**Jacob’s Creek Herpetological Public Report
Reporter: Mark Manning
Survey Years: 2015-2017**

**General Profile:** The Jacob’s Creek Trail consists of a main trail north of Pennington-Titusville Road which is approximately 1.3 mile and quarter mile sections (both one way) and a shorter trail south of Pennington-Titusville Road which is approximately a quarter mile each way. The northern features panoramic views from a ridge above the creek where it traverses mature woods. The trail also traverses younger successional woods on lowland sections closer to the creek. The southern trail offers delightful close-up views of the historic creek. Much of the area was farmed many years ago and remnants of old farm roads still exist. One historic feature of note along the northern trails is the ruins of an old five-foot-high stone wall, presumably built as a dam for ice production. Nearby is what appears to be small quarry where stone for the wall was obtained.

**Survey Methodology:** The herpetological data collected during this project was taken using both visual and auditory surveys. Visual surveys were done for specimens by searching likely habitat, as well as turning cover objects on land, adjacent to water, and within streams. Species-specific surveys were done using patterns in breeding phenology and predicted habitat preferences for various species. Coverboards were employed for use in collection of snake data. Visual and auditory vernal pool surveys were done during spring emergence to check for vernal pool breeders. Auditory frog call surveys were done in the evenings during appropriate times of the year. Incidental frog call data was also collected during daytime surveys. Care was taken not to excessively disturb any sensitive habitat, such as spring seeps or rotting logs. The specimens were not harmed, nor were they unnecessarily handled. Snake specimens were routinely handled to be 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 printed and divided into sections, and the locations of the specimens were reported in reference to the sections on the map. All recorded data will be provided along with the report.

**Breeding Populations:** Ongoing visits during the survey consistently provided records of the same common species in the same areas, demonstrating the stability of their population. Due to population densities and the presence of juveniles of many species identified in the survey, it is likely that these species are maintaining breeding populations at this location. For example, neonate and juvenile northern water snakes, a hatchling eastern snapping turtle and bullfrog tadpoles were observed during surveys.

 Many amphibians and some reptiles use vernal pools, which are temporary pools created by snowmelt or spring rains. These pools are selected by amphibians largely because of the lack of fish predation on the tadpoles. Vernal pool breeders are classified as either ***obligate breeders***, which are species that must use a vernal pool to breed, or ***facultative species***, which will gravitate toward vernal pools if available, but will use other semi-permanent or permanent wetlands if vernal pools are not found. While no obligate vernal pool breeders were seen/heard during surveys, three facultative species were heard vocalizing in areas within or near Jacob’s Creek.

**Results:**In total one turtle species, four frog/toad species, three salamander species and three snake species (total species count 11) were observed during surveys at Jacob’s Creek in 2015-2017. A list of individual species is provided below. Based on these findings, Jacob’s Creek hoses populations of *at least* 15% 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,Eames Preserve hosts populations of *at least* 22% species, not including potentially extirpated species.

**Cumulative Assessment Total-Complete Species List for 2015-2017 for the Jacob’s Creek (11 species):**

* Eastern snapping turtle (*Chelydra serpentina*)
* Northern dusky salamander (*Desmognathus fuscus*)
* Northern two-lined salamander (*Eurycea bislineata*)
* Eastern red-backed salamander (*Plethodon cinereus*)
* Northern gray treefrog (*Hyla versicolor*) F
* Northern green frog (*Lithobates clamitans melanota*) F
* American bullfrog (*Lithobates catesbeianus*)
* Pickerel frog (*Lithobates palustris*) F
* Northern/intergrade ring-necked snake (*Diadophus punctatus edwardsii*)
* Northern water snake (*Nerodia sipedon sipedon*)
* Eastern garter snake (*Thamnophonis sirtalis sirtalis*)

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.