



March 18, 2016

Mr. John A. Arway
Executive Director
Pennsylvania Fish and Boat Commission
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Sent electronic and by US Mail

Dear Mr. Arway:

On behalf of the Delaware Riverkeeper Network, I am writing to urge the Fish and Boat Commission (FBC) to maintain Pennsylvania's existing protections for the timber rattlesnake (*Crotalus horridus*), and to work towards stronger protections and management strategies for this vulnerable species at a critical time when threats continue to rise in the state, particularly with oil and gas infrastructure impacts taking place and projected to increase in sensitive areas where the rattlesnake still exists. The Fish and Boat Commission has been implementing several good management and education strategies and volunteer monitoring programs to encourage protection of the timber rattlesnake, but we believe this work would be undermined if at this time the FBC delisted the species.

The current FBC proposal to remove the timber rattlesnake from the "Candidate List" is not in keeping with the intent of the Pennsylvania Statutes or the Pennsylvania Fish and Boat Commission's regulations, particularly as no comprehensive conservation and monitoring plan has been established to document and monitor existing and cumulative threats to the timber rattlesnake and its habitat. The FBC Executive Director must name "Candidate Species" in accordance with its own regulations established under Title 30, Section 2102(a), which permits the Commission to "promulgate such general and special rules and regulations as it deems necessary and appropriate concerning fish and fishing in . . . [the] Commonwealth, including regulations concerning the protection, preservation, and management of fish and fish habitat . . ." Under the Commission's regulations, a Candidate Species is one that "could achieve endangered or threatened status in the future." Candidate species receive the protections of season, size, bag, and possession limits. Additionally, they receive comprehensive species action plans that set out specific measures to be taken to protect the species. Furthermore, in light of DRN's request to increase protections rather than decrease them as the FBC proposes, experts focusing on timber rattlesnakes in Pennsylvania have documented the same need for increased

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protections and stated, “changing the official status of this species from “Candidate” to “Threatened” would offer sustained and legitimate legal protection by closing the hunting season, prohibiting organized rattlesnake hunts, and instituting protective regulations.”ⁱ In addition to the increased listing protections, rattlesnake experts recommend, “an initiative to give complete protection for this species on all government owned lands (State Gamelands, State Forest Lands, State Forest Natural Areas, State Parks, National Forests, and Military Reservations) through the joint cooperation of government agencies. To maintain viable, representative populations of this species, a minimum of eight intensively monitored and managed Timber Rattlesnake Management Areas should be established in the regions that currently contain extensive habitat and large populations.” “To protect populations further, all private individuals/companies and government agencies undertaking projects within timber rattlesnake habitat should be required to perform a species impact review and assess the effect of the project on rattlesnake populations and habitat. This should include the protection of known hibernacula and the establishment of adequate buffer zones to maintain suitable foraging habitat.”ⁱⁱ

The timber rattlesnake (*Crotalus horridus*) is a species at great risk in the northeastern United States. It has already been completely extirpated from Maine and Rhode Island and has presumably been extirpated from Delaware. In the states neighboring Pennsylvania, it is threatened in New York, endangered in New Jersey and Ohio, and is a species of special concern in Maryland. Pennsylvania is fortunate enough to have large expanses of suitable habitat for this species, which is an extreme rarity in the northeast region. These large expanses of land may give the superficial appearance that this species is relatively common in the state, but this is mostly due to the amount of remaining suitable habitat compared to the rest of the northeastern states. It does not mean that the timber rattlesnake is secure or immune to existing or future threats. FBC’s volunteer reptile program has confirmed timber rattlesnake in 51 of Pennsylvania’s 67 counties. However, FBC questions remain about how the peripheral populations are faring. These populations are more vulnerable, as they are isolated from the most stable part of the population and within portions of the state under higher development pressure. Overall connectivity is limited because many populations are disjunct, creating pockets or “islands” of populations within the state. FBC’s own phase I surveys completed by volunteers in 2006 also indicated that of 460 historically known sites where rattlers were present, only 39% were confirmed to still harbor timber rattlesnakes. The Phase I study also confirmed that the South Mountain population in southcentral Pennsylvania was found to be in serious trouble. In this 30-mile long mountain chain, 71 percent of the sites were found to be poor quality, held remnant populations or were no longer considered viableⁱⁱⁱ. It’s important to note that these surveys also were conducted prior to the onslaught of large scale gas development that has begun in the state. Pennsylvania populations face the same threats as other populations in the northeast and now even additional ones with the proliferation of shale gas development in the state. In regard to shale gas development, the PFBC admits that,

“The northcentral portions of the range, once considered the core undisturbed populations, have been subject to high volume of exploration, well pad construction, pipeline construction and associated roads and infrastructure. However, anecdotal evidence thus far shows that while there are increasing threats to Timber Rattlesnakes through exposure to human disturbance, some of the habitat alteration (e.g.,

pipeline development) can provide important additional basking habitat in areas where canopy closure has posed problems for available basking and gestating habitat. Additionally, most of the well pads thus far are on the top of slopes and plateaus and do not interfere directly with den habitat (Commission observations)."

While creating an open canopy may increase basking areas, other alterations may produce negative impacts such as habitat fragmentation, destruction of hibernacula, decrease in prey availability, and increased exposure to predation, road mortality, and encounters with humans. The negative cumulative impacts of gas development and the projected built out industrial footprint the industry could impact in the state logically far outweighs the minimal potential benefits. Furthermore, "anecdotal evidence" and "Commission observations" of only a small sampling of sites are not strong enough evidence to make such determinations that influence management decisions. Quantifiable evidence is needed in order to make these determinations. Strangely enough, this is the exact argument that the PFBC uses to justify the removal of the timber rattlesnake from the list of candidate species. The PFBC states that,

*"Threats are **not quantifiable enough** to meet criteria A2 (Projected Population Reduction) (Commission observations)."*

According to this logic, more quantifiable evidence is needed to prove that there are threats leading to population reduction, yet more quantifiable evidence is apparently not needed in order to prove that the population is secure from threats. We also understand that there are several research studies under way and not completed and funded by the state, like that by East Stroudsburg professor Dr. Thomas LaDuke, who is examining home ranges and habits of the timber rattler. This three year study began in the spring of 2015. ^{iv} Again, with research underway along with projected increase in threats it is not prudent nor protective to remove Candidate listing for the timber rattlesnake at this time and such a move could set the recovery of the species back and undo years of conservation work that the FBC and others have invested in.

According to experts and the FBC, major threats to the timber rattlesnake in Pennsylvania include "habitat loss, degradation, and fragmentation. Suburban sprawl and rural development cause habitat fragmentation and populations isolation. Oil and gas exploration, construction of power lines, pipelines, and roadways, timbering, quarrying, and surface mining activity destroy, degrade, and fragment rattlesnake habitat". "Collecting and killing snakes also have negative effects on timber rattlesnakes." The long-lived timber rattlesnake (< 30 years) with its slow reproductive rate (matures at 5-9 years old and has a low reproduction rate - females have small litters about every 3 years) , high den site fidelity, gravid female vulnerability, isolated populations and affinity to hibernacula sites, and snake fungal disease (SFD) add to the threatened existence this animal faces. It is hard to believe that populations are not decreasing when these factors, many of which have increased recently, are all considered cumulatively. The Species Action Plan for the timber rattlesnake developed by PFBC in June of 2011 (<http://www.fish.state.pa.us/water/amprep/species-plan-timber-rattlesnake.pdf>) is far too recent to have made such a profound impact to delist the species. The timber rattlesnake is still a vulnerable species in Pennsylvania and has been recognized

as such since 1978. With the number of threats increasing since its initial listing, the Delaware Riverkeeper Network firmly believes that the timber rattlesnake should at a minimum remain listed as a "Candidate Species" in Pennsylvania and urges the PFBC to work towards stronger protections and more protective listings and implementation of management strategies for the timber rattlesnake in the interim – not attempt to delist it at a time when Pennsylvania and this species is facing large and increasing detrimental and cascading impacts throughout its range. We also kindly request the Fish and Boat Commissioners table decisions about this listing at their March 30 meeting and extend the comment period and consideration of comments for this important decision so that more Pennsylvanian's have time to weigh in on this issue. The November 21, 2015 PA Bulletin listing came at the end of year and during the holiday season when many conservation groups who have worked hand in hand with the FBC to protect these species and others, missed the posting. This seems appropriate and prudent considering the Commission is looking to delist a species that is found in a majority of counties in the commonwealth and since this protection would be stripped for the snake that has had Candidate listing for over 30 years. Thank you for your time and consideration of Delaware Riverkeeper Network's concerns and for the past work the FBC has done to educate the community about the unique and important timber rattlesnake, one of the last true symbols of wilderness in Penn's woods.

Sincerely,



Maya K. van Rossum

the Delaware Riverkeeper

cc. (via US Mail) Commissioner Edward P. Mascharka III
Commissioner Rocco S. Ali
Commissioner William J. Sabatose
Commissioner Leonard L. Lichvar
Commissioner Eric C. Hussar
Commissioner Norman R. Gavlick
Commissioner Glade E. Squires
Commissioner G. Warren Elliott
Commissioner Steven M. Ketterer

ⁱ *Terrestrial Vertebrates of Pennsylvania, A complete guide to species of conservation concern*. Edited by Michael A. Steele Reinert, Howard K., the College of New Jersey. 2010

ⁱⁱ Ibid.

ⁱⁱⁱ http://fishandboat.com/anglerboater/2014ab/vol84num5_sepoct/10brink.pdf Fish and Boat Commission Pennsylvania Angler and Boater, Sept/October 2014 Publication. March 18, 2016.

^{iv} <http://wnep.com/2015/02/20/esu-professor-tackles-rattlesnake-research/> March 17, 2016.