

*Blanding's Turtle Assessment*

O'Malley Site  
148 Cream Street  
Town of Hyde Park,  
Dutchess County, NY

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## 1.0 INTRODUCTION

Ecological Solutions, LLC was retained by the Project Applicant to complete a Blanding's turtle (*Emys blandingii*) assessment on the 41.39 acres O'Malley Property (Site) known as Tax Parcel 133200-6264-01-210630 (Figure 1). The Site is generally hardwood forest from the central section of the Site to the western boundary and contains forested wetland segments in this area. A small watercourse borders the southern boundary of the Site and flows west. The eastern section of the site toward Cream Street is open cleared ground with a dense shrub component.

The proposed project is a 5 lot subdivision which includes the existing residence on the Site. All of the lots will have access from Cream Street and are located on the eastern section of the Site close to Cream Street with the remaining lands remaining in the current condition.

The assessment was completed in accordance with the guidance issued by the New York State Department of Environmental Conservation (NYSDEC) entitled, "Guidelines for Reviewing Projects for Potential Impacts to the Blanding's Turtle" because a portion of the Site meets the NYSDEC guidelines for further investigation including: (1) there is a known Blanding's turtle occurrence within 0.81 miles of the Site. No Blanding's turtle were observed on the site during the wetland delineations or subsequent field visits.

In addition to the NYSDEC guidance Ecological Solutions, LLC also reviewed information from *Hudsonia Ltd.* which completed a countywide evaluation for Blanding's turtles and their ecology and focused on the status of this species in Hyde Park in a publication entitled, "Blanding's Turtle Habitats in Southern Dutchess County". This publication discusses Blanding's turtle habitat, potential impacts to this species, and offers specific recommendations for avoiding and minimizing impacts. This study was consulted and reviewed in preparing this report. After review of these reports, Ecological Solutions completed additional on site assessments during September 2022 to assess the site for potential Blanding's turtle habitat complexes including core wetlands (regularly used wetlands, particularly important as overwintering and early spring habitat), associated wetlands (irregularly used wetlands important for adult foraging, basking, rehydrating, and as year round habitat for juvenile turtles), potential nesting habitats (sparsely vegetated areas such as meadows and fields underlain by Hoosic gravelly loam soils), and the forested and meadow areas between these habitats (used for summer aestivation and for travel).

As a result of the observations to date no core habitats were identified on the Site. Potential core habitats are typically kettlehole ponds with an open canopy, shrubby especially buttonbush which is an indicator of potential core habitat and 2-3 feet of surface water. The Site where the 4 lots are proposed is open ground underlain by Dutchess-Cardigan complex that is rocky. The proposal contemplates no impacts to any wetland habitat on the Site (Table 1) which contains forested red maple swamp complex on the western section of the Site and upland hardwood forest. All of the wetlands on the site are generally dominated by red maple including the borders of the tributary. All wetland areas shown on the Dutchess County Parcel Viewer mapping and other mapping as well as field conditions were reviewed in the field and no additional area had the criteria to be determined as wetland. The original delineation terminated at an old access at the rear of the site with Posted signs which was thought to be the rear property line in the field. Since this was incorrect additional wetland delineation efforts occurred and the wetland mapping is now complete.

Figure 1 Location Map



Figure 2 Soil Map



Map Unit Symbol	Map Unit Name
DwB	Dutchess-Cardigan complex, undulating, rocky
DwC	Dutchess-Cardigan complex, rolling, rocky
NwC	Nassau-Cardigan complex, rolling, very rocky
NwD	Nassau-Cardigan complex, hilly, very rocky

**TABLE 1**  
**HABITAT COVER TYPES IDENTIFIED ON THE SITE**

<b>NO.</b>	<b>EDINGER 2014</b>	<b>ACRES IDENTIFIED</b>	<b>PROPOSED IMPACTS</b>
<b>1</b>	Appalachian Oak-Hickory Forest	26.61	1.23
<b>2</b>	Red Maple Hardwood Swamp	5.48	0
<b>3</b>	Disturbed Area	6.42 + 0.26	2.87
<b>Total</b>		41.39	0

## 2.0 HABITAT SUITABILITY ASSESSMENT

The Habitat Suitability Assessment (HSA) began with an evaluation and description of the onsite wetlands and associated upland habitat listed in Table 1 and illustrated in Figure 1 for the Site.

### Appalachian Oak-Hickory Forest Community

This hardwood forest occurs on areas of well-drained portions of the site generally on the upper slopes. The soils are loams or sandy loams. The dominant trees include one or more of the following oaks: red oak (*Quercus rubra*), white oak (*Quercus alba*), or black oak (*Quercus velutina*). Mixed with the oaks, at lower densities, are the following pignut hickory (*Carya glabra*), shagbark hickory (*Carya ovata*), white ash (*Fraxinus americana*), red maple (*Acer rubrum*), and Eastern hop hornbeam (*Ostrya virginiana*). The trees are generally in same age class within sections of the property with a large section of containing trees in the 20 – 24 inch dbh range. The subcanopy stratum contains small trees and tall shrubs including flowering dogwood (*Cornus florida*), witch hazel (*Hamamelis virginiana*), shadbush (*Amelanchier arborea*), and choke cherry (*Prunus virginiana*). Common low shrubs include maple-leaf viburnum (*Viburnum acerifolium*), blueberries (*Vaccinium angustifolium*), red raspberry (*Rubus idaeus*), and gray dogwood (*Cornus racemosa*). The shrub layer and groundlayer flora are more diverse. Characteristic groundlayer herbs are Pennsylvania sedge (*Carex pensylvanica*), tick-trefoil (*Desmodium glutinosum*, *D. paniculatum*), white goldenrod (*Solidago bicolor*), and hepatica (*Hepatica americana*).

### Red Maple-Hardwood Swamp

The forested wetland is older age hardwood swamp with trees mostly ranging from 8 to 12 inches in diameter at breast height (dbh) that occur in poorly drained inorganic soils. Several of the trees are larger than 20 – 24 inches dbh. In any one stand red maple (*Acer rubrum*) is either the only canopy dominant, or it is co-dominant with one or more hardwoods including green ash (*Fraxinus pennsylvanica*), elms (*Ulmus americana* and *U. rubra*), some yellow birch (*Betula alleghaniensis*), pin oak (*Quercus palustris*), and swamp white oak (*Quercus bicolor*). The other trees with low percent cover include ironwood (*Carpinus carolinianus*) and some white pine (*Pinus strobus*) at the wetland/upland edge. The shrub layer is well developed and quite dense in some areas. Characteristic shrubs are winterberry (*Ilex verticillata*), spicebush (*Lindera benzoin*), alder (*Alnus rugosa*), viburnums (*Viburnum recognitum*, and *V. cassinoides*), highbush blueberry (*Vaccinium corymbosum*), common elderberry (*Sambucus canadensis*), and various shrubby dogwoods (*Cornus sericea*, *C. racemosa*, and *C. amomum*). The herbaceous layer is also quite diverse and is dominated by ferns, including sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*O. regalis*), and marsh fern (*Thelypteris palustris*), with much lesser amounts of crested wood fern (*Dryopteris cristata*), and spinulose wood fern (*Dryopteris carthusiana*). Characteristic herbs include skunk cabbage (*Symplocarpus foetidus*), white hellebore (*Veratrum viride*), sedge (*Carex stricta*), jewelweed (*Impatiens capensis*), false nettle (*Boehmeria cylindrica*), tall meadow rue (*Thalictrum pubescens*), cardinal flower (*Lobelia cardinalis*), and marsh marigold (*Caltha palustris*). This wetland is contains small pools or ponded areas but with insufficient hydrology during the spring <12 inches water depth to support Blanding's turtles and to be used by Blanding's as a potential resting location during migration. All of the wetlands on the site are generally dominated by red maple including the borders of

the tributary. All wetland areas shown on the Dutchess County Parcel Viewer mapping and other mapping as well as field conditions were reviewed in the field and no additional area had the criteria to be determined as wetland. The original delineation terminated at an old access at the rear of the site with Posted signs which was thought to be the rear property line in the field. Since this was incorrect additional wetland delineation efforts occurred and the wetland mapping is now complete.

## **2.1 Field Examination Relating to the Blanding's Turtle**

After an overall analysis of the types of habitat on site, the examination specifically related to Blanding's turtle habitat began. Characteristics that indicate core habitat are: shrubby pools with permanent or intermittent hydroperiod with little flow through; high water depths of 0.5–4.0 feet; tree canopy open or absent; tree fringe present; and a dense cover of shrubs, forbs, lemnids or nymphaeids, with coarse and fine organic debris. There are no core habitats on the O'Malley site. In addition to core wetlands it is known that Blanding's turtles use a complex of habitat types during different periods in their life cycle. According to the NYSDEC "Aquatic/wetland habitat usage by Blanding's turtles includes different types of freshwater systems such as emergent marshes, woodland pools, red maple swamps, buttonbush swamps, ponds, lakes, rivers, and streams. Juvenile Blanding's are normally associated with shallower water and more densely vegetated habitats as compared to that of adults". Visual observations along transects through the habitats on the site were an important part of the assessment.

## **2.2 Examinations of Upland Habitat for Blanding's Use/Potential Nesting Habitat**

Additionally, the field examinations also included all of the potential upland habitats used by Blanding's turtles. Uplands can be an important component of a Blanding's turtle's habitat complex as they spend a substantial portion of the active season on land. During seasonal migrations, turtles of both sexes commonly travel overland through a wide range of terrestrial habitats with only temporary stopovers in rehydration pools. During the summer, adults may also spend extended periods aestivating in upland areas, including shrub habitats and forested edges.

## **2.3 Migration to Potential Nesting Area**

Ecological Solutions evaluated the soil mapping to determine the potential for nesting activities. The Site contains no successional old-field or low growing vegetation which contains Hoosic soils and therefore no suitable habitat for nesting activities by this species. Gravid females require early successional upland habitats with specific soil characteristics in order to excavate nests into which their eggs are laid. It is known that female Blanding's seek out loose gravelly soil to dig a nest since it is easily excavated. Hoosic soils are characterized by loose, gravelly soil and areas containing this soil type with low growing vegetation are a particular favorite of this species for nesting. No Hoosic gravelly loam soils is located on the Site.

The proposed project does not impact potential nesting habitat. The distance of Site from previous Blanding's turtle sighting/s and fact that the western section of the Site will not be impacted means that this area will remain as a potential migration corridor.



### 3.0 POTENTIAL THREATS/RESPONSES

The NYSDEC Blanding's turtle guidelines require that the following threats to this species be addressed.

- Loss of habitat - residential and commercial development eliminate available habitat.

The project leaves the western section of the Site (half the acreage) in it's current conditions and will not result in a loss of potential habitat for Blanding's turtles.

- Habitat degradation
  - Destroying wetland habitats (e.g. draining, filling, ditching)
  - Change in water quality (e.g. chemical or fertilizer application, heavy road salt use, stormwater runoff)
  - Alteration of surface or subsurface hydrology (e.g. stream diversion, construction of impoundments, groundwater wells)
  - Alteration of woodland pool habitat that function as refuges
  - Alteration or removal of aquatic vegetation

The project has no future wetland impact proposed and the western section of the Site will remain in its current state for wildlife. No impacts to groundwater will occur since the project is minor.

- Road mortality - aside from the actual loss of habitat, direct mortality from vehicles may be the biggest threat to the Blanding's turtle.

The project leaves the western section of the Site in it's current conditions with no roads and will not result in a loss of potential habitat for Blanding's turtles.

- Fragmentation - connectivity between terrestrial habitats and aquatic/wetland habitats is essential. Placement of permanent barriers including stonewalls, fences, ditches or curbs that prevent Blanding's turtles from migrating between habitats may increase direct mortality and decrease reproductive success.

The project will develop 4 lots along Cream Street and leaves the western section of the Site in it's current conditions and will not result in a loss of potential habitat for Blanding's turtles.

#### 4.0 PROPOSED MEASURES TO AVOID IMPACTS

Impact to this species and potential habitat is unlikely. However since individuals of any species are unpredictable the following measures will be incorporated to assure that any potential impacts are avoided and minimized:

##### Seasonal Restrictions

- In as much as is practical site work will occur between October 16 and April 14.

##### Temporary Barrier

A temporary restrictive barrier will be installed around each lot footprint so that the work area is completely enclosed. The barrier will be: 1) installed before during the winter hibernation period and maintained until the end of the construction phase of the project or until the beginning of the next winter hibernation period, whichever occurs first, 2) inspected daily and, if necessary, repaired immediately to a fully functional condition, and 3) constructed in accordance with the following design specifications:

- Made of fine-mesh (¼ inch square) filter-fabric or non-woven geotextiles;
- A minimum of 42" high;
- Anchored into the ground with reinforcement bars placed on the "disturbance side" of the barrier and spaced between 6 – 8 feet apart;
- Secured at the base (barrier/ground interface) with at least 8" of fence material covered with soil backfill.

##### Blanding's Turtle Monitor

A biologist experienced in handling Blanding's turtles and licensed by New York State to do so will be on call should a turtle be found during work activities.

The monitor's responsibilities should include:

- Conducting reconnaissance surveys for Blanding's turtles within the specified work area prior to the initiation of any disturbance activities, and relocating any turtles if ever found;
- Training all personnel working at the site to be able to identify, locate, and remove or relocate Blanding's turtles, if necessary, and;
- Monitoring the proper placement and maintenance of temporary restrictive barriers.

## 5.0 BIBLIOGRAPHY

Kiviat, E. 1997. Blanding's turtle habitat requirements and implications for conservation in Dutchess County, New York. Pages 377-382 in Proceedings: conservation, restoration, and management of tortoises and turtles, J.V. Abbema and P.C.H. Pritchard, editors. New York Turtle and Tortoise Society and Wildlife Conservation Society.

Kiviat, E., G. Stevens, R. Brauman, S. Hoeger, P.J. Petokas, and G.G. Hollands. 2000. Restoration of wetland and upland habitat for the Blanding's turtle, *Emydoidea blandingii*. *Chelonian Conservation Biology*. 3:650-657.

Hudsonia, Ltd. Significant Habitats in Northern Hyde Park Dutchess County.