): More than 100 snakes were stolen from a breeder, including 10 boa constrictors. Other snakes were left crawling loose in a room, including one who was found crawling out a broken screen. Source: *Tampa Tribune*

June 2003 (Illinois): Officers found an 8-foot reticulated python on a bike trail in Blackwell Forest Preserve; previously a 5-foot boa was found. Source: Illinois Department of Natural Resources Office of Law Enforcement

May 2003 (California): Authorities removed a red-tailed boa constrictor from a home, along with 100 to 200 mice, about three dozen rats, and a cat. They found debris piled in the house, which smelled of animal waste. Source: *San Jose Mercury News*

October 2002 (California): A 6-foot boa constrictor was spotted on a fence and on the loose until being captured a day later. Source: City News Service

September 2002 (New Jersey): A 7-foot boa constrictor was found in a roadway. Source: *The Star-Ledger*

September 2002 (Ohio): A 10-foot Burmese python escaped and was on the loose about three weeks. The snake was found in a vacant home being renovated, with a telltale bulge in its middle. X-rays showed the snake had eaten a small canine, possibly a fox or stray dog. Source: The Associated Press

September 2002 (Tennessee): A Burmese python about 8- to 10-feet long escaped – for the second time. The first time the snake was at large for about a month. Source: *Knoxville News-Sentinel*

July 2002 (Texas): A landlord in southwest Houston found reptiles including three Burmese pythons in a house he owns. The reptiles were in cages and had been abandoned for at least two months. None of the cages had water and the animals were dehydrated. Source: KSBW.com

July 2002 (Maine): A sheriff's deputy investigating an abandoned SUV was startled to discover a 5-foot-long boa constrictor in the back seat and another snake coiled in a terrarium. Source: *Portland Press Herald*

July 2002 (Louisiana): A 12-foot Burmese python escaped and was recaptured a week later. Source: *Times-Picayune*

June 2002 (North Carolina): A 12-foot pregnant Burmese python escaped and was on the loose for two days. Source: *News & Record* (Greensboro)

May 2002 (Florida): Six snakes ranging in length from 9 to 20 feet escaped from a woman's apartment. Two were found curled up in a friend's apartment, but authorities were looking for four large Burmese pythons. Source: *Florida Today*

April 2002 (Florida): An 18-foot Burmese python who had been living for at least a year near a service plaza on Florida's Turnpike was captured. A state crew mowing the grass in the area had reported seeing the animal a year before, and there had been several sightings since. Source: *Orlando Sentinel*

February 2002 (Colorado): A man had his pet Burmese python wrapped loosely around his neck when the snake suddenly constricted. By the time rescue workers wrestled the animal off the man, it was too late and he later died. Source: *Rocky Mountain News*

December 2001 (California): A 3-month-old infant was taken to an emergency department after a day of bloody diarrhea and fever caused by *Salmonella*. The infant's father was a high school biology teacher who often draped a large snake (i.e., a boa) over his shoulders in the classroom. He would wash his hands -- but not change his clothing -- before going home and holding his child. The snake was found to be the source of the child's *Salmonella*. Source: U.S. Centers for Disease Control and Prevention

April 2001 (Oklahoma): A woman died from septic shock related to a *Salmonella* infection after obtaining a transfusion of blood platelets. The platelet donor's 9-foot pet boa constrictor was identified as the likely source of the *Salmonella*. The type of *Salmonella* found in a stool sample from the snake matched that found in the platelets. The man exhibited no symptoms at the time of his donation, but had been ill two weeks before and taken antibiotics. A second patient who received platelets from the man also contracted *Salmonella* but was healthier to begin with and lived. Source: *The New England Journal of Medicine*

August 2001 (Pennsylvania): An 8-year-old girl was strangled by her father's pet Burmese python. The child had been left home alone, and the snake broke through the top of the cage. Paramedics said she was not breathing when they arrived; she was taken to a hospital and placed on a ventilator until she was pronounced brain dead two days later. An autopsy showed the cause of death was compression of her neck and chest. Source: *The Augusta Chronicle* (Scripps) and *Pittsburgh Post-Gazette*

August 1999 (Illinois): A couple's 7.5-foot African rock python escaped from an enclosure and killed their 3-year-old son. Source: *St. Louis Post-Dispatch*

October 1996 (New York): A 13-foot python, kept as a pet by two teen-age brothers who hoped to have careers caring for reptiles, killed one of the brothers, possibly mistaking him for food. The 19-year-old was found by a neighbor with the snake coiled around his midriff and back. Source: *The New York Times*

1993 (Colorado): A 15-year-old was killed by his brother's 11-foot pet python. He had snake bites on his body, and an autopsy found he was suffocated. The 8-year-old snake had been a family pet since she was only a foot long. Source: The Associated Press

1984 (Iowa): An 11-month-old boy was killed by his father's 10-foot pet python who escaped from an enclosure. Source: *Fort Madison Daily Democrat* and *The Loss of Innocents* by Cara Elizabeth Richards

1983 (Missouri): A man was crushed to death by his 16-foot pet Burmese python. Source: The Associated Press

August 1982 (Nevada): An 8-foot python escaped from his cage, crawled into an adjoining bedroom, and killed a 21-month old boy in his crib. The snake belonged to an unrelated man who lived in the house. Source: United Press International

November 1980 (Texas): A 7-month-old girl was killed by her father's 8-foot pet reticulated python. The child died of asphyxiation and her head was covered with dozens of needle-like tooth marks. The snake had forced his way out of a covered 30-gallon aquarium and crawled into the baby's crib. Source: The Associated Press

[Additional material submitted for the record follows:]

**Statement of Senator Joseph I. Lieberman
on the National Fish Habitat Conservation Act.
United States Senate**

December 3, 2009

To be inserted in the appropriate place in the Congressional Record

Chairman Cardin, thank you for the opportunity to speak in support of the National Fish Habitat Conservation Act, which I introduced back in June with you, as well as Senators Crapo, Bond, Casey, Stabenow, Whitehouse and Sanders. This legislation will significantly advance ongoing efforts to restore and protect fish habitat, improve the health of our waterways and ensure that we have robust fish populations far into the future.

Today, nearly half of our fish populations are in decline and half of our waters are impaired, which is why it is especially important that we work together to protect and restore remaining habitat. The National Fish Habitat Conservation Act will leverage federal, state and private funds to support voluntary regional conservation partnerships, which in turn will allow federal and state governments, the recreational and commercial fishing industries, the conservation community, and businesses to work together – for the first time – to effectively conserve aquatic habitats.

Our legislation authorizes \$75 million annually for fish habitat projects. Based on the highly successful North American Wetlands Conservation Act model, the bill establishes a multi-stakeholder National Fish Habitat Board to recommend science-based conservation projects to the Secretary of Interior for funding. Regional partners will then work to implement those conservation projects to protect, restore and enhance fish habitats and fish populations.

Chairman Cardin, as you know, the National Fish Habitat Conservation Act will go a long way toward ensuring the viability of our fish and their habitats for generations to come. I look forward to the day when the full Senate considers this important bill so that we can act collectively to reverse the decline of our ailing waterways and fisheries.

Thank you for the opportunity to speak today and for taking the time to consider this legislation.

Honorable Solomon P. Ortiz
Statement for the Record
Senate Committee on Environment and Public Works
Subcommittee on Water and Wildlife
December 3, 2009

Thank you, Mr. Chairman, for holding this hearing and for considering H.R. 3537, the Junior Duck Stamp Conservation and Design Program Reauthorization Act of 2009.

I had the privilege of sponsoring the original legislation in the House of Representatives to authorize this program in 1994. As the Chairman of the Oceanography, Gulf of Mexico, and Outer Continental Shelf Subcommittee of the Merchant Marine and Fisheries Committee, I was asked to help pass authorizing legislation for the Junior Duck Stamp Program.

I was familiar with the successful Duck Stamp Program but had never heard of the Junior Duck Stamp (JDS) Program. Now, 15 years later, this is the third reauthorization of this program.

I am very happy to say that it is one of this country's oldest and most successful youth-focused conservation programs in the federal government, and over the years, JDS has expanded to all 50 states, the District of Columbia, and the U.S. Territories.

For those of you who don't know about the JDS Program, it is a conservation-focused science and arts curriculum for grade-school and high-school students. It is an art contest centered around studies that teach the fundamentals of waterfowl anatomy and environmental science.

Students submit their artwork depicting waterfowl in natural habitat settings to a state or territory contest. Winners from these contests are submitted for the national contest. Just as in Duck Stamps, the winning artwork at the national JDS contest is used to create a Junior Duck Stamp for the following year.

The stamps are sold by the U.S. Postal Service and consignees for \$5 per stamp. Proceeds from the sale of the stamps support conservation education and are used for awards and scholarships for the students, teachers, and schools that participate in the program.

I must commend the JDS administrators and coordinators at the national, state, and local levels; the teachers and schools that support the JDS program; and the students who participate each year in the contest for the success of the Junior Duck Stamp Program. Your dedication and hard work have made this program a premier wildlife conservation education tool, and I am proud to be associated with it.

Mr. Chairman, as this legislation pass through your Subcommittee and the Environment and Public Works Committee, I ask you to join me in supporting this very worthy program and the modest increase in authorized funding as passed in the House.

**U.S. Senate Committee on Environment and Public Works
Water and Wildlife Subcommittee
Prepared Remarks of Rep. Robert J. Wittman
December 3, 2009**

Thank you Senator Cardin and Senator Crapo for considering H.R. 3433 and for holding this hearing.

My legislation, H.R. 3433 provides for a simple, timely and essential change to the North American Wetlands Conservation Act.

Under current law, Congress appropriates money each year to be spent on projects to acquire, enhance, protect and restore wetlands in Canada, Mexico and the United States.

In fact, this remarkable program, which is now celebrating its 20th anniversary, has funded over 1,600 projects to conserve more than 20 million acres of wetlands and associated uplands across North America. This conservation has helped ensure improved waterfowl hunting across North America.

Since 1989, this landmark law has required that each Federal dollar spent on a conservation project be matched by non-federal money.

However, due to the irreplaceable nature of the breeding waterfowl habitat in Canada, a decision was made not to require matching funds from Canadian sources. Therefore, projects in Canada have been matched by conservation dollars from the United States.

According to the U. S. Fish and Wildlife Service, the North American Wetlands Council has approved conservation projects in Canada worth nearly \$70 million during its current five-year funding cycle which began in 2007. Under law, this means that \$70 million in private matching funds must be provided.

Under my legislation, the North American Wetlands Conservation Act would be amended to allow up to 50 percent of the non-federal share of projects in Canada to be paid for by Canadian conservation supporters. My legislation will allow and encourage our Canadian conservation partners to fund a greater number of important wetland preservation projects north of the border.

The authorization of appropriations for the North American Wetlands Conservation Act does not expire until September 30, 2012. We simply cannot wait to make this change because the non-matching

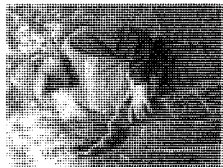
share imbalance will continue to grow and must be paid before the authorization expires.

The language of this legislation has been fully vetted and been endorsed by all interested parties including the Fish and Wildlife Service, the member of the North American Wetlands Conservation Council which includes, Ducks Unlimited, as well as the National Audubon Society and the American Bird Conservancy.

H.R. 3433 passed the House of Representatives on October 13, 2009. I respectfully ask that you would continue to work to move this important legislation through the legislative process as quickly as possible.

Thank you again for holding this hearing and your efforts to promote and protect important wildlife habitat.

Nine teens help restore habitat, Alaska News | adn.com



enlarge

Photo by DUSTIN SOLBERG
Eli Hartley prepares willows for planting along the banks of Colter Creek. Hartley took part in the Upper Susitna Youth Conservation Corps this year. The group worked in July on a salmon habitat restoration program along the creek, a tributary of the Little Susitna River.

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- This year the teens worked and improved a trail at Talkeetna Elementary School and continued work begun last year at Byer's Lake, part of Denali State Park. They also worked on a multi

Nine teens help restore habitat

8-WEEK PROGRAM: Students are taught conservation skills.

By RINDI WHITE
rwhite@adn.com
Published: August 1st, 2008 01:30 AM
Last Modified: August 1st, 2008 02:12 AM

WASILLA -- The Upper Susitna Youth Conservation Corps last week celebrated the end of its 2008 season of trail and restoration work.

Nine students from the Upper Susitna Valley took part in corps projects sponsored by the Upper Susitna Soil and Water Conservation District this year.

Each year teens in the corps program learn how to build trails, restore habitat and attack

Each year teens in the corps program learn how to build trails, restore habitat and attack

Each year teens in the corps program learn how to build trails, restore habitat and attack

Dustin Solberg at The Nature Conservancy's Anchorage office said the crew planted willow, spruce and other plants along Colter Creek where too-small culverts had been replaced in

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three driveways earlier this year. The culverts blocked access to salmon-rearing habitat. Conoco Phillips, the Mat-Su Basin Salmon Habitat Partnership, the National Fish Habitat Action Plan, Nature Conservancy, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Association and the Wasilla Soil and Water Conservation District participated in that project, according to Solberg.

The teens also worked at Talkeetna Lakes Park, where a three-mile loop around the lake is being built and spent a week leading natural resource-related activities for elementary and junior high-aged children taking part in the Denali-Susitna Exploration Camp, Olson said.



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Funding from the National Park Service, the Matanuska-Susitna Borough and Kigluait Educational Adventures covered their work at the camp, she said.

Olson said the eight-week Youth Conservation Corps program is aimed at teaching conservation skills to area teens and giving them a chance to build job skills.

The students, typically a group of 10 to 12, work seven hours a day, four days a week for the length of the program. The duration varies according to how many projects the Conservation District has lined up. The projects are typically grant funded.

For most of the kids, it's their first job, so we're teaching them how to work," Olson said.

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\$1.2 million project could breathe life into Aaron Run

Michael A. Sawyers
Cumberland Times-News

Thu, Jun 05 2008

— BLOOMINGTON - If everything works as planned and as hoped for, a \$1.2 million project directed by the Maryland Bureau of Mines will change Aaron Run from a four-mile sluice for acid mine drainage into the clear-water stream it was in days of yore. And, if the leach bed leaches, the lime doser doses and the SAP cell (successive alkaline producing cell) does its job, maybe, just maybe, native brook trout will be returned to the Garrett County stream.

"That's the goal," said Alan Heft, a biologist with the Maryland Inland Fisheries Division. "Aaron Run has been dead because of acid mine drainage, for what, 40 or 50 years, and we hope that in 2009 we will be capturing wild brook trout from the lower Savage River and moving them to a new Aaron Run."

Aaron Run lies to the northwest of Westernport Road and flows southwesterly into Savage River near the first bridge that is reached driving upstream from Bloomington. Its steep flow just before reaching the larger river is visible from Savage River Road. Connie Lyons Loucke, one of a number of people from the mining agency involved in the project, said she is confident that the group's experience in improving water quality can work again, this time on Aaron Run.

"This is the first time we have done a project on an entire drainage," Loucke said Monday. Perhaps the larger challenge, according to Loucke, was in the finagling, researching and coordinating it took to come up with the cash to fund the project using numerous state and federal sources.

"We have substantial experience improving water quality in the North Branch of the Potomac," Loucke said. Seven lime dosers are in place at various locations. The lime neutralizes the acid, allowing life, including trout, to once again flourish in these mountain waterways.

According to Heft, \$75,000 for the work was contributed by the Eastern Brook Trout Joint Venture, an effort that deals with brook trout throughout its native range in the eastern United States.

"One of the goals of the venture is to restore brook trout fisheries," Heft said.

Heft said that most of the project will be on private land. "Any public access will be with the blessing of the landowners," he said.

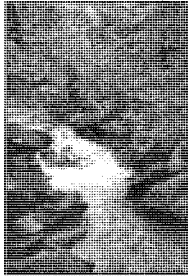
Mining agency officials said Aaron Run flows through land owned by Walter Wassel, Rod and Charlee Owens, and the Moran Coal Co.

Heft said that if the Aaron Run water quality improves adequately, crews will capture

native brook trout in the lower Savage River for transplantation. "That way we will be assured that the same, original genetic strain is being used," he said. Mike Garner, also of the mining agency, said bids for the first portions of the project are soon to be awarded with a second phase likely to start in the spring of 2009. Completion will be four months later, with brook trout transplantation shortly after that. "We've proven we can bring fish back," Loucke said. Aaron Run is one of 10 waters being restored via the National Fish Habitat Action Plan, produced by an assembly of the nation's leading authorities on aquatic conservation, including the Western Maryland Resource Conservation and Development Council. Contact Michael A. Sawyers at msawyers@times-news.com.

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Photos



A \$1.2 million project directed by the Maryland Bureau of Mines will change Aaron Run from a four-mile sluice for acid mine drainage into the clear-water stream it once was. Cumberland Times-News

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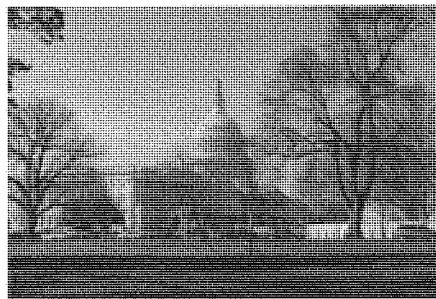
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Friday, September 4, 2009

National Fish Habitat Conservation Act

By Chris Horton
BASS Conservation Director

Since the idea was presented about nine years ago, the concept of a national framework for fish habitat restoration has been met with nearly unanimous support. The few that questioned the reality of such a large-scale effort generally were concerned about the complexities of pulling it off. Based on the successful model of the Migratory Bird Joint Ventures and the North American Wetlands Conservation Act, which restored waterfowl



populations across the country, the National Fish Habitat Action Plan seeks to do for fish what we've done for ducks. However, the challenges facing a similar fisheries initiative are formidable.

The primary limiting factor for ducks was in the breeding grounds. Protect nesting habitat and water bodies and the ducks would be on their way to recovery. For fish, it's not that simple. The water in which they live flows across multiple jurisdictions and habitat has been negatively impacted for a number of reasons.

The NFHAP seeks to address problems with fish habitat on a local partnership basis. Driven by local stakeholders, the process can be successful. Everyone's pretty much in agreement, and officially recognized partnerships are already organized and doing work. More are coming together every year, including the Reservoir Fisheries Habitat Partnership. Now all we need is funding to get the job done.

Congressman Ron Kind (D-Wis.) has introduced H.R. 2565, the National Fish Habitat Conservation Act, a bill that seeks to establish the NFHAP legislatively and provide the necessary funding to be successful. At around \$70 million per year, it seems like a bargain given the way they spend money in D.C. these days.

Even though both sides of the aisle are supportive, there have yet to be any co-sponsors to sign on. You would think that a noncontentious bill would be quick to garner support, given the controversial debates surrounding issues like a national healthcare system. However, the contentious issues are probably the reason why this bill hasn't moved. Everyone's too focused on partisan politics.

Let's remind Congress that there are some other important bills out there that they don't have to bicker over. Ask your representative in Congress to sign on as a co-sponsor to

H.R. 2565, and let's do something positive in D.C. this year. Let's help our fisheries to be better tomorrow than they are today!
If you need help on the letter, the ASA has made it a very simple process. Just click [here](#) and follow the instructions.

Published on HamptonRoads.com | PilotOnline.com (<http://hamptonroads.com>)

Marsh plants get room to grow on Roanoke Sound

NAGS HEAD

An oyster-shell reef has been completed at Jockey's Ridge State Park to shelter the beach from erosion and allow native grasses that were planted to fill in the shoreline.

The reef, at the northwest boundary of the park, stretches about 400 feet in Roanoke Sound.

"It's an alternative to bulkheading," said Erin Fleckenstein, a coastal scientist with the North Carolina Coastal Federation field office in Manteo. "We're creating marsh, minimalizing erosion and using natural material in the process."

The project was recently named one of 10 "Waters to Watch" in 2009 by the National Fish Habitat Action Plan for restoring the coastal marsh habitat and protecting the shoreline.

An initiative of the U.S. Fish and Wildlife Service, the action plan teams federal, state and local partners to help reverse declines in aquatic habitat.

The park is a natural haven amid subdivisions, a highway and retail stores. In the early 1970s, resident Carolista Golden prevented bulldozers from flattening the ridge to make way for a subdivision. The 496-acre park was established in 1975.

"We figured that it was fitting to do a restoration project in the area that got the whole thing going," said park ranger Justin Barnes, referring to where development comes closest to the park, at the northwest end.

Barnes said about an acre has been planted with spartina and juncus grasses and upland plants. American beach grass is scheduled to be planted in September, he said.

It took about 2,000 bushels of oyster shells to construct the reef, which has a break every 100 feet to allow juvenile fish - spot, croaker, shrimp, pipefish, mullet - to pass through.

Students from local elementary, middle and high schools, and college students from Virginia Tech and Wartburg College in Iowa, helped bag the shells and build the reef. They also assisted in planting marsh grasses and crape myrtles, said Sara Hallas, outreach specialist for the Coastal Federation.

About 450 local students have participated in the reef project and construction of rain gardens elsewhere, Hallas said.

"We have been able to reach so many kids," she said.

Funded by grants from the Southeast Aquatic Resources Partnership and the U.S. Fish and Wildlife Service, the \$70,000 project was initiated by the Coastal Federation, which partnered with The Nature Conservancy, the National Oceanic and Atmospheric Administration, state parks and the state Division of Marine Fisheries.

The park will soon install an educational placard near the new marsh area to inform passing trail walkers about the project, Barnes said. There have also been discussions about expanding the reef to the south, he said.

Ultimately, he said, the goal is to fill in the entire eroded section of shoreline with marsh grasses. Already, he said, the area looks significantly different than it did before the project began a year ago.

"It was just nothing," Barnes said, surveying the purple and green grasses poking out of the shallow sound. "It was all sand and water."

Catherine Kozak, (252) 441-1711, cate.kozak@pilotonline.com

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Slithering toward crisis

The gist: Lawmakers' aren't doing enough to protect the state from exotic snakes.

November 27, 2009

A new government report offers chilling evidence that much of Florida could become ground zero for a fresh invasion by huge constrictor snakes.

The 300-page U.S. Geological Survey report found all nine species it studied had been discovered on the loose in Florida, and had a medium or high probability of becoming established. While confirmed breeding populations are limited to three of those species, including the notorious Burmese python, researchers found that could be just the beginning.

South Florida has a climate "that may be suitable for all of the giant constrictors and much of the commercial trade in giant constrictors passes through southern Florida," the report said, warning, "Thus the probability of exotic species establishment is greater in South Florida, though not limited to it."

Florida's Everglades already are overrun with thousands of Burmese pythons, most likely because of irresponsible owners who set them free once their pets got too big or too scary. Smaller breeding colonies of Northern African pythons and boa constrictors also have been found in South Florida.

Don't think Central Florida is immune. The USGS report found this area could have a suitable climate not only for populations of those species but also for reticulated pythons, the Southern African python and yellow and green anacondas.

And yet, state and federal lawmakers seem largely deaf to the warning bells.

Florida Sen. Bill Nelson and U.S. Rep. Kendrick Meek are sponsoring bills that would ban importing pythons. We're tickled that these lawmakers are at least taking notice, but why limit the ban to pythons? Mr. Meek's bill doesn't even cover all species of pythons.

We suspect it's an easier path around the pet industry's objections because pythons have gotten so much bad press between the Everglades invasion and the death of a 2-year-old Sumter County girl who was killed in her crib by the family's python.

This thinking is staggeringly short-sighted. For starters, it's too late for the Burmese python, which probably is here to stay. A snake hunt earlier this year bagged all of several dozen pythons, which probably represents about one in every 1,000 now in the wild. At that rate we should be rid of them around the year 3000, provided the pythons stop breeding.

Anyway, the USGS suggests eradication only works on small areas, and the Everglades don't qualify as small, which illustrates why lawmakers are on the wrong track.

If lawmakers don't restrict importing other species, they could find themselves facing a new invasion that can't be stopped. One USGS map shows the possible range of the boa constrictor extending into North Florida, while the green anaconda -- one of the world's biggest snakes -- might find a friendly climate in most of peninsular Florida's wet areas.

The report is careful not to endorse any legislative solutions, but the conclusions taken from it are inescapable: More than anywhere in the U.S., Florida is at risk for more invasions of giant snakes, which could devastate native species. The USGS report lists dozens of birds, mammals and reptiles at risk because of non-native snakes set loose in the wild.

We applaud Mr. Nelson and Mr. Meek for their efforts, but urge them to think more broadly. Will they wait until anacondas set up housekeeping in the Wekiva River before doing something? It'll be too late then.

Florida's state and national lawmakers have been put on notice by the science. Now they need to act to protect their state.

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Keep snakes off the planes

By THE PALM BEACH POST

Palm Beach Post Staff Writer

Posted: 7:24 p.m. Wednesday, Dec. 2, 2009

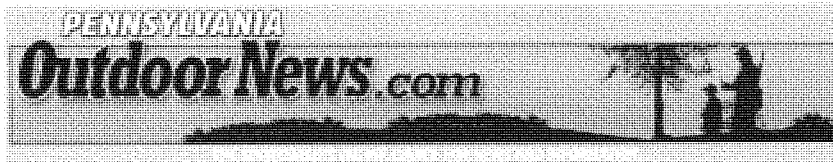
However many exotic snakes inhabit the Everglades, they're not good for the Everglades. Today, a U.S. Senate panel hears a bill designed to keep those snakes out of Florida.

In May, Interior Secretary Ken Salazar visited the Everglades and talked snakes with Gov. Crist and Sen. Bill Nelson, D-Fla. In July, a python killed a 2-year-old Florida girl in her crib. Sen. Nelson responded with a bill that would ban the importation and sale of the pythons for use as pets. They're in the Everglades because owners released the pythons once they - surprise! - reached their full length and girth. U.S. Rep. Kendrick Meek, D-Miami, filed similar legislation in the House.

Sen. Nelson's bill gets a committee hearing today, but the Humane Society of the United States wants the legislation expanded to cover not just Burmese and African rock pythons but other constrictors - reticulated pythons, boa constrictors and anacondas. The society, correctly, argues that with a limited ban the trade simply would shift to other snakes.

Critics claim that the estimate of 100,000 pythons in the Everglades is way high. Obviously, no one knows. Either way, the Everglades and the rest of wild Florida do not need more exotic constrictors. They could ravage the Everglades - devouring native species - just as taxpayers are financing the attempt to restore what remains of the Everglades. The federal legislation would not force snake owners to give up their pets, and it would allow, with a permit, importation for medical and scientific purposes.

Florida will debate how to eradicate the pythons we have. Washington can help by keeping more big snakes of all kinds out of Florida.



By Deborah Weisberg
Southwest Correspondent

Johnstown, Pa. — A Pennsylvania trout stream is making a national splash as a conservation work in progress.

The South Fork of the Little Conemaugh River recently was named one of this year's 10 Waters to Watch by the National Fish Habitat Action Plan because of partnership efforts to make it viable again for Eastern brook trout. Impacted by acid-mine drainage, acid rain and acid geology, the stream and its tributaries below Lloydell Dam are being treated with limestone, a low-tech, low-cost way to make water habitable for native brookies.

"The South Fork is probably the largest intact brook trout fishery on the Allegheny Front, so it's very unique," said Pennsylvania Department of Environmental Protection watershed manager Malcolm Crittenden.

"The South Fork above the dam is a Class A Wild Trout fishery. But water below the dam is acid-impacted."

DEP, Dunlo Rod and Gun Club, Pennsylvania Fish & Boat Commission, and other partners last year built a limestone pond on South Fork to neutralize mine discharge just above Beavertdale, about four miles below Lloydell Dam. This fall, limestone sand will be trucked in from Bedford County and applied just below the dam, as well as on two feeder streams, Shanks Run and Bottle Run.

"Acid-mine drainage is a big component on the lower end of our project, but acid rain and acid geology are a second whammy," said Crittenden. "With (acidic) snowmelt, trout are pushed out of borderline habitat. The limestone we're applying will counteract acid events."

A total of about \$238,000 from Growing Greener, the U.S. Fish and Wildlife Service, the Eastern Brook Trout Joint Venture, and Little Conemaugh Watershed Association is covering the project start-up as well as six years of maintenance treatments, said Crittenden.

“Limestone has to be added annually, but it’s pretty inexpensive – about \$5,000 a year.” Existing grant money also will be used to stabilize stream banks with logs from the area.

The project has a dozen partners and each one is invested in the project’s success, Crittendon explained. “Highland Water and Sewer Authority owns Lloydell, which has a beautiful cut-stone dam built in 1902. The company has been extremely cooperative. It wants people to enjoy coming to the area.” Crittendon praised private landowners for allowing worker access as well as limestone sand dozing on their properties. And he said the Rod and Gun Club has been one of the leaders in the project. Club President Rodger Miller, of Sidman, says he feels personally committed to restoring the stream’s health.

“I grew up on the South Fork. Fifty years ago it was one of the premier trout streams in the country, then acid drainage from the coal mines killed it,” he said. “The water used to be orange and nothing grew there. We’re seeing improvements from the limestone pond already.”

Although some wild trout find their way into South Fork from the native population in the Class A water above the dam as well as from Rachel and Lick runs, the vast majority of trout below Lloydell reservoir are stocked fish. They come from Miller’s club, which has operated a trout nursery on Otto Run in cooperation with the Fish & Boat commission for the past 51 years.

The fish die from acid impact when they hit Beaverville, but the expectation is they will begin surviving for a much longer stretch of South Fork once all of the limestone doses have been added this fall, Crittendon said. “We’re just getting started.”

National Fish Habitat Action Plan chairman Kelly Hepler said the partnership behind the project has expedited the process, and is one of the reasons South Fork was selected as a top 10 Waters to Watch. “Our approach – teaming federal, state and local partners – is helping to bring these waters back to life in most cases ... in a faster more strategic way,” he said.

“By watching these 10 models of our nation’s aquatic conservation efforts, we can see real progress in treating the causes of fish habitat decline, not just the symptoms.”

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Pittsburgh Post-Gazette

SPORTS / HUNT & FISH

Fishing: Bringing brookies back to one of America's '10 Waters to Watch'
 Sunday, October 19, 2008

By Deborah Weisberg

VENANGO COUNTY -- Williams Run wends through State Game Lands 39 -
 - a densely-wooded tract that blazes with the rich warm colors of autumn.

Hunters who venture into this forested valley would never guess that Williams Run is practically dead, the consequence of an old strip mine that ravaged nearby farmland.

But that is about to change as work nears completion on a \$1 million public-private project to backfill the mine and run Williams Run through limestone beds and settling ponds at its headwaters. Restoring Williams will allow a population of wild brook trout now isolated on an unnamed tributary to expand into Williams, which has the cold temperatures brookies need to survive. The run feeds South Sandy Creek, which merges with the popular stocked-trout destination Sandy Creek between Polk and the Allegheny River.

"Williams is the only problem in a generally good watershed," says Valerie Tarkowski, of the South Sandy Creek Watershed Association. "Once we clean up Williams, it will benefit everything the water feeds, from fish to aquatic insects. It will release the trout on a trib we call East Branch to at least the lower reaches of Williams. That will push the trout, which are already at the westernmost part of their native range, a little farther west."

Anglers could eventually see brook trout on South Sandy, too, according to Pennsylvania Fish and Boat Commission biologist Al Woomer.

"South Sandy already has a low level of wild trout -- an improved Williams should populate it more," he says. "The main stem of Sandy Creek is a little too warm, so the brook trout probably won't go that far. We'll just continue to stock it."

Although 90 percent of Williams flows through State Game Lands, 10 percent is on Chuck Woods' 450-acre property. In the 1950s, Woods' grandfather, a

dairy farmer, sold the coal rights to a company that strip-mined his pastures for 10 years, leaving a crater 30 feet deep through much of the landscape and a constant hemorrhage of iron- and aluminum-laden water into Williams Run.

"The fine print allowed the company to walk away from the project without filling it," says Woods, 58, who was 5 when his grandfather signed a contract with the miners. He grew up with the hazard of the high walls. So did his children and now his grandchildren.

"When my grandfather tried to sue the company, it declared bankruptcy," he says. "A few years later, they were back in business."

The state first approached Woods 30 years ago about fixing his scarred land, but given the number of old mines statewide it took until May for that begin to happen. But the project is more comprehensive than anything the state could have done alone, thanks to the efforts of the watershed association. More than a half-dozen agencies have joined in the project, which includes backfilling the old mine and treating the drainage at two sites at Williams' headwaters.

"It's a passive treatment approach ... very basic," says Bill Dadamo, a construction supervisor for the Pennsylvania Department of Environmental Protection's Bureau of Abandoned Mine Reclamation, which is wrapping up work on the largest portion of the project. At \$650,000, it involves backfilling the mine, which will be reseeded and restored to green pasture land, and diverting acid mine drainage through a nearly 1,000-foot pipeline to a neutralizing limestone bed before emptying into the run.

DEP installed a splitter box to regulate flow into the bed. As water is pooled there, iron and aluminum will gradually fall out. The limestone can be churned every few years to keep water aerated.

A similar limestone bed is being created on a different part of Woods' property, which is stained rust-red from years of mine seepage. That project will make use of settling ponds, too.

"The change in water quality will be immediate," predicts Van Sheykhet, the engineer for Quality Aggregates, which is performing the work. "It won't take long for Williams Run to improve."

But that doesn't mean the work on Williams will be done.

Tarkowski said her group plans to tackle improvements on another part of the watershed that once served as a tipple, or coal-washing site, that blights an otherwise pastoral landscape.

The work on Williams is receiving attention beyond Irwin Township. The National Fish Habitat Action Plan has named the run one of America's "10 Waters to Watch."

"We chose Williams because it's an easily fixed problem at not a lot of cost that we believe has potentially good results," says Ryan Roberts, a spokesman for the quasi-government group that works to create conservation partnerships.

The prospect of a fishable Williams Run is something Woods never expected to see in his lifetime.

"I've never known this land to be anything but what it's been -- a danger to my kids and my grandkids," he says. "Now I have something to look forward to when I retire: a nice little brook trout stream to fish."

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Striped bass habitat in Flint to be restored

Published Friday, May 29, 2009

The National Fish Habitat Action Plan unveiled this year's 10 "Waters to Watch" list, which includes the lower Flint River.

The list is a collection of rivers, streams, lakes, watershed systems and shores that will benefit from strategic conservation efforts to protect, restore or enhance their current condition, a news release stated.

These waters represent a snapshot of current conservation efforts that are planned to provide cleaner and healthier habitats for the many fish and wildlife species and people who call these areas home.

About the Flint River

Striped bass in the Flint River rely on thermal refuges during warmer months, but there are a limited number of springs in the Flint that harbor striped bass.

Natural sediment loads and debris in the Flint have accumulated in the springs and have restricted flow and access to habitat by Gulf striped bass. Only eight of 20 springs hold fish regularly.

Improved spring flow and thermal refuge availability for Gulf striped bass during the summer months is critical to species management. Natural spring renovation will open the area, allowing increased flow from and thus expanding the thermal refuge, providing better habitat for future spawning.

Georgia Department of Natural Resources personnel will renovate springs in the Flint River to enhance flow and physical habitat for striped bass by utilizing a large-capacity trash pump to remove accumulated sand, sediment and debris.

The action plan

Thanks to the combined actions of concerned community groups, non-profit organizations, local watershed groups, Native American tribes and state and federal agencies, these waters are being improved by planting stream-side vegetation, removing

structures blocking fish from habitat and protecting bodies of water from the effects of industrial processes, agriculture and livestock.

The 10 “Waters to Watch” are representative of freshwater to marine waters across the country including lakes and reservoirs that are improving through the conservation efforts of the National Fish Habitat Action Plan, an initiative to reverse persistent declines in aquatic habitat.

The Action Plan’s 10 “Waters to Watch” Initiative was first unveiled in 2007 through its Fish Habitat Partnerships. Since 2006, the U.S. Fish and Wildlife Service has provided \$5.8 million to support 136 on-the-ground projects in 35 states, leveraging \$15.1 million in partner match, to address the priorities of the Fish Habitat Partnerships, along with funding from several other state and federal agencies and other organizations.

“Our approach—teaming federal, state and local partners—is helping to bring these waters back to life in most cases ... in a faster, more strategic way,” said Kelly Hepler, chairman of the National Fish Habitat Board. “By watching these 10 models of our nation’s aquatic conservation efforts, we can see real progress in treating the causes of fish habitat decline, not just the symptoms. These specific projects display on the ground work that can be held high as a vision of what quality habitat should be, which affects all people throughout the United States.”

The other water bodies on the list include Agulowak River in Alaska, Jockey’s Ridge State Park in North Carolina, Lake Houston in Texas, Maggie Creek in Nevada, Meramec Watershed Basin in Missouri, Pine Creek in Wisconsin, South Fork Little Conemaugh River in Pennsylvania, Teton Creek in Idaho and Whitethorn Creek in West Virginia.

The National Fish Habitat Action Plan is built on a framework of National Fish Habitat Partnerships.

The plan calls for the creation of at least 12 Fish Habitat Partnerships by 2010 to help identify the causes of habitat declines and implement corrective initiatives for aquatic conservation and restoration.

Since its launch three years ago, nearly 1,000 partners have pledged their support including a range of organizations interested in the health of the nation’s fisheries such as fishing clubs, international conservation organizations, federal agencies, angling industries and academia. Complete information on the scope of the plan is available at www.fishhabitat.org.

The Action Plan is complemented by the “More Fish” campaign administered by the National Fish and Wildlife Foundation, which is taking the lead in raising funds for these and other projects under the Action Plan. Information about the campaign can be found at www.morefish.org.

STPNS - Trout Run is a 'Water to Watch', Chatfield, Minnesota

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May 06, 2008

NATURAL RESOURCES

Trout Run is a 'Water to Watch'

By *The Chatfield News staff*

CHATFIELD, Minnesota (STPNS) -- An assembly of the nation's leading authorities on aquatic conservation has unveiled the 2008 "10 Waters to Watch" list, a collection of rivers, streams and shores that will be cleaner and healthier habitats for the many fish and wildlife species and people who call these areas home. Trout Run in Fillmore County has been named to the list.

Thanks to the combined actions of concerned community groups, non-profit organizations, local watershed groups, Native American tribes and state and federal agencies, these waters are being improved by planting stream-side vegetation, removing structures blocking fish from habitat and protecting bodies of water from the effects of industrial processes, agriculture and livestock.

They are representative of freshwater to marine waters across the country including lakes and reservoirs that are improving through the conservation efforts of the National Fish Habitat Action Plan - a bold initiative to reverse persistent declines in aquatic habitat.

"Our approach - teaming federal, state and local partners - is helping to make these waters better... faster," said Kelly Hepler, the vice-chair of the National Fish Habitat Board.

"Whether you measure the effect of the 10 success stories in feet or miles of fish and wildlife habitat conserved, these kinds of concerted actions are what it is going to take to get our nation's waters back into shape," said Hepler. "We believe the waters recognized for 2008 will be the impetus for thousands of projects accomplished in the future."

Trout Run

A highly popular destination among trout anglers in southeastern Minnesota is Trout Run Creek, a 13-mile spring-fed stream that empties into the North Branch of the Root River in Fillmore County. The stream harbors quality-size brown trout, mottled and slimy sculpin and American brook lamprey.

Trout Run is situated in a narrow valley where the stream and associated floodplain are often confined by bedrock outcroppings. The landscape in this focus watershed is dominated by row crops and grazing cattle - contributing to land erosion and sedimentation in the streambed.

As a consequence, several reaches of Trout Run are non-characteristically wide and shallow, with stream velocities insufficient to scour fine sediments. These areas lack sufficient habitat for spawning, feeding, and resting, as well as overhead cover, which provides security for adult trout.

The Hiawatha Chapter of Trout Unlimited, the Minnesota Department of Natural Resources

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(DNR), and the Fillmore County Soil and Water Conservation District are helping landowners implement best management practices within the watershed to reduce soil loss and runoff to Trout Run Creek.

In the summer of 2007, project partners re-sloped and stabilized eroding banks and narrowed the stream channel in key areas to increase velocities to allow the stream to transport the fine sediments downstream. Rock weirs, boulder clusters, trees and other structures were placed in-stream to diversify habitat for brown trout and sculpin.

An existing cattle watering site was stabilized and two stream crossing locations were also repaired in this early phase of the project.

Various Trout Unlimited chapters, landowners and neighbors were able to participate in the transformation of the project area. Community workdays, restoration training days, and development of a training video will add to the valued accomplishment of improving stream health for fish and other aquatic species.

For more information on Trout Run, Fillmore County, and the "10 Waters to Watch" list visit www.fishhabitat.org

Action Plan

The National Fish Habitat Action Plan is built on a framework of National Fish Habitat Partnerships. These regional-scale efforts include the Southeast Aquatic Resources Partnership, Eastern Brook Trout Joint Venture, the Western Native Trout Initiative, the Midwest Driftless Area Restoration Effort and the Matanuska-Susitna Basin Salmon Conservation Partnership.

The Action Plan calls for the creation of at least 12 Fish Habitat Partnerships by 2010 to help identify the causes of habitat declines and implement corrective initiatives for aquatic conservation and restoration.

It's felt to be the most comprehensive effort ever attempted to treat the causes of aquatic habitat decline and fix the nation's most pressing fisheries problems. The Action Plan is a science-based investment strategy to conserve waterways and make conservation dollars stretch farther by combining federal and privately raised funds to build regional partnerships.

Since its launch two years ago, the Action Plan has received wide public support. To date, hundreds of partners have pledged their support including a range of organizations interested in the health of the nation's fisheries such as fishing clubs, international conservation organizations, federal agencies, angling industries and academia. Complete information on the scope of the plan is available at www.fishhabitat.org.

The Action Plan is complemented by the "More Fish" campaign administered by the National Fish and Wildlife Foundation, which is taking the lead in raising funds for these and other projects under the Action Plan. Information about the campaign can be found at www.morefish.org

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Fortifying the shore: MacDill calls in oyster reinforcements

By [Terry Tomalin](#), Times Outdoors Editor

Published Tuesday, December 30, 2008

MacDill Air Force Base

Five years ago, with every freighter that went in or out of Tampa Bay's main shipping channel, Gadsden Point lost a little sand. "It was getting pretty bad," said Peter Clark, executive director of Tampa Bay Watch. "We had palm trees falling into the bay." Hillsborough Channel Cut A is used by approximately 3,400 vessels a year. That amounts to one tug boat, barge, freighter or cruise ship every 2 1/2 hours. "And the channel is just a little over a mile away," Clark said as he stood on the eroding shoreline. "There is nothing to stop those wakes, some of which can be several feet high, from rolling in here and washing away the sand."

Oysters to the rescue

By best estimates, the MacDill area shoreline has been losing 1 foot of shoreline per year to beach erosion. In one particularly hard-hit area, the base's environmental team installed natural limestone rock to help stabilize the shoreline.

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"It helped stop the erosion," said Jason Kirkpatrick, MacDill's environmental program manager. "But we wanted to come up with a solution that would help re-establish natural habitat."

Kirkpatrick had heard about Bay Watch's success in making portions of the City of St. Petersburg's 288 miles of seawalls more environmentally sound through the use of Lo-Pro Reef Balls.

These man-made "oyster domes" are made from marine-friendly concrete (additives are used to neutralize the pH), which allows shellfish, in this case oysters, to take hold and grow.

"One oyster can filter up to 10 gallons of water an hour," said Clark, whose organization works to protect and restore marine and wetland environments in the bay. "So the more oysters you have, the cleaner the water."

In addition to improving water clarity, the oyster domes also help reduce wave action.

"Everywhere we have put them we have had great success," said Chris Sutton, who coordinates the environmental group's oyster dome program. "So if they worked on seawalls, why not as a breakwater?"

Volunteers needed

The typical oyster dome measures about 24 inches in diameter, 18 inches tall and weighs 75 pounds. The first stage of the MacDill restoration, which began in 2004, involved 910 units along 800 feet of shoreline.

"The oyster domes stabilize the shoreline and trap the sediment," Kirkpatrick said. "That allows the salt marsh grass a chance to return, and eventually mangroves."

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Phase II, completed in March 2005, added 395 feet of oyster shell bars. Phase III, completed in the fall of 2007, protected an additional 970 feet of shoreline.

"But this is our biggest project yet," Clark said of Phase IV, currently under way. "We couldn't do it without volunteers."

On a cool December morning, about 50 of MacDill's men and women turned out to help place the heavy oyster domes along the shoreline.

"It takes a lot of hands to place 3,899 oyster domes," Clark said of Phase IV. "When it is all over, we will have protected 1,890 feet of shoreline."

Salt marsh grass and mangroves

Oysters, by nature, are slow-growing creatures. Free-floating oyster "spat" float with the tide and eventually settle on a hard surface such as the concrete oyster domes. It then takes several years for the oysters to grow and colonize.

"This is a long-term solution," Kirkpatrick said. "You don't get instantaneous results."

But once the shoreline is stabilized, Bay Watch volunteers come in and plant *Spartina alterniflora*, or salt marsh grass, which then allows mangroves to take root.

"We also build oyster reefs in out of actual oyster shells," Clark said. "The oyster reefs, combined with our sea grass plantings, offer a total habitat approach."

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Tampa Bay Watch has plans for numerous projects on both sides of the bay in 2009.

"But with everything we do, we count on public support," Clark said. "We would never accomplish anything without our volunteers."

FAST FACTS

About Tampa Bay

- Tampa Bay is the largest open-water estuary in Florida, encompassing nearly 400 square miles and bordering three counties — Hillsborough, Manatee and Pinellas. The bay's sprawling watershed covers a land area nearly five times as large, at 2,200 square miles.
- More than 100 tributaries flow into Tampa Bay, including dozens of meandering, brackish-water creeks and four major rivers — the Hillsborough, Alafia, Manatee and Little Manatee.
- A single quart of bay water may contain as many as 1-million phytoplankton — microscopic, single-celled plants that are an essential thread in the "who eats who" marine food web.
- Mangrove-blanketed islands in Tampa Bay support the most diverse colonial waterbird nesting colonies in North America, annually hosting 40,000 pairs of 25 species of birds, from the familiar white ibis and great blue heron to the regal reddish egret, the rarest heron in the nation.
- Each square meter of bay sediment contains an average of 10,000 animals — mostly tiny, burrowing

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worms, crustaceans and other mud-dwellers that are known as benthic invertebrates. The most numerous creatures in the bay sediment are a primitive, fishlike invertebrate about 2 inches long called branchiostoma.

Source: Tampa Bay Estuary Program, www.tbep.org.

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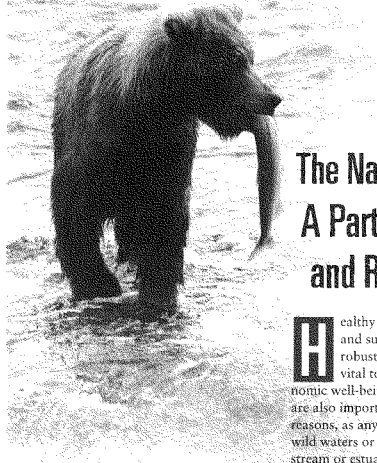
EcoLogic

BY JONATHAN HIGGINS

from *The Nature Conservancy*



Higgins



The National Fish Habitat Action Plan: A Partnership Approach to Protect and Restore Fish Populations

Healthy and clean waterways and sustainable fisheries with robust fish populations are vital to the physical and economic well-being of our society. They are also important for less tangible reasons, as anyone who has fished wild waters or canoeed a tranquil stream or estuary can attest. However, throughout the world, freshwater and coastal marine ecosystems are being impacted by ecologically unsustainable water and land use management practices, point sources of pollution, over-harvesting, direct habitat destruction, invasive species, and climate change. As a result, these ecosystems are losing their habitats and species faster than those on land, and they face increasing damage from these threats, affecting the benefits they provide to society. This is of huge concern to the 44 million anglers in the United States who pursue fish recreationally; the contribution of recreational and commercial fisheries to the US economy surpassed \$116 billion in 2003. More important, there are as many as one billion people in the world who depend on fish as a primary or sole source of protein or for income.

Sustaining waterways and fisheries for human use will require the protection and restoration of the world's freshwater ecosystems.

A COALITION RESPONSE

Determined to reverse the decline of the US fish population, a growing number of fisheries professionals, state and federal agencies, tribes, foundations, conservation and angling groups, businesses, and industries have joined together in support of the National Fish Habitat Action Plan. Development of the plan began in 2001 when an ad hoc group of fisheries interests, led by the Sport Fishing and Boating Partnership Council, explored the concept of developing a partnership for fish habitats. In its design, the plan embraces five important lessons that have emerged from the country's past efforts to protect and restore fish habitats:

- Be strategic rather than merely opportunistic.
- Address the causes of and processes behind fish habitat decline, rather than the symptoms.
- Provide increased and sustained investment to allow for long-term success.

- Monitor and be accountable for scientifically sound and measurable results.
- Share information and knowledge at all levels, from local communities to Congress.

Forged from past conservation successes and failures, the National Fish Habitat Action Plan is built on a set of principles that are integral to its mission and goals. The plan is partnership-driven, working at federal, state, tribal, and local levels to target new and existing funding and technical resources for fish habitat projects. It is science-based and uses existing and emerging scientific tools to target priority watersheds and implement needed projects, address causative factors, and design best management practices. All project outcomes are to be monitored and evaluated.

The plan is nonregulatory; it funds and supports projects that are developed voluntarily by willing partners and stakeholders. These voluntary projects will supplement the existing foundation of regulatory programs that protect aquatic habitats from pollution and degradation. The plan recognizes the need to support regional fish habitat initiatives on a long-term, sustained basis. It also understands the need to evaluate and report each project's performance and demonstrate overall results to Congress, all partners, and the general public.

MISSION AND IMPLEMENTATION STRATEGY

The mission of the National Fish Habitat Action Plan is to "protect, restore, and enhance the nation's fish and aquatic communities through partnerships that foster fish habitat conservation and improve the quality of life for the American people." The plan will be implemented through four key activities:

- Support existing fish habitat partnerships, and foster new efforts.
- Mobilize and focus national and local support for achieving fish habitat conservation goals.
- Measure and communicate the status and needs of aquatic habitats.
- Provide national leadership and coordination to conserve fish habitats.

All of these approaches will lead to actions that are strategically employed and results that can be measured against protection, restoration, and enhancement goals. Fish habitat partnerships are the primary work units of the National Fish Habitat Action Plan. These partnerships are

formed around important aquatic habitats and distinct geographic areas (e.g., Southeast Aquatic Resources Partnership) and "keystone" fish species (e.g., eastern brook trout, western native trout), or system types (e.g., large lakes, impoundments, estuaries). These fish habitat partnerships will:

- Provide leadership and help to develop fish habitat projects at regional and local levels.
- Complement other regional habitat conservation programs that promote cooperation and coordination leading to the enhanced protection of fish habitats.
- Engage people at the grassroots level to build support for fish habitat conservation.
- Involve diverse groups of public and private partners and focus them on conservation of fish habitats.
- Collaboratively develop a compelling strategic vision and implementation plan that is scientifically sound and achievable.
- Leverage the National Fish Habitat Action Plan and other sources of funding by building local and regional partnerships.
- Use adaptive management principles.
- Have the ability to develop appropriate regional habitat evaluation measures and criteria that are compatible with national measures.
- Address fish habitat conservation at scales necessary to make a difference.

BENEFITS AND STATUS OF THE ACTION PLAN

The expected benefits of protected and improved fish habitats are: clean and sufficient amounts of water; a critical measure of landscape health and the well-being of people; healthy, resilient habitats that are critical to fish and wildlife, water conservation, flood control, and people; improved recreational, commercial, and subsistence fishing, boating, and other uses of aquatic resources; and improved understanding of habitat connectivity and how aquatic systems function and are maintained.

There are more than 250 partners and stakeholders currently involved in coordination and implementation of the action plan, including representatives from conservation groups; industry personnel; federal, state, local, and tribal agencies and universities. There are now six recognized fish habitat partnerships: Southeast Aquatic Resources Partnership, Eastern Brook Trout Joint Venture, Western Native Trout Initiative, Midwest Driftless Area Restoration Effort, Matanuska Susitna Basin

EcoLogic

Salmon Conservation Partnership, and Southwest Alaska Salmon Habitat Partnership. An additional 14 candidate partnerships are in the process of seeking formal recognition from the national board. The action plan has been endorsed by the US secretaries of Commerce and Interior, along with the Association of Fish and Wildlife Agencies.

In the last Congress, Congressman Ron Kind (D-WI) and Congressman Wayne Gilchrest (R-MD) cosponsored the National Fish Habitat Conservation Act of 2008, a bill to codify the existing program. The House version was introduced by Senators Joe Lieberman (I-CT), Christopher Bond (R-MO), Hillary Rodham Clinton (D-NY), and George Voinovich (R-OH). New versions of these bills will be introduced this year in Congress.

A CALL TO ACTION

Aquatic ecosystem protection and restoration can benefit biodiversity, businesses, and society at large when pursued in a collaborative way with a broad suite of partners and stakeholders. Healthy aquatic systems provide abundant recreational and economic development opportunities for local communities; through the National Fish Habitat Action Plan, they can tap into new resources for protecting their rivers and lakes. To become involved with the National Fish Habitat Action Plan, visit www.fishhabitat.org.

—Jonathan Higgins is a senior aquatic ecologist for The Nature Conservancy. He may be contacted at (847) 651-8507 or at jhiggins@tnc.org.

SADLER: Protecting habitats a priority

TOM SADLER / TNV OUTDOORS COLUMNIST

Published: July 8, 2009

The National Fish Habitat Action Plan is one of the best efforts to address the challenges of conserving important aquatic habitat.

Protecting, enhancing and restoring aquatic habitat is important because it not only helps protect drinking water supplies that are essential for human health, it is the foundation for water-based recreation.

Those of us who hunt and fish know how important clean water, wetlands and the areas along our favorite rivers and streams are. We know firsthand that healthy aquatic habitat is a key factor in our hunting and fishing success.

Last month, I participated in a conference to review the status of the National Fish Habitat Action Plan. The conference, held in Leesburg, gave federal agency representatives, members of the various fish habitat partnerships and other stakeholders a chance to review what was working, to learn how to improve the effectiveness of the partnerships and to plan for the first major report to Congress.

The NFHAP has some important goals to achieve in the next year, including completing an analysis of the nation's fish habitats; identifying the priority fish habitats; establishing at least twelve Fish Habitat Partnerships in those priority areas; and preparing a "Status of Fish Habitats in the United States" report.

All this needs to be completed by the end of 2010. The good news is it looks like the NFHAP is on track to complete these tasks.

The National Fish Habitat Action Plan's mission is "to protect, restore and enhance the nation's fish and aquatic communities through partnerships that foster fish habitat conservation and improve the quality of life for the American people."

The NFHAP grew out of an initiative championed by the Association of Fish and Wildlife Agencies in September 2003. They took on the task of developing a national strategy and coordinating existing efforts into a cohesive initiative. The resulting National Fish Habitat Initiative became “a science-based, voluntary and non-regulatory, nationwide strategy.”

The initiative was endorsed by a variety of stakeholders, many State fish and wildlife agency leaders, national conservation organizations and Federal agencies such as the U.S. Fish & Wildlife Service, National Oceanographic and Atmospheric Administration, the U.S. Geological Survey, U.S. Forest Service and the Bureau of Land Management.

In April of 2006 the National Fish Habitat Action Plan was established by agreement with the Departments of Interior and Commerce and Association of Fish and Wildlife Agencies. A governing board was set up and guidelines for the establishment of recognized partnerships were created. Projects from the

various partnerships are reviewed by the NFHAP board who then make funding recommendations to the federal agencies.

Legislation, known as the National Fish Habitat Conservation Act, to codify the NFHAP and authorize project funding – at \$75 million annually - was introduced in Congress this spring.

Here in the Valley the Fish Habitat Partnership you are most likely to hear about is the Eastern Brook Trout Joint Venture. I am pleased to serve as the vice-chairman for the joint venture and am proud of the work that has been accomplished since it began.

Recently, the EBTJV recommended funding for a project here on the North River above Elkhorn Reservoir. The U.S. Fish and Wildlife Service approved that funding and the money should be available to the state soon.

Historically, sections of the North River were among the best and largest native brook trout water in Virginia. Back in the 1950s and 60s the North River was “straightened” so floodwaters could be quickly removed from a road that had been built in the flood plain.

The U.S. Forest Service has since relocated the road and the channels no longer are needed.

The state, working with the U.S. Forest Service and local conservation groups like Trout Unlimited are restoring sections of the river to the natural pool and riffle configuration and provide summer refuge for the brook trout. When the project is complete, several native brook trout tributaries will also have been connected.

We are fortunate here in the Valley to have an abundance of hunting and fishing opportunities. Because of the hard work of your friends and neighbors who support local hunting, fishing and conservation groups those opportunities will continue to improve.

Editor's Note: Tom Sadler is an avid fly-fisherman, guide and instructor and founder of The Middle River Group, an organization that provides diverse business expertise to the conservation and wildlife management community and the hunting, fishing and shooting sports industry.

Previously, he worked in Washington with several conservation groups including the Izaak Walton League and the Congressional Sportsmen's Foundation.

You can follow Tom Sadler on Twitter at <http://twitter.com/troutscout> or go to his blog at middlesriverdispatches.wordpress.com/. Tom Sadler can be reached by e-mail at sports@newsvirginian.com.



River cleanup projects benefit all in region

The Tribune-Democrat

May 19, 2009 02:45 pm

— We've long been big fans of the Stonycreek Conemaugh River Improvement Project and that group's many allies in the quest to reverse decades of river pollution in our region.

Appropriately, the agency was chosen for the 2009 Western Pennsylvania Environmental Award last week.

The honor came for efforts over many years to remove pollutants — especially acid-mine drainage — from the Stonycreek River system.

"We've made some tremendous progress on the Stonycreek, really turned that waterway around," said Len Lichvar, SCRIP chairman and district manager for the Somerset Conservation District.

On the same day SCRIP's award was reported on our front page, readers also learned that the Little Conemaugh River had been named one of 10 "Waters to Watch" for 2009 by the National Fish Habitat Action Plan, a federal effort aimed at enhancing aquatic habitat. The local river was the only one in Pennsylvania to earn that distinction. "Local watershed groups have put their efforts into projects like these, and this is very exciting," Dee Columbus, executive director of Cambria County's Conservation and Recreation Authority, told The Tribune-Democrat.

With SCRIP leading the way, our region has seen an amazing transformation in recent years. Once-dead rivers and streams now draw sportsmen and -women — with whitewater sports exploding in popularity.

Without the work of SCRIP and many other local groups and government entities, we would never have seen the excitement and economic impact brought by the Stonycreek Rendezvous and the general growth of boating in this area.

These efforts do much more than make the water suitable for fishing and boating. They elevate the overall quality of life here and bring tourism dollars to our communities. "People told us 20 years ago that we couldn't get to the point where we are now, that it was impossible," Lichvar said. "We proved them wrong."

Sure did. The fact that there is hope bubbling up along the orange and lifeless Little Conemaugh is proof that good things are happening.

Those who visit downtown Johnstown and see the Little Conemaugh and the Stonycreek merging behind Point Stadium witness the stark difference in water quality in the two rivers – as orange water from the north mixes with green water from the south.

The good news is that the Conemaugh River downstream is improving – thanks to the hard work of government agencies and community groups all along the two main feeder rivers and the many tributaries that pour into the Stonycreek and Little Conemaugh. “The Little Conemaugh has eluded us for some time in terms of getting the water quality back to the level we now see in the Stonycreek,” Lichvar said. “But efforts are ongoing.” Lichvar believes the progress made locally is proof that the government and the people can work together and accomplish much when many resources are brought to the task. “We proved that private-public partnerships can be effective,” he said.

In the past three decades, various conservation-oriented organizations have sprung up to join the fight against pollution. Among them are the Conemaugh Valley Conservancy, Cambria County Conservation and Recreation Authority, Southern Alleghenies Conservancy, Somerset County Conservancy and others. They have worked closely with agencies such as the state Department of Environmental Resources.

And wading into the mix have been watershed associations including the Shade Creek, Greater Johnstown, Loyalhanna, Blacklick Creek and Roaring Run groups – and many others.

“Nobody knows what needs to be done better than the people at the local level,” Lichvar said. “SCRIP has been a grass-roots activist organization from day one.”

SCRIP and its partners recently focused on water volume concerns brought on by the push to pull natural gas from the Marcellus shale underground. And an army of volunteers and professionals continue to work hard at improving water quality across the Cambria-Somerset region.

It is truly one of our region’s great success stories.

“It is an ongoing story,” Lichvar said. “But it’s a good one and a successful one. We haven’t achieved all of our goals yet. But we’ve achieved some successes.”

From the fisherman and the kayaker to the sporting-goods retailer, restaurateur and motel manager, we should all be thankful for the efforts of these people.

The Tribune-Democrat



DEP project may restore trout to Little Conemaugh

BY TED POTTS

The Tribune-Democrat

LLOYDELL August 15, 2009 12:23 am

— The second phase of a project to protect and restore native brook trout habitat in the South Fork headwaters of the Little Conemaugh River is on target for a fall start. That was the word Friday morning from Malcolm Crittenden, the state Department of Environmental Protection's watershed manager for Cambria County, during a tour of the headwaters site.

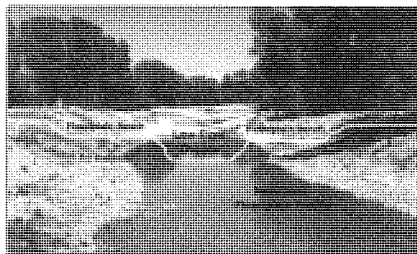
Crittenden said the project began in the fall of 2008 when a limestone pond was created to neutralize acid mine drainage. The brook trout are imperiled by acid mine drainage and sedimentation, he explained. The pond was constructed under auspices of the Little Conemaugh Watershed Association, Crittenden said.

This fall, members of Dunlo Rod & Gun Club will apply limestone sand to acidified tributaries of the headwaters, further neutralizing acid mine drainage. The third and final phase of the project will occur when the Pennsylvania Fish and Boat Commission installs fish habitat structures along the stream banks where erosion poses threats. The structures reduce sedimentation and provide cover for the brook trout, Crittenden said. This phase will take place in 2010.

The total project covers four miles of the South Fork headwaters. Total cost is about \$250,000, said Ryan Roberts, communications coordinator for the National Oceanic & Atmospheric Administration's Office of Habitat Conservation, who was among those at the site Friday.

Scott Alexander, aquatic biologist with the Department of Environmental Protection, said the purpose of the entire venture is to restore the Little Conemaugh from its headwaters to Johnstown. The project is being carried out through a grant from the Eastern Brook Trout Joint Venture under the National Fish Habitat Action Plan.

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Planning for a massive restoration effort in Teton Creek this summer, Friends of the Teton River has outlined the project's conceptual design here, east of the Aspen Pointe subdivision. The project aims to help link Teton Creek with the Teton River, promoting improved spawning habitat for native trout species.

Teton Creek restoration set as a priority

Major stabilization set to this fall

By Hope Strong

Permits are in hand and a September start date has been set for a \$1.65 million collaborative effort that will strive to take Teton Creek back in time by stabilizing what many believe to be the most crucial tributary to the Teton River.

For the past three years, Friends of the Teton River has been working with approximately sixty Teton Creek stakeholders from the private and public sectors on a project to restore the creek's damaged channel upstream of the bridge on Cemetery Road east of Driggs. The project is designed to stabilize the channel, increase fish habitat, improve water quality, reduce the risk of flooding and protect property. FTR will begin construction of the project this summer by re-shaping the channel, building pools and riffles, stabilizing banks using bio-engineering techniques, and planting native vegetation.

Teton County Road and Bridge has plans to place to replace the current Cemetery Road Bridge with a bridge twice the span, a move that should alleviate issues along that specific section of Teton Creek with regard to high water flows during spring runoff. Many of the issues upstream of the bridge were created when a developer redirected the creek years ago. Over a mile of Teton Creek was severely damaged when a developer straightened, widened, and dredged the stream. Beginning in 1980 and continuing through 2004, these actions destabilized the stream, causing bank failure, sedimentation, and the loss of fish habitat and streamside vegetation.

The developer's work has directly compromised Yellowstone Cutthroat Trout populations in the Teton Watershed, caused the loss of property along nearly four miles of stream, and increased the risk of flooding," according to Mike Lien, Stream Restoration Director for FTR. "This has become a community problem that requires a community-based solution to fix."

Part of the larger scientific community that has identified Teton Creek's dire situation is the National Fish Habitat Action Plan, which identified Teton Creek as one of its 10 "Waters to Watch" for 2009, among other rivers, streams, lakes, watershed systems and shores that would benefit from strategic conservation efforts to protect, restore or enhance their current condition. Along with the designation was \$10,000 from the

organization, which will be put toward the costly project.

"This brings national attention to the Teton Creek project, increasing public awareness and helping others learn how to go about a collaborative effort to restore a stream that has been destabilized," Lien said. "This is a huge endeavor. We've got commitments and in-kind donations for nearly \$300,000, and the feds could match that with \$450,000 in grants."

Despite the list of 20 individuals and organizations that have supported the Teton Creek project, more support is needed for this effort that could help bring back the numbers of native trout that have been in decline since the tributary was destabilized.

"Degradation of stream channels has contributed to a 95 percent decline in native Yellowstone cutthroat trout numbers in the Teton River," according to FTR. "Teton Creek, the largest of the Teton River headwater tributaries, is critical to cutthroat recovery since it is one of the only tributaries in Teton Valley that still has a cutthroat spawning run. Teton Creek also produces more juvenile cutthroat than any other tributary."

Teton Valley has been identified as a focal area under the Partners for Fish and Wildlife Strategic Plan, and within the Fish and Wildlife Service Cross Program Recovery

initiative Idaho and Wyoming recognize that Yellowstone cutthroat trout are a species of greatest concern. With all of the dramatic growth that Teton County is currently undergoing, this project would help stabilize habitat for species, as well as other aquatic species in this important tributary of the Teton River.

"We'll be going through an extensive bidding process for contractors who have experience with this sort of work," Lien said.

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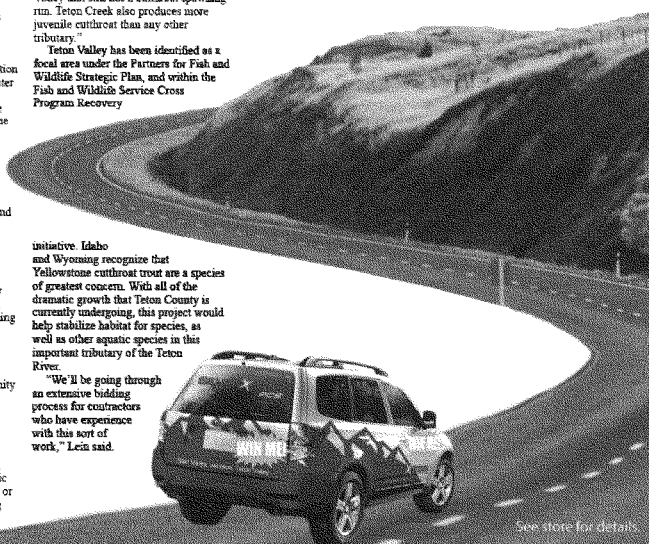
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Shaping the future for birds

September 22, 2009

The Honorable Ben Cardin
 Chairman, Water and Wildlife Subcommittee
 Environment and Public Works Committee
 United States Senate
 410 Dirksen Senate Office Building
 Washington, DC 20510-6175

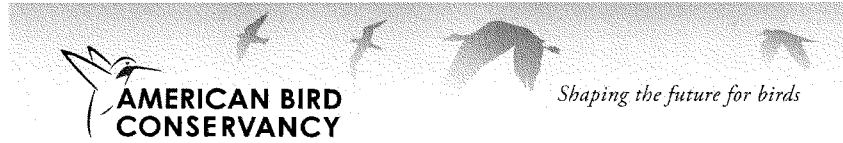
Dear Chairman Cardin:

As you know, migratory birds are not only beautiful and interesting creatures eagerly welcomed by millions of Americans into their backyards every year; they help generate billions of dollars annually to the U.S. economy through wildlife watching activities, and they help our farmers by consuming billions of harmful insect pests from many important commercial food crops and forests. American Bird Conservancy is writing to urge you to take action on H.R. 2188 "Joint Ventures for Bird Habitat Conservation Act" which was passed by the House of Representatives earlier this year. This bill would protect and conserve bird populations across the United States which we know, as a result of the recently released *U.S. State of the Birds* report by the U.S. Fish and Wildlife Service, are in decline. The report indicates that over two hundred species of birds in the United States are seriously decreasing in numbers, so passing this bill would be an important step in helping us meet the challenge of reversing this trend.

American Bird Conservancy (ABC) is a 501(c)(3), non-profit organization dedicated to the conservation of wild native birds and their habitats throughout the Americas. Founded in 1994, ABC has long been a leader in Partners in Flight and the North American Bird Conservation Initiative, and is the only U.S.-based group dedicated solely to overcoming the greatest threats facing native birds in the Western Hemisphere. ABC has over 8,000 members, with offices in Virginia and the District of Columbia, and additional staff in California, Missouri, Montana, Kentucky, North Carolina, Idaho, New Hampshire, New York, and Oregon.

American Bird Conservancy fully supports H.R. 2188, legislation authored by Rep. Frank Kratovil (D-MD) which would formally authorize a program that has been effectively carrying out bird conservation planning and projects since 1986. Joint Ventures (JVs) provide a logical and coordinated approach to conservation planning, implementation, and evaluation processes that are a proven success and have made a huge difference for bird conservation. By applying science and bringing people together, JVs across the U.S. have created a model for solving wildlife management problems and restoring habitats critical to conserving declining species.

Joint Ventures are regional partnerships involving federal, state, and local government agencies, corporations, tribes, individuals, and conservation organizations which advance conservation efforts and help identify local land use priorities. There are currently 21 JVs in the United States which provide coordination for conservation planning, and implementing projects that benefits birds and other species. JVs develop science-based goals and strategies, and a non-regulatory approach for achieving conservation planning and evaluation that addresses the needs of all priority bird species for a given region, includes participation by a broad array of stakeholders, and provides efficient and effective strategies for action. Nationally, JVs have protected, restored, or enhanced more than 13 million acres of important habitat for migratory bird species.



Maryland is primarily part of the Atlantic Coast Joint Venture (ACJV) which is focused on the conservation of habitat for native birds in the Atlantic Flyway of the United States from Maine south to Puerto Rico. The ACJV partnership has protected 158,000 acres in Maryland, and restored another 98,000 acres. The ACJV helps direct funding for the restoration of Chesapeake Bay such as land acquisition and supports projects to plant aquatic vegetation in the Bay benefitting birds and other wildlife.

The western end of Maryland is part of the recently-created Appalachian Mountains Joint Venture which is working to conserve species such as the Kentucky, Worm-eating, Prairie, and Golden-winged Warblers, Wood Thrush, American Woodcock, and American Black Duck. Nationally, Joint Ventures have directed \$4.5 billion in conservation spending from Federal grants and programs, state conservation dollars, and private donations and have protected, restored, or enhanced more than 13 million acres of important habitat for migratory bird species.

Joint ventures are unique in their ability to provide conservation partners with useful products of strategic conservation planning. The collaborative approach used by joint ventures to prepare and implement their conservation plans fosters consensus among individual agencies and organizations on a comprehensive landscape design and allows individual partners to integrate their programs and objectives into a broader effort. Furthermore, by harmonizing the efforts of individual partners, joint ventures promote efficient use of available resources and secure collective conservation impacts that exceed the sum of what partners could accomplish alone.

ABC urges you and your fellow committee members to favorably markup this important piece of legislation soon and work to ensure its final passage in the Senate.

Thank you for your time!

Sincerely,

A handwritten signature in black ink, appearing to read "Darin Schroeder".

Darin Schroeder
Vice President of Conservation Advocacy

cc: Chairwoman Barbara Boxer, Committee on Environmental Works

December 3, 2009

The Honorable Benjamin L. Cardin
Chairman
Water and Wildlife Subcommittee
U.S. Senate
Washington, DC 20510

The Honorable Mike Crapo
Ranking Member
Water and Wildlife Subcommittee
U.S. Senate
Washington, DC 20510

Dear Chairman Cardin and Ranking Member Crapo:

Our organizations, representing millions of Americans across the country, call for passage of S. 373 and H.R. 2811, amended to list as injurious under the Lacey Act the nine species studied by the U.S. Geological Survey in the report, "Giant Constrictors: Biological and Management Profiles and an Establishment Risk Assessment for Nine Large Species of Pythons, Anacondas, and the Boa Constrictor," dated 2009.

This comprehensive scientific risk assessment reviewed nine species of large constrictor snakes and found that all nine pose high or medium risk to our environment. Because of the characteristics of these snakes, none was found to be low risk. If these animals escape or are released they can have severe impacts on wildlife including depleting vulnerable species. Once they establish breeding populations, it may be impossible to remove them. Because of their large size they also pose a threat to people. They can potentially serve as hosts for ticks and disease that could affect other animals.

The USGS study leaves no doubt that action is urgently needed to halt the importation and interstate commerce for the pet trade of all the species studied: Indian or Burmese Python (*Python molurus*), Northern African Python (*Python sebae*), Southern African Python (*Python natalensis*), Reticulated Python (*Python reticulatus*), Boa Constrictor (*Boa constrictor*), Green Anaconda (*Eunectes murinus*), Yellow Anaconda (*Eunectes notaeus*), Beni or Bolivian Anaconda (*Eunectes beniensis*), and De Schauensee's Anaconda (*Eunectes deschauenseei*). If only some of these dangerous species are restricted, the trade will shift to others, and risks to the environment, public safety, and animal welfare will remain.

December 3, 2009

Page 2

The regulatory process to list species as injurious takes several years, and we cannot afford to wait. With the scientific evidence established, legislation is needed now to address the trade in large constrictor snakes as pets. Our organizations also support legislative and regulatory action to expedite the process to list species as injurious going forward. An ounce of prevention is worth a pound of cure. Had Burmese pythons been listed 20 years ago, the colonization of the Everglades National Park could have been avoided, along with tremendous ecological and financial costs.

We urge swift passage of S. 373 and H.R. 2811 with coverage for the nine large constrictor snake species studied by USGS.

Animal Welfare Institute
Born Free USA
Defenders of Wildlife
Florida Animal Control Association
Great Lakes United
Humane Society Legislative Fund
The Humane Society of the United States
National Audubon Society
National Environmental Coalition on Invasive Species
Natural Areas Association
Natural Resources Defense Council
The Nature Conservancy
Sierra Club
Union of Concerned Scientists

October 2, 2009

The Honorable Ben Cardin
Chairman, Water and Wildlife Subcommittee
Environment and Public Works Committee
United States Senate
410 Dirksen Senate Office Building
Washington, DC 20510-6175

Dear Chairman Cardin:

On behalf of the undersigned Bird Conservation Alliance members, we are writing to encourage your leadership in advancing H.R. 2188, the Joint Ventures for Bird Habitat Conservation Act, which has been passed unanimously by the House of Representatives. This bill would protect and conserve bird populations across the United States that are in serious decline and help reverse this disturbing trend.

The Bird Conservation Alliance (BCA) is a network of 195 bird conservation organizations, scientific societies, environmental groups and birding clubs working together to conserve wild birds. The endorsing groups fully support this bill that would authorize a program that has been successfully carrying out bird conservation planning and projects since 1986. Joint Ventures (JVs) provide a coordinated approach to conservation planning and implementation that have been a proven success for bird conservation. JVs across the U.S. have created a model for solving wildlife management problems and restoring habitats critical to conserving declining species.

Joint Ventures are regional partnerships involving federal, state, and local government agencies, corporations, tribes, individuals, and conservation organizations, which advance conservation efforts and help identify local land use priorities. Currently there are 21 JVs in the United States, which provide coordination for conservation planning and implementing projects that benefits birds and other species. JVs have protected, restored, or enhanced more than 13 million acres of important habitat for migratory bird species across the country.

The collaborative approach used by JVs to prepare and implement their conservation plans fosters consensus among individual agencies and organizations on a comprehensive landscape design and allows individual partners to integrate their programs and objectives into a broader effort. Joint Ventures promote efficient use of available resources and secure collective conservation impacts that exceed the sum of what partners could accomplish alone.

Much is at stake. Migratory birds help generate \$122 billion dollars in spending annually by attracting wildlife watching activities, a contribution to the U.S. economy that amounts to about one percent of our Gross Domestic Product. Birds also provide essential ecosystem services such as pollination, seed dispersal, and pest control.

We encourage your leadership in advancing this critically important legislation and look forward to working with you to ensure its passage in the United States Senate.

Thank you for your outstanding leadership in protecting America's birds and their habitats for future generations.

Sincerely,

Darin Schroeder
Vice President of Conservation Advocacy
American Bird Conservancy

Mike Daulton
Legislative Director
National Audubon Society

Robert Dewey
Vice President of Government Affairs
Defenders of Wildlife

Laura M. Bies
Director of Government Affairs
The Wildlife Society

Allan Mueller
Conservation Chair
Arkansas Audubon Society

Bob Lukinic
President
Southern Maryland Audubon Society

William P. Mueller
Conservation Chair
Wisconsin Society for Ornithology

Brian Allen
Manistee and Benzie Audubon Clubs, Michigan.

Kay Charter
Executive Director
Saving Birds Thru Habitat

Paul Hunter
Secretary
Milwaukee Olmsted Bird Conservation Alliance of Wisconsin

Judy Pollock
President
Bird Conservation Network

Constantino Auca Chutas
Presidente
ECOAN

Elizabeth Hurst-Waitz
Chapter President
Central New Mexico Audubon Society

Philip N. Witmer
Delaware Valley Ornithological Club

Stephen Eccles
Chair, Conservation Committee
Virginia Society for Ornithology

Jack Clarke
Director of Public Policy and Government Relations
Mass Audubon

Caroline Goldman
Executive Director
HawkWatch International

Glenda Booth
President
The Friends of Dyke Marsh

Rodney Siegel, Ph.D.
Executive Director
The Institute for Bird Populations

David Harrison
Conservation Chair
Salem Audubon Society

Judy Pollock
Director of Bird Conservation
Audubon Chicago Region

Bill Stewart
Conservation Chair
Delmarva Ornithological Society

Patricia Knight
Chief Operations Officer
Songbirds of Northern Indiana, Inc.

Prof. William JL Sladen
President
Swan Research Program, Inc

Catherine Rich, J.D., M.A.
Executive Officer
The Urban Wildlands Group

Glenn Phillips
Executive Director
New York City Audubon

John Cornely
Executive Director
The Trumpeter Swan Society

Dan Silver
Executive Director
Endangered Habitats League

Cc: Chairwoman Barbara Boxer, Committee on Environmental Works

December 1, 2009

The Honorable Benjamin L. Cardin
Chairman
Water and Wildlife Subcommittee
U.S. Senate
Washington, DC 20510

The Honorable Mike Crapo
Ranking Member
Water and Wildlife Subcommittee
U.S. Senate
Washington, DC 20510

Dear Chairman Cardin and Ranking Member Crapo:

My name is Russell R. Burton my primary address is 16203 Avenida del Luna, San Antonio TX 78232. I retired from the U.S. Air Force after serving as Chief Scientist of the Armstrong Laboratory, Brooks AFB, TX. My education is a BS in Veterinary Science; MS in Animal Physiology, DVM, and PhD in Animal Pathology all from the University of California at Davis (UCD).

My professional career spanned 36 years including ten years research at the UCD as an animal pathologist involved in understanding physiologic stress and adaptation in animals exposed to restraint and altered environments. My 29 years research with the USAF included similar research objectives with animals and humans (pilots of high performance aircraft). I have published well over a hundred peer-reviewed research articles and several book chapters on those research topics receiving numerous awards over the years for my research accomplishments.

During my seven years of retirement, I have become a volunteer docent at the San Antonio Zoo. This experience caused an interest in large pythons. The zoo has a twenty-foot Reticulated Python that is fed a 35 pound dead pig every three months. The snake eats this large pig whole within the hour. This pig is similar in size to a small child.

This letter is in support of S. 373/H.R. 2811 a Bill to List Pythons as an Injurious Animal. I have read the testimonies presented to the U.S. House of Representatives Committee on Judiciary, Subcommittee on Crime, Terrorism, and Homeland Security. The majority of these testimonies have clearly established that giant constrictors including several not listed in the fore mentioned Bill are injurious animals.

Accordingly the importation and interstate commerce for purposes of the pet trade of the nine species of large constrictor snakes identified as high or medium risk by the U.S. Geological Society should be prohibited.

In addition to the information listed in those testimonies in support of this Bill, I offer the following:

- Approximately 1.3 million reptiles are imported into the U.S. each year – many illegally. Of these, many are large constrictor snakes. As cited in the testimony of George Horne, 144,000 Boa Constrictors alone were imported over a seven year period from 2000-2007.
- Of those large numbers imported many others died before they reached the U.S. Snakes may enter the U.S. sick and spread disease.
- The capture of exotic animals for shipment to become ‘pets’ in many cases has depleted their natural populations to the point of endangerment.
- Even though many of these countries may prohibit the exportation of these animals they lack the resources to enforce these laws.
- These snakes have infrared sensing capabilities and can therefore ‘see’ in the dark. This ability is essential for their existence as they usually live in darken environments where normal vision is not useful. Since their primary food sources are birds and mammals (warm-blooded animals) infrared sensing is most useful in tracking down and killing their prey. Nighttime is of course when many mammals are most vulnerable including humans.
- The evidence presented by the testimonies shows these snakes are dangerous killers. They kill a human on the average of one each year and seriously attack several others. Incidentally, I don’t know of a killer that is not dangerous.
- The horrible incident that occurred in July, 2009 of the small girl being killed by a small python is direct testimony to their killer instincts especially when they are irritated or hungry. That small snake was underweight thus suggesting that it was hungry. If this snake had been 12-14 feet long (a two to three year old python), it could have eaten that little girl after killing her.
- It is unfortunate that these many people, killed by large constrictors, have become nothing more than a statistic. These people struggled with these huge snakes as they were strangled by ten thousand contracting muscles that had surrounded their bodies. As they attempted to inhale to cry-out for help the snake simply increased its chest constriction until the lung volume could no longer support the amount of air necessary for their survival. Each struggled, terrified, grasping at the huge tense muscles surrounding their body until they became unconscious – soon dying. Some may have been attacked by the hundred needle like teeth that assist the snake in swallowing its prey whole. These snakes can strike out 5-6 feet in distance with their open mouth inflicting in humans tremendous

physical damage such as destroying a face not to mention the horrible pain.

- It is unfortunate that these animals have become dangerous killers. They certainly didn't want to be here, but they are here and they are killing Americans.

S. 373/H.R. 2811 addresses only a small part of the problem of the importation of exotic animals but this is a beginning. In the future when a small child is killed and eaten by one of these large constrictors (and it will happen one day) the public will want to know what legal steps had been taken by Congress (or defeated) to control these killers.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Burton". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Russell R. Burton, DVM, PhD



Voicing Mission
PRAC Conservation Science
River Partners
The Trust for Public Land

California Riparian Habitat Joint Venture
c/o The California Wildlife Conservation Board
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Sacramento, California 95611-7137
www.wcb.ca.gov
www.rhvj.org

October 29, 2009

The Honorable Ben Cardin
Environment and Public Works Committee
United States Senate
410 Dirksen Senate Office Building
Washington, DC 20510-6175

Dear Senator Cardin:

I am writing to express the California Riparian Habitat Joint Venture's support for H.R. 2188 "Joint Ventures for Bird Habitat Conservation Act" which has already been passed by the House of Representatives. This bill would authorize a program that has been successfully carrying out bird conservation planning and projects since 1986.

It is important to note that migratory birds help generate billions of dollars annually to the U.S. economy through wildlife watching activities. A recently released report by the U.S. Fish and Wildlife Service shows one out of every five Americans watches birds, and in doing so, birdwatchers contributed over \$36 billion to the U.S. economy.

The California Riparian Habitat Joint Venture (CRHJV) is a collaborative of state and federal resource agencies and nonprofit conservation organizations that are united in a mission to protect and restore riparian habitats in California. Joint Ventures (JV's) provide a coordinated approach to conservation planning and implementation that have been a proven success for bird conservation. JV's across the U.S. have created a model for solving wildlife management problems and restoring habitats critical to conserving declining species. The CRHJV was founded in 1994, originally as an initiative of California Partners in Flight, focusing on neotropical migratory birds that depend upon the state's remnant riparian forests and meadows. In the last few years we have expanded our focus to include all riparian-dependent fish and wildlife species. The CRHJV was based upon the successful model of California's Central Valley Joint Venture, but our area of interest includes all of California. Our members have been delivering riparian conservation on thousands of acres of private and public land for many years.

In addition to delivering restoration and enhancement projects, the CRHJV has focused on using the best available science in the management of riparian habitat. We developed the Riparian Bird Conservation Plan in 2004, followed by our adoption of the National Research Council's unifying definition of riparian. This definition is now being used to develop a statewide mapping system for California. In 2008 the CRHJV introduced the Riparian Restoration Handbook, an excellent tool for anyone who is preparing to implement a restoration project.

The Honorable Ben Cardin
Page 2

In closing, the CRHJV represents the conservation community in California, and we support this legislation wholeheartedly. If there is a way to recognize and support the CRHJV under this statute, we would appreciate that as well. We urge you and your fellow committee members to favorably markup this important piece of legislation soon and work to ensure its final passage in the Senate. If you have any questions, please contact me at (530) 894-5401, ext. 224, or jcarlon@riverpartners.org.

Sincerely,

A handwritten signature in black ink, appearing to read "John Carlon", with a stylized flourish extending to the right.

John Carlon, Chairperson
California Riparian Habitat Joint Venture

cc: Chairwoman Barbara Boxer
Committee on Environmental Works

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September 4, 2009

The Honorable Ben Cardin
United States Senate
509 Hart Senate Office Building
Washington, DC 20510

Dear Senator Cardin:


We write to express our strong support for H.R. 2188 and the companion legislation we understand that you are considering introducing in the Senate. H.R. 2188 -- the Joint Ventures for Bird Habitat Conservation Act of 2009 -- would formally authorize Joint Ventures (JVs) that support migratory bird conservation partnerships. We believe that JVs are an important part of the North American Wetlands Conservation Act (NAWCA) program and encourage your leadership on this issue in the U.S. Senate.

The U.S. Fish and Wildlife Service's (USFWS) current JV program is a terrific operating model, where local and regional consortiums of skilled and involved people are operating with a real focus on specific wetlands conservation & restoration issues. The JV Boards help develop regional priorities and strategies to achieve them, in addition to ranking NAWCA projects. Across the country, the JV Boards consist of representatives from State agencies, the USFWS and other federal agencies such as Natural Resource Conservation Service, and national conservation organizations like The Conservation Fund.

NAWCA does not provide specific authority or funding for the regional JVs, and they have had to fight each year to be in the USFWS budget or receive an earmark through Congress for their operations. Therefore, we believe that H.R. 2188 is essential to the continued success of NAWCA and other wetlands and migratory bird conservation efforts in the States and regions and we encourage your support for this legislation.

We appreciate your continued commitment to protecting natural resources and your efforts to leave a legacy for future generations.

With kindest personal regards,



Patrick F. Noonan
Chairman Emeritus

cc: The Honorable Frank Kratovil
Dan Sakura, Vice President for Government Relations, The Conservation Fund

24 November 2009

U.S. Senate Committee on Environment and Public Works
410 Dirksen Senate Office Bldg.
Washington, DC 20510-6175

Chairwoman Boxer, Ranking Member Inhofe, Subcommittee Chairman Cardin and
Subcommittee Ranking Member Crapo,

We write in regard to S. 373, a bill to amend title 18, United States Code, to include constrictor snakes of the species *Python* genera as an injurious animal. As scientists who have worked with reptiles including those cited in S. 373, we express our reservations regarding the document recently released by USGS as an "Open-Report", titled *Giant Constrictors: Biological and Management Profiles and an Establishment Risk Assessment for Nine Large Species of Pythons, Anacondas, and the Boa Constrictor*.

Simply put, this report is not a bona-fide "scientific" paper that has gone through external peer review. Part of this report is fact-driven, described by the authors as "traditional library scholarship." By the authors' admissions, there are surprisingly little data available regarding the natural history of these species. In their attempt to compile as much information as possible, the authors draw from a wide variety of references, ranging from articles published in peer-reviewed professional journals to far less authoritative hobbyist sources, including popular magazines, the internet, pet industry publications, and even various media sources. While such an approach is inclusive, it tends to include information that is unsubstantiated and, in some cases, contradicts sound existing data.

As scientists whose careers are focused around publishing in peer-reviewed journals and providing expert reviews of papers submitted to these journals, we feel it is a misrepresentation to call the USGS document "scientific". In fact, much of this report is based on an unproven risk assessment model that produces results that contradict the findings presented in a recently published scientific paper that used a more complex and superior model (see: Pyron R.A., F.T. Burbrink, and T.J. Guiher. 2008. Claims of Potential Expansion throughout the U.S. by Invasive Python Species Are Contradicted by Ecological Niche Models, PLoS One 3: e2931. doi:10.1371/journal.pone.0002931). Unfortunately, the authors of the USGS document limit their reference to this scientific work to an unsubstantiated criticism. To the contrary, this alternate model is validated by its relatively accurate prediction of the natural distribution of the species in question (something the USGS model does not even attempt). Furthermore, despite its conclusion of a limited potential distribution of Burmese pythons in the United States, the model presented by Pyron et al. accurately predicts the presence of Burmese pythons in the Everglades.

The USGS model likely provides a gross overestimate of potential habitat for these snake species. People throughout the United States keep pythons as pets, yet the only known breeding populations in the United States are in the Everglades. Such a wide distribution of potential sources of invasion, but only a localized invasive event, suggests that factors beyond those used in the USGS model are critical to limiting the suitability of habitat for pythons. The authors even state that climate is only one factor of several that affect the distribution of an animal, yet they develop a model that only uses overly simplistic climatic data (e.g., the climatic data did not take

seasonality into consideration).

We are further concerned by the pervasive bias throughout this report. There is an obvious effort to emphasize the size, fecundity and dangers posed by each species; no chance is missed to speculate on negative scenarios. The report appears designed to promote the tenuous concept that invasive giant snakes are a national threat. However, throughout the report there is a preponderance of grammatical qualifiers that serve to weaken many, if not most, statements that are made.

We fully recognize the serious concerns associated with the presence of persistent python populations in southern Florida. As top predators, these animals can and will have a dramatic impact on the community of wildlife that lives in the Everglades. Inaccurately extending this threat to a much larger geographic area is not only inappropriate, but likely takes needed focus away from the real problem in the Everglades.

In conclusion, as written, this document is not suitable as the basis for legislative or regulatory policies, as its content is not based on best science practices, it has not gone through external peer-review, and it diverts attention away from the primary concern. We encourage the USFWS and USGS to submit this document to an independent body for proper and legitimate peer review. Additionally, we encourage the Committee to review this document, not as an authoritative scientific publication, but rather as a report currently drafted to support a predetermined policy.

Signed:

Elliott Jacobson, MS, DVM, PhD, Dipl. ACZM
Professor of Zoological Medicine
University of Florida

Dale DeNardo, DVM, PhD
Associate Professor School of Life Sciences
Arizona State University

Paul M. Gibbons, DVM, MS, Dipl. ABVP (Avian)
President-Elect, Association of Reptilian and Amphibian Veterinarians
Interim Regent, Reptiles & Amphibians, American Board of Veterinary Practitioners
Director, Exotic Species Specialty Service
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Chris Griffin, DVM, Dipl. ABVP (Avian)
President, Association of Reptilian and Amphibian Veterinarians
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Griffin Avian and Exotic Veterinary Hospital

Brady Barr, PhD
Resident Herpetologist
National Geographic Society
Endangered Species Coalition of the Council of State Governments

Crocodylian Specialist Group
Warren Booth, PhD
Invasive Species Biologist
Research Associate
North Carolina State University
Director of Science
United States Association of Reptile Keepers

Ray E. Ashton, Jr.
President
Ashton Biodiversity Research & Preservation Institute

Robert Herrington, PhD
Professor of Biology
Georgia Southwestern State University

Douglas L. Hotle
Curator of Herpetology/Conservation/Research
Natural Toxins Research Center
Texas A&M University

Francis L. Rose (Retired), B.S., M.S. (Zoology), PhD (Zoology)
Professor Emeritus
Texas State University

CC:

The Honorable Bill Nelson, U.S. Senator (FL)
The Honorable Ken Salazar, Secretary, U.S. Dept of the Interior
Director Marcia McNutt, U.S. Geological Survey
Director Sam Hamilton, U.S. Fish & Wildlife Service



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September 23, 2009

The Honorable Ben Cardin
Chairman, Environment and Public Works Water and Wildlife Subcommittee
United States Senate
509 Hart Senate Office Building
Washington, DC 20510

Dear Chairman Cardin:

On behalf of National Audubon Society's more than one million members and supporters, I write today in support of HR 2188, the Joint Ventures for Bird Habitat Conservation Act. This important legislation would support one of America's most successful programs for encouraging cooperative and strategic efforts to advance bird conservation, and we encourage your leadership in advancing this legislation in the U.S. Senate.

The Joint Ventures provide a critically important forum for federal, state, local, and regional partners to coordinate and improve the effectiveness of bird conservation efforts. Taking advantage of cooperatively developed tools for strategic targeting of bird conservation efforts such as the Western Hemisphere Shorebird Reserve Network and the Important Bird Areas program, the 18 habitat-based joint venture partnerships in the United States have protected, restored, or enhanced nearly 16 million acres of migratory bird habitat. Audubon strongly supports House-passed committee report language providing additional clarity regarding the flexibility of the joint ventures to support these crucial conservation strategies.

HR 2188 provides important new congressional authority for the successful joint venture partnerships that will provide a strong basis for the program's continued success. We urge your support for the legislation.

You have our sincerest gratitude for your continued leadership in advancing the conservation of America's birds and our country's great natural heritage.

With best regards,
Michael J. Daulton
Legislative Director

164



San Francisco Bay Joint Venture
735 B Center Blvd.
Fairfax, CA 94960
(415) 259-0334 phone
(415) 259-0340 fax

Date: November 5, 2009

To: Senator Benjamin Cardin
Phone: 202-224-4524
Fax: 202-224-1651

From: Beth Huning
San Francisco Bay Joint Venture
Phone: (415) 259-0334
Fax: (415) 259-0340

SUBJECT: Joint Venture Authorizing Legislation, H.R. 2188

Number of pages (including this one): 2



MANAGEMENT BOARD:

Bay Area Audubon Council
 Bay Area Open Space Council
 Bay Planning Coalition
 Citizens Committee to
 Complete the Refuge
 Ducks Unlimited
 National Audubon Society
 DRRD Conservation Science
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 Coastal Region, Mosquito &
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 National Fish and Wildlife
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 Conservation Service
 Regional Water Quality Control
 Board, SF Bay Region
 San Francisco Estuary Project
 U.S. Army Corps of Engineers
 U.S. Environmental
 Protection Agency
 U.S. Fish & Wildlife Service
 Wildlife Conservation Board

November 4, 2009

The Honorable Benjamin Cardin
 United States Senate
 509 Hart Senate Office Building
 Washington, DC 20510

SUBJECT: Joint Venture Authorizing Legislation, H.R. 2188

Dear Senator Cardin,

I am writing on behalf of the Management Board of the San Francisco Bay Joint Venture (SFBJV) to thank you for sponsoring the Joint Venture Authorizing legislation in the US Senate and to let you know that our Management Board fully endorses authorizing the Joint Venture program through the US Fish and Wildlife Service.

The Joint Ventures are ever increasingly becoming the model for conservation delivery. Joint Venture authorizing legislation would formalize this highly successful program that delivers conservation through non-regulatory, voluntary partnerships. As you know, H.R. 2188 passed the House on a vote of 400-0, a testimony to the widespread, bi-partisan support for the program. Authorizing legislation will formalize this highly successful program.

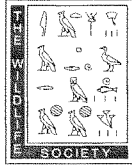
The SFBJV is a partnership of non-governmental organizations, utilities, landowners, and non-voting agencies others seeking to collaborate to acquire, restore and enhance wetlands and wildlife habitat within its geographic region, San Francisco Bay and the Central California coast. The SFBJV is one of 18 habitat joint ventures in the United States, operating under the certification of the North American Waterfowl Management Plan, a Congressional agreement between the United States, Canada, and Mexico. The goal of the San Francisco Bay Joint Venture is to protect, restore, increase and enhance all types of wetlands, riparian habitat and associated uplands throughout the San Francisco Bay region to benefit birds, fish and other wildlife. The Management Board consists of 26 agencies and private organizations whose members agree to support and promote the goal and objectives of the Joint Venture and who represent the diversity of wetlands interests found in the San Francisco Bay Area.

Our Implementation Plan, *Restoring the Estuary*, calls for protecting, restoring, and enhancing 200,000 acres of wetlands and riparian habitat for the benefit of birds and other wildlife. The SFBJV is successfully working to meet our goals, and have already protected, restored, and enhanced close to 70,000 acres. Although the restoration projects themselves are carried out by our partner organizations and agencies, it is through the partnerships formed by the SFBJV that the projects are achieved.

We thank you for sponsoring the Senate version of H.R. 2188 and look forward to working with you toward its passage. If you have any questions about the SFBJV or our support of the legislation, please feel free to contact our Coordinator, Beth Huning at bhuning@sfbayjv.org.

Sincerely,

Frederic A. Reid, Ph.D.
 Chair



THE WILDLIFE SOCIETY

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 E-mail: tws@wildlife.org

3 December 2009

The Honorable Benjamin L. Cardin
 Chairman
 Water and Wildlife Subcommittee
 509 Hart Senate Office Building
 U.S. Senate
 Washington, D.C. 20510

Dear Chairman Cardin:

The Wildlife Society appreciates the Subcommittee's attention to S.373, legislation that would amend Title 18 of the U.S. Code to include constrictor snakes within the *Python* genus as injurious animals. Constrictor snakes, such as the Burmese Python, are not native to the U.S. and pose countless risks to native wildlife and ecosystems if they become established here. We would like to take this opportunity to express our support for S. 373 and present our recommendations for expanding its coverage.

The Wildlife Society was founded in 1937 and is a non-profit scientific and educational association of nearly 9,000 professional wildlife biologists and managers, dedicated to excellence in wildlife stewardship through science and education. Our mission is to represent and serve wildlife professionals—the scientists, technicians, and practitioners actively working to study, manage, and conserve native and desired non-native wildlife and their habitats worldwide.

A recent report released by the U.S. Geological Survey (USGS), "Giant Constrictors: Biological and Management Profiles and an Establishment Risk Assessment for Nine Large Species of Pythons, Anacondas, and the Boa Constrictor," outlines the risks posed by these species to the stability of native ecosystems, and the potential threats to human safety. The nine constrictor species in the *Python*, *Eunectes*, and *Boa* genera examined by the study are dietary and habitat generalists, tolerant of urbanization, grow rapidly, produce many offspring, and can potentially carry diseases and parasites that affect native reptiles and other native wildlife.

All nine of the species examined by the study present a medium or high ecological risk and pose the threat of becoming established in the U.S. Their adaptability, lack of natural predators, and tolerance of a wide range of environmental conditions, are valid predictors for giant constrictor species becoming invasive in the U.S. Whether any reactionary control method would be successful in eliminating established giant constrictor snakes in the U.S. is unknown. Giant constrictors like the Burmese Python and the Yellow Anaconda are well-camouflaged and difficult to detect and trap. The report draws upon examples of past unsuccessful eradication

attempts of the Brown Treesnake in Guam, the Boa Constrictor on Cozumel Island in Mexico, and others, to demonstrate the difficulties experienced in previous control measures.

We encourage the swift markup and passage of S. 373. While we commend its sponsors for introducing this much-needed initiative, The Wildlife Society is concerned that the legislation will only address a fraction of injurious constrictor snake species. Therefore, we recommend that S. 373 also include the nine species of constrictor snakes included in the USGS study: Indian or Burmese Python (*Python molurus*), Northern African Python (*Python sebae*), Southern African Python (*Python natalensis*), Reticulated Python (*Python reticulatus*), Boa Constrictor (*Boa constrictor*), Green Anaconda (*Eunectes murinus*), Yellow Anaconda (*Eunectes notaeus*), Beni or Bolivian Anaconda (*Eunectes beniensis*), and De Schauensee's Anaconda (*Eunectes deschauenseei*). Such action will help to effectively mitigate the potential impacts these species have on native wildlife if their importation remains unregulated. According to USGS, the pet trade is the only plausible mechanism of establishment of these species, and so it is crucial to impose stricter regulations on the industry. Proactive regulation of the importation of non-native species is vital to maintaining the integrity of our ecosystems.

Thank you for considering the views of wildlife professionals. We have attached our position statement on invasive plants and animals to this letter. Please feel free to contact Laura Bies (301-897-9770 ext. 308 or laura@wildlife.org) if you have any questions, or to let us know if we can be of any more assistance.

Sincerely,



Bruce Leopold, President

Letters of Support for H.R. 2188

National NGO's

- The National Audubon Society
- The American Bird Conservancy
- The Conservation Fund
- Bird Conservation Alliance (which includes)
 - National NGO's
 - Defenders of Wildlife
 - The Wildlife Society
 - Saving Birds Thru Habitat
 - Bird Conservation Network
 - ECOAN
 - HawkWatch International
 - The Institute for Bird Populations
 - Swan Research Program, Inc.
 - The Trumpeter Swan Society
 - Endangered Habitats League
 - Regional NGO's
 - Arkansas Audubon Society
 - Wisconsin Society for Ornithology
 - Milwaukee Olmsted Bird Conservation Alliance of Wisconsin
 - Manistee and Benzie Audubon Clubs, Michigan
 - Central New Mexico Audubon Society
 - Delaware Valley Ornithological Club
 - Virginia Society for Ornithology
 - Mass Audubon
 - The Friends of Dyke Marsh
 - Salem Audubon Society
 - Audubon Chicago Region
 - Delmarva Ornithological Society
 - Songbirds of Northern Indiana, Inc.
 - The Urban Wildlands Group
 - New York City Audubon

Joint Ventures

- San Francisco Bay Joint Venture
- California Riparian Habitat Joint Venture



THE NATIONAL PET ASSOCIATION
ADAM WYSOCKI, PRESIDENT & CEO

TESTIMONY

S. 373, A bill to amend title 18, United States Code, to include constrictor snakes of the species Python genera as an injurious animal

**Senate Committee on Environment & Public Works
Subcommittee on Water & Wildlife
Legislative Hearing**

December 3, 2009

Chairman Cardin, Ranking Member Crapo, and members of the Subcommittee, my name is Adam Wysocki and I am the President of the National Pet Association. Thank you for the opportunity to present testimony on S. 373, a bill to amend title 18, United States Code, to include constrictor snakes of the species Python genera as an injurious animal.

The National Pet Association (NatPET) is the United State's first non-profit national pet protection organization that not only focuses all of it's efforts and resources on protecting pets, but assisting and supporting pet owners as well. NatPET represents owners of all of the different types of pets currently being kept in over 71 million American households.

On behalf of the members of the National Pet Association, I would like to respectfully submit our opposition to S. 373. Our opposition does not intend to downplay the real problems that invasive species pose for our nation's ecosystems. There is little doubt that the establishment of Burmese pythons in the Everglades poses a serious risk to the balance of the park's ecosystems. However, as my testimony will show, S. 373 as written is overly broad and will do nothing to solve Florida's Burmese python problem.

The evolution of pets in America

The United States has a history rooted in pets. It is recorded that in 1620 the Mayflower landed on the shores of the new world with two dogs on board, an English Mastiff and an English Springer Spaniel. Over a century later, a group of rural farmers named Washington, Jefferson, Adams, Madison, and Franklin forged a future of Independence and Democracy for America while owning pets such as dogs, horses, and exotics such as parrots, squirrels, and mocking birds.

In time, rural farms evolved into urban neighborhoods and cities that sprung up rapidly across the country. As the farm houses of our forefathers morphed into smaller, single family homes, townhouses, condominiums, and apartments, the nature of the pets that Americans kept evolved as well. Pets that require the open space of farm land were not an option for two income, suburban families whom have small yards and work long hours away from home. Large dogs, horses, mules, and chickens were replaced with smaller, more manageable pets like ferrets, parrots, and reptiles. Exotic animals have become a wonderful option for millions of Americans.

When it comes to exotic pets none are more misunderstood and discriminated against than snakes, especially very large species of snakes. Many people that either have a fear of snakes or do not have direct experience with snakes often ask why someone would want to keep a large snake as a pet. The answer is probably no different than the one you would get asking a dog owner why they would choose to keep a 240lb English Mastiff instead of a 18lb Jack Russell Terrier. For some that answer would probably have something to do with the impressive size, or the uniqueness of owning such a large animal as a pet, for most that answer is freedom.

Unlike many countries around the world, America's pet owners are free to consider keeping many different types of animals as pets. It's a freedom that is cherished by pet owners who work hard, take care of their families, and keep their pets responsibly.

The Everglades National Park

Much of the advocacy for a python specific amendment to the Lacy act is justified by the wild populations of Burmese pythons in the Everglades and the speculation over the damage that the snakes will do to south Florida's ecosystems. For this reason it is important to understand the events that led to the current state of the Everglades.

In 1947 Marjory Stoneman Douglar wrote, "What had been a river of grass and sweet water that had given meaning and life and uniqueness to this enormous geography through centuries in which man had no place here was made, in one chaotic gesture of greed and ignorance and folly, a river of fire" in her now famous book "The Everglades: River of Grass". The beginnings of the ecological disaster that Ms. Douglar describes can be traced back to 1882 when man first began to divert and drain the waters of the Everglades for agricultural or residential use. In 1905 Florida Governor Napoleon Bonaparte Broward ordered the creation of "The Empire of the Everglades" through a massive drainage program that fueled the ecological disaster in the Everglades on an unprecedented scale. The water drainage and diversion, the canals, the levies,

and the dams led to severe wildfires and drought. Unregulated hunting of alligators, birds, frogs, and fish on a massive scale in the 1930's and 1940's furthered the devastation. By the 1960's entire populations of native birds had disappeared completely from the Everglades, almost 20 years before the first wild sighting of a non-native constrictor snake in Florida.

Understanding the full history of the ecological problems that have plagued south Florida's ecosystems for over a century when discussing S. 373 is critical, because many of the proponents of this resolution applaud it as a solution to southern Florida's ecological problems. Those advocating in favor of S. 373 claim that the constrictor snakes in the Everglades pose a threat to the environment and as a result qualify their listing as an injurious species. The reality is that the impact of these animals in Florida's southern most ecosystems is still unknown. There are many theories that seek to put blame on the unknown number of pythons in the Everglades, but weighed against the damage done to native wildlife by man, the 1.25 million alligators, other native invasive species such as coyotes, and invasive plants it may never be possible to accurately assess the impact of Florida's Burmese pythons.

A Lack of Sound Science

The US Fish & Wildlife Service defines injurious wildlife in this way: "Injurious wildlife are mammals, birds, amphibians, reptiles, fish, crustaceans, mollusks and their offspring or gametes that are injurious to the interests of human beings, agriculture, horticulture, forestry, wildlife or wildlife resources of the United States." At this time, the sole evidentiary basis that proponents of S. 373 are using to advocate its passage is a document recently released by USGS as an "Open-Report", titled Giant Constrictors: Biological and Management Profiles and an Establishment Risk Assessment for Nine Large Species of Pythons, Anacondas, and the Boa Constrictor.

While the USGS document as a whole is certainly an ambitious attempt at gathering all of the known published information on the nine largest species of constrictor snakes, it is fraught with errors, unknowns, and uncertainty. As recently of the 24th of November 2009, a group of 11 internationally respected herpetologists, biologists, zoologists, exotic species veterinarians, and invasive species specialists sent a letter to the House Subcommittee currently considering H.R. 2811 calling the USGS document "unscientific". The group of scientists cites the lack of peer-review of the USGS document, the "pervasive bias" throughout the report, as well as the use of non peer-reviewed reference material that include hobbyist sources, popular magazines, media sources, and unsubstantiated internet web sites.

The gross overestimates of potential habitats for the snakes in question are likely the result of the USGS documents failure to utilize all available science

and consider all possible factors when drawing its conclusions. There is already one published counter study that uses the popular and respected ecological niche models for predicting the geographic range of a species. The ecological niche model used takes into account 19 different climatological variables in contrast to the two factors used in the USGS document.

Even without an intimate knowledge of herpetology, climatology, or the science of invasive species, a cursory review of the USGS document by a layman reveals its many flaws. There are numerous times the authors specifically state that no data exists to support their conclusions. The document is filled with numerous broad and overreaching statements about the “uncertainty” behind many of the assumptions they make in order to support their conclusions. The authors go so far as to let themselves off the hook for any possible erroneous assumptions on page 3 where they boldly state: “Risk assessment, by its very nature, entails uncertainty”.

The USGS document is in agreement with the rest of the scientific community is when it comes to the risks US citizens face when it comes to constrictor snakes. The authors of the document state: “We do not anticipate *P. molurus* becoming a significant source of human mortality in the United States”, “all known human fatalities are associated with pet manipulation, not unprovoked attacks”, “We are unaware of any well-documented attacks by free-ranging yellow anacondas on humans”, “there are no well-documented fatal attacks by green anacondas”, “most giant constrictors’ impact on human health will be in the realm of feared attacks rather than actual unprovoked events”, “the number of actual attacks is likely to be small”. Their statements echo the sentiment of most experts including Officer Linda Friar of the Everglades National Park (ENP) who in a recent interview on behalf of the ENP about Burmese pythons in the Everglades stated: “I don’t think they’re a big threat”.

Given the extremely large documented numbers of constrictor snakes kept in American households over the past three decades, there have been extremely few accidents. This demonstrates the responsible way in which almost the entire majority of python owners in the United States keep their animals.

With a true threat to human health in serious doubt and no sound scientific evidence to validate the belief that constrictors have the ability to survive outside of south Florida, the statement on page 68 of the USGS document, that declares “Burmese pythons are unlikely to have a dramatic impact on forestry, agriculture, or horticulture”, the only question remaining is whether these animals pose a threat to wildlife. While plenty of theories exist about the potential damage to wildlife that could be done by feral populations of pythons, there is little to no scientific evidence to support those theories. At this point, there isn’t an accurate count of the number of pythons living in the south Florida. While a small number of individuals have been quoted in the media declaring that there are 180,000

Burmese pythons living in the Everglades, the Everglades National Park Service biologists and the Humane Society of the United States have publicly put the number of actual pythons at closer to 10,000. Without an accurate assessment of the true number of pythons in the Everglades, a realistic and accurate impact on wildlife will remain unknown.

An Ineffective Solution

We respectfully submit that S. 373 will not solve the problems it is intended to.

On November 6th, 2009 the House of Representatives Judiciary Committee, Subcommittee on Crime, Terrorism, and Homeland Security held a hearing on H.R. 2811 (which also seeks to amend title 18, United States Code, to include constrictor snakes of the species Python genera as an injurious animal). At the hearing under questioning from Representative Louie Gohmert, the Deputy Director of the U.S. Fish and Wild Dan Ashe stated that stopping the import and interstate transport of pythons will not solve the problems caused by feral pythons in the Everglades nor would it even reduce the numbers of feral pythons currently established there. As Ranking Member Gohmert observed “the cat is already out of the bag”.

While stopping the legal importation of pythons may be possible, it will most likely spark a new breed of illegal smugglers seeking to profit from bringing prohibited animals into the country. The unregulated and underground trade in these animals will cause many pythons to face inhumane transport conditions and as a result many animals will die in transport. The end result is that pythons will still make it into the United States but there will be no way to track their numbers, account for where they are, or have any idea who has them.

The larger problem with S. 373 is the problem of enforcing an interstate transport ban. With multiple hundreds of thousands of pythons and boas already living in American households it is absolutely impossible to prevent people from putting their snake in a “snake bag”, boxing it up, and placing it in the back seat of their car. With such a large, firmly rooted base of pet pythons having existed in the country for decades, an interstate transport ban would literally become an enforcement nightmare.

Hurting American Pet Owners

An interstate transport ban on animals that are so firmly rooted and established as pets in our countries households places an unreasonable hardship on responsible, pet loving Americans. Since a Lacey Act amendment makes absolutely no provisions for pet owners, people that have owned their pythons for ten or even twenty years will no longer enjoy the freedom of being

able to move to a new state with their pet. Faced with new job opportunities, family emergencies, or personal crisis, pet owners that need to move to a new state will be forced to make a choice between taking their beloved pet with them and committing a felony or leaving their pet behind.

Active duty service men and women who enjoy living in off base housing and keeping pet pythons will be hurt by the passage of S. 373. Our active duty service members are often asked to move between duty stations in other states and if they own a pet python, they will also be forced to leave it behind.

In the case of natural disasters, many evacuation routes take evacuees across state lines. Pet owners would not be able to take their pythons with them as a result of S. 373. Python owners forced to leave their animals behind in a natural disaster area could further compound the problem S. 373 was intended to solve.

An Inhumane Future

By prohibiting interstate transport of pet pythons, S. 373 if passed will be inhumane.

Abandonment and euthanasia are sad, inhumane side effects of the passage of an interstate transport ban on pythons. Owners forced to move to another state will be faced with either having to release their pythons into neighborhoods and nearby woodlands or even worse, kill their pets to alleviate perceived suffering as a result of letting them go.

Even more inhumane is the lack of access to specialized veterinary care that will result as a result of passing S. 373. Often, exotic animals like pythons require highly specialized veterinary care that isn't always available in an owners home state. Owners of exotic pets often transport or even ship their sick pets to veterinarians in a different state for treatment. S. 373 will deny many animals access to the specialized veterinary care they need resulting in their slow and painful deaths due to illness.

Effective Solutions

The National Pet Association is thankful to the Subcommittee members for their interest in addressing the presence of Burmese pythons in the Florida Everglades. NatPET is supportive of effective solutions to problems identified by open, peer-reviewed scientific findings. We believe the most effective and efficient way to deal with invasive issues is through collaborative efforts that bring together Federal, State, and independent organizations. The large, established base of pet pythons and their owners must be taken into consideration when considering national legislation to address this issue.

The National Pet Association is supportive of initiatives that include but may not be limited to: compulsory identification systems, inventory of individual specimens in private collections, Federal limits or restrictions on importation, caging standards, disaster planning requirements, as well as other options offered that do not put unreasonable restrictions on responsible python ownership.

Conclusion

On behalf of the National Pet Association (NatPET), thank you for providing us with the opportunity to share our thoughts and concerns regarding S. 373. Despite our objections to S. 373, we are committed to working with your Subcommittee to address this important environmental issue.

We feel that we have raised a number of valid issues regarding S. 373 and the serious repercussions it will have on the tens of thousands of responsible American python owners.

We believe more effective solutions can be found that yield an overall better result. To that end, we recommend the formation of a working group comprised of committee staff, concerned State and Federal agencies, members of the scientific community, and interested independent organizations. The National Pet Association would be honored to host and facilitate this collaborative effort that can develop sound recommendations for a real solution to address the problem of Burmese pythons in the Florida Everglades.

Giant Constrictors: Biological and Management Profiles and an Establishment Risk Assessment for Nine Large Species of Pythons, Anacondas, and the Boa Constrictor

Authors: Robert N. Reed and Gordon H. Rodda, USGS, Fort Collins Science Center

Overview: This report compiles summaries of the biology of nine very large constrictor species and considers what effects these species might have on the ecology and economy of the United States were such snakes to become established. The report contains introductory materials and detailed descriptions of methods used, followed by a detailed review evaluating whether any available control tools are likely to be effective for eradicating a widespread population of giant constrictors were they to become established. The bulk of the report consists of biological and management profiles that summarize what is known (and not known) about these species. Information from the biological and management profiles was then incorporated into a formal risk assessment following guidelines published by the multi-agency Aquatic Nuisance Species Task Force in 1996. The risk assessment evaluates each species according to multiple factors associated with either *risk of establishment* or *consequences of establishment*, and concludes with an Organism Risk Assessment that assigns risk as low, medium, or high for each species.

Species assessed: Indian or Burmese Python (*Python molurus*), Northern African Python (*Python sebae*), Southern African Python (*Python natalensis*), Reticulated Python (*Broghammerus/Python reticulatus*), Green Anaconda (*Eunectes murinus*), Yellow Anaconda (*Eunectes notaeus*), Beni or Bolivian Anaconda (*Eunectes beniensis*), Deschauensee's Anaconda (*Eunectes deschauenseei*), and Boa Constrictor (*Boa constrictor*).

The selection of these giant constrictor species was based on concern over the size of the potential invaders combined with their prevalence in international trade. Many of these large snakes are popular as pets, and are associated with a large domestic and international trade. Over the past 30 years, about a million individuals of these nine species have been imported to the United States, and current domestic production of some species likely exceeds import levels. The international trade in reptiles as pets is the primary pathway by which these species enter the country.

Populations in the United States: An invasive population of the Indian (or Burmese) Python is now distributed across many thousands of square kilometers of south Florida, while Boa Constrictors are established in Miami; additionally, recent evidence strongly suggests a reproducing population of Northern African Pythons on the western boundaries of Miami. There is as yet no evidence for populations of the various anacondas or the Reticulated Python, although representatives of both groups have been captured or sighted in the wild in Florida and elsewhere.

Giant constrictors as invaders: As compared to many other vertebrates, giant constrictors pose a relatively high risk as potential invasive species, especially in terms of risk to stability of native ecosystems. Because there are no native snakes that reach similar sizes, giant constrictors represent a novel predation risk to native prey species, and their remarkably broad diets would

allow them to consume most native birds and mammals. Giant constrictors potentially represent a serious threat to birds and mammals of conservation concern, especially for threatened or endangered species in wetlands or those on islands. Some of the giant constrictors are known to reach relatively high densities in their native ranges, and this trend is reinforced by the apparent high densities of invasive Burmese Pythons in parts of south Florida. While a few of the very largest species have been known to attack humans in their native range, such attacks appear to be rare. Most of these species are difficult to detect in the field, complicating efforts to delineate incipient populations or deplete populations through visual searching and removal of individuals. There are no available control tools that would appear adequate for eradication of an established population of giant snakes once they have spread over a large area. Overall, giant constrictors share a suite of characters that increase their potential risk as invasive species and/or exacerbate the challenge of controlling or eradicating them, including the following:

- Rapid growth and large body size
- Habitat generalists
- Dietary generalists, sit and wait predator
- Early maturation and high reproductive output
- Low detectability in the field
- Moderate to high population densities
- Capacity for long-distance movement
- Hosts or vectors for diseases of agricultural or wildlife significance
- Tolerant of urbanization

Climate matching for invasive giant constrictors: Climate extrapolations were used to estimate those areas of the United States exhibiting climates similar to those experienced by the species in their respective native ranges. Considerable uncertainties exist about the native range limits of many of the giant constrictors, and myriad factors other than climate alone can influence whether a species can establish a population in a particular location. Climate extrapolations are therefore most profitably compared among species to infer the relative geographic risks associated with establishment in the United States, rather than being used as rigorous predictors of exactly where a species can establish a population. Based on climate alone, many of the species are likely to be limited to the warmest areas of the United States, including parts of Florida, extreme south Texas, Hawaii, and insular territories. For a few species, however, larger areas of the continental United States appear to exhibit suitable climatic conditions.

Results: High-risk species are Burmese pythons, northern and southern African pythons, boa constrictors, and yellow anacondas. High-risk species, if established in this country, put larger portions of the U.S. mainland at risk, constitute a greater ecological threat, or are more common in trade and commerce. Medium-risk species were reticulated python, DeSchauensee's anaconda, green anaconda, and Beni anaconda. These species constitute lesser threats in these areas, but still are potentially serious threats. Because all nine species share characteristics associated with greater risks, none was found to be low-risk.



Giant Constrictor Risk Assessment: Frequently Asked Questions

See the full report at *Giant Constrictors: Biological and Management Profiles and an Establishment Risk Assessment for Nine Large Species of Pythons, Anacondas, and the Boa Constrictor* at http://www.fort.usgs.gov/Products/Publications/pub_abstract.asp?PubID=22691

For U.S. Fish Wildlife Service information on injurious wildlife, visit <http://www.fws.gov/Contaminants/ANS/ANSInjurious.cfm>

Q: Why did you do the study that resulted in this report?

USGS research participation was requested by the U.S. Fish and Wildlife Service and National Park Service because those agencies were faced with a number of complex questions about how they should respond to the presence of giant constrictors in the U.S. and the prospect of additional giant constrictor species in the wild. These agencies particularly wanted USGS to address risks to wildlife, ecosystems, and human safety.

Q: What will the Risk Assessment report be used for?

The Risk Assessment will be used to assist resource management agencies in developing management actions concerning the snakes when and where these species appear in the wild. It also provides up-to-date and authoritative information for use in evaluating prospective regulations that might prevent further colonization of the U.S. by these snakes.

Q: How risky are the nine giant constrictor species you examined? And which ones pose the most serious threats?

High-risk species are Burmese pythons, northern and southern African pythons, boa constrictors, and yellow anacondas. High-risk species, if established in this country, put larger portions of the U.S. mainland at risk, constitute a greater ecological threat, or are more common in trade and commerce. Medium-risk species were reticulated python, DeSchaunsee's anaconda, green anaconda, and Beni anaconda. These species constitute lesser threats in these areas, but still are potentially serious threats. Because all nine species share characteristics associated with greater risks, none was found to be low-risk.

Q: Why were there no snakes in the low-risk category?

The nine large snakes studied in the Risk Assessment were found to share several traits that increase their risk of establishment, increase the damage they might do, or make eradication difficult. Specifically, these snakes:

1. Grow rapidly to a large size (some individuals of these species surpass 20 ft in length and 200 lbs in weight);
 2. Are habitat generalists (they can live in many kinds of habitats and have behaviors that allow them to escape freezing temperatures);
 3. Are dietary generalists (can eat a variety of mammals, bird, and reptiles);
 4. Are arboreal (tree-living) when young, which puts birds and arboreal mammals such as squirrels and bats at risk and provide another avenue for quick dispersal of the snakes;
 5. Are tolerant of urbanization (can live in urban/suburban areas);
 6. Are well-concealed “sit-and-wait” predators (difficult to detect, difficult to trap due to infrequent movements between hiding places);
 7. Mature rapidly and produce many offspring (females can store sperm and fertilize their eggs—which in some of these snakes can number more than 100—when conditions are favorable for bearing young);
 8. Achieve high population densities (greater impact on native wildlife); and
 9. Serve as potential hosts for parasites and diseases of economic and human health significance.
- Had they not possessed these features, they might have constituted a low risk.

Q. Now that the report is done, what is the next step for USGS?

The authors of this work are researchers whose responsibility is to apply the best science to key ecological management problems of our time. Research into invasive reptile species can take many forms. For example, the authors are well aware that many aspects of risk assessment are not as refined as one would like. The authors are therefore studying a variety of ways of improving the science of invasive species risk assessment. They are also studying ways of improving the control of invasive snake populations, such as the Burmese python, boa constrictor, and northern African python in Florida, three species of watersnake in California, and the brown treesnake in Guam. However, this report will also be used by other agencies, such as the U.S. Fish and Wildlife Service, to consider educational and regulatory initiatives that might be taken to keep the U.S. safe from harm by invasive species.

Giant Snakes

Q: What does “giant” mean and why did you only look at giant snakes?

The selection of giant constrictor species was based on concern over the size of the potential invaders combined with their prevalence in international trade. We include the four largest species of snake, as well as similar and closely related species, and the boa constrictor. The four largest snakes are the true “giants,” with maximum lengths well exceeding 20 feet or 6 meters: northern African python (*Python sebae*), Indian python (*Python molurus*, which includes *P. m. bivittatus*, the Burmese python), reticulated python (*Broghammerus* or *Python reticulatus*), and green anaconda (*Eunectes murinus*). We selected the species not only for their size, but also for their likelihood of establishment. In the known occupied range in Florida, there are records of snakes more than 17 ft long.

The boa is very large, much more commonly owned, and already established in Florida; thus it is a species of special concern. In addition to the four true giants and the boa constrictor, we included four species that are so similar in appearance to one of the giants that they might be confused with them. In some cases, these “look-alike” species are not even distinguished in the international live animal trade.

We also chose to look at very large snakes because these species have no ecological equivalent among native snake species in the United States. Because of this, they pose a special hazard to native wildlife that has never encountered such huge predators before. They may also present a small safety risk to people. Other non-native snake species may also be of concern, but these will have to be addressed in future studies.

Q: Are any of these giant snakes in the wild? How many?

An invasive population of the Burmese python is now distributed across thousands of square miles of south Florida, while boa constrictors are established south of Miami. Additionally, recent evidence strongly suggests a reproducing population of northern African pythons on the western boundaries of Miami. There is currently no evidence of breeding populations of the various anacondas or the reticulated python, although representatives of both groups have been captured or sighted in the wild in Florida and elsewhere. Accurate population estimates for any of these species in Florida are difficult to calculate because, despite their size, the snakes are difficult to find in the wild. However, based on the extent of the Burmese python population, experts estimate that a population of tens of thousands now lives in the wild in Florida.

Q: What do these giant snakes eat?

Giant constrictors are generalist feeders on vertebrates, especially birds and mammals. Some lizards, turtles, and crocodylians are also eaten, and some anacondas regularly eat fish.

Q: Is it normal for giant constrictors to feed at night?

Giant constrictors search for prey using vision, chemical receptors, and heat sensors. They can hunt in the day or in the night.

Q: Will these snakes compete in places where they overlap (e.g., African rock pythons against Burmese pythons)? Or do they have different lifestyles? Could they potentially hybridize?

The northern African python and Burmese python are very closely related to each other (two twigs on the same evolutionary branch). As far as we know, they have the same lifestyle but perhaps slightly different habitat preferences and may have different behaviors that help them regulate their body temperature as well. We do not have enough information to determine how they would interact as species, as they have not previously been found together. There is a possibility that they would hybridize, but the ecological consequences of that possibility would not be predictable with the information presently available.

Risks to Ecosystems and Wildlife

Q: The report says that quite a few of these snakes pose potentially high risks to wildlife. What does that mean?

The practice of keeping a non-native animal in an area where it might survive in the wild runs the risk that, should the animal escape or be intentionally released, it could survive, reproduce, and establish populations in the wild, as Burmese pythons have in the Florida Everglades. Non-native species can be extremely detrimental to native species, and some non-native species can transmit serious diseases.

Giant constrictors are capable of eating almost every type of land-dwelling vertebrate where they occur, but they are more likely to eat birds and mammals. If a bird or mammal is already rare (perhaps because of habitat loss, or competition or predation from another introduced species), the addition of a novel predator could tip the balance against the native prey species.

For example, the endangered Key Largo woodrat, which occurs naturally only on Key Largo in the Upper Florida Keys, has lost much of its natural habitat to development, and is harmed by competition from introduced black rats, which are now many times more abundant than the native woodrat. When a python reaches Key Largo, it has many black rats to eat, but will take native woodrats when the opportunity arises. It might even *prefer* to take the relatively defenseless woodrats. Woodrats may be more vulnerable to predation by giant constrictors than non-native black rats because black rats arose in south Asia (in the presence of the pythons), whereas Key Largo woodrats arose on Key Largo, where pythons or large constrictors did not occur. Rats are a primary food for pythons, and if left unchecked, the pythons might become so numerous on Key Largo that the endangered woodrat population would be unable to survive python predation. This same pattern could be replicated for other endangered or at-risk species in the United States.

Q: How could these giant snakes change South Florida's ecosystems? What about other ecosystems?

The most likely avenue for ecosystem change would be that introduced giant constrictors would change food webs by eliminating or depleting vulnerable native species. If enough species are lost, entire ecosystem processes could be changed. For example, on Guam the introduced brown treesnake has eliminated most native vertebrates (birds, bats, and lizards) that pollinate trees and flowers. Consequently, these native animals are not available to disperse seeds. As a result, some of the native trees have greatly declined in abundance, and may disappear.

Similarly, as fish-eating birds have been lost from Guam, the natural nitrogen transport from aquatic and marine systems to bird rookeries on land has been lost as well. Some Burmese pythons in the Everglades accumulate extremely high levels of mercury in their body tissues, potentially poisoning higher level predators that might eat them, such as alligators and panthers. We do not yet know how a specific system in South Florida would be disrupted by the addition of a novel predator, but from experience with other ecosystems disturbed by introduced snakes we know that serious disruption is a distinct possibility.

Q: Are there other invasive snakes in the country that people should be concerned about? What ones?

Any animal can be problematic when released in places where it is not native. The safest policy is to find an appropriate home for any animal that is no longer wanted. Disposal in the wild can do great environmental harm. For example, the brown treesnake was introduced to the American island of Guam shortly after World War II; it has decimated the native birds, mammals and lizards of Guam, such that only a few small species remain. Fifty years after the snake was introduced, Guam had lost 10 of its 12 native forest birds, most of its bats, and about half of its native lizards. The python introduction to Florida is so recent that the tally of victims cannot yet be made. Similarly, it is too early to determine if the three watersnake species introduced into California (including one species from Florida) will result in any extinctions. Free-ranging snakes representing dozens of species from around the world are discovered in the United States in any given year, usually as a result of escapees or releases from the pet trade, but most of these don't appear to have established a reproductive population.

U.S. Areas at Risk: The Climate Maps

Q: USGS generated climate maps that show that other places besides Florida might be at risk. What areas of the U.S. and its territories are most at risk and why?

In terms of the number of giant constrictor species that are climatically matched to a given locality, the areas most at risk are Florida, extreme southern Texas, Hawaii, and America's tropical islands. However, many other areas with mild winters are potentially vulnerable to colonization by at least one of the giant constrictors. A single giant constrictor species may be sufficient to produce many undesirable effects on the local ecosystems and economies should it become established in an area.

Q: How reliable and accurate are these maps? Does this mean we will get these snakes if we live in, for example, Texas?

The science of invasive species prediction is in its infancy. Many factors besides climate can play a role in determining whether a given species will be successful in a given place. The data tell us that species with wider climatic tolerance are more likely to be successful in a wider variety of American landscapes, but we have too little information to be sure that any given species will or will not survive in a particular place.

Q: Can you tell me how you made these maps?

The basic method was to identify the seasonal range of temperature and rainfall patterns (called the "climate envelope") that are found in the places where the species is native. We then considered each square kilometer of the United States and asked whether the climate experienced by that American locality was within the climate envelope derived from the species' native range. If the U.S. area was inside the range of conditions experienced by the snake in its native range, we tentatively registered that square kilometer of the U.S. as suitable for that species of snake. For more scientific and statistical details, please see Chapter 2 of the Risk Assessment report at http://www.fort.usgs.gov/Products/Publications/pub_abstract.asp?PubID=22691

Control of Snakes

Q: Is it possible to eradicate these snakes once they are in an area?

No one has eradicated an invasive snake from any area greater than a few acres through purposeful control measures. Large-scale efforts are just recently underway for these particular giant constrictor species. Scientists familiar with snake-eradication techniques suggest that if eradication is to be successful, it should be conducted when the snake population is still very localized, preferably occurring over no more than a few acres in size. Unfortunately, snake populations are rarely detected until they have spread over a much larger area, such as has occurred with the Burmese python in Florida. Ongoing research may provide new tools that lead to eradication success. In the meantime, agencies such as the National Park Service and others are actively testing and applying control and eradication techniques.

Q: What should areas of the country at risk do? Is there anything they can do in advance?

Scientists believe that prevention is more effective than a cure in the case of non-native reptiles. Avoiding release or escape of pets is a crucial element for ensuring that non-native species do not occur in the wild and therefore cannot colonize. Everyone can do their part to ensure that non-native species are not released into the wild.

Q. What about the Burmese pythons? Is control working for them?

Since no tools have been refined and implemented for control of Burmese pythons, it is too early to determine whether some of the tools undergoing development and testing may ultimately prove successful.

Human Risk

Q: Which of these snakes is the largest and potentially the most dangerous to people?

None of these snakes pose more than minimal risk to human safety. Human fatalities from non-venomous snakes in the wild are very rare, probably only a few per year worldwide. However, though attacks on people are improbable, they are remotely possible given the large size that some individual snakes can reach. The reticulated python is the world's longest snake (adult females may exceed 26 feet); the green anaconda is the world's heaviest snake (upwards of 250 pounds). The snake most associated with unprovoked human fatalities in the wild is the reticulated python, though unprovoked fatalities are known for Burmese and both African pythons as well. Known fatalities caused by these snakes in the wild, though rare, have occurred in the snakes' native ranges. Although the green anaconda is the heaviest snake, there are no well-documented unprovoked fatal attacks by green anacondas on humans. Furthermore, it is not a widely held pet, and it prefers tropical bodies of fresh water that are relatively uncommon in the United States. On the other hand, some of the smaller species (e.g., yellow anacondas) that are extremely unlikely to attack humans are more likely to find suitable habitat in the United States; therefore, yellow anacondas constituted a higher ecological risk.

All known fatalities *in the United States* are from captive snakes, typically while a snake owner is consciously interacting with the animal in some way. The simplest and surest way to reduce the remote risk of human fatalities is to avoid interacting with a giant constrictor. Overall, the risk of attack is miniscule, but because many suburban areas, backyards, and similar areas in Florida include ponds, canals, or other bodies of water where giant snakes would likely feel at home, the situation is similar to that experienced with alligators: attacks are highly improbable but possible in any locality where the animals are present.

Q: This new species, the northern African python (also called the African rock python), sounds particularly dangerous. Is it?

The African pythons are often described as exhibiting unpredictable defensive behavior in captivity, but there's no information to suggest that free-ranging African pythons are more or less likely to attack humans than are Burmese pythons. The situation is somewhat similar to that occurring in human-alligator interactions. There are rare fatalities recorded, but it is often difficult to determine what precipitated the incidents.

More typical python prey in Florida tends to be rabbits, wading birds, and rodents. We know from press and other accounts that there have been deaths of a few infants, children, adolescents, and adults from pet pythons in this country, but USGS does not track this kind of information. Such attacks are usually defensive and have largely occurred when owners are handling the snakes. A recent exception occurred when a pet python escaped its cage and strangled a 2-year-old girl in the same home. This tragic and unusual incident demonstrates that predatory attacks by Burmese pythons on small people are a possibility, though the rarity of such reports suggests that it is highly unlikely.

Q: I've read reports about the recent documenting of the African rock python in Florida and that it is much more aggressive than the Burmese python. What does this mean? Also, can the two snakes interbreed and what would this mean?

Captive northern African pythons (often called African rock pythons) have the reputation of being more prone to biting their owners than Burmese pythons, but this does not necessarily equate to more aggressive behaviors among wild northern African pythons. While there are a few documented attacks on humans in Africa, such attacks are extremely rare as compared to deaths by other wild animals in Africa. In captivity, hybrids between these two species have been observed, but we do not know if the hybrids are fertile or if they are as healthy as their parents. Scientists are concerned about hybridization because it raises the possibility of combinations of traits appearing in the wild that are not now known to exist in nature. Many of the world's worst invasive plant species are hybrids that possess trait combinations unknown in the parental stock. It is very difficult to predict the effects of hybridization between two species of pythons.

Q: If these snakes are active night and day, and if they can live in relatively urban areas, do you expect they will live in cities, such as in South Florida?

Boa constrictors and northern African pythons live in the Miami metropolitan area. The various python species and boa constrictor are often found living in suburban and urban areas in their native ranges. The anacondas live primarily in large wetland areas in their native range and

would likely do the same in urban and non-urban areas of the United States if they colonized the U.S. As with alligators, the risk of human attack in urban areas is very small.

Q: Should parents be worried about these wild constrictors?

Currently, the only place where any of these giant constrictor snakes are known to be wild-living in the U.S. is in South Florida. In the Everglades, there is plenty of native prey available for these opportunistic hunters. Based on studies of their behavior and records from their native range, the chance of one finding its way into your home and harming a child is remote. Wild animals rarely enter houses, though some occasionally do so through pet doors, damaged screens or air conditioners, open windows, or other openings. Thus, a sensible approach would be to take the same precautions for these constrictor snakes as one would take for alligators.

REPORT TO THE AQUATIC NUISANCE SPECIES TASK FORCE

Generic Nonindigenous Aquatic Organisms Risk Analysis Review Process

**(For Estimating Risk
Associated with the Introduction
of Nonindigenous Aquatic Organisms
and How to Manage for that Risk)**

Risk Assessment and Management Committee
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October 21, 1996

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I. INTRODUCTION

Objective of the Review Process

The Risk Assessment and Management (RAM) Committee was initiated by, and is under the auspices of, the Aquatic Nuisance Species Task Force (Task Force). The Task Force was created for the purpose of developing a strategy in which the appropriate government agencies could meet the goals of the Aquatic Nuisance Prevention and Control Act of 1990. The Task Force was "... established to coordinate governmental efforts related to nonindigenous aquatic species in the United States with those of the private sector and other North American interests" (ANSTF, 1994). The Task Force is co-chaired by the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration.

The Generic Nonindigenous Aquatic Organisms Risk Analysis Review Process (hereafter referred to as the Review Process) is the risk process developed through the RAM committee to help meet the requirements of the Aquatic Nuisance Prevention and Control Act.

The objective of the Review Process is to provide a standardized process for evaluating the risk of introducing nonindigenous organisms into a new environment and, if needed, determining the correct risk management steps needed to mitigate that risk.

The Review Process provides a framework where scientific, technical, and other relevant information can be organized into a format that is understandable and useful to managers and decision makers. The Review process was developed to function as an open process with early and continuous input from all identified interested parties.

The Review Process was designed to be flexible and dynamic enough to accommodate a variety of approaches to nonindigenous organism risk depending on the available resources, accessibility of the biological information, and the risk assessment methods available at the time of the assessment. The Review Process may be used as a purely subjective evaluation or be quantified to the extent possible or necessary depending on the needs of the analysis. Therefore, the process will accommodate a full range of methodologies from a simple and quick judgmental process to an analysis requiring extensive research and sophisticated technologies.

The specific function of the Review Process is to:

- RISK ASSESSMENT -- Develop a process that can be used to:
 - a. evaluate recently established nonindigenous organisms
 - b. individual pathways (i.e., ballast water, aquaculture, aquarium trade, fish stocking, etc.)
 - c. evaluate the risk associated with individual pathways (i.e., ballast water, aquaculture, aquarium trade, fish stocking, etc.)

- RISK MANAGEMENT -- Develop a practical operational approach to maximize a balance between protection and the available resources for:
 - a. reducing the probability of unintentional introductions
 - b. reducing the risk associated with intentional introductions

The History and Development of the Review Process

The Review Process was modified from the Generic Non-Indigenous Pest Risk Assessment Process (Orr, et al, 1993) developed by the USDA's Animal and Plant Health Inspection Service (APHIS) for evaluating the introduction of nonindigenous plant pests. The APHIS process has been thoroughly tested both within and outside of the agency with numerous completed individual organism assessments and three high risk pathway studies.

The development of the Review Process has been synchronous with and functionally tied to the development of various ecological risk assessment methodologies and nonindigenous organism issues. Foremost was the National Research Council's workshops and meetings for the development of the "Ecological Paradigm" (NRC, 1993). The Review Process's basic approach and philosophy borrows heavily from the NRC's project.

Other major projects and reports which have influenced the direction of the Review Process are: The Environmental Protection Agency's "Ecological Framework" (EPA, 1992a) and associated documents (EPA, 1992b, 1992c, 1994); the United States Congress Office of Technology Assessment's nonindigenous species report (OTA, 1993); and the Forest Service's pest risk assessments on nonindigenous timber pests (USDA, FS, 1991, 1992, 1993).

In addition to the above projects and numerous other pertinent work the following quality criteria (modified from Fischhoff et al. 1981) were used in designing the Review Process:

- Comprehensive - The assessment should review the subject in detail and identify sources of uncertainty in data extrapolation and measurement errors. The assessment should evaluate the quality of its own conclusions. The assessment should be flexible to accommodate new information.
- Logically Sound - The risk assessment should be up-to-date and rational, reliable, justifiable, unbiased, and sensitive to different aspects of the problem.
- Practical - A risk assessment should be commensurate with the available resources.
- Conducive to Learning - The risk assessment should have a broad enough scope to have carry-over value for similar assessments. The risk assessment should serve as a model or template for future assessments.
- Open to Evaluation - The risk assessment should be recorded in sufficient detail and be transparent enough in its approach that it can be reviewed and challenged by qualified independent reviewers.

Risk Analysis Philosophy

The risk assessment process allows for analysis of factors for which the dimension, characteristics, and type of risk can be identified and estimated. By applying analytical methodologies, the process allows the assessors to utilize qualitative and quantitative data in a systematic and consistent fashion.

The ultimate goal of the process is to produce quality risk assessments on specific nonindigenous aquatic organisms or with nonindigenous organisms identified as being associated with specific pathways. The assessments should strive for theoretical accuracy while remaining comprehensible and manageable; and the scientific and other data should be collected, organized and recorded in a formal and systematic manner.

The assessment should be able to provide a reasonable estimation of the overall risk. All assessments should communicate effectively the relative amount of uncertainty involved and, if appropriate, provide recommendations for mitigation measures that reduce the risk.

Caution is required to ensure that the process clearly explains the uncertainties inherent in the process and to avoid design and implementation of a process that reflects a predetermined result. Quantitative risk assessments can provide valuable insight and understanding; however, such assessments can never capture all the variables. Quantitative and qualitative risk assessments should always be buffered with careful human judgment. Goals that cannot be obtained from a risk assessment are:

1. A risk assessment cannot determine the acceptable risk level. What risk, or how much risk, is acceptable depends on how a person, or agency, perceives that risk. Risk levels are value judgments that are characterized by variables beyond the systematic evaluation of information.
2. It is not possible to determine precisely whether, when, or how a particular introduced organism will become established. It is equally impossible to determine what specific impact an introduced organism will have. The best that can be achieved is to estimate the likelihood that an organism may be introduced and estimate its potential to do damage under favorable host/environmental conditions.

The ability of an introduced organism to become established involves a mixture of the characteristics of the organism and the environment in which it is being introduced. The level of complexity between the organism and the new environment is such that whether it fails or succeeds can be based on minute idiosyncrasies of the interaction between the organism and environment. These cannot be predicted in advance by general statements based only on the biology of the organism. In addition, even if extensive information exists on a nonindigenous organism, many scientists believe that the ecological dynamics are so turbulent and chaotic that future ecological events cannot be accurately predicted.

If all were certain, there would not be a need for risk assessment. Uncertainty, as it relates to the individual risk assessment, can be divided into three distinct types:

- a) uncertainty of the process -- (methodology)
- b) uncertainty of the assessor(s) -- (human error)
- c) uncertainty about the organism -- (biological and environmental unknowns)

Each one of these presents its own set of problems. All three types of uncertainty will continue to exist regardless of future developments. The goal is to succeed in reducing the uncertainty in each of these groups as much as possible.

The "uncertainty of the process" requires that the risk methodologies involved with the Review Process never become static or routine but continue to be modified when procedural errors are detected and/or new risk methodologies are developed.

"Uncertainty of the assessor(s)" is best handled by having the most qualified and conscientious persons available conduct the assessments. The quality of the risk analysis will, to some extent, always reflect the quality of the individual assessor(s).

The "uncertainty about the organism" is the most difficult to respond to. Indeed, it is the biological uncertainty more than anything else that initiated the need for developing a nonindigenous risk process. Common sense dictates that the caliber of a risk assessment is related to the quality of data available about the organism and the ecosystem that will be invaded. Those organisms for which copious amounts of high quality research have been conducted are the most easily assessed. Conversely, an organism for which very little is known cannot be easily assessed.

A high degree of biological uncertainty, in itself, does not demonstrate a significant degree of risk. However, those organisms which demonstrate a high degree of biological uncertainty do represent a real risk. The risk of importing a damaging nonindigenous organism (for which little information is known) is probably small for any single organism but the risk becomes much higher when one considers the vast number of these organisms that must be considered. It is not possible to identify which of the "unknowns" will create problems -- only assume that some will. Demonstrating that a pathway has a "heavy" concentration of nonindigenous organisms for which little information is present may, in some cases (based on the "type" of pathway and the "type" of organisms), warrant concern. However, great care should be taken by the assessor(s) to explain why a particular nonindigenous organism load poses a significant risk.

This need to balance "demonstrated risks" against "biological uncertainty" can lead assessors to concentrate more on the uncertainty than on known facts. To prohibit or restrict a pathway or specific nonindigenous organism, the reasons or logic should be clearly described.

Risk assessments should concentrate on demonstrated risk. Applying mitigating measures based on well-documented individual nonindigenous pests will frequently result in a degree of mitigation

against other organisms demonstrating high biological uncertainty that might be using the same pathway.

If we accept that "it is not possible to determine whether a particular introduced organism will become established", and "it is equally impossible to determine what specific impact an introduced organism will have", then we might be asked, "what value is there in doing risk assessments, which consist of assessing the probability of establishment and the consequence of establishment?". The risk assessment process is an effective tool for estimating potential in a systematic fashion.

Some of the information used in performing a risk assessment is scientifically defensible, some of it is anecdotal or based on experience, and all of it is subject to the filter of perception. However, we must provide an estimation based on the best information available and use that estimation in deciding whether to allow the proposed activity involving the nonindigenous organism and, if so, under what conditions.

The assessment should evaluate risk in order to determine management action. Estimations of risk are used in order to restrict or prohibit high risk pathways, with the goal of preventing the introduction of nonindigenous pests.

When conducting risk assessments for government agencies, the most serious obstacles to overcome are the forces of historical precedent and the limitations presented by legal parameters, operational procedures, and political pressure. In order to focus the assessment as much as possible on the biological factors of risk, all assessments need to be completed in an atmosphere as free of regulatory and political influences as possible.

The following quote is taken from the NRC's 1983 Red Book on "Risk Assessment in the Federal Government: Managing the Process":

"We recommend that regulatory agencies take steps to establish and maintain a clear conceptual distinction between assessment of risks and consideration of risk management alternatives; that is, the scientific findings and policy judgments embodied in risk assessments should be explicitly distinguished from the political, economic, and technical considerations that influence the design and choice of regulatory strategies".

This can be translated to mean that risk assessments should not be *policy-driven*. However, the Red Book then proceeded with a caveat:

"The importance of distinguishing between risk assessment and risk management does not imply that they should be isolated from each other; in practice they interact, and communication in both directions is desirable and should not be disrupted".

This can be translated to mean that the risk assessment, even though it must not be policy-driven, must be *policy-relevant*. These truths continue to be valid (NRC, 1993).

II. THE REVIEW PROCESS FOR CONDUCTING PATHWAY ANALYSES AND ORGANISM RISK ASSESSMENTS

The need for a risk assessment starts either with the request for opening a new pathway which might harbor nonindigenous aquatic organisms or the identification of an existing pathway which may be of significant risk. All pathways showing a potential for nonindigenous organism introduction should receive some degree of risk screening. Those pathways that show a high potential for introducing nonindigenous organisms should trigger an in-depth risk assessment.

The following details of the Review Process focus on evaluating the risk of nonindigenous organisms associated with an identified pathway. Figure 1, on page 8, outlines the flow of a pathway analysis, dividing the process into initiation, risk assessment, and risk management. Specific organisms needing evaluation which are not tied to a pathway assessment would proceed directly to the "*Organism Risk Assessments*" box in Figure 1 (page 8) and the "*Organism Risk Assessments*" section starting on page 10.

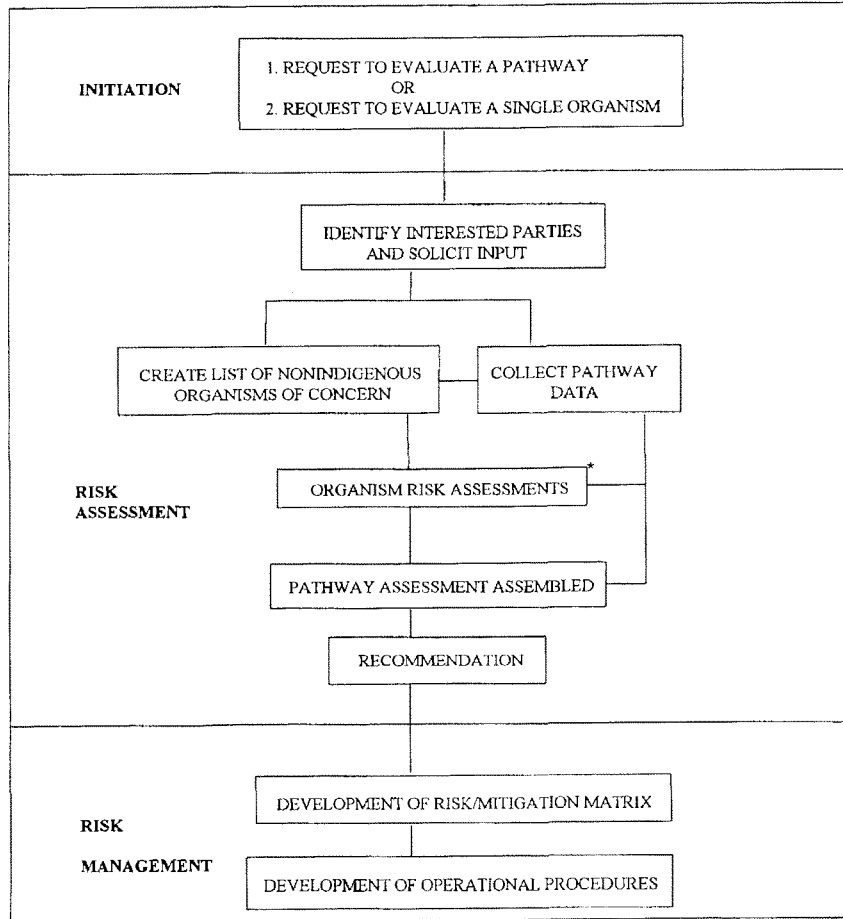
Collecting Pathway Data

Specific information about the pathway must be collected. This information, coupled with additional data (if necessary), would fulfill the "Collect Pathway Data" element in Figure 1, page 8.

Specific information needed about the pathway will vary with the "type" of pathway (i.e. ballast water, aquaculture, aquarium trade, fish stocking, etc.). The following generalized list of information has been useful in other nonindigenous risk assessments.

- 1) Determine exact origin(s) of organisms associated with the pathway.
- 2) Determine the numbers of organisms traveling within the pathway.
- 3) Determine intended use or disposition of pathway.
- 4) Determine mechanism and history of pathway.
- 5) Review history of past experiences and previous risk assessments (including foreign countries) on pathway or related pathways.
- 6) Review past and present mitigating actions related to the pathway.

FIGURE 1. Pathway Analysis: Flow Chart showing the Initiation, Risk Assessment and Risk Management for a pathway.



* = For details on the Organism Risk Assessment see Figure 2 "Risk Assessment Model", page 11. Pathways that show a high potential for introducing nonindigenous aquatic organisms should trigger detailed risk analyses.

Creating a List of Nonindigenous Aquatic Organisms of Concern

The next element in figure 1 (page 8) is "Create List of Nonindigenous Organisms of Concern". The following generalized process is recommended .

- STEP: 1) Determine what organisms are associated with the pathway.
 2) Determine which of these organisms qualify for further evaluation using the table below.

Category	Organism Characteristics	Concern
1a	species nonindigenous not present in country (United States)	yes
1b	species nonindigenous, in country and capable of further expansion	yes
1c	species nonindigenous, in country and reached probable limits of range, but genetically different enough to warrant concern and/or able to harbor another nonindigenous pest	yes
1d	species nonindigenous, in country and reached probable limits of range and not exhibiting any of the other characteristics of 1c	no
2a	species indigenous, but genetically different enough to warrant concern and/or able to harbor another non-indigenous pest, and/or capable of further expansion	yes
2b	species indigenous and not exhibiting any of the characteristics of 2a	no

3) Produce a list of the organisms of concern from (step 2) categories 1a, 1b, 1c, and 2a. Taxonomic confusion or uncertainty should also be noted on the list.

4) Conduct Organism Risk Assessments from the list of organisms developed in step 3.

Based on the number of organisms identified and the available resources, it may be necessary to focus on fewer organisms than those identified using the above table. When this is necessary it is desirable that the organisms chosen for complete risk assessments be representative of all the organisms identified. A standard methodology is not available because the risk assessment process is often site or species specific. Therefore, professional judgement by scientists familiar with the aquatic organisms of concern is often the best tool to determine which organisms are necessary for effective screening.

This screening has been done using alternative approaches. Different approaches can be found in each of the three log commodity risk assessments (USDA, Forest Service, 1991, 1992, 1993).

Organism Risk Assessments

The Organism Risk Assessment element in figure 1 (page 8) is the most important component of the Review Process used in evaluating and determining the risk associated with a pathway. The Organism Risk Assessment can be independent of a pathway assessment if a particular nonindigenous organism needs to be evaluated. Figure 2, on page 11, represents the Risk Model which drives the Organism Risk Assessment.

The Risk Assessment Model is divided into two major components the "probability of establishment" and the "consequence of establishment". This division reflects how one can evaluate an nonindigenous organism (e.g. more restrictive measures are used to lower the probability of a particular nonindigenous organism establishing when the consequences of its establishment are greater).

The Risk Assessment Model is a working model that represents a simplified version of the real world. In reality the specific elements of the Risk Model are not static or constant, but are truly dynamic showing distinct temporal and spatial relationships. Additionally, the elements are not equal in weighing the risk nor are they necessarily independent. The weight of the various elements will never be static because they are strongly dependent upon the nonindigenous organism and its environment at the time of introduction.

The two major components of the Risk Assessment Model are further divided into seven basic elements which serve to focus scientific, technical, and other relevant information into the assessment. Each of these seven basic elements are represented on the Risk Assessment Form (Appendix A, page 21) as probability or impact estimates. These may be determined using quantitative or subjective methods. See Appendix B (page 24) for a minimal subjective approach.

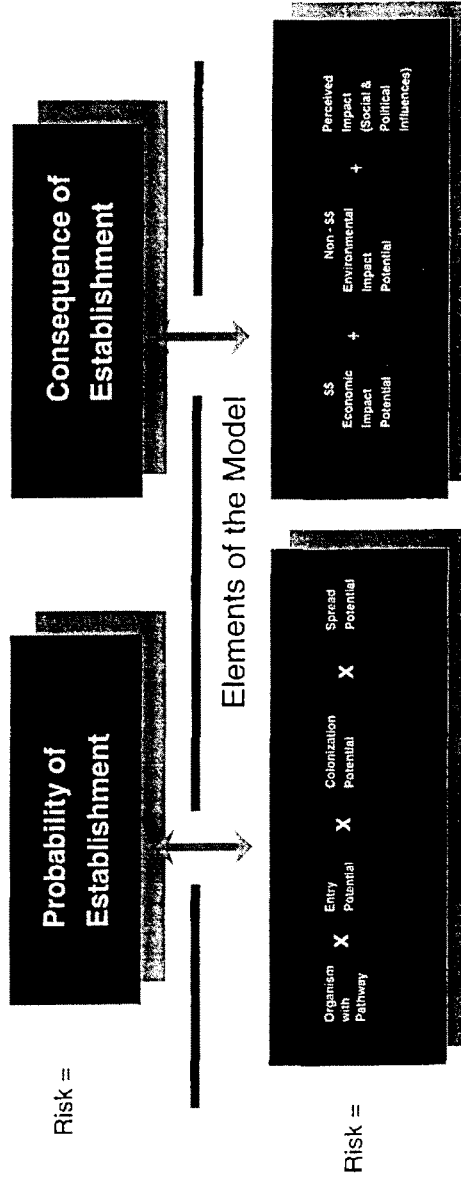
The strength of the assessment is that the information gathered by the assessor(s) can be organized under the seven elements. The cumulative information under each element provides the data to assess the risk for that element. Whether the methodology used in making the risk judgement for that element is quantitative, qualitative, or a combination of both, the information associated with the element (along with its references) will function as the information source. Placing the information in order of descending risk under each element will further communicate to reviewers the thought process of the assessor(s).

Adequate documentation of the information sources makes the Review Process transparent to reviewers and helps to identify information gaps. This transparency facilitates discussion if scientific or technical disagreement on an element-rating occurs. For example, if a reviewer disagrees with the rating that the assessor assigns an element the reviewer can point to the information used in determining that specific element-rating and show what information is missing, misleading, or in need of further explanation. Focusing on information to resolve disagreements will often reduce the danger of emotion or a preconceived outcome from diluting the quality of the element-rating by either the assessors or the reviewers.

FIGURE 2

Risk Assessment Model

Standard Risk Formula



- For model simplification the various elements are depicted as being independent of one another
 - The order of the elements in the model does not necessarily reflect the order of calculation

The characteristics and explanations of the seven elements of the Risk Assessment Model are as follows:

A. Elements -- Group I: Assess Probability of Organism Establishment

When evaluating an organism not associated with a pathway, or an organism recently introduced, the first two elements under Group 1 would automatically be rated as high because entry into the new environment is either assumed or has already occurred.

1. Nonindigenous Aquatic Organisms Associated with Pathway (At Origin) -- Estimate probability of the organism being on, with, or in the pathway.

The major characteristic of this element is: Does the organism show a convincing temporal and spatial association with the pathway.

2. Entry Potential -- Estimate probability of the organism surviving in transit.

Some of the characteristics of this element include: the organism's hitchhiking ability in commerce, ability to survive during transit, stage of life cycle during transit, number of individuals expected to be associated with the pathway, or whether it is deliberately introduced (e.g. biocontrol agent or fish stocking).

3. Colonization Potential -- Estimate probability of the organism colonizing and maintaining a population.

Some of the characteristics of this element include: the organism coming in contact with an adequate food resource, encountering appreciable abiotic and biotic environmental resistance, and the ability to reproduce in the new environment.

4. Spread Potential -- Estimate probability of the organism spreading beyond the colonized area.

Some of the characteristics of this element include: ability for natural dispersal, ability to use human activity for dispersal, ability to readily develop races or strains, and the estimated range of probable spread.

B. Elements -- Group II: Assess Consequence of Establishment

5. Economic Impact Potential -- Estimate economic impact if established.

Some of the characteristics of this element include: economic importance of hosts, damage to crop or natural resources, effects to subsidiary industries, exports, and control costs.

6. Environmental Impact Potential -- Estimate environmental impact if established.

Some of the characteristics of this element include: ecosystem destabilization, reduction in biodiversity, reduction or elimination of keystone species, reduction or elimination of endangered/threatened species, and effects of control measures. If appropriate, impacts on the human environment (e.g. human parasites or pathogens) would also be captured under this element.

7. Perceived Impact (Social & Political Influences) -- Estimate impact from social and/or political influences.

Some of the characteristics of this element include: aesthetic damage, consumer concerns, and political repercussions.

Often the assessor feels uncomfortable dealing with the categories of Economic and Perceived Impact. However, information found by an assessor relating to these categories may be helpful in making risk management decisions. The assessor should not be expected to reflect, or second guess, what an economist or politician would conclude but rather to present information gathered on the organism that would (or could) have an affect in these areas.

The elements considered under Consequences can also be used to record positive impacts that a nonindigenous organism might have for example its importance as a biocontrol agent, aquatic pet, sport fish, scientific research organism, or based on its use in aquaculture. The elements in the case of deliberate introductions would record information that will be useful in determining the element-rating that would be a balance between the cost, the benefit, and the risk of introducing the nonindigenous organism.

The Risk Assessment Form (Appendix A, page 21) should be flexible. Each nonindigenous organism is unique. The assessor needs to have the freedom to modify the form to best represent the risk associated with that particular organism. The seven elements need to be retained to calculate the risk but other sections may be added or subtracted. If the assessor feels that information, ideas, or recommendations would be useful, they should be included in the assessment. The assessor can combine "like" organisms into a single assessment if their biology is similar (e.g. tropical aquarium fish destined to temperate North America).

The number of risk assessments to be completed from the list of nonindigenous organisms in a particular pathway depends on several factors. These include the amount of individual organism information, available resources, and the assessor's judgement concerning whether the completed assessments effectively represent the pathways' nonindigenous organism risk.

The source of the statements and the degree of uncertainty the assessor associated with each element needs to be recorded in the Risk Assessment. The use of the Reference Codes at the end of each statement, coupled with the use of the Uncertainty Codes for each element, fulfill these

requirements. Both the Reference Codes and the Uncertainty Codes are described in Appendix A on page 23.

If a federal agency uses the Review Process for potential environmental problems, much of the information may contribute to meeting that agency's National Environmental Policy Act (NEPA) requirements. When both NEPA documentation and a risk assessment are warranted, the two should be coordinated so that resources are not duplicated. Although a risk assessment is similar to an Environmental Impact Statement (EIS) the risk assessment differs by focusing on the probability of occurrence and the impact of that occurrence, while an EIS generally places its emphasis on who or what will be impacted. Therefore, a risk assessment is more likely to clarify possible outcomes, determine or estimate their probabilities of occurrence, and succeed in recording the degree of uncertainty involved in making the predictions.

Summarizing Organism and Pathway Risk

An estimate of risk is made at three levels in the Review Process. The first, places a risk estimate on each of the seven elements within the Risk Assessment (element-rating). The second, combines the seven risk element estimates into a Organism Risk Potential (ORP) which represents the overall risk of the organism being assessed. The third, links the various ORPs into a Pathway Risk Potential (PRP) which will represent the combined risk associated with the pathway.

The assigning of either a quantitative or a qualitative estimate to an individual element, and determining how the specific elements in the Model are related, and how the estimates should be combined are the most difficult steps in a risk assessment. There is not a "correct" formula for completing these steps. Various methodologies such as geographical information systems, climate and ecological models, decision-making software, expert systems, and graphical displays of uncertainty may potentially increase the precision of one or more elements in the Risk Assessment Model. Indeed, risk assessments should never become so static and routine that new methodologies can not be tested and incorporated.

When evaluating new technologies and approaches it is important to keep in mind that the elements of the Risk Assessment Model are dynamic, chaotic, and not equal in value. New technologies or approaches which may be appropriate for assessing one organism may be immaterial or even misleading in evaluating another organism.

The high, medium, and low approach presented in Appendix B (page 24) for calculating and combining the various elements is judgmental. The process in Appendix B is a generic minimum for determining and combining the element estimates and not necessarily "the best way it can be done".

The strength of the Review Process is that the biological statements under each of the elements provide the raw material for testing various approaches. Therefore, the risk assessments will not need to be re-done to test new methods for calculating or summarizing the ORP and PRP.

On risk issues of high visibility, examination of the draft assessment should be completed by pertinent reviewers not associated with the outcome of the assessment. This is particularly appropriate when the risk assessments are produced by the same agency, professional society, or organization that is responsible for the management of that risk.

Elements of Risk Management And Operational Requirements

The previous sections dealt with assessing the level of risk associated with a particular pathway or organism. Once the risk assessment is completed, it is the responsibility of risk managers to determine appropriate policy and operational measures.

A. Elements To Consider In Risk Management Policy:

- Risk assessments (including uncertainty and quality of data)
- Available mitigation safeguards (i.e., permits, industry standards, prohibition, inspection)
- Resource limitations (i.e., money, time, locating qualified experts, needed information)
- Public perceptions/perceived damage
- Social and political consequences
- Benefits and costs should be addressed in the analysis

B. The following four risk management operational steps should be accomplished:

- Step 1: Maintain communication and input from interested parties;
- Step 2: Maintain open communication between risk managers and risk assessors;
- Step 3: Match the available mitigation options with the identified risks;
- Step 4: Develop an achievable operational approach that balances resource protection and utilization.

STEP 1: Participation of interested parties should be actively solicited as early as possible. All interested parties should be carefully identified because adding additional interested parties late in the assessment or management process can result in revisiting issues already examined and thought to have been brought to closure. All identified interested parties should be periodically brought up-to-date on relevant issues.

STEP 2: Continuous open communication between the risk managers and the risk assessors is important throughout the writing of the risk assessment. This is necessary to ensure that the assessment will be policy relevant when completed. Risk Managers should be able to provide detailed questions about the issues that they will need to address to the risk assessors before the

risk assessment is started. This will allow the assessors to focus the scientific information relevant to the questions (issues) that the risk managers will need to address.

As important as open communication is between risk managers and risk assessors, it is equally important that risk managers do not attempt to drive, or influence, the outcome of the assessment. Risk assessments need to be policy-relevant not policy-driven.

STEP 3: Matching the available mitigation options with the identified risks can sometimes be done by creating a mitigation matrix placing the organisms, or groups of organisms, identified in a specific pathway along one axis and the available mitigation options along the other. Where a specific organism, or group of organisms, meets a specific mitigation process in the matrix, the efficacy for control is recorded. Using this process it becomes apparent which mitigation or mitigations are needed to reduce the risk to an acceptable level. The mitigation matrix (page 17) was used in the mitigation report on New Zealand log imports (USDA, APHIS, 1992) which addresses the nonindigenous organisms identified in the New Zealand log risk assessment (USDA, FS, 1992).

STEP 4: Developing a realistic operational approach is not easy. Each new operational decision must consider a number of management, agency, and biological factors that will always be unique to any specific organism or pathway. However, at an operational risk management level each step in the operational pyramid (page 18) is a process that needs to be examined before approval of the importation, or release, or action against, a nonindigenous organism or pathway is taken. These include the risk assessment, the development of conditions for entry to meet current industry or regulatory standards, effective mitigation of any identified potential nonindigenous aquatic organisms, feasibility of achieving the mitigation requirements, and finally, a system of monitoring to ensure that all mitigation requirements are maintained.

MITIGATION MATRIX

Pinus radiata logs from New Zealand
(Pathogens & Plant Feeding Insects vs. Mitigation)

Mitigation Procedures in NEW ZEALAND					In USA	
ORGANISM	30 DAY LIMIT	SAWLOG QUALITY ONLY	DE- BARKING	MB FUMI- GATION	AGENCY ENTRY REQ.	HEAT PROCESS SAWMILL
Bark Beetles	S	S	E	T	S	T
Platypus spp.	S	S	S	T	S	T
Sirex/ Fungus	S	E	S	E	S	T
Lepto- Graphium	S	E	S	E	S	T
Kaloterms	S	E	S	T	S	T
Huhu beetles	S	E	S	E	S	T
Hitch hikers	S	S	E	T	S	T
Unknown Pests	S	S	S	E	S	T

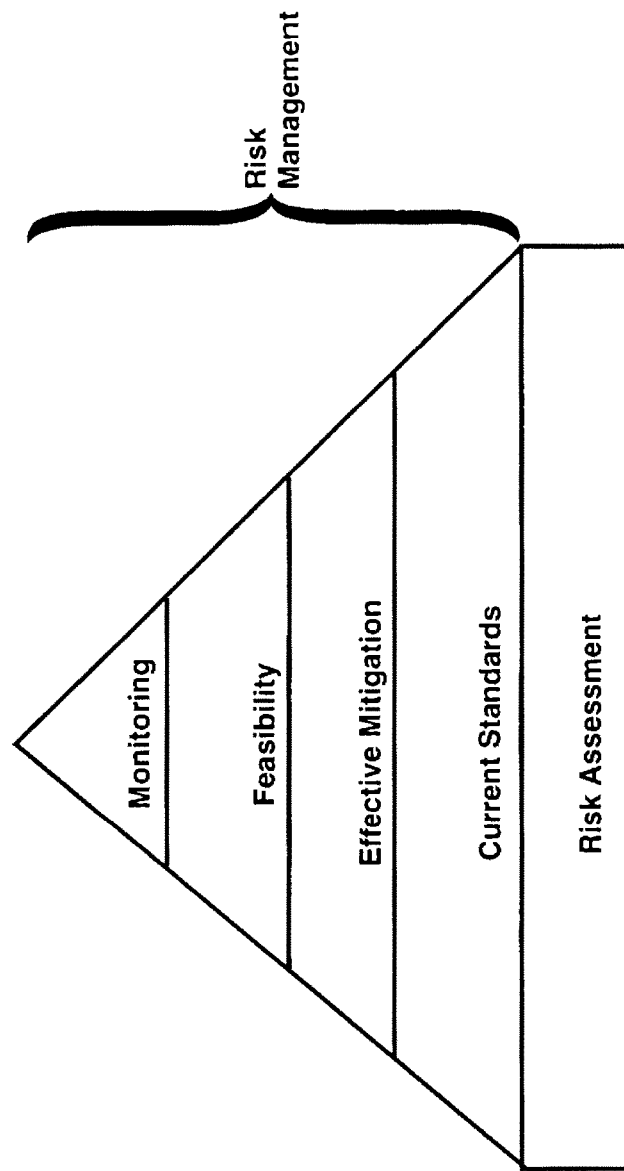
Key:

(S)ome reduction of pest risk expected (less than 95%)

(E)xtensive reduction (95 percent or more) of pest risk expected

(T)otal (100 percent or nearly 100 percent) reduction of pest risk expected

Operational Pyramid (Risk Management)



Components of the Final Analysis

A completed Risk Analysis may contain the following:

▶ Tracking/Information Form or Section

This documents the analysis process and records information about why the assessment was done, who the assessment was done for, and information which might not be found in the assessment itself but could be useful background information for future reviewers. It also would contain information that would be helpful in determining (at a later date) the depth of the review, which resources were used and which methodologies were tried but not used in the final assessment. The main function of this form or section would be to provide additional transparency to the analysis and to provide a historical record for future reviewers.

▶ Pathway information form or section

▶ A complete list of the organisms of concern

▶ The individual Organism Risk Assessments

▶ Response to specific questions requested by risk managers

▶ Summation of the methodology used in determining the ORPs and PRPs

▶ Mitigation/risk matrix

▶ Detailed discussion associated with each level of the operational pyramid

▶ Summation and responses to outside reviewers

III. REFERENCES

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- USDA FOREST SERVICE. 1991. Pest Risk Assessment of the Importation of Larch from Siberia and the Soviet Far East. Miscellaneous Publication No. 1495.
- USDA FOREST SERVICE, 1992. Pest Risk Assessment of the Importation of *Pinus radiata* and Douglas-fir Logs from New Zealand. Miscellaneous Publication No. 1508.
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APPENDIX A:

ORGANISM RISK ASSESSMENT FORM
(With Uncertainty and Reference Codes)

ORGANISM _____ **FILE NO.** _____
ANALYST _____ **DATE** _____
PATHWAY _____ **ORIGIN** _____

I. LITERATURE REVIEW AND BACKGROUND INFORMATION

(Summary of life cycle, distribution, and natural history):

II. PATHWAY INFORMATION (include references):

III. RATING ELEMENTS: Rate statements as low, medium, or high. Place specific biological information in descending order of risk with reference(s) under each element that relates to your estimation of probability or impact. Use the reference codes at the end of the biological statement where appropriate and the Uncertainty Codes after each element rating.

=====

PROBABILITY OF ESTABLISHMENT

Element Rating (L,M,H)	Uncertainty Code (VC - VU)	
_____ , _____		Estimate probability of the nonindigenous organism being on, with, or in the pathway. (Supporting Data with reference codes)
_____ , _____		Estimate probability of the organism surviving in transit. (Supporting Data with reference codes)
_____ , _____		Estimate probability of the organism successfully colonizing and maintaining a population where introduced. (Supporting Data with reference codes)
_____ , _____		Estimate probability of the organism to spread beyond the colonized area. (Supporting Data with reference codes)

CONSEQUENCE OF ESTABLISHMENT

Element Uncertainty
 Rating Code
 (L,M,H) (VC - VU)

_____, _____ Estimate economic impact if established. (Supporting Data with reference codes)

_____, _____ Estimate environmental impact if established. (Supporting Data with reference codes)

_____, _____ Estimate impact from social and/or political influences. (Supporting Data with reference codes)

III. ORGANISM/PATHWAY RISK POTENTIAL: (ORP/PRP) _____

Probability Consequence
 of of
 Establishment Establishment = ORP/PRP RISK

II. SPECIFIC MANAGEMENT QUESTIONS:

III. RECOMMENDATIONS:

IV. MAJOR REFERENCES:

REFERENCE CODES TO ANSWERED QUESTIONS

Reference Code	Reference Type
(G)	General Knowledge, no specific source
(J)	Judgmental Evaluation
(E)	Extrapolation; information specific to pest not available; however information available on similar organisms applied
(Author, Year)	Literature Cited

UNCERTAINTY CODES TO INDIVIDUAL ELEMENTS

Uncertainty Code	Symbol	Description
Very Certain	VC	As certain as I am going to get
Reasonably Certain	RC	Reasonably certain
Moderately Certain	MC	More certain than not
Reasonably Uncertain	RU	Reasonably uncertain
Very Uncertain	VU	A guess

APPENDIX B: JUDGMENTAL CALCULATION OF ORGANISM RISK AND PATHWAY RISK**Step 1. Calculating the elements in the Risk Assessment**

The blank spaces located next to the individual elements of the risk assessment form (Appendix A) can be rated using high, medium, or low. The detailed biological statements under each element will drive the judgmental process. Choosing a high, medium, or low rating, while subjective, forces the assessor to use the biological statements as the basis for his/her decision. Thus, the process remains transparent for peer review.

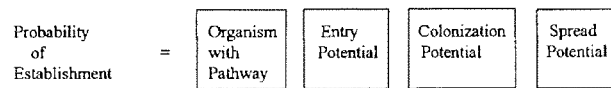
The high, medium, and low ratings of the individual elements cannot be defined or measured -- they have to remain judgmental. This is because the value of the elements contained under "probability of establishment" are not independent of the rating of the "consequences of establishment". It is important to understand that the strength of the Review Process is not in the element-rating but in the detailed biological and other relevant information statements that motivates them.

Step 2. Calculating the Organism Risk Potential

The Organism Risk Potential and the Pathway Risk Potential ratings of high, medium, and low should be defined (unlike the element rating in step 1 which have to remain undefined). An example is provided of these definitions at the end of Appendix B (page 29).

The following 3 steps must be completed in order to calculate the Organism Risk Potential.

Step 2a. Determine Probability of Establishment



The probability of establishment is assigned the value of the element with the lowest risk rating (example: a high, low, medium, and medium estimate for the above elements would result in a low rating).

Because each of the elements must occur for the organism to become established, a conservative estimate of probability of establishment is justified. In reality (assuming the individual elements are independent of each other) when combining a series of probabilities (such as medium - medium - medium) the probability will become much lower than the individual element ratings. However, the degree of biological uncertainty within the various elements is so high that a conservative approach is justified.

Step 2b. Determine Consequence of Establishment

Consequence of Establishment	=	Economic		Environmental		Perceived																														
Consequence of Establishment	=	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;">H</td> <td style="padding: 5px; text-align: center;">L,M,H</td> <td style="padding: 5px; text-align: center;">L,M,H</td> <td style="padding: 5px; text-align: center;">= H</td> </tr> <tr> <td style="padding: 5px; text-align: center;">L,M,H</td> <td style="padding: 5px; text-align: center;">H</td> <td style="padding: 5px; text-align: center;">L,M,H</td> <td style="padding: 5px; text-align: center;">= H</td> </tr> <tr> <td style="padding: 5px; text-align: center;">M</td> <td style="padding: 5px; text-align: center;">M</td> <td style="padding: 5px; text-align: center;">L,M,H</td> <td style="padding: 5px; text-align: center;">= M</td> </tr> <tr> <td style="padding: 5px; text-align: center;">M</td> <td style="padding: 5px; text-align: center;">L</td> <td style="padding: 5px; text-align: center;">L,M,H</td> <td style="padding: 5px; text-align: center;">= M</td> </tr> <tr> <td style="padding: 5px; text-align: center;">L</td> <td style="padding: 5px; text-align: center;">M</td> <td style="padding: 5px; text-align: center;">L,M,H</td> <td style="padding: 5px; text-align: center;">= M</td> </tr> <tr> <td style="padding: 5px; text-align: center;">L</td> <td style="padding: 5px; text-align: center;">L</td> <td style="padding: 5px; text-align: center;">M,H</td> <td style="padding: 5px; text-align: center;">= M</td> </tr> <tr> <td style="padding: 5px; text-align: center;">L</td> <td style="padding: 5px; text-align: center;">L</td> <td style="padding: 5px; text-align: center;">L</td> <td style="padding: 5px; text-align: center;">= L</td> </tr> </table>							H	L,M,H	L,M,H	= H	L,M,H	H	L,M,H	= H	M	M	L,M,H	= M	M	L	L,M,H	= M	L	M	L,M,H	= M	L	L	M,H	= M	L	L	L	= L
H	L,M,H	L,M,H	= H																																	
L,M,H	H	L,M,H	= H																																	
M	M	L,M,H	= M																																	
M	L	L,M,H	= M																																	
L	M	L,M,H	= M																																	
L	L	M,H	= M																																	
L	L	L	= L																																	

Note that the three elements that make up the Consequence of Establishment are not treated as equal. The Consequence of Establishment receives the highest rating given either the Economic or Environmental element. The Perceived element does not provide input except when Economic and Environmental ratings are low (see next to the last column on the above table).

Step 2c. Determine Organism Risk Potential (ORP)

ORP RISK =	PROBABILITY OF ESTABLISHMENT	CONSEQUENCE OF ESTABLISHMENT	
ORP RISK =	High Medium Low	High High High	= High = High = Medium
	High Medium Low	Medium Medium Medium	= High = Medium = Medium
	High Medium Low	Low Low Low	= Medium = Medium = Low

Here the conservative approach is to err on the side of protection. When a borderline case is encountered (lines 2, 4, 6, 8 on the above chart) the higher rating is accepted. This approach is necessary to help counteract the high degree of uncertainty usually associated with biological situations.

Step 3. Determine the Pathway Risk Potential (PRP)

ORP		PRP
Rating	Number	Rating
High	1 or more	High
Medium	5 or more	High
Medium	>0 but <5	Medium
Low	All	Low

The PRP reflects the highest ranking ORP. The only exception is when the number of medium risk organisms reaches a level at which the total risk of the pathway becomes high. The number, 5 or more, used in the above table is arbitrary.

=====

Definition of Ratings used for Organism Risk Potential and Pathway Risk Potential:

- Low = acceptable risk - organism(s) of little concern (does not justify mitigation)
- Medium = unacceptable risk - organism(s) of moderate concern (mitigation is justified)
- High = unacceptable risk - organism(s) of major concern (mitigation is justified)

When assessing an individual organism, a determination that the ORP is medium or high often becomes irrelevant because both ratings justify mitigation. When evaluating a pathway, the potential "gray area" between a PRP of medium and high may not be a concern for the same reason.

APPENDIX C: DEFINITIONS (Aquatic Nuisance Species Act definitions in bold type)

AQUATIC NUISANCE SPECIES - A nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural or recreational activities dependent on such waters. Aquatic nuisance species include nonindigenous species that may occur in inland, estuarine and marine waters and that presently or potentially threaten ecological processes and natural resources. In addition to adversely affecting activities dependent on waters of the United States, aquatic nuisance species adversely affect individuals, including health effects.

AQUATIC SPECIES - All animals and plants as well as pathogens or parasites of aquatic animals and plants totally dependent on aquatic ecosystems for at least a portion of their life cycle. Bacteria, viruses, parasites and other pathogens of humans are excluded.

BALLAST WATER - Any water and associated sediments used to manipulate the trim and stability of a vessel.

CONTROL - Activities to eliminate or reduce the effects of aquatic nuisance species, including efforts to eradicate infestations, reduce populations of aquatic nuisance species, develop means to adapt human activities and facilities to accommodate infestations, and prevent the spread of aquatic nuisance species from infested areas. Control may involve activities to protect native species likely to be adversely affected by aquatic nuisance species. Preventing the spread of aquatic nuisance species is addressed in the Prevention Element of the proposed Program; all other control activities are included in the Control Element.

ECONOMIC IMPACT POTENTIAL - The expected net change in society's net welfare which is the sum of the producers' and consumers' surpluses arising from changes in yield and cost of production caused by the pest.

ECOSYSTEMS - In the broadest sense, these are natural or "wild" environments as well as human environments, including infrastructure elements. An ecosystem may be an animal or plant in the case where the species involved is a pathogen or parasite.

ENTRY POTENTIAL - The relative ability of an organism to penetrate the borders of a given area within a time interval.

ENVIRONMENTALLY SOUND - Methods, efforts, actions or programs to prevent introductions or control infestations of aquatic nuisance species that minimize adverse impacts to the structure and function of an ecosystem and adverse effects on non-target organisms and ecosystems and emphasize integrated pest management techniques and nonchemical measures.

ESTABLISHED - When used in reference to a species, this term means occurring as a reproducing, self-sustaining population in an open ecosystem, i.e., in waters where the organisms are able to migrate or be transported to other waters.

EXCLUSIVE ECONOMIC ZONE - The Exclusive Economic Zone of the United States established by Proclamation Number 5030 of March 10, 1983, and the equivalent zone of Canada.

INDIGENOUS - The condition of a species being within its natural range or natural zone of potential dispersal; excludes species descended from domesticated ancestors (OTA, 1993).

INTENTIONAL INTRODUCTIONS - The knowing import or introduction of nonindigenous species into, or transport through, an area or ecosystem where it was not previously established. Even when there is no intent to introduce an aquatic organism into an ecosystem, escapement, accidental release, improper disposal (e.g., "aquarium dumps") or similar releases are the virtual inevitable consequence of an intentional introduction, not an **unintentional** introduction.

Synonyms: Purposeful, Deliberate.

INTEGRATED PEST MANAGEMENT - The control of pests utilizing a practical, economical, and scientifically based combination of chemical, biological, mechanical or physical, and cultural control methods. Coordinated application of non-chemical control methods is emphasized in order to reduce or eliminate the need for pesticides. Integrated pest management is a balanced approach which considers hazard to the environment, efficacy, costs, and vulnerability of the pest. It requires: (1) identification of acceptable thresholds of damage; (2) environmental monitoring; and (3) a carefully designed control program to limit damage from the pest to a predetermined acceptable level.

NATIVE - Indigenous.

NONINDIGENOUS SPECIES - Any species or other viable biological material that enters an ecosystem beyond its historic range, including any such organism transferred from one country into another [Nonindigenous species include both exotics and transplants].

Synonyms: Introduced, Exotic, Alien, Foreign, Non-native, Immigrant, Transplants.

ORGANISM - Any active, infective, or dormant stage of life form of an entity characterized as living, including vertebrate and invertebrate animals, plants, bacteria, fungi, mycoplasmas, viroids, viruses, or any entity characterized as living, related to the foregoing.

PATHWAY - The means by which aquatic species are transported between ecosystems.

PREVENTION - Measures to minimize the risk of unintentional introductions of nonindigenous aquatic species that are, or could become, aquatic nuisance species into waters of the United States.

PUBLIC FACILITIES - Federal, State, regional and local government-owned or controlled buildings, structures and other man-made facilities, including water intakes, boat docks, electrical power plants, locks and dams, levees, water control structures, and publicly-owned fish culture facilities. Electric generating stations, water supply systems and similar facilities

operated by public utilities or other non-governmental entities are also considered public facilities.

RISK - Is the likelihood and magnitude of an adverse event.

RISK ANALYSIS - The process that includes both risk assessment and risk management.

RISK ASSESSMENT - The estimation of risk.

RISK COMMUNICATION - The act or process of exchanging information concerning risk.

RISK MANAGEMENT - The pragmatic decision-making process concerned with what to do about the risk.

SPECIES - A group of organisms, all of which have a high degree of physical and genetic similarity, can generally interbreed only among themselves, and show persistent differences from members of allied species. Species may include subspecies, populations, stocks, or other taxonomic classifications less than full species.

TRANSPLANTS - Species native to North America which have been introduced into ecosystems where they did not occur prior to European colonization. In other words, such species did not historically occur in the location in question.

UNINTENTIONAL INTRODUCTION - An introduction of nonindigenous species that occurs as a result of activities other than the purposeful or intentional introduction of the species involved, such as the transport of nonindigenous species in ballast or in water used to transport fish, mollusks or crustaceans for aquaculture or other purpose. Involved is the release, often unknowingly, of nonindigenous organisms without any specific purpose. The virtually inevitable escapement, accidental release, improper disposal (e.g., "aquarium dumping") or similar releases of intentionally introduced nonindigenous species do not constitute unintentional introductions.

Synonyms: Accidental, Incidental, Inadvertent.

UNITED STATES - The 50 States, the District of Columbia, Puerto Rico, Guam, and all other possessions and territories of the United States of America.

VECTOR - A biological pathway for a disease or parasite, i.e., an organism that transmits pathogens to various hosts. Not a synonym for **Pathways** as that term is used in the proposed Aquatic Nuisance Species Program.

WATERS OF THE UNITED STATES - The navigable waters and the territorial sea of the United States. Since aquatic nuisance species can move or be transported by currents into navigable waters, all internal waters of the United States, including its territories and possessions, are included. The Territorial Sea of the United States is that established by Presidential Proclamation Number 5928 of December 27, 1988.

Synonyms: United States Waters