

**REPORT ON A PHASE II BOG TURTLE SURVEY CONDUCTED AT 25
MILL ROAD, BOROUGH OF SUFFERN, ROCKLAND COUNTY, NEW
YORK**

Report to:

Treetop Development

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1.0 INTRODUCTION

Jason Tesauro Consulting, LLC (Tesauro Consulting) was retained by Treetop Development (Treetop) to conduct a Phase II Bog Turtle Survey on a parcel located at 25 Mill Road in the Borough of Suffern, Rockland County, New York (Figures 1 & 2) that is currently being evaluated by Treetop for the feasibility of constructing a warehouse development. The bog turtle (*Glyptemys muhlenbergii*), which is listed as *threatened* by the U.S. Fish and Wildlife Service (USFWS) and is considered *endangered* in New York, is known to occur historically along the Mahwah River in the vicinity of the 25 Mill Road (= 'project site'). Treetop sought information on the occurrence of bog turtles on the project site, as the presence of the species would have potentially significant regulatory implications. This report presents the findings of the Phase II bog turtle survey conducted at 25 Mill Road, Suffern, NY led by USFWS Qualified Bog Turtle Surveyor, Jason Tesauro, during April and May 2022.

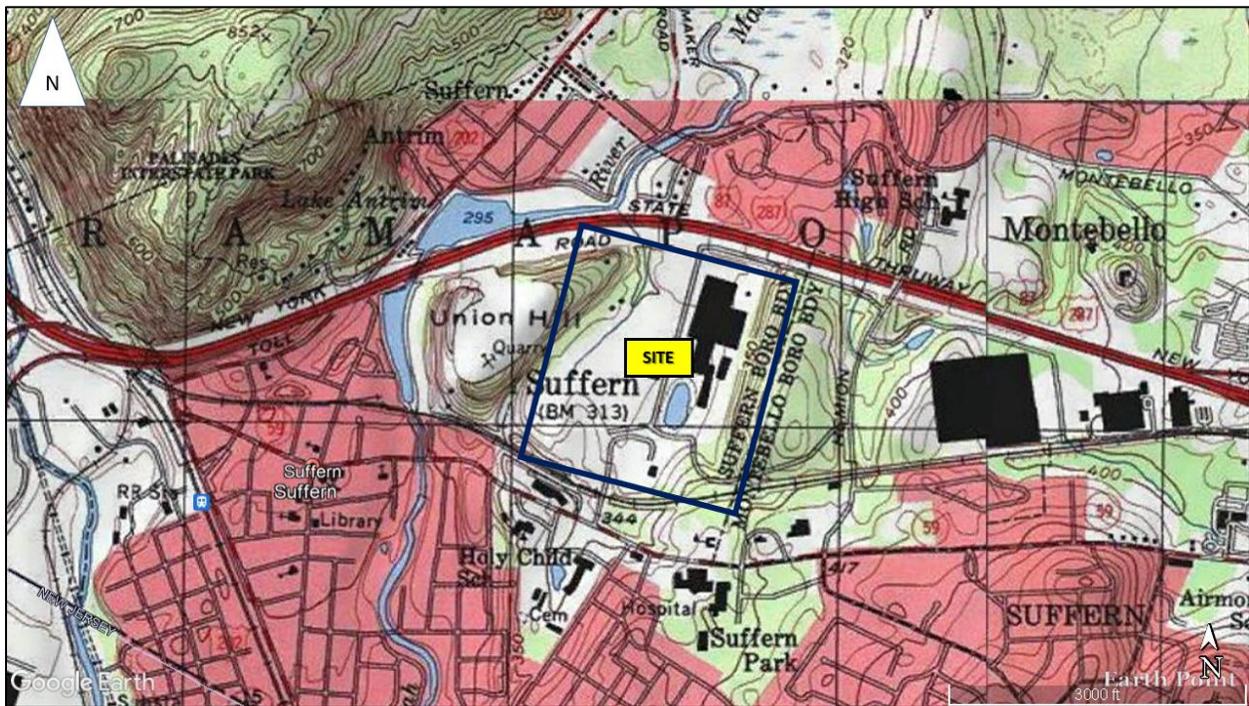


Figure 1. USGS Ramapo Quad showing the general location of the project site

The land cover of the project site includes an abandoned pharmaceutical plant and associated parking lot and landscaped grounds, a stormwater pond, upland forest, and forested, scrub-shrub, and emergent wetlands. A tributary of the Mahwah River flows through the western portion of the site. Jason Tesauro conducted an informal Phase I Bog Turtle Survey (habitat assessment) on 18 August 2021. Approximately three acres of potential bog turtle habitat—a mosaic of spring-fed marsh, shrub swamp, and sparse-canopy hardwood swamp—were identified in the western part of the property along the unnamed Mahwah River tributary (Figures 2 & 3).

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Figure 2. Orthophoto of the project site showing the general location of the potential bog turtle habitat



Figure 3. Google Earth satellite imagery showing the approximate boundary of the bog turtle survey area

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2.0 METHODS

Phase II bog turtle surveys were performed on 23 April, 10 May, 15 May, and 21 May between 0800-1800 under overcast to sunny conditions with ambient air temperatures between 60-82 degrees Fahrenheit (Table 1). All surveys were conducted by the Jason Tesauro (lead surveyor) and herpetologists, Scott Angus and Kevin Pollack. Survey methods consisted walking slowly through the wetland, probing any mucky pools and rivulets for submerged turtles with a wooden probe stick, over-turning thatch and cover for concealed turtles, and visually scanning potential basking areas, refugia, and travel corridors. Sites were surveyed at the rate of four person-hours per visit per acre of suitable bog turtle habitat.

3.0 RESULTS

Over the course of four surveys, no bog turtles or signs of their presence were documented at the project site. Herpetofaunal observations included four eastern box turtles, common snapping turtle, eastern painted turtle, northern brown snake, eastern garter snake, northern water snake, green frog, pickerel frog, and northern spring peeper (Table 1). The eastern box turtle is listed by the State of New York as a *species of special concern*.

Table 1. Bog Turtle Phase 2 Survey Data

25 Mill Road			
DATE	SURVEYORS	TIMES/CONDITIONS	OBSERVED HERPETOFAUNA
23 April	Tesauro, Angus, Pollack	Start: 1100 h 60 F sunny End: 1530 h 68F sunny	Eastern box turtle (<i>Terrapene carolina</i>) (1), common snapping turtle (<i>Chelydra serpentina</i>), eastern painted turtle (<i>Chrysemys picta</i>), eastern garter snake (<i>Thamnophis sirtalis</i>), green frog (<i>Lithobates clamitans melanota</i>)
10 May	Tesauro, Angus	Start: 1245 h sunny 69F End: 1800 h sunny 73F	common snapping turtle, green frog
15 May	Tesauro, Angus, Pollack	Start: 0930 h cloudy 66F End: 1330 h sunny 76F	common snapping turtle, eastern box turtle (2), eastern garter snake, northern water snake, northern brown snake (<i>Storeyia dekayi</i>), green frog, northern spring peeper (<i>Pseudacris crucifer</i>)
21 May	Tesauro, Angus, Pollack	Start: 0800 h overcast 65F End: 1200 h sunny 82F	Eastern box turtle (1), northern brown snake, green frog

4.0 SUMMARY & DISCUSSION

A survey of potential bog turtle habitat within wetlands associated with the 25 Mill Road parcel did not detect the presence of bog turtles. Over the approximate four-week period in which the surveys were conducted, the stature of the vegetation matured and hydrology (in streamside portions of the habitat) varied slightly following heavy rain events; but overall, the suitability of

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the habitat remained highly adequate for supporting bog turtles. The west-central section of the survey area (~ 0.1 ac) contained a unique and promising (from a turtle-search perspective) habitat feature: two large, high-volume springs blanketed by thick mats the calcicolous muskgrass (*Charra* sp.) and lined by short-stature vegetation, including several sedges (*Carex*), bryophytes, and forbs. Springs featuring this assemblage of vegetation are indicative of calcareous fens and other high-pH wetlands in the Hudson Valley that support a regional bog turtle stronghold. Stable, high-output springs are often the driver of bog turtle habitats, providing year-round saturation critical for thermoregulation (i.e., overwintering) as well as resiliency during prolonged periods of drought. A wetland with such unique and abundant groundwater resources within a known bog turtle drainage (Mahwah River) is likely to have supported bog turtles prior to large-scale alteration of the landscape (pre-1900s). The urbanization and historical modifications of the wetland, e.g., agriculture (early), commercial/industrial development (late), nevertheless, could have easily extirpated bog turtles from the site.

The capture of four eastern box turtles—all along the western section of the bog turtle survey area—was significant. This species is in decline throughout much of its range, with habitat fragmentation and roadkill being the primary threats. The ca. 50-acre mosaic of undeveloped upland forest, wetlands, and early successional habitat within the project site (between Route 287 and the railroad and extending offsite) provides a small but high-quality block of unfragmented habitat that would be best left intact to preserve this potentially sizeable concentration of eastern box turtles.

REFERENCES

U.S. Fish and Wildlife Service. 2001. Bog Turtle (*Clemmys muhlenbergii*), Northern Population, Recovery Plan. Hadley, Mass. 103 pp.

SITE PHOTOGRAPHS



Tussock sedge marsh-shrub swamp – NE portion of bog turtle survey area



Eastern portion of bog turtle survey area featuring habitat dominated by tussock sedge, skunk cabbage, royal fern (*Osmunda regalis*), and scattered woody vegetation, including poison sumac (*Toxicodendron vernix*)

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Eastern box turtles captured during the survey