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Testimony on "Legislative Hearing on H.R. 511, To amend title 18, United States Code, to prohibit the importation of various injurious species of constrictor snakes"
November 29, 2012

United States House of Representatives
Natural Resources Committee, Subcommittee on Fisheries, Wildlife, Oceans and Insular Affairs

Chairman Fleming, Ranking Member Sablan, members of the Subcommittee, thank you for the opportunity to be here today. National Wildlife Federation is a non-partisan, non-profit organization. Our mission is to inspire Americans to protect wildlife for our children's future. National Wildlife Federation is comprised of 48 state and territorial affiliates and more than 4 million members and supporters. Our members include hunters, anglers, backyard gardeners, birdwatchers and many other outdoor enthusiasts from throughout the nation.

Conserving wildlife for our children's future has been the mission of the National Wildlife Federation since our inception in 1936. Time and again, threats to wildlife have unified diverse people from across our nation to take action in the interest of conserving the nation's rich wildlife heritage. Through voluntary collaboration and effective conservation laws, the people of this nation have saved many species from extinction, restored many game and fish wildlife species, and preserved our outdoor heritage. We appreciate the opportunity to testify today on a bill that deals with the critical issue of preventing the spread of large constrictor snakes, which are already wreaking havoc on wildlife and ecosystems.

On behalf of the National Wildlife Federation, I want to thank Congressman Rooney for introducing H.R. 511, the bill to prohibit the importation and inter-state transport of all nine of the large constrictor snakes initially proposed for the injurious species list by the U.S. Fish and Wildlife Service (FWS). Banning the importation of these non-native species is absolutely critical to reducing the costs to the taxpayer of controlling these constrictors, which have already risen into the millions of dollars per year. Earlier this year the FWS placed four of the nine species on the injurious wildlife species list, but dropped the five other harmful species that it and the United States Geological Survey had previously recommended for inclusion in the importation ban. We were disappointed that all nine species were not placed on the injurious list, which is why we applaud Congressman Rooney and the other cosponsors of H.R. 511 for their leadership.

H.R. 511 in its original form had strong bipartisan support in Congress as well as backing from a wide variety of conservation and humane groups. Unfortunately, NWF was dismayed to see two amendments made to H.R. 511 in a markup by the House Judiciary Committee. NWF will oppose the bill until both amendments are removed.

The first of those harmful amendments would allow thousands of unregulated exhibitors of snakes, including many roadside zoos and circuses, to import and trade the nine constrictor snakes without a

Lacey Act permit. This would virtually eliminate the effectiveness of listing the snakes. The second of those amendments says that to commit a criminal violation for the importation of an injurious animal, the import must violate the law "knowingly." This change in the law would apply to all Lacey Act injurious species listings, not just the snake species in this bill. Imposing such a high burden of proof would greatly hinder prosecution of people who illegally import or make interstate shipments of injurious species, and it would greatly reduce the deterrent effect of the law. Ignorance is not a valid excuse for violating a law and should not be the basis for avoiding Lacey Act -prosecution.

Full application of the Lacey Act to these nine large constrictor snakes is warranted given the well-documented economic costs and impacts of constrictor invasions to wildlife and human communities in this country. In south Florida, three species have already invaded—the boa constrictor, the northern African rock python and Burmese python. Burmese pythons, imported from Southeast Asia as pets and then illegally released in the wild, are reproducing and thriving in the Everglades and other south Florida wetlands. Estimated at between 30,000 and 100,000 in number, this snake is considered a threat both to the restoration of the Everglades and to human safety (FWS 2012). This invasion, which is costing the taxpayers enormous sums to manage, may be irreversible. It is a textbook example of why the most cost-effective strategy for addressing invasive species is to prevent their importation.

WILDLIFE IMPACTS

Giant constrictors are top predators in the south Florida ecosystem. According to the U.S. Geological Survey (USGS), they are voracious and indiscriminate consumers of native wildlife and can grow rapidly to more than 20 feet in length and 250 lbs in weight. They are particularly threatening to bird and mammal populations. For example, more than 25 different bird species, including endangered species, have been found in the digestive tracts of pythons in the Everglades (FWS 2012). They can live in many kinds of habitats, are tolerant of urbanization, achieve high population densities and produce many offspring. They serve as potential hosts for parasites and diseases that threaten wildlife and human health.

Since the FWS listing, new science has confirmed the devastating impacts the python invasion has had on native wildlife. The findings in the 2012 study by Dorcas et al. titled *'Severe mammal declines coincide with proliferation of invasive Burmese pythons in Everglades National Park'* were highly distressing for NWF and anyone concerned about native wildlife in South Florida. This groundbreaking study shows that these non-native snakes are top predators that appear to be eliminating vast portions of wild mammals in that region. This ecosystem disruption could easily expand beyond southern Florida, especially given the warming of the climate that is underway.

For additional evidence of the damage to native wildlife populations caused by invasive snake species, one need not look further than the U.S. territories. The brown tree snake invasion in Guam is particularly notorious: most native Guam forest bird species were virtually extinct by the time the FWS listed these species as threatened or endangered in 1984, less than 50 years after the tree snake was first introduced (USGS). We know that boa constrictors already are invading Puerto Rico and threatening that island's native wildlife (Reed and Rodda 2009).

ECONOMIC IMPACTS

As noted above, the cost to taxpayers for controlling and eradicating large constrictor snakes is well into the millions of dollars. The FWS alone has spent more than $6 million since 2005 developing and applying solutions to the invasions of Burmese pythons and other constrictor snakes in Florida. Pythons also jeopardize billions in federal, state and local investments in environmental restoration. By causing such a massive disruption of the Everglades ecosystem, the pythons are undoing years of federal and state investments there. Investments in endangered species recovery are likewise threatened. For example, from 1999 to 2009, Federal and State agencies spent $1.4 million on Key Largo woodrat recovery and $101.2 million on wood stork recovery—two endangered species that have been found in the bellies of

Burmese pythons. Taxpayers are being forced to pay for the growing expense of controlling and eradicating large constrictor snakes in south Florida. Congress should at least shut the spigot that sends yet even more snakes into their communities. .

The economic costs of constrictor snake invasions to our tourism and outdoor recreation economy could far exceed the cost of control measures by wildlife agencies. According to the FWS 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, 91.1 million U.S. residents fished, hunted, or watched wildlife in 2011 alone. They spent over $145 billion in the process, contributing to millions of jobs in industries and businesses that support wildlife-related recreation. Funds generated by licenses and taxes on hunting and fishing equipment pay for many conservation efforts in this country, and wildlife-related recreation is a proud American tradition. As the Burmese python devastates south Florida wildlife, the tourism and recreation economy in that region suffers. Slowing the spread of the constrictor snake invasion by banning further importation and inter-state trade will be essential for protecting the tourism and recreation-based economies of other regions.

Florida alone hosts almost 6 million participants in wildlife-associated recreation each year. As game mammal populations decline, hunting opportunities inevitably fall. How many hunters will reduce their activity as a result of this decline? As bird species are swallowed up by increasing numbers of large constrictor snakes, how many birders will reduce travel to Florida and reduce spending on hotels, equipment, and food? Will tourists avoid taking trips to the Everglades or other areas invaded by snakes because of safety concerns? These are questions that leaders from south Texas, Louisiana, Georgia, Mississippi, Alabama, Hawaii and beyond will need to answer as they work to protect their robust recreation and tourism economies. All it would take is a few pet constrictors to grow larger than their owners can manage, be let out into the wild, and manage to breed. The reckless trade in large constrictors is not just a Florida problem—it is a national problem.

Projections of high economic losses to the pet trade as a result of a prohibition on importation and inter-state trade of nine large constrictors have been discredited in economic analyses by the FWS, the Congressional Budget Office and Timm Kroeger, PhD., an economist with The Nature Conservancy. H.R. 511 will not put the reptilian pet trade out of business. These nine species are just one part of the pet trade and presumably most of those who want to buy snakes will simply shift toward species that are not covered by the Lacey Act and do not disrupt our environment.

THREATS TO HUMAN SAFETY

The costs of allowing importation and inter-state trade in the nine non-native large constrictor species include loss of human life and serious injury. According to the Humane Society, seventeen people have died from large constrictor snake related incidents in the United States since 1978. Scores of adults and children have been injured during attacks by large constrictors. These snakes are clearly injurious by any reasonable measure.

POTENTIAL FOR RANGE EXPANSION

As noted earlier, the potential of large constrictor snakes to expand their existing habitat range in the lower 48 states as well as island territories is well-supported by the science. Already we are observing Burmese python populations in the Everglades rebounding from cold winters and defying predictions of their die-off. Research from the USGS and others have indicated that well-documented shifts in climate will help these cold-blooded creatures thrive farther and farther north, affecting more states and increasing their ecological damage and costs to taxpayers (Reed et al, 2009, 2012).

For example, the state of Louisiana appears to be prime habitat for future invasions by imported large constrictor snakes. USGS research indicates that even Chairman Fleming's northwest Louisiana District is a suitable climate match for giant constrictors. Prohibiting the importation and inter-state trade of all

nine constrictor snakes would greatly reduce the odds of an invasion on par with the crisis in south Florida.

A recent study published in *Integrative Zoology* attempts to contradict USGS research on python climate projections, claiming that it is unlikely pythons can survive north of the Everglades. Unfortunately, the conclusions in this new study *'Environmental, physiology and behavior limit the range expansion of invasive Burmese pythons in southeastern USA'* (Jacobson et al. 2012) are based on several flawed premises and no new information on python behavior or cold tolerance. In fact, the authors ignore a fundamental principle of reptilian ecology - the ability of reptiles to behaviorally regulate their body temperatures well above air temperature. Attached to this testimony are comments on the study by several of the leading researchers on this topic, elaborating on this and other basic flaws in the Jacobsen et al. methodologies.

PREVENTING NON-NATIVE SPECIES INVASIONS

The nine large constrictor snakes proposed to be listed as injurious by H.R. 511 are just some of the examples of a massive invasive species problem in the United States and across the world. The total U.S. cost attributed to invasive animals and associated animal diseases is estimated to be as much as $35 billion per year, with one study estimating the effects and control of nonnative invasive species at about $120 billion (Pimentel 2005). The snakes listing rule by the FWS took 6 years to finalize—far too long to effectively prevent the establishment of Burmese pythons and other species in south Florida. It illustrates that the Lacey Act injurious species listing section—which is 112 years old—is inadequate. This current process, in which FWS acts largely in reactive fashion, is in need of an upgrade. The House and Senate have both introduced legislation that would vastly improve the current process. In the House, NWF has strongly endorsed H.R. 5864, the Invasive Fish and Wildlife Prevention Act of 2012, which has 30 bipartisan cosponsors. This bill would reform the injurious species listing process, making it faster and more effective, and bring it into the modern age. Prevention of harmful exotic species through screening and risk assessment is of great importance to limiting damages posed by invasives, particularly when protecting areas from invasive reptiles. We urge the Committee to take up H.R. 5864 or its counterpart in the next Congress and to move it forward for passage.

CONCLUSION

National Wildlife Federation was pleased that FWS prohibited the importation and inter-state transport of the Burmese python, yellow anaconda, northern African rock python and southern African rock python. However, the job of addressing large constrictor snakes is not finished, and it is crucial that the five remaining large constrictor species targeted by FWS and USGS be listed as injurious wildlife as well. H.R. 511, as originally introduced, finishes the job by making sure all nine species are listed: until then, the reticulated python, DeSchauenee's anaconda, green anaconda, Beni anaconda, and boa constrictor will continue to audition for reoccurring roles in the invasive species assault on America's ecosystems. Our nation's wildlife, human safety and tourism and recreation economy depend on taking action to prevent invasions of exotic animal species. NWF calls on the committee to remove the two harmful weakening amendments adopted by the Judiciary committee and pass the original H.R. 511 language.

ATTACHMENT 1

Comments on Jacobson et al. "Environmental temperatures, physiology, and behavior limit the range expansion of invasive Burmese pythons in Southeastern USA"
November 27, 2012

In this paper, the authors ask "Do Burmese pythons currently inhabiting the Everglades possess the ecological, physiological, and behavioral traits to survive in more temperate environments?" The only new data presented in this paper are summaries of ambient air temperatures in Florida and South Carolina. The authors interpret these temperature data as evidence that pythons cannot expand beyond South Florida. Unfortunately, their conclusions are based on several flawed premises and no new information on python behavior or cold tolerance. The study does not contradict the approaches or conclusions of previous studies (e.g., Rodda et al. 2009) and yields little new insight into factors that may limit range expansion in this invasive species.

In this paper, Jacobson et al. develop a rationale based on environmental (maximum and minimum air) temperatures from the Southeast and the limits those temperatures might pose to python survival and feeding. They conclude that pythons lack the physiological and behavioral abilities to survive in climates more temperate than southern Florida, where they are now thriving. Fundamental to their argument is that air temperature is an accurate indicator of body temperatures experienced by free-ranging snakes. Unfortunately, this is not the case. The ability of reptiles to behaviorally regulate their body temperatures well above air temperature is recognized as a fundamental element of reptilian ecology and a well-documented phenomenon that has been studied for over 60 years. Nearly all snakes, including pythons, are able to substantially warm their body temperatures above ambient temperature by basking in the sun or seeking refuge underground. In fact, our recent study in South Carolina (see Dorcas et al. 2011) demonstrated that pythons were able to achieve body temperatures >20C, even when maximum air temperatures were <15C and nightly lows dropped below freezing.

Moreover, although this study does not present any new data on python behavior or physiology, the thresholds they use for digestion and survival are not substantially different from those of most native North American snakes. For example, like pythons, most snakes require body temperatures above 16C to digest their prey and cannot withstand freezing. Thus, based on the rationale described in this study, we would conclude that most of the continental United States is unsuitable for snakes in general. Of course, this is not the case. Dozens of snake species thrive in temperate climates by using behavior (basking, hibernation, etc.) to maintain appropriate body temperatures, and this study provides no new evidence addressing python's abilities to thermoregulate. Jacobson et al. interpret the results of recent python deaths during exceptionally cold weather in the Everglades, Gainesville, Florida, and Aiken, South Carolina as evidence that pythons "seemingly lack the behaviors to seek refuge from, and the physiology to tolerate, cold temperatures" but fail to recognize that some pythons behaved appropriately, took refuge underground or in shelters, and survived short-term freezes in all three of these cases.

This paper was written primarily as a rebuttal to a paper by Rodda et al. (2009) that showed a suitable climate match for Burmese pythons throughout much of the southern United States. There is nothing in the Jacobson et al. paper that undermines the original approaches or conclusions of Rodda et al. (2009) and the editors of the journal were remiss by not inviting Rodda or his colleagues to review this manuscript before it was published. There are many factors, including temperature, that may limit the distribution of pythons in the United States, but the Jacobson et al. (2012) paper adds little new insight into what those limitations might be.

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