



Society for Conservation Biology North America

The North America Section of a global community of conservation professionals

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U.S. Fish and Wildlife Service
Department of the Interior
5275 Leesburg Pike, Falls Church, VA 22041-3803

Subject: Comment in Strong Support of Endangered and Threatened Wildlife and Plants; Threatened Species Status With Section 4(d) Rule for Southern Hognose Snake

To the U.S. Fish and Wildlife Service,

On behalf of the Society for Conservation Biology North America (SCBNA), which is part of the Global Society for Conservation Biology representing nearly 3000 members from six global regions, we write to support the U.S. Fish and Wildlife Service's proposal to list the southern hognose snake (*Heterodon simus*) as a threatened species under the Endangered Species Act of 1973 (the Act). The Society for Conservation Biology North America (SCBNA) represents Mexico, Canada and the United States of America and our mission is to bridge gaps between conservation research and practice and aid in on-the-ground conservation efforts.¹

There are three recognized species in the genus *Heterodon*, which physically present as medium-sized, short-bodied reptiles with upturned snouts that use letisimulation (faking death) as a defense mechanism.² The southern hognose snake (*Heterodon simus*) is found in well-drained sandy habitats of the southeastern United States and is associated with the fire-dependent longleaf pine ecosystem, which is actively being lost due to development and fire suppression.³ The southern hognose snake is also popular in the pet trade, which may be negatively affecting the species' survival.^{4,5} According to current estimates, it is likely that all remaining southern hognose snake populations are either imperiled, critically imperiled or already extirpated.⁶

Based on the U.S Fish and Wildlife Service's species status report, the southern hognose snake will continue to face the negative impacts of invasive species encroachment, habitat loss, disease and climate change.⁷ Simulations using current population data and future projections of urbanization and climate change show that three crucial factors will all decrease unless this species receives protections and resources: 1) resiliency, i.e., ability to withstand variable environmental and demographic changes; 2) representation, i.e., ability to adapt to long-term and short-term changes to the physical and biological environment; and 3) redundancy, i.e., the ability to withstand catastrophic events.^{7,8} Within the southern hognose snake's range, many populations are projected to be extirpated by 2080.⁷

Due to continued loss of habitat and ecological connectivity (Factor A from Section 4 of the Act), the negative effects of road mortality, invasive species and climate change (Factor E from



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Section 4 of the Act) and evidence that the species will likely face threat of extinction over the entirety of its range under current legal and regulatory coverage, the southern hognose snake meets the requirements for being listed as a threatened species under the Act.

SCBNA urges that the southern hognose snake be listed as threatened under the Endangered Species Act of 1973. Listing will ensure funding and resources to support the current and future survival of the southern hognose snake, a key part of the ecology and biodiversity of the southeastern United States and our shared natural heritage. Finally, we recommend additional steps such as designating critical habitat for the southern hognose snake and investigating potential additional pressures on the species' survival, such as logging and herbicide use.

Sincerely,

Lauren Jonaitis
Vice President of Policy, SCBNA

References:

- ¹Society for Conservation Biology North America. <https://scbnorthamerica.org>
- ²Platt. 1983. *Heterodon Latreille*. Catalogue of American Amphibians and Reptiles; Reptiles: Squamata: Serpentes: Colubridae.
- ³Beane, J.C., Graham, S.P., Thorp, T.J., Pusser, L.T., 2014. Natural History of the Southern Hognose Snake (*Heterodon simus*) in North Carolina, USA. *Copeia* 2014, 168–175.
- ⁴Kelley, L.G., 2011. The embeddedness of hog-nosed snakes (*Heterodon spp.*) in the wildlife pet trade and the relevance of assemblage geographies for reptile conservation (Master's thesis.). Florida State University, Tallahassee, Florida
- ⁵Enge, K.M., Mays, J.D., Butryn, R., Hill, E.P., 2016. Status assessments of the southern hog-nosed snake, Florida pinesnake, short-tailed kingsnake, and eastern diamond-backed rattlesnake in Florida. Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute.
- ⁶*Heterodon simus*. NatureServe Explorer. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL/2.105330/Heterodon_simus
- ⁷U.S. Fish and Wildlife Service. 2024. Species status assessment report for the southern hognose snake (*Heterodon simus*), Version 2.1. October 2024. Atlanta, GA.
- ⁸Shaffer, M.L., Stein, B.A., 2000. Safeguarding our precious heritage, in: Stein, B.A., Kutner, L.S., Adams, J.S. (Eds.), *Precious Heritage: The Status of Biodiversity in the United States*. Oxford University Press, New York, New York, pp. 301–321.