**Baldpate Mountain Herpetological Public Report
Mark Manning**

**Survey Years 2012-2015**

**General Profile:**

 The Ted Stiles Preserve is co-owned and managed by the Mercer County Park Commission, as well as the Friends of Hopewell Valley Open Space. The preserve is located on Baldpate Mountain (formerly Kuser Mountain), in Titusville, New Jersey. The mountain is located on the Piedmont physiographic province, and its geology is consistent with other naturally and ecologically important locations in the area, most notably Sourland Mountain, in that Baldpate Mountain is a diabase (volcanic) intrusion through an underlying shale bed. The area identified as preserved land on the mountain is approximately 1500 acres. The mountain runs approximately southwest to northeast, and its maximum height is approximately 500 feet (the highest point in Mercer County). Baldpate Mountain features the largest tract of contiguous hardwood forest in Mercer County, which hosts a variety of ecologically important and fragile habitats that support an exceptional diversity of wildlife, and the northern and southern slopes of the mountain contain microhabitats that would not be present if not for the benefit of the topography. The aforementioned habitats include invertebrate and amphibian-rich seepage and spring-fed areas that serve as headwaters for several streams or stream tributaries (such as Fiddler’s Creek and Moore’s Creek) that ultimately feed into the Delaware River, the source of drinking water for many Mercer County residents. The mountain contains a variety of other habitats, including mature and successional forest, meadows, a farm pond, and, most importantly, the edge habitats that support much of the activity of the wildlife present on the mountain.

**Survey Methodology:** The herpetological data collected during this period was taken using both visual and auditory surveys. Species-specific observations were made using patterns in breeding phenology and habitat preferences for various species. Anuran vocalization data was recorded in the evenings during appropriate times of the year, as well as incidental frog call data collected during daytime visits. Natural and artificial cover objects were turned on land, in streams, and on stream banks to check for herpetofauna. Care was taken not to excessively disturb any sensitive habitat. The specimens were not collected, harmed, or unnecessarily handled. Snake specimens were occasionally checked for signs of *Ophidiomyces* infection, and no signs were found to be present on specimens. No equipment was used that might transmit fungal infections. All data was recorded to include the date, time of visit, and weather conditions. In lieu of a GPS, a map was divided into sections and the locations of the specimens found were reported within these sections. This data will be provided along with the report.

**Breeding Populations:**
 Based on population densities of many species identified in the survey, it is likely that these species are maintaining breeding populations at this location. Larvae of the aquatic plethodontid salamanders have been seen with regularity in several locations on the mountain. Juvenile pickerel and Northern green frogs have been found in springs and seep areas. A juvenile wood frog was found on the western side of the mountain (Honey Hollow), likely indicating proximity to vernal pools. Wood frogs and spotted salamanders have been observed by Mercer County Park naturalists making breeding migrations across Pleasant Valley Road from the North side of Baldpate Mountain. Northern gray treefrogs and spring peepers have been heard vocalizing their advertisement calls, indicating breeding. Territorial vocalizations of both species were also heard, indicating rich population densities. Based on data that was directly observed, as well as observations shared by local naturalists, population densities of Eastern garter snakes, Northern water snakes, Eastern milk snakes, and Northern copperheads are high, and juveniles of each of the aforementioned species have been found at the preserve.

 Many amphibians and some reptiles utilize vernal pools, which are temporary pools created by snowmelt or spring rains. These pools are used by breeding amphibians largely because of the lack of fish predation on the tadpoles, as well as the ample hydroperiod for complete development of the young. There is evidence of several such ponds on Baldpate Mountain, and there is also evidence that Baldpate Mountain supports populations of two obligate vernal pool breeders. Vernal pool breeders are classified as either ***obligate******breeders***, which are species that strictly utilize a vernal pool to breed, or ***facultative******species***, which will gravitate toward vernal pools if available, but may use other semi-permanent or permanent wetlands for breeding.

**Results**
In total, one turtle species, seven frog/toad species, four salamander species and six snake species (total species count 18) were observed during surveys from 2012-2015 at Baldpate Mountain. A list of individual species is provided below. Based on these findings, Baldpate Mountain hosts populations of *at least* 25% of the possible reptile and amphibian species native to New Jersey ***including*** *potentially extirpated species and species native only to the New Jersey Pine Barrens.* Of the possible reptile and amphibian species native to Mercer County,Baldpate Mountain hosts populations of *at least* 36% species, not including potentially extirpated species.

According to NJ Fish & Wildlife, Species of Special Concern are species “who warrant special attention because of some evidence of decline, inherent vulnerability to environmental deterioration, or habitat modification that would result in them becoming a threatened species”. Three species at Baldpate Mountain are currently listed: Eastern box turtle (*Terrapene carolina carolina)*, Fowler’s toad (*Anaxyrus fowleri)* and Northern copperhead (*Agkistrodon contortrix)*. These species are vulnerable to many threats such as habitat loss and fragmentation, crossing roads during migration, hybridization, or even illegal collection. All these species play important roles in local ecosystems and are in need of monitoring and protection in New Jersey and FoHVOS preserves.

**Cumulative Total-Complete Species List (directly observed) for Baldpate Mountain (18 species)**

* Northern dusky salamander (*Desmognathus fuscus*)
* Northern two-lined salamander (*Eurycea bislineata*)
* Eastern red-backed salamander (*Plethodon cinereus*)
* Northern red salamander (*Pseudotriton ruber*)
* Northern gray treefrog (*Hyla versicolor*) F
* Fowler’s toad (*Anaxyrus fowleri*)\* O
* Northern spring peeper (*Pseudacris crucifer crucifer*) F
* American bullfrog (*Lithobates catesbeianus*) F
* Northern green frog (*Lithobates clamitans melanota*) F
* Pickerel frog (*Lithobates palustris*) F
* Wood frog (*Lithobates sylvaticus*) O
* Eastern box turtle (*Terrapene carolina carolina*)\*
* Northern water snake (*Nerodia sipedon sipedon*)
* Eastern garter snake (*Thamnophis sirtalis sirtalis*)
* Northern ring-necked snake (*Diadophis punctatus edwardsii*)
* Northern black racer (*Coluber constrictor*)
* Eastern milk snake (*Lampropeltis triangulum triangulum*)
* Northern copperhead (*Agkistrodon contortrix*)\*

\*Species of Special Concern in New Jersey
O obligate vernal pool breeders
F facultative vernal pool breeders

**About the Surveyor:**
All surveys results, along with an official report, were submitted by Mark Manning. Mark is a teacher of chemistry and toxicology at Hopewell Valley Central High School in Pennington, New Jersey, a volunteer naturalist for the Friends of Hopewell Valley Open Space, and a board member at the Washington Crossing Audubon Society. He has experience leading nature walks and outdoor programs on poisonous plants, reptiles and amphibians, and birding for beginners, as well as teaching virtual programs on poisonous plants of the Northeastern United States. His greatest passions are exploring the outdoors with his family, and introducing people to the natural wonders of New Jersey.