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Public Comments Processing

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Division of Policy and Directives Management

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The Wildlife Society (TWS) is writing to express our strong support and provide further information for the above-referenced U.S. Fish and Wildlife Service proposed rule to list the boa constrictor, four python species, and four anaconda species as injurious under the Lacey Act, 18 USC §42. TWS strongly urges prompt listing of these snakes as injurious to prevent their further import and spread throughout vulnerable habitats in the United States.

The Wildlife Society was founded in 1937 and is a non-profit scientific and educational association of over 9,100 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.

TWS is concerned about invasive species, and particularly about the rising costs of the effects of invasive plant and animal species, such as constrictor snakes, to society. These effects include negative impacts on biological diversity, productivity, environmental integrity, and wildlife and human health, as well as economic effects. Key to preventing further spread of these negative effects is to prevent the importation and interstate transportation of these invasive species; for example, annual imports for reptiles and amphibians alone in the U.S. are estimated at 6.4 million, in large part driven by the popularity and ubiquitousness of constrictor snakes in the exotic pet trade. While the pet industry, not unexpectedly, opposes this legislation, it should be noted that it is our nation's taxpayers, not the pet industry, that ends up paying for expensive control or eradication programs.

As detailed in a recent U.S. Geological Survey (USGS) report¹, such snakes pose a unique and rapidly growing threat to native wildlife due to their large body size, large clutch size, short time to maturation, and long life span. These constrictors are generalist predators capable of surviving on a wide range of prey species, and are capable of rebounding rapidly from population crashes. Because there is no North American snake species of comparable size, prey animals have not evolved defenses against this novel predator, and their populations could be easily and irreversibly damaged.

As requested in the above-referenced Federal Register notice, TWS would like to provide comments on the draft environmental assessment on pythons prepared by the USFWS, as well as provide data that will specifically address three of the questions posed in the notice.

Draft Environmental Assessment

As reported in the USGS risk assessment¹, five of these non-native snakes would pose high-risks to ecosystem health if established in the US, and all nine species have characteristics that associate them with greater risks, including the ability to potentially harm humans. Such risks come as a result of their large size, voracious appetite, potential to spread associated pathogens and other pests, and putative ability to expand into vulnerable regions of the southeastern US. The risk assessment and other published reports have shown that these risks are real and will experience continued expansion until transportation and importation of these species is halted.

As noted in the environmental assessment, wildlife managers have limited ability to control these invasive species once they become established. Indeed, control is expensive and likely impossible once a large population establishes itself. Prohibiting import and transport of these species will significantly reduce the chance of them spreading into greater ranges and will result in only positive impacts on native species. While there will be some economic impacts from the retail losses from decreased sales of these species, the costs of wildlife control and habitat restoration are sure to be significantly greater; for example, a 2006 GAO report³ estimated that the average cost for restoration of an endangered species is \$15.9 million. Additionally, our national parks, refuge system, and other natural resource agencies are already over-worked, under-staffed, under-funded, and do not have the resources to handle more management and environmental mitigation projects brought on by yet another invasive species.

Additionally, an impact not considered in the draft environmental assessment is the environmental impact of overharvesting these snakes from their native ranges. The USGS risk assessment notes that the U.S. is the primary source of market demand for these snakes, and for many of them, the imported trade is a documented threat that is causing serious population declines throughout native ranges. According to a 1997 Council on Environmental Quality document on NEPA guidance, “case law interpreting NEPA has reinforced the need to analyze impacts regardless of geographic boundaries within the United States, and has also assumed that NEPA requires analysis of major federal actions that take place entirely outside of the United States but could have environmental effects within the United States.”² Therefore, the worldwide effects of the importation of these snakes should also be taken under consideration as the USFWS completes the listing.

Because of their potential to cause great harm to native species, ecosystems, and humans, the cost of damage and control, their declining status in their home ranges, and the significant uncertainty associated with the full-extent of the risk posed by these species, TWS supports **Alternative 2 in the draft environmental assessment, to immediately list all nine species evaluated in the USGS risk assessment as injurious under the Lacey Act.**

Questions Posed in the Notice

(9) What State threatened or endangered species would be impacted by the introduction of any of the nine constrictor snake species?

To answer this question, we briefly highlight results published in several recent scientific papers and available through public search (referenced in appendix):

In Florida, the most recent dietary analyses have shown that one State endangered species, the Key Largo Woodrat (*Neotoma floridana smalli*), and three species of special concern, the American alligator (*Alligator mississippiensis*), the limpkin (*Aramus guarauna*) and the white ibis (*Endocemus albus*) have been found in the gut contents of python snakes captured in Florida.

While these are the only species that have been documented in the guts of these snakes to date, given the wide-ranging dietary habits of the Burmese python, it is possible that other state and federally endangered or threatened species in Florida may also be at risk as prey, especially as these snakes continue to expand throughout Florida. In addition to the Key Largo woodrat, protected species believed to potentially be at risk include the Florida panther (*Puma concolor coryi*), mangrove fox squirrel (*Sciurus niger avicennia*), Key Largo cotton mouse (*Peromyscus gossypinus allapaticola*), wood stork (*Mycteria Americana*), Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*), and American crocodile (*Crocodylus acutus*) (Snow *et al.*, 2007). Moreover, the overlap in diet suggests that the threatened indigo snake (*Drymarchon couperi*) may have an aggressive competitor for prey⁴. In addition to the species noted here, the USGS risk assessment¹ lists 118 endangered or threatened species, or species of special concern that could be impacted throughout the potential range of these invasive snake species.

(10) What species have been impacted, and how, by any of the nine constrictor snake species?

In addition to the species noted above, the scientific literature also reports that the following wildlife and domestic species have also been collected from the digestive tracts of Burmese pythons collected and examined in Florida: rabbit (*Sylvilagus sp.*), hispid cotton rat (*Sigmodon hispidus*), gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), domestic cat (*Felis catus*), raccoon (*Procyon lotor*), old world rats (*Rattus sp.*), Virginia opossum (*Didelphis virginiana*), bobcat (*Lynx rufus*), round-tailed muskrat (*Neofiber alleni*), rice rat (*Oryzomys palustris*), river otter (*Lutra canadensis*), white-tailed deer (*Odocoileus virginianus*), pied-billed grebe (*Podilymbus podiceps*), American coot (*Fulica americana*), house wren (*Troglodytes aedon*), rail (*Rallus spp.*), red-winged blackbird (*Agelaius phoeniceus*), blue-winged teal (*Agelaius phoeniceus*), anhinga (*Anhinga anhinga*), great egret (*Ardea alba*), heron (*Egret spp.*), magnificent frigatebird (*Fregata magnificens*), common moorhen (*Gallinula chloropus*), domestic chicken (*Gallus domesticus*), wood stork (*Mycteria americana*), whimbrel (*Numenius phaeopus*), purple gallinule (*Porphyrio martinica*), sora (*Porzana carolina*), eastern meadowlark (*Sturnella magna*), and domestic goose (*Anser sp.*)⁵. This list is in addition to dozens of partial samples from other unidentified species⁶. To date, there are few published studies of the gut contents of these invasive snake species, nor are the broader impacts of these invasive snakes on the larger populations of these prey species known. This gap in our knowledge suggests an area in which more research time and dollars could be devoted to augment our understanding of the effects of these invasive snakes on our environment and our native wildlife.

(13) Why we should or should not include hybrids of the nine constrictor species analyzed in this rule, and if the hybrids possess the same biological characteristics as the parent species?

Hybrids between two invasive species are also invasive themselves and must be listed as injurious along with the exotic parental species. Hybrids maintain many of the characteristics of the parent species; this means that hybrids will retain an ability to reach the large sizes and continue the voracious dietary habits of the parental species, and they will cause as much damage to native threatened and endangered species and the environment as pure species ancestors. Many closely-related constrictor species are known to hybridize and it is likely that many of the invasive constrictors noted in the proposed rule have this same ability. Some hybrid combinations may result in sterile offspring, however, some do remain fertile, which several reptile breeders themselves attest to on their websites (i.e. www.highendherps.com). Furthermore, each individual snake still has the capability of causing extensive damage within its lifetime.

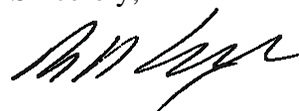
One potentially destructive invasive species is the African rock python (*Python sebae*), which has been captured in the wild west of Miami, Florida. In its native range, this snake can reach lengths up to 20 feet, and it is known to attack humans and farm animals. While this snake has the potential to cause serious damage, it also poses an additional threat because of its ability to hybridize successfully with Burmese pythons (*Python molurus*), a species which has already established a sizable and growing population in Florida.

Conclusion

Constrictor snakes are top predators that will kill native species and have the potential to cost millions of dollars of damage to ecosystems, and they are clearly “injurious” to native wildlife, and potentially even to humans, although risk to humans may be overestimated. The continued import of these species not only depletes their already-threatened native populations, but it increases the potential for spread in the U.S. TWS urges the FWS to use the information provided here, as well as in the USGS risk assessment and other published reports on constrictors, to adopt science-based regulations for controlling these potentially devastating invasive species from decimating native wildlife populations. We encourage you to consider the great environmental threat posed by these snakes and prevent the importation and interstate transportation of these species by listing them as injurious; our nation’s wildlife and wildlife habitats depend upon it.

Thank you for considering the views of wildlife professionals. Please contact Jenna Jadin, The Wildlife Society’s Assistant Director of Government Affairs at jenna@wildlife.org or at 301-897-9770 x 309 if you have any questions or require further information.

Sincerely,



Bruce Leopold, Ph.D.
President

References

- ¹ Reed, R.N. and G.H. Rodda. 2009. Giant Constrictors: Biological and Management Profiles and an Establishment Risk Assessment for Nine Large Species of Pythons, Anacondas, and the Boa Constrictor. U.S. Geological Survey Open-File Report 2009-1202, 302 p.
- ² Council on Environmental Quality, Guidance on NEPA Analyses for Transboundary Impacts, July 1, 1997. Online: <http://ceq.hss.doe.gov/nepa/regs/transguide.html>
- ³ GAO letter citing recovery estimates for endangered species. Online: <http://www.gao.gov/new.items/d06463r.pdf>
- ⁴ Reed, R. N. 2005. An ecological risk assessment of nonnative boas and pythons as potentially invasive species in the United States. *Risk Analysis* 25(3):753-766.
- ⁵ Harvey, R.G., Brien, M.L., Cherkiss, M.S., Dorcas, M., Rochford, M., Snow, R.W., F.J. Mazzotti. 2009. Burmese Pythons in South Florida: Scientific Support for Invasive Species Management. IFAS Extension, Publication #WEC242.
- ⁶ Snow, R. W., M. L. Brien, M. S. Cherkiss, L. Wilkins, and F. J. Mazzotti. 2007. Dietary habits of Burmese python, *Python molurus bivittatus*, from Everglades National Park, Florida. *Herpetological Bulletin* 101:5-7.