

Back from the Brink:

The Story of the Timber Rattlesnake



by Chris Urban, Jim Chestney
and Kathy Gipe

Pennsylvania
Fish & Boat
Commission Natural
Diversity Section

photo-Robert Zumstein



photo-Karl Lutz

While many of us are intrigued by the Timber Rattlesnake as a species symbolic of Penn's wilderness, this snake was thought of as a nuisance in the past. Northern counties of Pennsylvania even had bounties on them. There were a number of organized snake hunts that were known to bring in hundreds of Timber Rattlesnakes per hunt. In the 1970s, numbers of rattlesnakes in Pennsylvania appeared to be declining rapidly, and researchers and conservationists throughout Pennsylvania sounded the alarm. The Pennsylvania Fish & Boat Commission (PFBC) soon listed them as a "candidate" species, thus imposing permits and bag limits on snake hunters. In response to evidence of continuing decline, these limits were further reduced to only one snake per year in the early 1990s. Also, PFBC started commenting on permits for development projects and making recommendations to reduce impacts to the snakes. The status of the population was still unclear.

In 2003, with the help of the new United States Fish & Wildlife Service State Wildlife Grant program, PFBC acquired funding and embarked on a statewide assessment of the species. The first phase of this assessment included visiting known and historical sites from across Pennsylvania. With hundreds of sites to visit, the Commission took a different approach in this statewide study. They sought out and trained willing and experienced rattlesnake volunteers to conduct the site assessments.

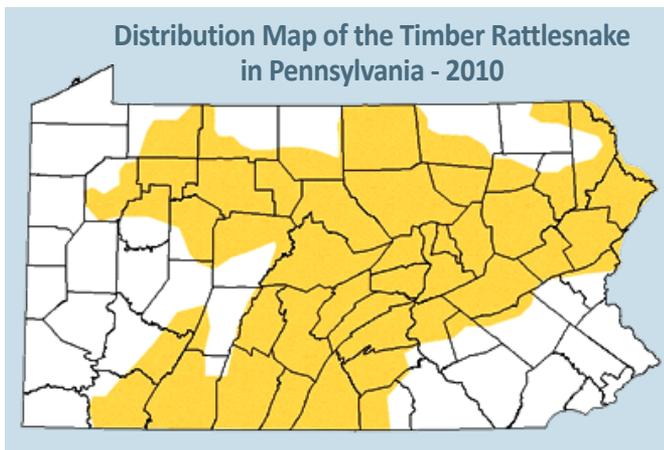
Two Commission staff ran the project (a project leader and field coordinator), and six regional teams were established. Each team included a volunteer regional team leader and ranged from four to ten volunteers per team. On average, the project

maintained about 40 project participants that made up the regional teams. The charge of these teams was to document snake presence within their region, describe the sites and assess the disturbance levels of the sites.

The first phase of the study was completed in 2006. It resulted in visits to over 460 historically known sites with 39 percent confirmed to harbor Timber Rattlesnakes. The good news was that more than 80 percent of these confirmed sites were ranked as moderate to good quality in terms of viability and habitat quality. The bad news was 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 viable. This critical information led to regulation changes in 2007. In order to allow this population to recover, snake hunting in the South Mountain was prohibited. Additional statewide regulations were implemented in 2007, limiting hunters to take adult male rattlesnakes only. This regulation allowed females and juveniles to be protected with the goal of aiding the recovery of the statewide Timber Rattlesnake population.

The next phase of the assessment began in 2007. Unlike the first phase, the emphasis of this study was on areas where data gaps occurred that appeared to have habitat and likely presence of rattlesnakes but were unassessed. The same regional teams pored over many sources of information to hone in on Timber Rattlesnake habitat in their respective regions. Then, the volunteer teams visited these potential habitat areas. By 2013, over 900 new sites containing critical habitat were

confirmed as being occupied by Timber Rattlesnakes. To date, more than 1,600 active sites have been verified. Project volunteers logged nearly 30,000 hours of effort towards this project. The core areas of the population, especially in northcentral portions of Pennsylvania, appear to be doing well. The Timber Rattlesnake is confirmed in 51 of Pennsylvania's 67 counties. However, questions remain about how the peripheral populations—those populations on the edge of the range—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. Large portions of the Timber Rattlesnake range remain unsurveyed due to lack of landowner permissions or access difficulty.



While these studies were happening, PFBC was developing and implementing consultation procedures and avoidance measures to minimize adverse impacts from development projects on Timber Rattlesnakes and their habitats. The PFBC's Division of Environmental Services staff worked with project proponents and made recommendations to avoid Timber Rattlesnake critical habitat, den and gestation areas. For health and safety concerns, Commission staff recommended that developers use experienced Timber Rattlesnake "monitors" to move snakes out of harm's way before and during project construction, and in some cases, create replacement basking habitats for the snakes. These "monitors" are qualified and possess the proper scientific permits. Industry has implemented these recommendations into their project planning, having monitors move snakes out of work areas, avoiding potential snakebite scenarios to their workers and protecting snakes and their critical habitats.

With nearly 75 percent of our Timber Rattlesnake sites occurring on public lands, our state and federal partners have played and continue to play a significant role in the recovery of the Timber Rattlesnake in Pennsylvania. The PFBC is working with these partners to manage priority gestation habitats on public lands to benefit the Timber Rattlesnake. Commission staff also work closely with partners during development consultations on public land. If the Timber Rattlesnake is to remain a stable member of Pennsylvania's fauna, these partnerships will be vital for the management of this species and ensuring that it stays off Pennsylvania's endangered species list.

The organized snake hunts, which used to have contests on who could bring in as many rattlesnakes as possible, have changed significantly over the years and have become a catch and release hunt. Today, snake hunters are permitted to enter only one (live) adult male Timber Rattlesnake into the hunt, per hunter. After being weighed, measured and outfitted with a Commission Passive Integrated Transponder (PIT) tag, the snake must be returned to where it was captured. The hunt organizer is required by the hunt permit conditions to provide education to the public about the ecology, natural history, regulations and conservation of the Timber Rattlesnake.

Even with all of these proactive protection measures in place, threats still persist for the Timber Rattlesnake in Pennsylvania. Habitat alteration, road mortality, poaching and wanton killing are the main culprits. Habitat alteration is a concern where snake presence is unassessed or when best management practices are not implemented. Road mortality is a threat, because snakes move slowly across roads that in the past were rarely used and now may be used heavily by work trucks in timber harvest or energy development regions. The Timber Rattlesnake is listed as threatened or endangered in many states surrounding Pennsylvania and rare in other parts of the country, which drives up the black market value for this species and prompts poaching. Unfortunately, to some, this snake is still seen as dangerous or a nuisance and is wantonly killed. Education is critical to preventing these attitudes.

A Species Action Plan was developed for the Timber Rattlesnake in June 2011.

Visit www.fishandboat.com/water/amprep/species-plan-timber-rattlesnake.pdf. The PFBC

has been working with its partners to implement actions towards the conservation of the species. Staff will continue to work to develop best management practices for the Timber Rattlesnake and enhanced public education programs promoting protection of Timber Rattlesnakes. Long-term monitoring of populations initiated in the site assessment projects will be further developed to continue our understanding of the conservation status of the Timber Rattlesnake in the Commonwealth.

The Timber Rattlesnake has come a long way in the last 40 years from spiraling towards extirpation (extinction) in Pennsylvania. Our hope is that generations to come can admire these animals for their unique role in our vast forest ecosystem, and they can remain as one of the last true symbols of wilderness in Penn's Woods.

To learn more about Timber Rattlesnakes, visit www.fishandboat.com/factsnake.pdf. 

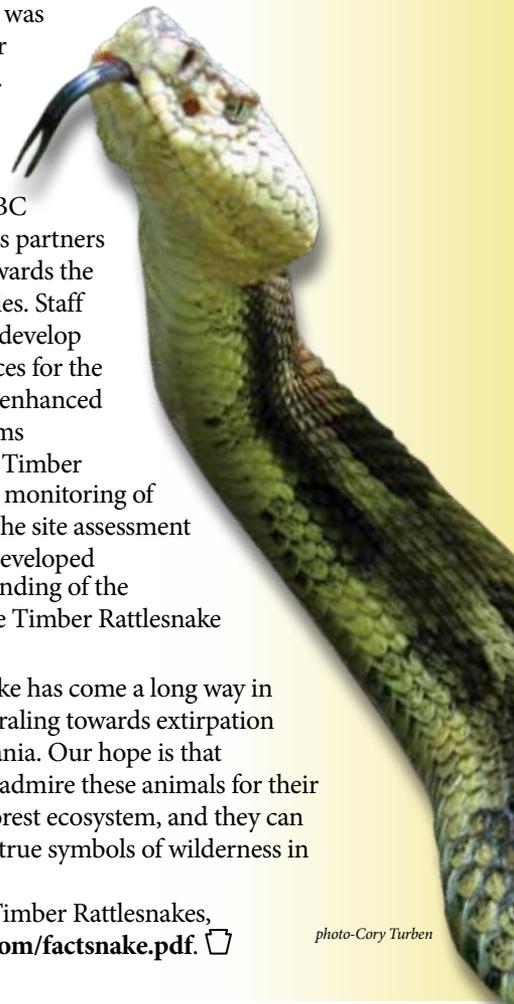
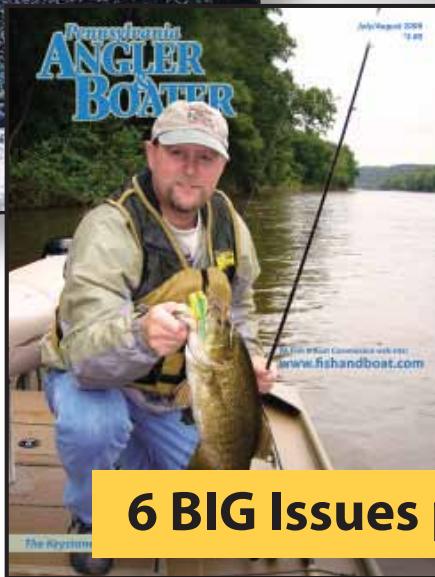
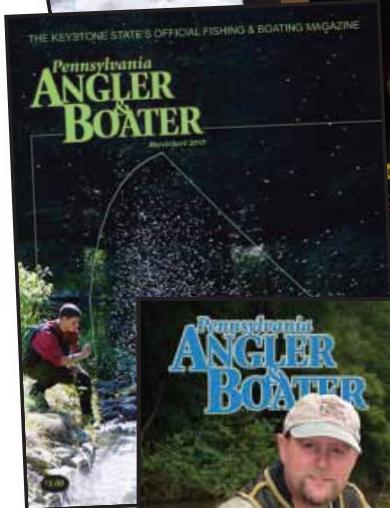
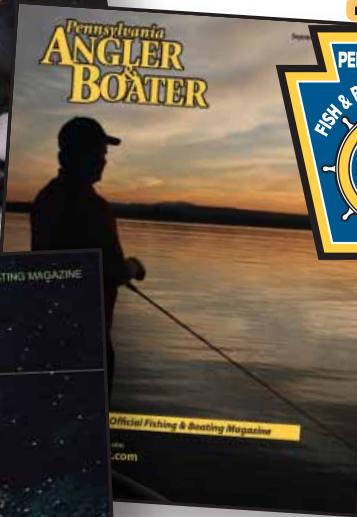
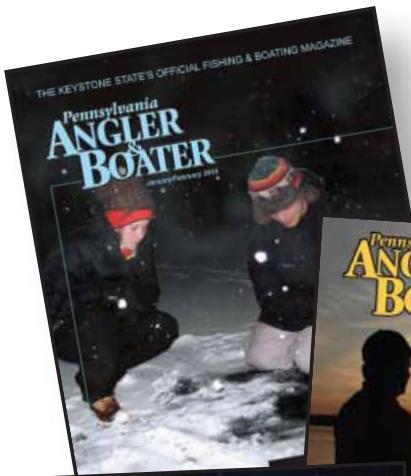


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