APPENDIX 16

FAUNA AND FLORA SURVEY REPORTS

Part A, Wildlife

Part B, Supplemental Wildlife – Large Mammals

Part C, Floristic Surveys

WILDLIFE RESOURCES
AT THE WINDHAM MOUNTAIN SPORTING CLUB

TOWN OF WINDHAM
GREENE COUNTY, NEW YORK

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1.0 INTRODUCTION

Terrestrial Environmental Specialists, Inc. (TES) was contracted by Tuck East Side Partners, L.P. to perform an assessment of the wildlife resources at the Windham Mountain Sporting Club in the Town of Windham, Greene County, New York. This work was performed in conjunction with The LA Group, P.C. The site is approximately 464.6 acres in size and is located adjacent to the Windham Mountain ski area, within the Catskill Park.

Common amphibians, reptiles, birds, and mammals, as well as endangered and threatened species were addressed in the studies of the site. To complete this assessment, TES assembled and reviewed available background maps and information, contacted state and federal natural resources agencies, and performed wildlife surveys at the site for animal species and their habitats. This report documents the results of these efforts conducted by TES for the Windham Mountain Sporting Club.

2.0 METHODS

2.1 Background Information Review

Prior to field investigations at the site, TES assembled and reviewed available background resource maps and information. The following maps were incorporated into figures and are provided after the text of this report:

- New York State Department of Transportation (NYSDOT) topographic maps (Ashland and Hensonville quadrangles) (Figure 1);
- New York State Department of Environmental Conservation (NYSDEC) New York State Freshwater Wetlands maps (Figure 2);
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps (Figure 3);
- Greene County Soil Survey map prepared by the U.S. Soil Conservation Service (currently Natural Resources Conservation Service) (Figure 4); and
- A 2001 infrared aerial photograph obtained from the New York State Geographic Information Systems (GIS) Clearinghouse (Figure 5).

In addition to the background maps, information was obtained from the New York State Amphibian and Reptile (Herp) Atlas Project and the New York State Breeding Bird (BBA) Atlas Projects to determine what amphibian, reptile, and bird species have been documented in the vicinity of the property. The Herp Atlas Project, which was sponsored by the NYSDEC and several other organizations, was conducted from 1990-1998 to collect information on the distribution and status of amphibians and reptiles in New York State. These data were collected in survey blocks that corresponded to NYSDOT 7.5-minute topographic quadrangles (quads). Distribution maps for these species can be found at the NYSDEC website (http://www.dec.ny.gov/animals/7140.html). A list of amphibians and reptiles reported in the Ashland and Hensonville quads, as well as the ten adjacent quads, is presented in Table 1.

The BBA Project, sponsored by the NYSDEC, the New York State Ornithological Association, and several other organizations, were conducted during two five-year periods (1980-1985 and 2000-2005). Information on local breeding birds was collected in 5 kilometer (km) X 5 km "blocks" and provides a degree of certainty regarding the breeding status of each species by using the type of sighting as an indication that the species is either a possible, probable, or confirmed breeder. A list of the species documented in each block, and their respective breeding statuses, is available on the NYSDEC website. The Windham Mountain Sporting Club is within BBA block 5568D. Table 2 provides a summary of the species and breeding statuses of birds documented in this block during both BBA Projects.

2.2 Agency Contacts

Contact was made with the New York Natural Heritage Program (NYNHP) requesting available information on rare or state-listed animals known to occur on or in the vicinity of the site. The USFWS website was reviewed to determine what federally-listed species and candidate species are known from or likely to occur in Greene County. The results of this correspondence are included in Appendix A.

2.3 Field Surveys

To make observations and collect data on wildlife, TES made a number of field visits to the site in 2008 and 2009. A preliminary site review was performed on August 26, 2008. Wildlife surveys were conducted on September 24, 25 and October 14, 15, 2008 and May 5, 6, 27, 28, and 29, and June 11, 2009. Amphibians and reptiles were located both opportunistically and by searching under cover objects, such as rocks, fallen logs, and leaf litter in forested areas and under rocks in and along the streams on the site; birds were identified by sight, call, and song; and mammals were identified by sight, sound, and sign, especially tracks and scat. Field visits were timed to capture major activity periods such as spring breeding and fall migration for birds. Amphibian and reptile surveys were designed to document breeding activity.

Breeding bird surveys were performed on May 28, 29 and June 11, 2009 according to established breeding bird protocols (Ralph *et al.* 1993). All ecological communities were surveyed for breeding birds. TES used 10-minute counts in circular plots during the period from 5:00 to 10:00 a.m. All birds seen or heard were recorded in the following distance categories: less than 50 meters, greater than 50 meters, and flyover (Table 4). The quantitative data analysis includes all birds seen during the count period. Birds heard beyond 50 meters were recorded to document all birds in the vicinity of the plots.

Sampling was proposed to be repeated on multiple occasions for all point counts. Due to unfavorable rain conditions, these counts were not repeated at all locations.

For some ecological communities, especially wetlands, the extent of the 50-meter radius plots extended beyond the boundaries of that community. Due to the smaller size and irregular shape of the wetland communities, plot data for the wetland point counts included birds from the surrounding upland communities. As a result, bird species from the surrounding upland habitats are included in Table 5.

All species, or their sign, observed on the site were recorded. Additionally, TES made a habitat-based assessment of other animal species potentially occurring on the Windham Mountain Sporting Club. Species that have the potential to inhabit this site can be inferred based on range and habitat use.

Scientific nomenclature for species identified on the site or those that were documented in the vicinity during the Herp Atlas and BBA Projects, is included in the tables that follow the text. Scientific names for species not documented on the site or in the vicinity, but with potential to occur on the site, have been included within the text of this document. Scientific nomenclature for amphibians and reptiles follows the *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico* [Crother (ed.) 2000], with updates through 2003; Scientific nomenclature for bird species follows the Forty-ninth Supplement to the American Ornithologists' Union (AOU) *Checklist of North American Birds* (Banks *et al.* 2008); and scientific nomenclature for mammals follows *Mammals of the Eastern United States* (Whitaker and Hamilton 1998).

3.0 RESULTS

3.1 General Site Description

The NYSDOT topographic map (Figure 1) shows that the site is located on the north face of Cave Mountain, in the Town of Windham, within the Catskill Park. The site is accessed from County Route 12 (South Street) and is adjacent to the Windham Mountain ski area, which leases a portion of the site for the use of portion of a ski lift and trails. Along the southern boundary, the site is adjacent to a +/- 203 acre parcel of New York State Forest Preserve lands described in the 2008 Catskill Park State Land Master Plan as a "detached parcel" that is considered part of the Elm Ridge Wild Forest. The terrain is steep, with elevations in the southern portion of the site more than 3,080 feet above mean sea level (amsl), and in the northern portion of the site, approximately 1,640 feet amsl. The upper portion of an unnamed tributary to the Batavia Kill is located in the northwest corner of the site (Figure 1).

The NYSDEC New York State Freshwater Wetlands map (Figure 2) does not show any state-regulated wetlands on the project site, or in the immediate vicinity. The NWI map (Figure 3) shows a stream on the northwest corner of the site (R3UBHh).

The Greene County Soil Survey (Figure 4) indicates that five different soils occur on the site. These soils indicate the steep nature of the terrain at the site and include:

- Lewbeach and Willowemoc channery silt loams, moderately steep, very bouldery (LmD);
- Vly-Halcott complex, rolling, very rocky (VhC);
- Vly-Halcott complex, hilly, very rocky (VhD);
- Vly-Halcott complex, very steep, very rocky (VhF); and
- Willowemoc channery silt loam, 8 to 15 percent slopes (WmC).

The 2001 infrared aerial photograph (Figure 5) shows that the site is mostly undeveloped. Two roads, Panorama Lane and Trailside Road occur within the project site. With the exception of portions of ski trails and lift and a network of logging trails, the site is almost entirely forested. The majority of this forest cover is mixed maple-northern hardwood forest. Areas of mixed hemlock-northern hardwood forest occur in the central portion of the site and, in the northwestern portion of the site there are patches of coniferous forest. The northern and eastern portions of the site are comprised of successional old field and successional shrubland communities. Two small ponds are associated with the site. One is located in the northwestern-most corner of the site, and the other is partially located in the northeastern part of the site, with a portion of the pond being outside of the site boundary. There are small areas of hardwood swamp, shallow emergent marsh, shrub swampland, and hemlock-hardwood forest scattered throughout the site. Cover type mapping was performed by the LA Group and added to an aerial base map.

3.2 Wildlife Observations

During the initial visit to the site on August 26, 2008, an assessment was made of the habitats available on the site. Field surveys for wildlife were conducted on September 24 and 25 and October 14 and 15, 2008 and May 5, 6, 27, 28, and 29 and June 11, 2009. All observations of wildlife made on the site were recorded and are included in Table 3. Breeding birds recorded during the breeding survey are shown on Table 4. Data from the point counts by vegetation cover type is shown on Table 5.

Additional wildlife species documented in the vicinity of the project site during the Herp Atlas Project (1990-1998) and BBA Projects (1980-1985 and 2000-2005) are included in Tables 1 and 2, respectively. Species with potential to occur on the site were determined by range and availability of habitats.

Much of the site is undeveloped maple-northern hardwood forest and mixed hemlock northern hardwood forests on steep rocky slopes. Open areas (e.g., ski trails, logging trails) exist within this forest. Recent logging activities have created canopy gaps. In the north, where elevations are lower, the habitats are early successional (e.g., open fields and shrublands). A description of the amphibians, reptiles, birds, and mammals recorded on the site, or likely to be inhabiting the site, follows.

3.2.1 Amphibians and Reptiles

During survey efforts, twelve amphibian species and one reptile species were observed. All of these species are considered abundant and widespread in New York. Although not observed on the site during field surveys, several other amphibian and reptile species are possible inhabitants of the site.

Seven salamander species were observed on the site; four of these, northern dusky, Allegheny mountain dusky, northern spring salamander, and northern two-lined salamanders were found in steep, intermittent rocky stream beds within upland deciduous and mixed forests. These salamander species are commonly found under rocks in and along streams, as well as in

moist upland habitats, such as springs and seeps. Many juvenile salamanders were observed in a series of waterfalls that are located in the northwestern corner of the site. Spotted salamanders and eastern red-backed salamanders were found under rocks and logs within the upland deciduous and mixed forests on the site. Spotted salamander egg masses were also found in large puddles and flooded tire tracks in the upland forests.. Spotted salamanders are terrestrial and spend most of time in subterranean tunnels created by small mammals. These salamanders breed primarily in temporary and semi-permanent waterbodies, such as the flooded tire tracks and large puddles, in a forested setting. Red-backed salamanders are entirely terrestrial and are the most common salamanders in New York State (Gibbs *et al.* 2007). Adult red-spotted newts were observed in the pond that is located in the northeastern portion of the site. The western half of the pond in within the site boundary, and the eastern half of the pond is outside of the site boundary. This pond is surrounded by mixed upland forest. Adult red-spotted newts are aquatic and can be found in a variety of wetland habitats, including ponds, vernal pools, and marshes. Juvenile red-spotted newts, or eft stage, which are terrestrial, were found in upland deciduous forest on the site.

American bullfrogs and northern green frogs were observed in both of the ponds that exist on the site. Both of these species typically inhabit permanent waterbodies. Three other amphibian species were observed in the forested portions of the site. These include the eastern American toad, northern spring peeper, and the wood frog. These species are highly terrestrial, but rely on wetland habitats, especially woodland pools, for breeding (Gibbs *et al.* 2007). Wood frog egg masses were also observed in large puddles and flooded tire tracks within the upland forest on the site.

One snake, a juvenile common gartersnake, was observed on the site. The snake was observed in the grass on one of the ski trails. Common gartersnakes are abundant in New York and can be found in a wide variety of habitat types, especially grassy areas near the edge of water. These snakes are also commonly observed in developed areas, near houses and other buildings (Gibbs *et al.* 2007).

Other amphibian and reptile species potentially inhabiting the site include a number of salamanders, frogs, and snakes. Two salamander species that occur in this region that use the types of habitats found on the site are the northern slimy salamander, and the northern red salamander (NYSDEC Herp Atlas). Like the eastern red-backed salamander, the northern slimy salamander is also wholly terrestrial and inhabits forested areas; however, the slimy salamander requires rocky outcrops with shale or talus for overwintering. Rocky areas and outcrops were seen in a number of areas within the steep forested portions of the site. Northern red salamanders would be found in the same habitats as the dusky and northern two-lined salamanders, which include woodland streams and adjacent moist upland habitats (Gibbs *et al.* 2007). Jefferson salamander, a species of special concern in New York, was indicated as occurring in two adjacent Herp Atlas quads. This species shares a similar life history and habitat requirements with the spotted salamander; therefore, it is possible that the species occurs on the site. However, the distribution for Jefferson salamander is much more patchy than the spotted salamander, which is widely distributed across New York State.

Two frog species that could potentially occur on the site are the gray tree and the pickerel frog. Gray tree frogs are highly terrestrial, but require wetland habitats, such as swamps, beaver ponds, or emergent wetlands, surrounded by upland deciduous forest. The pickerel frog uses both terrestrial and wetland habitats, staying closer to densely vegetated wetland habitats around the breeding season, and using upland fields, meadows, and forests at other times during the active season (Gibbs *et al.* 2007).

Several common snakes are potential inhabitants of the site. These include the northern brownsnake, northern red-bellied snake, northern ring-necked snake, eastern milksnake, and northern copperhead. Northern brownsnakes and eastern milksnakes are habitat generalists and can be found in a variety of upland habitats. They are commonly found in and around residential and urbanized areas. Northern ring-necked snakes, northern red-bellied snakes, and northern copperheads are common, but rarely seen, and are more closely tied to forested habitats. Especially important for snakes using upland forests are sufficient cover items, such as fallen logs, rocks, and leaf litter, on the forest floor (Gibbs *et al*. 2007). The site is composed primarily of upland deciduous and mixed forest with a significant amount of ground cover, particularly rocks. Also, the open ski trails offer basking habitat. Although potentially suitable foraging habitat exists on the site for northern copperheads, due to the northern and eastern aspect of the slopes, these snakes may be more likely to den (i.e., overwinter) in areas south of the property that have steep south-facing slopes, which receive greater amounts of solar radiation.

No turtles were observed on the site. This is not unusual due to the lack of aquatic habitats. Painted turtles, one of the most common turtle species in New York, might potentially be found in the two ponds on the site. Wood turtles and eastern box turtles have been documented in several adjacent Herp Atlas quads. Box turtles were documented in two of the ten adjacent quads[1], and wood turtles were documented in five of the ten adjacent quads[2]. Both species use woodland streams and adjacent upland habitats. The eastern box turtle is highly terrestrial, whereas wood turtles frequently use wetland habitats. Both of these species are listed as special concern in New York State (Gibbs *et al*. 2007). The eastern box turtle is a potential inhabitant of this site; however, the intermittent streams on the Windham site are steep and rocky, and therefore are unlikely to provide habitat for wood turtles. The spotted turtle, which is listed as special concern in New York, was also documented in an adjacent quad. Spotted turtles inhabit shallow-water wetlands with a muddy substrate, such as wet meadows, marshes, and swamps (Gibbs *et al*. 2007). Habitat for spotted turtles does not occur on the site.

3.2.2 Birds

During wildlife surveys at the site, a wide variety of gallinaceous birds, raptors, woodpeckers, and songbirds were identified on the site. In all, seventy-two species of birds were documented on the site (Table 3).

There were no endangered or threatened bird species recorded in BBA block 5568D during the 1985 or the 2000 breeding bird atlas. Whip-poor-will is a Special Concern species that was recorded in the atlas block in 1985, but was not recorded in the most recent survey. Dry

[1] Kaaterskill and Westkill.
[2] Gilboa, Greenville, Hunton, Kaaterskill, and Westkill.

oak woods without a developed understory is the dominant breeding habitat. On-site habitat contains few oak trees and the understory is quite dense. As a result, whip-poor-will is not expected to occur on the site.

The two gallinaceous birds observed on the site were ruffed grouse and wild turkey. Multiple individuals of both species were observed in upland forests. Ruffed grouse and wild turkeys were flushed from wooded habitats alongside logging trails. Ruffed grouse tend to prefer regenerating or second-growth forest and scrub-shrub habitats; while the wild turkey prefers open mature forests (McGowan and Corwin 2008), but will utilize fields and second-growth forest cover types as well. Much of the site contains second growth or regenerating forest as a result of clearing from logging activities and maintenance of the ski facilities.

Three hawks were observed flying over the site during the fall migratory period. These include a sharp-shinned hawk, a broad-winged hawk, and a red-tailed hawk. All of these birds were observed from openings in the forest (e.g., from the ski trail or along the logging trails). The sharp-shinned hawk was observed hunting in an open area in the eastern portion of the site. These three hawk species require forested habitats for breeding; however, sharp-shinned and red-tailed hawks tend to prefer more open forest stands or forest stands within a matrix of open habitats such as farmlands or open fields, while broad-winged hawks are more characteristic of large contiguous forest blocks (Cornell 2001). Red-tailed hawks are also tolerant of human-influenced landscapes (McGowan and Corwin 2008). The sharp-shinned hawk is listed as a species of special concern in New York State. However, this species has a widespread distribution throughout New York State. Both the broad-winged hawk and the red-tailed hawk are common throughout the state.

Five species of woodpeckers were observed on the site and all of them are local breeders. These include yellow-bellied sapsucker, downy woodpecker, hairy woodpecker, northern flicker, and pileated woodpecker. These are all common species which inhabit forested habitats. Yellow-bellied sapsuckers, downy woodpeckers, and northern flickers prefer younger forests, open areas, and edge habitats, while hairy woodpeckers and pileated woodpeckers prefer more mature woodlands (McGowan and Corwin 2008).

Songbirds observed on the site included a variety of vireos, warblers, and sparrows, among others. During the fall migratory period birds were seen primarily along the forest edge. Forest edges occurred along the ski trails and logging roads, as well as in places where woods bordered the more open shrubby and field habitats, in the northern portion of the site. Species observed along forest edges included mourning dove, cedar waxwing, yellow-rumped warbler, common yellowthroat, and white-throated sparrow. These species were also observed in the bordering scrub shrub habitat, along with gray catbird, field sparrow, and song sparrow. Several species more typically found within the forest interior were also seen along the forested edge. These included golden-crowned kinglet, ruby-crowned kinglet, hermit thrush, and black-throated green warbler. Three fall migrant species were also seen along the forest/scrub-shrub edge, the Tennessee warbler, northern parula, and bay-breasted warbler. These species have a more northern range, and in New York State, they are mostly restricted to breeding in the Adirondack region (McGowan and Corwin 2008).

Breeding birds are described by the vegetation communities in which they are found. Breeding birds located on the site are shown on Table 4. A quantitative analysis of birds observed by vegetation community is shown on Table 5.

Successional old field provides breeding habitat for common yellowthroat, prairie warbler, field sparrow, song sparrow, and mourning dove. Bobolink utilizes the northern edge of the site for breeding but mainly breeds in adjacent off-site fields. A wide variety of bird species such as American kestrel, eastern kingbird, and American crow were noted using this habitat for foraging.

Successional shrubland provided breeding habitat for gray catbird, common yellowthroat, blue jay, American crow, and dark-eyed junco. This shrubland habitat intergrades with successional northern hardwood forest. American redstart and veery used the taller trees in this denser successional northern hardwood habitat for breeding.

Hemlock-northern hardwood forest occupies a small area on the site north of the residential areas on Maple Lane. This forest community provided breeding habitat for hermit thrush, black-throated green warbler, ovenbird, and dark-eyed junco.

Maple-northern hardwood forest occupies the largest area on the project site. Wood thrush, veery, black-capped chickadee, American robin, hairy woodpecker, red-eyed vireo, ovenbird, and eastern towhee were typical breeding birds using this habitat. Canopy gaps, created by logging activity, provided openings for eastern towhees and mourning warbler.

Wetland habitats were small and interspersed within upland communities. Hardwood swamp, shallow emergent marsh, shrub swampland, and hemlock hardwood forest contained similar bird species as the adjoining upland habitats. Gray catbird, common yellowthroat, and yellow warbler were representative species within these habitats.

Bicknell's thrush (*Catharus bicknelli*) is a habitat specialist that is dependent on balsam fir-spruce forests and breeds at an elevation above 1,100 meters (approximately 3,575 feet). (Rammer C.C. *et al.* 2001). This species was not documented within the BBA block 5568D during either of the BBA projects (McGowan and Corwin Eds. 2008). Upper elevations on the site are lower than the known breeding elevation for Bicknell's thrush in the Catskills. However, the primary factor which makes the habitat on the site unsuitable for Bicknell's thrush is that the upper elevation forests are dominated by maple northern hardwood forest. In the Catskill Mountains, Bicknell's thrush does not breed without their required balsam fir-spruce habitat.

3.2.3 Mammals

Nine mammal species, or their sign, were observed on the site. A list of these species can be found in Table 3. Small mammals observed on the site were eastern chipmunk, eastern gray squirrel, red squirrel, and woodland vole. A number of other small mammals are also likely to occur on the site. These include the masked shrew (*Sorex cinereus*), short-tailed shrew (*Blarina brevicauda*), deer mouse (*Peromyscus maniculatus*), white-footed mouse (*P. leucopus*), and northern and southern flying squirrels (*Glaucomys volans and G. sabrinus*). Most of these

species use a variety of upland habitats, including both shrubby or brushy areas and forested areas. However, deer mice and flying squirrels are more typical of forested habitats.

Medium-sized mammals identified on the site were woodchuck and raccoon. The woodchuck was observed along the ski trail, and although raccoons were not directly observed, their scat and tracks were noted in a number of forested locations on the site, especially along logging trails that they use as travel corridors. A number of other medium-sized mammals are likely to occur on the site. These include the eastern cottontails (*Sylvilagus floridanus*) and gray foxes (*Urocyon cinereoargenteus*). Fishers (*Martes pennanti*) and bobcats (*Lynx rufus*) may occasionally be found on the site. Eastern cottontails and gray foxes often use the forest edges and can also be found in developed or residential areas. The fisher and bobcat are far-ranging mammals that use a variety of habitats, including large forests.

Large mammals identified on the site included coyote, black bear, and white-tailed deer. None of these animals were directly observed; however an abundance of tracks and scat from all three of these species was observed on the site. For the eastern coyote, most of the sign was observed on the ski trails and along logging trails. Coyotes use habitats where prey items (e.g., mice and eastern cottontails) are abundant. This includes open woodlands and especially forest edges, which not only provide foraging opportunities but serve as travel corridors as well. For the black bear, scat was seen along the ski trails and the logging trails, as well as in the interior of the forest. Berry bushes (*Rubus* spp.) were abundant on the site, which serve as an important summer food source for the bears. Bears are far-ranging and use large tracts of contiguous upland forest. White-tailed deer tracks and scat were mostly observed along the logging trails and in the interior of the forest.

No bat species were seen on the site; however they are potential inhabitants. The ski trails and logging trails within the larger forest matrix provide openings and travel corridors that would offer foraging opportunities. Several common bats in New York State are the little brown myotis (*Myotis lucifugus*), eastern small-footed myotis (*M. leibii*), and big brown bat (*Eptesicus fuscus*). These species might be found foraging on insects along these corridors, in the forest canopy, and along the more open, early successional habitats on the site. The Indiana bat (*M. sodalis*), a federally-endangered species, was indicated by the USFWS as potentially occurring in Greene County; however this species has not yet been documented in this portion of Greene County (USFWS 2007). The Indiana bat will be discussed in the following section.

3.3 Endangered and Threatened Species

The NYNHP was contacted for records of listed species known from the vicinity of the site, and the USFWS website was reviewed for federally-listed species known from Greene County. Results of this effort are provided in Appendix A. The NYNHP indicated that there were no known occurrences of rare or listed species within the vicinity of the project site. The USFWS website indicated that three federally-listed animals are known to occur in Greene County. None of these species were observed by TES during the field surveys.

- Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) was delisted from the federal endangered species list (ESA) on August 8, 2007; however, this species still receives protection under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act and is currently listed as threatened by New York State. These birds require large, undisturbed open-water bodies such as lakes, rivers, or reservoirs for foraging. Nests are typically built along the edge of these types of waterbodies, in large trees with open crowns and sturdy branches. The NYNHP did not indicate the occurrence of bald eagle nests or concentration areas within the immediate vicinity of the project site. Additionally, no bald eagles were observed during field surveys, and no habitat for this species occurs on the site.

- Indiana Bat

The Indiana bat is both federally and state-listed as endangered. The species hibernates in caves and mines during the winter months and spends summers foraging and roosting in wooded areas (usually associated with rivers or lakes). Bats roost under exfoliating bark and in crevices of both living and dead trees. Common roost tree species are silver maple (*Acer saccharinum*), shagbark hickory (*Carya ovata*), and white oak (*Quercus alba*). No hibernacula or summer roosting/maternity colonies have been identified in Greene County (USFWS 2007). However, due to the existence of several known hibernacula in an adjacent county (Ulster County), Greene County is included as a county of likely occurrence by the USFWS. No caves were identified on the site; therefore, no overwintering habitat exists on the site. Potentially suitable foraging habitat for this species does exist on the site, as it does for other common bat species in New York; however, elevations on the site are higher than used by Indiana bats. In New York State, maternity colonies are not known to occur above 900 feet above msl (USFWS 2006). Because Indiana bats are not currently known from Greene County, and due to the high elevation of the site, it is very unlikely that Indiana bats would be of concern for this site.

- Short-nosed Sturgeon

The short-nosed sturgeon (*Acipenser brevirostrum*) is both federally and state-listed as endangered. This large fish (up to 3.5 feet in length) is anadromous, spending most of its life in salt water, and returning to freshwater to spawn. In New York State this species occurs only in the Hudson River Estuary (NYSDEC 2009). This species does not occur on the site.

4.0 SUMMARY

Terrestrial Environmental Specialists, Inc. (TES) was contracted by Tuck East Side Partners, L.P. to perform wildlife studies at the Windham Mountain Sporting Club in the Town of Windham, Greene County, New York. The site is approximately 465 acres and consists primarily of upland deciduous forest. The site is adjacent to the Windham Mountain ski area, and portions of several ski trails and a ski lift occur on the site. Wetland and water resources and cover-type mapping was performed by The LA Group, P.C.

Studies performed by TES included surveys for common animals, as well as endangered and threatened species and their habitats, and an assessment of habitat suitability for a variety of species occurring in the area. In addition to field visits by TES to the site, a background information review of natural resource maps and data from the New York State Herp and Breeding Bird Atlas Projects was completed. Additionally, contacts were made with state and federal natural resource agencies for known occurrences of rare and listed species from the area.

A number of common animal species were observed on the site or have been indicated as having the potential to occur on the site. These species were those that use the forested, shrubby, and open field habitats found on the site.

Many of the common amphibians in New York were observed on the site. These include red-spotted newt, eastern red-backed salamander, eastern American toad, American bullfrog, northern green frog, and common gartersnake. Due to the presence of intermittent rocky streams and seepage areas within the larger forest complex, a number of dusky salamanders and northern two-lined salamanders were also found on the site. Fewer reptiles were found on the site due to the lack of available habitat features. A number of common snake species have the potential to occur on the site; however, the lack of aquatic habitats and wetlands limits the site's potential to support turtles.

Numerous gallinaceous birds, raptors, woodpeckers, and songbirds were identified on the site. These surveys were conducted during the summer, spring, and fall seasons. Therefore, species observed on the site would be expected to be either permanent residents, seasonal breeders, or fall migrants. Table 4 provides a list of breeding bird species. Year-round residents identified on the site by TES include, but are not limited to, ruffed grouse, wild turkey, red-tailed hawk, mourning dove, downy woodpecker, northern flicker, blue jay, American crow, black-capped chickadee, white-breasted nuthatch, and American goldfinch. Representative breeding birds, which are seasonally found on the site, include gray catbird, ovenbird, eastern towhee, red-eyed vireo, and field sparrow.

Many mammal species may go undetected at a site. This is due to their small size or secretive habits. However, a number of small, medium, and large-sized mammals were observed on the site. These include eastern chipmunk, woodchuck, eastern gray squirrel, red squirrel, and white-tailed deer. The presence of several species was confirmed by their tracks and scat; these were the coyote, black bear, and raccoon. Numerous other species of small and medium-sized mammals listed in Section 3.2.3 above are likely to occur on the site.

No state-listed species are known to occur in the immediate vicinity of the site; however, one species of special concern, the sharp-shinned hawk, was observed by TES during the fall migration period. Three federally-listed species, the bald eagle, Indiana bat, and short-nosed sturgeon, were indicated as occurring or likely occurring in Greene County. Suitable habitat for these species does not occur on the site. No federally-listed species were observed by TES during surveys field surveys.

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TABLES

Table 1.

Amphibian and Reptile Species Documented in the Vicinity of the Windham Mountain Sporting Club During the New York State Amphibian and Reptile Atlas Project

SALAMANDERS[a]			
Common Name	**Scientific Name**	**ATLAS**[b]	**STATUS**[c]
Jefferson Salamander	*Ambystoma jeffersonianum*	ADJ	SPEC
Spotted Salamander	*Ambystoma maculatum*	IN	
Red-spotted Newt	*Notophthalmus v. viridescens*	IN	
Northern Dusky Salamander	*Desmognathus fuscus*	IN	
Allegheny Mountain Dusky Salamander	*Desmognathus ochrophaeus*	IN	
Eastern Red-backed Salamander	*Plethodon cinereus*	IN	
Northern Slimy Salamander	*Plethodon glutinosus*	ADJ	
Northern Spring Salamander	*Gyrinophilus p. porphyriticus*	IN	
Northern Red Salamander	*Pseudotriton r. ruber*	ADJ	
Northern Two-lined Salamander	*Eurycea bislineata*	IN	

TOADS AND FROGS[a]			
Common Name	**Scientific Name**	**ATLAS**[b]	**STATUS**[c]
Eastern American Toad	*Bufo a. americanus*	IN	
Gray Treefrog	*Hyla versicolor*	IN	
Northern Spring Peeper	*Pseudacris c. crucifer*	IN	
American Bullfrog	*Rana catesbeiana*	IN	
Northern Green Frog	*Rana clamitans melanota*	IN	
Wood Frog	*Rana sylvatica*	ADJ	
Northern Leopard Frog	*Rana pipiens*	IN	
Pickerel Frog	*Rana palustris*	IN	

TURTLES[a]			
Common Name	**Scientific Name**	**ATLAS**[b]	**STATUS**[c]
Eastern Snapping Turtle	*Chelydra s. serpentina*	ADJ	
Spotted Turtle	*Clemmys guttata*	ADJ	SPEC
Wood Turtle	*Glyptemys insculpta*	ADJ	SPEC
Eastern Box Turtle	*Terrapene c. carolina*	ADJ	SPEC
Painted Turtle	*Chrysemys picta*	IN	

SNAKES[a]			
Common Name	**Scientific Name**	**ATLAS**[b]	**STATUS**[c]
Northern Watersnake	*Nerodia s. sipedon*	ADJ	
Northern Brownsnake	*Storeria d. dekayi*	ADJ	
Northern Red-bellied Snake	*Storeria o. occipitomaculata*	ADJ	
Common Gartersnake	*Thamnophis sirtalis*	IN	
Eastern Ribbonsnake	*Thamnophis sauritus*	ADJ	
Northern Ring-necked Snake	*Diadophis punctatus edwardsii*	IN	

[a] Common and scientific names according to Crother (2000), and updates through 2003.
[b] Recorded during the New York State Amphibian and Reptile Atlas Project (1990-1998). Interim distribution maps on NYSDEC website. IN = Recorded in Ashland or Hensonville quadrangles, ADJ = Recorded in at least one of ten adjacent quadrangles.
[c] State status: END = Endangered, THR = Threatened, SPEC = Special Concern.

Table 1. (cont.)

SNAKES[a]		**ATLAS**[b]	**STATUS**[c]
Common Name	**Scientific Name**		
Smooth Greensnake	*Opheodrys vernalis*	ADJ	
Eastern Ratsnake	*Elaphe alleghaniensis*	ADJ	
Eastern Milksnake	*Lampropeltis t. triangulum*	IN	
Northern Copperhead	*Agkistrodon contortrix mokasen*	ADJ	

Table 2.

Bird Species Documented in the Vicinity of the Windham Mountain Sporting Club During the New York State Breeding Bird Atlas Projects

BIRDS[a]		BLOCK 5568D[b]	
Common Name	**Scientific Name**	**1980-1985 ATLAS**	**2000-2005 ATLAS**
Ring-necked Pheasant	*Phasianus colchicus*	PRO	-
Ruffed Grouse	*Bonasa umbellus*	CON	POS
Wild Turkey	*Meleagris gallopavo*	CON	POS
Turkey Vulture	*Cathartes aura*	POS	-
Broad-winged Hawk	*Buteo platypterus*	PRO	-
Red-tailed Hawk	*Buteo jamaicensis*	PRO	POS
American Kestrel	*Falco sparverius*	-	POS
Killdeer	*Charadrius vociferus*	CON	-
American Woodcock	*Scolopax minor*	PRO	POS
Mourning Dove	*Zenaida macroura*	CON	CON
Whip-poor-will	*Caprimulgus vociferus*	PRO	-
Chimney Swift	*Chaetura pelagica*	-	POS
Ruby-throated Hummingbird	*Archilochus colubris*	CON	PRO
Yellow-bellied Sapsucker	*Sphyrapicus varius*	CON	CON
Downy Woodpecker	*Picoides pubescens*	CON	CON
Hairy Woodpecker	*Picoides villosus*	PRO	POS
Northern Flicker	*Colaptes auratus*	CON	CON
Pileated Woodpecker	*Dryocopus pileatus*	PRO	PRO
Eastern Wood-pewee	*Contopus virens*	-	CON
Alder Flycatcher	*Empidonax alnorum*	-	PRO
Least Flycatcher	*Empidonax minimus*	-	PRO
Eastern Phoebe	*Sayornis phoebe*	PRO	CON
Great Crested Flycatcher	*Myiarchus crinitus*	-	CON
Eastern Kingbird	*Tyrannus tyrannus*	CON	CON
Yellow-throated Vireo	*Vireo flavifrons*	-	POS
Blue-headed Vireo	*Vireo solitarius*	-	POS
Warbling Vireo	*Vireo gilvus*	-	POS
Red-eyed Vireo	*Vireo olivaceus*	-	CON
Blue Jay	*Cyanocitta cristata*	CON	CON
American Crow	*Corvus brachyrhynchos*	PRO	CON
Tree Swallow	*Tachycineta bicolor*	CON	CON
Bank Swallow	*Riparia riparia*	CON	-
Cliff Swallow	*Petrochelidon pyrrhonota*	CON	POS
Barn Swallow	*Hirundo rustica*	CON	-
Black-capped Chickadee	*Poecile atricapillus*	CON	CON
Tufted Titmouse	*Baeolophus bicolor*	CON	PRO
Red-breasted Nuthatch	*Sitta canadensis*	CON	-

[a] Common and scientific names according to AOU (1998) and supplements through 2008.

[b] Recorded in Block 5568D during either the 1980-1985 or 2000-2005 New York State Breeding Bird Atlas Project. CON = Confirmed Breeder, PRO = Probable Breeder, POS = Possible Breeder.

Table 2 (cont.)

BIRDS[a]		BLOCK 5568D[b]	
Common Name	**Scientific Name**	**1980-1985 ATLAS**	**2000-2005 ATLAS**
White-breasted Nuthatch	*Sitta carolinensis*	CON	CON
Brown Creeper	*Certhia americana*	PRO	POS
House Wren	*Troglodytes aedon*	PRO	CON
Winter Wren	*Troglodytes troglodytes*	PRO	POS
Golden-crowned Kinglet	*Regulus satrapa*	PRO	POS
Blue-gray Gnatcatcher	*Polioptila caerulea*	PRO	-
Eastern Bluebird	*Sialia sialis*	CON	POS
Veery	*Catharus fuscescens*	-	PRO
Hermit Thrush	*Catharus guttatus*	-	PRO
Wood Thrush	*Hylocichla mustelina*	-	CON
American Robin	*Turdus migratorius*	CON	CON
Gray Catbird	*Dumetella carolinensis*	PRO	-
Brown Thrasher	*Toxostoma rufum*	PRO	POS
European Starling	*Sturnus vulgaris*	CON	CON
Cedar Waxwing	*Bombycilla cedrorum*	CON	CON
Nashville Warbler	*Vermivora ruficapilla*	-	PRO
Yellow Warbler	*Dendroica petechia*	-	POS
Chestnut-sided Warbler	*Dendroica pensylvanica*	-	CON
Magnolia Warbler	*Dendroica magnolia*	-	POS
Yellow-rumped Warbler	*Dendroica coronata*	-	PRO
Black-throated Green Warbler	*Dendroica virens*	-	PRO
Blackburnian Warbler	*Dendroica fusca*	-	POS
Prairie Warbler	*Dendroica discolor*	PRO	CON
Black-and-white Warbler	*Mniotilta varia*	-	POS
American Redstart	*Setophaga ruticilla*	-	POS
Ovenbird	*Seiurus aurocapilla*	-	CON
Mourning Warbler	*Oporornis philadelphia*	PRO	-
Common Yellowthroat	*Geothlypis trichas*	-	CON
Scarlet Tanager	*Piranga olivacea*	PRO	CON
Eastern Towhee	*Pipilo erythrophthalmus*	PRO	PRO
Chipping Sparrow	*Spizella passerina*	PRO	CON
Field Sparrow	*Spizella pusilla*	PRO	CON
Vesper Sparrow	*Pooecetes gramineus*	PRO	-
Savannah Sparrow	*Passerculus sandwichensis*	-	CON
Song Sparrow	*Melospiza melodia*	PRO	CON
Swamp Sparrow	*Melospiza georgiana*	PRO	-
White-throated Sparrow	*Zonotrichia albicollis*	-	POS
White-crowned Sparrow	*Zonotrichia leucophrys*	PRO	-
Dark-eyed Junco	*Junco hyemalis*	PRO	CON
Northern Cardinal	*Cardinalis cardinalis*	PRO	PRO
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	PRO	PRO

Table 2 (cont.)

BIRDS[a]		**BLOCK 5568D[b]**	
Common Name	**Scientific Name**	**1980-1985 ATLAS**	**2000-2005 ATLAS**
Indigo Bunting	*Passerina cyanea*	PRO	PRO
Bobolink	*Dolichonyx oryzivorus*	-	CON
Red-winged Blackbird	*Agelaius phoeniceus*	CON	CON
Eastern Meadowlark	*Sturnella magna*	-	PRO
Common Grackle	*Quiscalus quiscula*	PRO	CON
Brown-headed Cowbird	*Molothrus ater*	PRO	CON
Baltimore Oriole	*Icterus galbula*	CON	CON
Purple Finch	*Carpodacus purpureus*	PRO	CON
House Finch	*Carpodacus mexicanus*	-	CON
American Goldfinch	*Carduelis tristis*	PRO	PRO
House Sparrow	*Passer domesticus*	PRO	-

Table 3.

Wildlife Species Observed by TES at the Windham Mountain Sporting Club

AMPHIBIANS AND REPTILES[a]		VEGETATION COVER TYPES[b]						
Common Name	**Scientific Name**	**OF**	**SSU**	**DFU**	**MFU**	**EFU**	**RS**	**POND**
Spotted Salamander	*Ambystoma maculatum*			X	X			
Red-spotted Newt	*Notophthalmus v. viridescens*			X	X			X
Northern Dusky Salamander	*Desmognathus fuscus*			X			X	
Allegheny Mountain Dusky Salamander	*Desmognathus ochrophaeus*			X	X	X	X	
Eastern Red-backed Salamander	*Plethodon cinereus*			X	X	X		
Northern Spring Salamander	*Gyrinophilus porphyriticus*			X			X	
Northern Two-lined Salamander	*Eurycea bislineata*			X	X	X	X	
Eastern American Toad	*Bufo a. americanus*			X				
Northern Spring Peeper	*Pseudacris c. crucifer*			X				
American Bullfrog	*Rana catesbeiana*	X			X			X
Northern Green Frog	*Rana clamitans melanota*	X	X	X				X
Wood Frog	*Rana sylvatica*			X				
Common Gartersnake	*Thamnophis sirtalis*	X						

BIRDS[c]		VEGETATION COVER TYPES[b]						
Common Name	**Scientific Name**	**OF**	**SSU**	**DFU**	**MFU**	**EFU**	**RS**	**POND**
Ruffed Grouse	*Bonasa umbellus*			X	X			
Wild Turkey	*Meleagris gallopavo*		X	X	X			
Turkey Vulture	*Cathartes aura*	F.O.						
Sharp-shinned Hawk	*Accipiter striatus*	X	X	F.O.	F.O			
Broad-winged Hawk	*Buteo platypterus*	F.O.		F.O.	F.O.			
Red-tailed Hawk	*Buteo jamaicensis*		X	X				
American Kestrel	*Falco sparverius*	F.O.	F.O.	F.O.				
Mourning Dove	*Zenaida macroura*	X	X	X				
Yellow-billed Cuckoo	*Coccyzus americanus*		X					
Black-billed Cuckoo	*Coccyzus erythropthalmus*	X		X				
Yellow-bellied Sapsucker	*Sphyrapicus varius*			X	X			
Downy Woodpecker	*Picoides pubescens*		X	X	X			
Hairy Woodpecker	*Picoides villosus*			X	X			
Northern Flicker	*Colaptes auratus*	X	X	X				
Pileated Woodpecker	*Dryocopus pileatus*			X	X			
Eastern Wood-pewee	*Contopus virens*				X			
Eastern Phoebe	*Sayornis phoebe*		X	X				
Great Crested Flycatcher	*Myiarchus crinitus*		X	X	X			
Yellow-throated Vireo	*Vireo flavifrons*		X	X				
Blue-headed Vireo	*Vireo solitarius*			X				
Philadelphia Vireo	*Vireo philadelphicus*		X	X				
Red-eyed Vireo	*Vireo olivaceus*			X	X			
Blue Jay	*Cyanocitta cristata*	X	X	X	X			

[a] Common and scientific names according to Crother (2000), and updates through 2003.

[b] Vegetation cover types are as follows: OF = Open Field (including ski slopes), SSU = Scrub-Shrub Upland, DFU = Deciduous Forest Upland, MFU = Mixed Forest Upland, EFU = Evergreen Forest Upland, RS = rocky stream (within a forested complex), POND = Pond

[c] Common and scientific names according to AOU (1998) and supplements through 2008.

Table 3. (cont.)

BIRDS[(c)]		VEGETATION COVER TYPES[(b)]						
Common Name	**Scientific Name**	**OF**	**SSU**	**DFU**	**MFU**	**EFU**	**RS**	**POND**
American Crow	*Corvus brachyrhynchos*	X	X	X	X			
Common Raven	*Corvus corax*		F.O.	F.O.				
Black-capped Chickadee	*Poecile atricapillus*	X	X	X	X	X		
White-breasted Nuthatch	*Sitta carolinensis*		X	X	X			
Winter Wren	*Troglodytes troglodytes*			X	X			
Golden-crowned Kinglet	*Regulus satrapa*		X	X		X		
Ruby-crowned Kinglet	*Regulus calendula*		X	X				
Eastern Bluebird	*Sialia sialis*	X	X					
Veery	*Catharus fuscescens*		X					
Hermit Thrush	*Catharus guttatus*	X	X	X	X			
Wood Thrush	*Hylocichla mustelina*			X				
American Robin	*Turdus migratorius*	X	X	X	X			
Gray Catbird	*Dumetella carolinensis*		X	X				
Brown Thrasher	*Toxostoma rufum*		X					
European Starling	*Sturnus vulgaris*		X					
Cedar Waxwing	*Bombycilla cedrorum*		X	X				
Tennessee Warbler	*Vermivora peregrina*			X				
Nashville Warbler	*Vermivora ruficapilla*			X				
Northern Parula	*Parula americana*		X	X				
Yellow Warbler	*Dendroica petechia*	X	X					
Chestnut-sided warbler	*Dendroica pensylvanica*		X	X				
Magnolia Warbler	*Dendroica magnolia*			X				
Black-throated Blue Warbler	*Dendroica caerulescens*				X			
Yellow-rumped Warbler	*Dendroica coronata*		X	X				
Black-throated Green Warbler	*Dendroica virens*		X	X	X	X		
Blackburnian Warbler	*Dendroica fusca*		X	X				
Prairie Warbler	*Dendroica discolor*	X	X					
Bay-breasted Warbler	*Dendroica castanea*		X	X				
Black-and-white Warbler	*Mniotilta varia*			X	X	X		
American Redstart	*Setophaga ruticilla*		X	X				
Worm-eating Warbler	*Helmitheros vermivorum*			X				
Ovenbird	*Seiurus motacilla*			X	X	X		
Mourning Warbler	*Oporornis philadelphia*			X	X			
Common Yellowthroat	*Geothlypis trichas*		X	X	X			
Scarlet Tanager	*Piranga olivacea*		X	X				
Eastern Towhee	*Pipilo erythrophthalmus*	X	X	X				
Chipping Sparrow	*Spizella passerina*	X	X	X				
Field Sparrow	*Spizella pusilla*	X	X	X				
Song Sparrow	*Melospiza melodia*	X	X	X				
White-throated Sparrow	*Zonotrichia albicollis*	X	X	X				
Dark-eyed Junco	*Junco hyemalis*	X	X	X	X	X		
Rose-breasted Grosbeak	*Pheucticus ludovicianus*		X	X				
Indigo Bunting	*Passerina cyanea*				X			
Bobolink	*Dolichonyx oryzivorus*	X						

[(c)] Common and scientific names according to AOU (1998) and supplements through 2008.

Table 3 (cont.)

BIRDS[(c)]		VEGETATION COVER TYPES[(b)]						
Common Name	**Scientific Name**	**OF**	**SSU**	**DFU**	**MFU**	**EFU**	**RS**	**POND**
Eastern Meadowlark	*Sturnella magna*	X						
Brown-headed Cowbird	*Molothrus ater*		X					
Baltimore Oriole	*Icterus galbula*			X	X			
Purple Finch	*Carpodacus purpureus*		X	X				
American Goldfinch	*Carduelis tristis*	X	X	X				

MAMMALS[(d)]		VEGETATION COVER TYPES[(b)]						
Common Name	**Scientific Name**	**OF**	**SSU**	**DFU**	**MFU**	**EFU**	**RS**	**POND**
Eastern cottontail	*Sylvilagus floridanus*	X	X	X				
Eastern chipmunk	*Tamias striatus*		X	X	X	X		
Woodchuck	*Marmota monax*	X						
Eastern gray squirrel	*Sciurus carolinensis*		X	X	X			
Red squirrel	*Tamiasciurus hudsonicus*			X	X	X		
Woodland vole	*Microtus pinetorum*			X				
Coyote	*Canis latrans*	X	X	X	X			
Black bear	*Ursus americanus*	X	X	X	X			
Raccoon	*Procyon lotor*	X	X	X	X			
White-tailed deer	*Odocoileus virginianus*	X	X	X	X	X		

[(c)] Common and scientific names according to AOU (1998) and supplements through 2008.

[(d)] Common and scientific names according to Whitaker and Hamilton (1998).

Table 4.

Breeding Birds at the Windham Mountain Sporting Club

Common Name	**Scientific Name[(a)]**
American kestrel	*Falco sparverius*
Mourning dove	*Zenaida macroura*
Black-billed cuckoo	*Coccyzus erythropthalmus*
Yellow-billed cuckoo	*Coccyzus americanus*
Red-bellied woodpecker	*Melanerpes carolinus*
Yellow-bellied sapsucker	*Sphyrapicus varius*
Hairy woodpecker	*Picoides villosus*
Pileated woodpecker	*Dryocopus pileatus*
Eastern wood-pewee	*Contopus virens*
Eastern phoebe	*Sayornis phoebe*
Great crested flycatcher	*Myiarchus crinitus*
Eastern kingbird	*Tyrannus tyrannus*
Blue jay	*Cyanocitta cristata*
American crow	*Corvus brachyrhynchos*
Black-capped chickadee	*Parus atricapillus*
White-breasted nuthatch	*Sitta carolinensis*
Golden-crowned kinglet	*Regulus satrapa*
Eastern bluebird	*Sialia sialis*
Veery	*Catharus fuscescens*
Hermit thrush	*Catharus guttatus*
Wood thrush	*Hylocichla mustelina*
American robin	*Turdus migratorius*
Gray catbird	*Dumetella carolinensis*
Cedar waxwing	*Bombycilla cedrorum*
European starling	*Sturnus vulgaris*
Red-eyed vireo	*Vireo olivaceus*
Yellow warbler	*Dendroica petechia*
Chestnut-sided warbler	*Dendroica pensylvanica*
Magnolia warbler	*Dendroica magnolia*
Black-throated blue warbler	*Dendroica caerulescens*
Yellow-rumped warbler	*Dendroica coronata*
Black-throated green warbler	*Dendroica virens*

[(a)] Common and scientific names according to AOU (1998) and supplements through 2008.

Table 4. (cont.)

Common Name	**Scientific Name[(a)]**
Prairie warbler	*Dendroica discolor*
Black-and-white warbler	*Mniotilta varia*
American redstart	*Setophaga ruticilla*
Ovenbird	*Seiurus aurocapillus*
Mourning warbler	*Oporornis philadelphia*
Common yellowthroat	*Geothlypis trichas*
Scarlet tanager	*Piranga olivacea*
Rose-breasted grosbeak	*Pheucticus ludovicianus*
Indigo bunting	*Passerina cyanea*
Rufous-sided towhee	*Pipilo eryhrophthalmus*
Chipping sparrow	*Spizella passerina*
Field sparrow	*Spizella pusilla*
Song sparrow	*Melospiza melodia*
Dark-eyed junco	*Junco hyemalis*
Bobolink	*Dolichonyx oryzivorus*
Brown-headed cowbird	*Molothrus ater*
Baltimore oriole	*Icterus galbula*
American goldfinch	*Carduelis tristis*

Table 5.

Birds Observed Per 10-Minute Point Count
Windham Mountain Sporting Club

Cover Type:	HWS	SOF	SBS	SEM	SSL	SNH	HHF	MHF
American kestrel *Falco sparverius*		0.17						
Mourning dove *Zenaida macroura*		0.83				0.83	0.50	0.25
Black-billed cuckoo *Coccyzus erythropthalmus*		0.17						
Yellow-billed cuckoo *Coccyzus americanus*					0.25			
Red-bellied woodpecker *Melanerpes carolinus*								0.06
Yellow-bellied sapsucker *Sphyrapicus varius*								0.06
Hairy woodpecker *Picoides villosus*								0.06
Pileated woodpecker *Dryocopus pileatus*								0.25
Eastern wood-pewee *Contopus virens*		0.33						0.31
Eastern phoebe *Sayornis phoebe*		0.17						
Great crested flycatcher *Myiarchus crinitus*						0.17		0.06
Eastern kingbird *Tyrannus tyrannus*		0.17						
Blue jay *Cyanocitta cristata*		0.33		2.00	2.00	0.17		0.38

Table 5. continued

Cover Type:	HWS	SOF	SBS	SEM	SSL	SNH	HHF	MHF
American crow *Corvus brachyrhynchos*		0.83			2.00	1.00	2.00	0.06
Black-capped chickadee *Parus atricapillus*		0.33	1.00		1.00	0.83	1.00	0.44
White-breasted nuthatch *Sitta carolinensis*		0.17						0.13
Golden-crowned kinglet *Regulus satrapa*						0.17		
Eastern bluebird *Sialia sialis*		0.17						
Veery *Catharus fuscescens*		0.17				1.00	0.50	0.63
Hermit thrush *Catharus guttatus*				1.00		0.17		0.13
Wood thrush *Hylocichla mustelina*		0.33			0.50	0.50	0.50	0.31
American robin *Turdus migratorius*		1.00	2.00		1.25	0.50	0.50	1.13
Gray catbird *Dumetella carolinensis*		0.83			1.00	0.33		0.31
Cedar waxwing *Bombycilla cedrorum*					0.50			
European starling *Sturnus vulgaris*		0.50						
Red-eyed vireo *Vireo olivaceus*				2.00	0.75	0.33	2.00	0.94
Yellow warbler *Dendroica petechia*			1.00		0.75	0.33	0.50	
Chestnut-sided warbler *Dendroica pensylvanica*	1.00	1.50			0.50			0.56

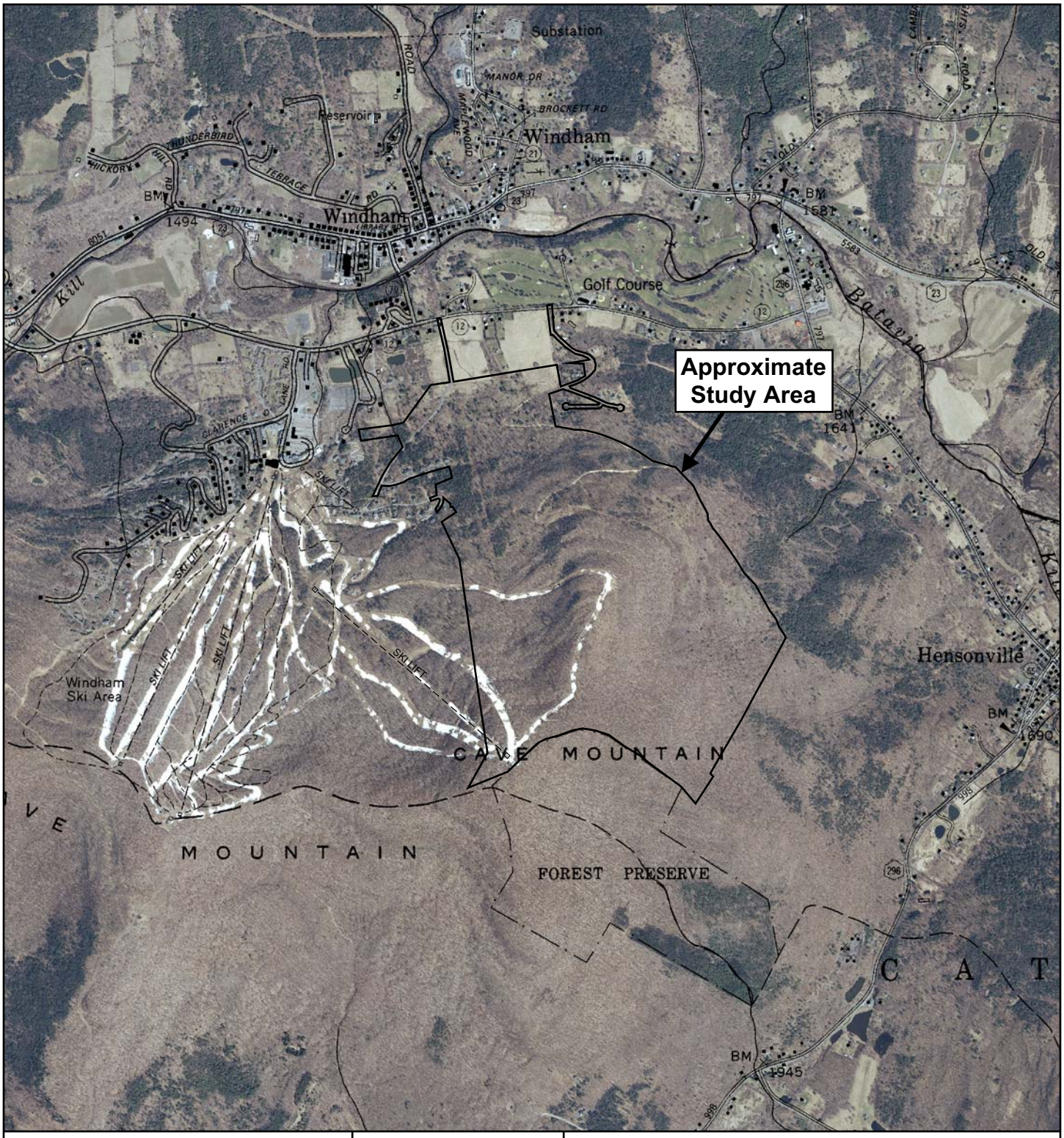
Table 5. continued

Cover Type:	HWS	SOF	SBS	SEM	SSL	SNH	HHF	MHF
Magnolia warbler *Dendroica magnolia*						0.17		
Black-throated blue warbler *Dendroica caerulescens*								0.44
Yellow-rumped warbler *Dendroica coronata*						0.17		
Black-throated green warbler *Dendroica virens*				1.00			1.50	1.06
Prairie warbler *Dendroica discolor*		0.50				0.17		
Black-and-white warbler *Mniotilta varia*				1.00	1.00	0.50	0.50	0.50
American redstart *Setophaga ruticilla*		0.17	1.00		0.50	1.00		0.25
Ovenbird *Seiurus aurocapillus*	1.00		1.00	1.00	1.50	2.33	2.50	1.69
Mourning warbler *Oporornis philadelphia*								0.06
Common yellowthroat *Geothlypis trichas*	1.00	2.83	1.00		2.25	0.50		0.25
Scarlet tanager *Piranga olivacea*			1.00		0.25	0.33	0.50	0.31
Rose-breasted grosbeak *Pheucticus ludovicianus*					0.75	0.17		0.44
Indigo bunting *Passerina cyanea*								0.13
Rufous-sided towhee *Pipilo eryhrophthalmus*		0.67			0.50	0.33		0.63

Table 5. continued

Cover Type:	HWS	SOF	SBS	SEM	SSL	SNH	HHF	MHF
Chipping sparrow *Spizella passerina*					0.25			
Field sparrow *Spizella pusilla*		1.33			0.25			
Song sparrow *Melospiza melodia*		2.00		1.00	0.25			0.13
Dark-eyed junco *Junco hyemalis*		0.17		1.00	0.75	0.17	0.50	0.25
Bobolink *Dolichonyx oryzivorus*		1.33						
Brown-headed cowbird *Molothrus ater*					0.25			
Baltimore oriole *Icterus galbula*		0.17				0.17		0.25
American goldfinch *Carduelis tristis*								0.13
Unidentified sp. *unid.*					0.25			
Total Number of Species:	3	26	7	8	23	25	13	33
Number of 10 Minute Samples:	1	6	1	1	4	6	2	16
Total Number of Birds Per 10 Minute Sample:	3.00	17.17	8.00	10.00	19.00	12.33	13.00	12.56
Total Number of Birds Recorded Per Cover Type:	3.00	103.00	8.00	10.00	76.00	74.00	26.00	201.00
Total Number of Birds Recorded Per Cover Type during 0-3 Minutes at 0-<50 Meters:	2.00	26.00	2.00	3.00	20.00	23.00	5.00	65.00
Total Number of Birds Recorded Per Cover Type during 3-10 Minutes at 0-<50 Meters:		14.00		3.00	15.00	17.00	3.00	44.00

FIGURES



0' 1000' 2000'

SCALE 1" = 2000'

NORTH

Figure 1. Site Location

NYS DOT Map & 2009 Aerial Photo

Ashland and Hensonville Quadrangles
1976

Prepared by TERRESTRIAL ENVIRONMENTAL SPECIALISTS, Inc.

TES file: TEP-3406/3406-aerial-dot.dsf\11-1-11

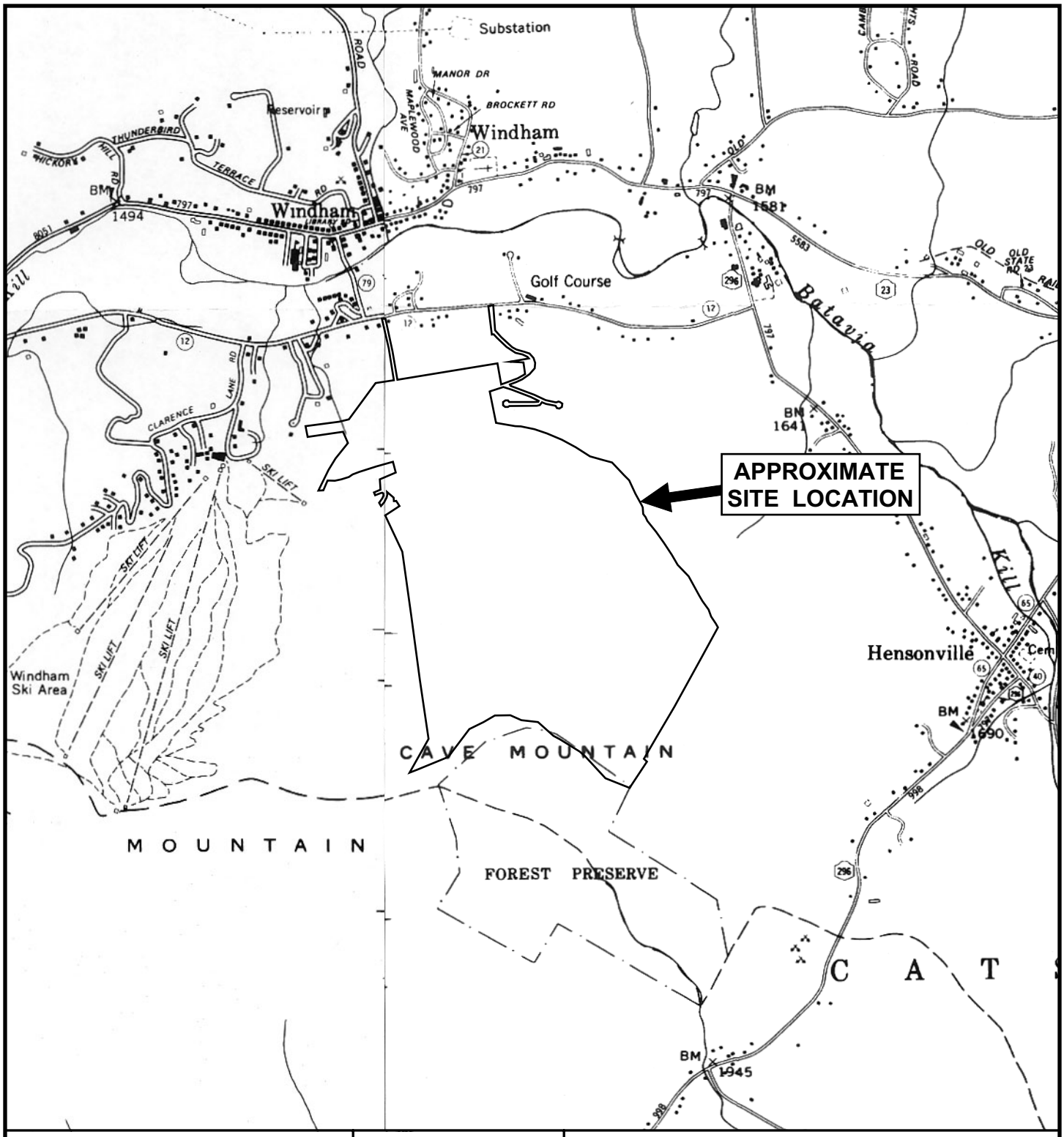


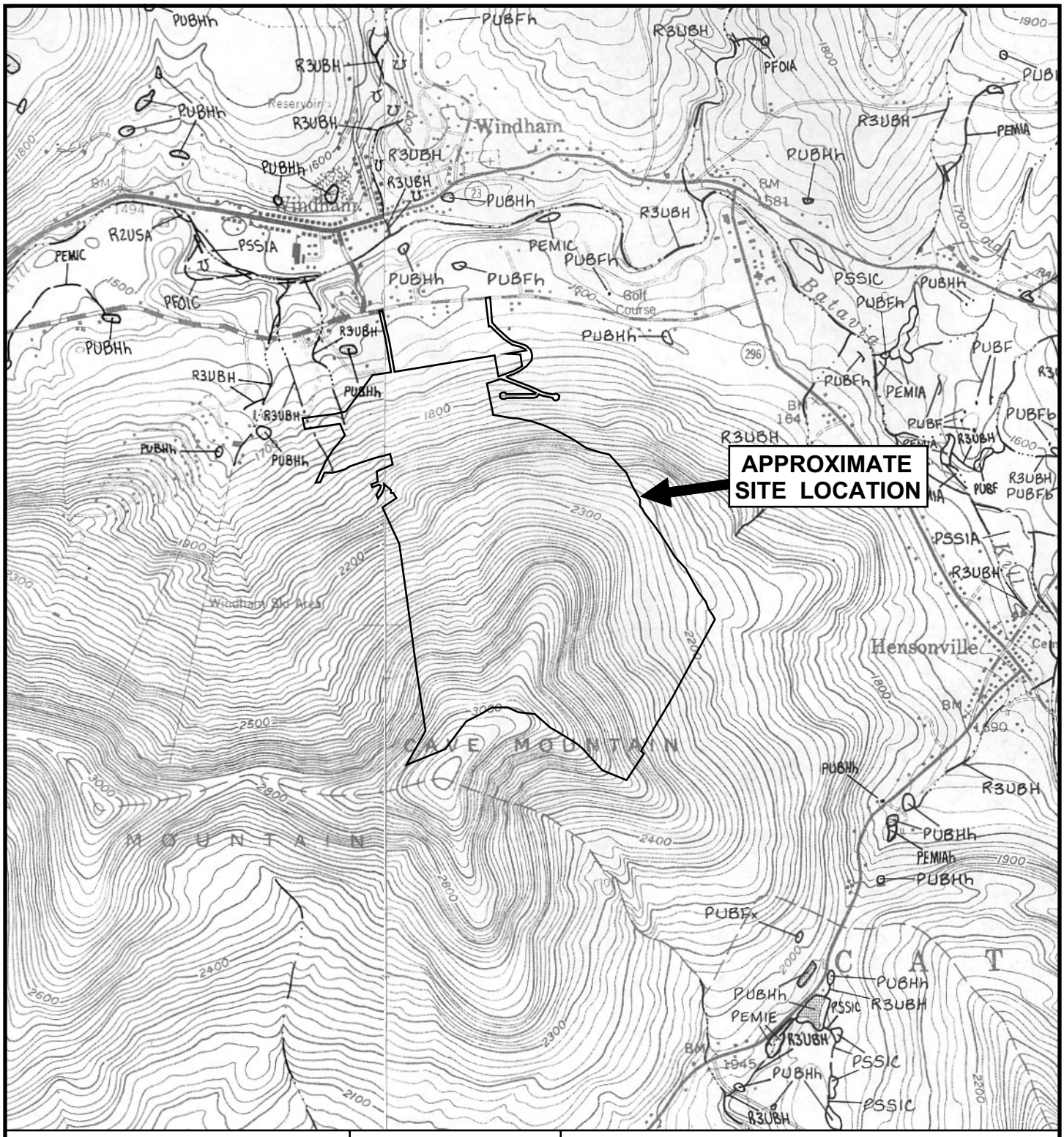
Figure 2. NYS Freshwater Wetlands Map

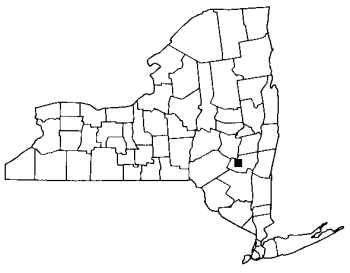
NYS Department of Environmental Conservation

Ashland and Hensonville Quadrangles
1987

Prepared by TERRESTRIAL ENVIRONMENTAL SPECIALISTS, Inc.

TES file: TEP-3406/3406Figure2.dsf/6-25-09





QUADRANGLE LOCATION

0 1000' 2000'

SCALE 1" = 2000'

NORTH

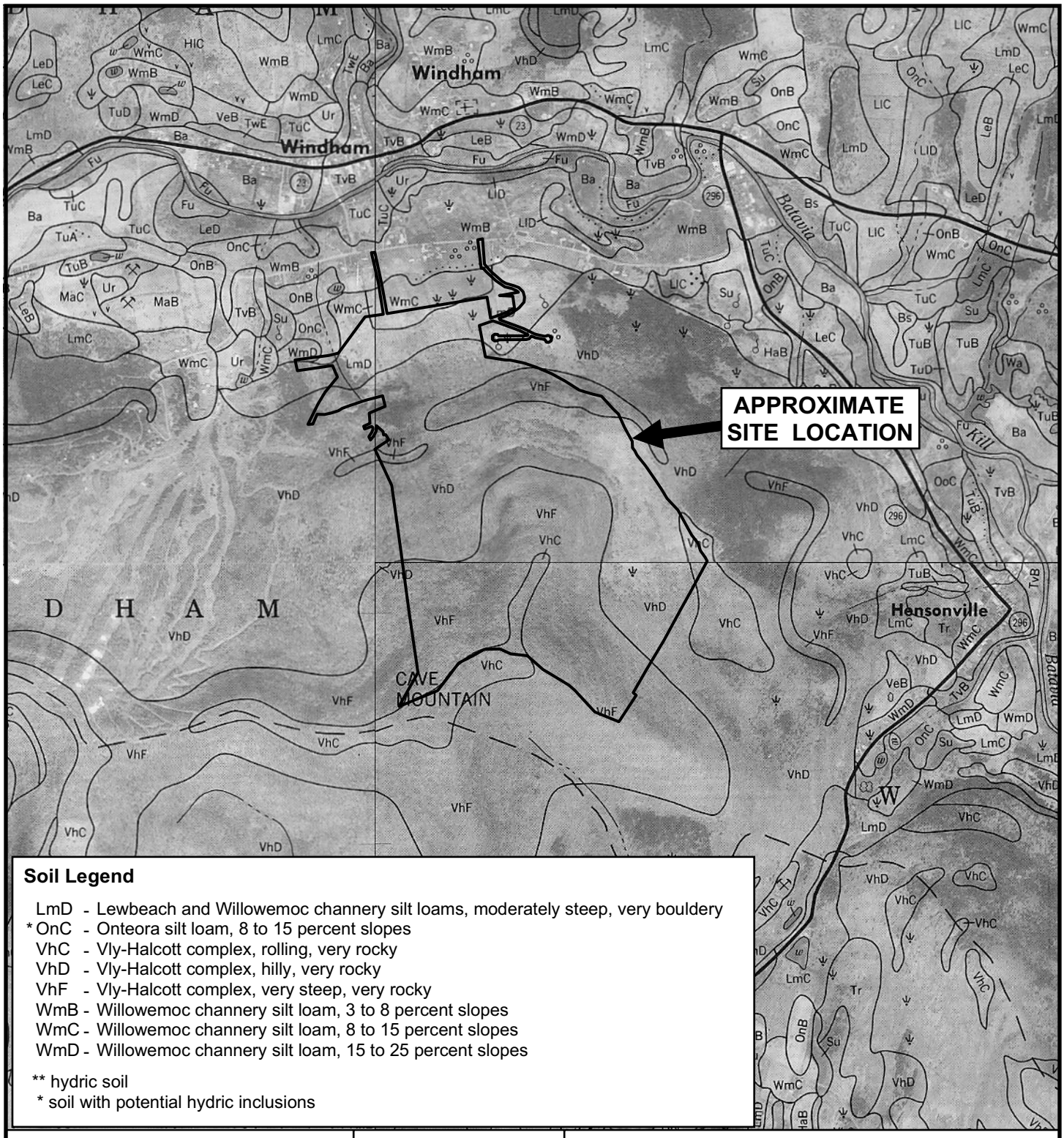
Figure 3. National Wetlands Inventory Map

U.S. Fish & Wildlife Service

Ashland and Hensonville Quadrangles
1987 and

Prepared by TERRESTRIAL ENVIRONMENTAL SPECIALISTS, Inc.

TES file: TEP-3406/3406Figure3.dsf/6-25-09



Soil Legend

LmD - Lewbeach and Willowemoc channery silt loams, moderately steep, very bouldery
* OnC - Onteora silt loam, 8 to 15 percent slopes
VhC - Vly-Halcott complex, rolling, very rocky
VhD - Vly-Halcott complex, hilly, very rocky
VhF - Vly-Halcott complex, very steep, very rocky
WmB - Willowemoc channery silt loam, 3 to 8 percent slopes
WmC - Willowemoc channery silt loam, 8 to 15 percent slopes
WmD - Willowemoc channery silt loam, 15 to 25 percent slopes

** hydric soil
* soil with potential hydric inclusions

0 1000' 2000'
SCALE 1" = 2000'

NORTH

Figure 4. Soil Survey Map

U.S. Soil Conservation Service

Greene County Soil Survey

1993

Sheets 16, 17, 22 and 23

Prepared by TERRESTRIAL ENVIRONMENTAL SPECIALISTS, Inc.

TES file: TEP-3406/3406Figure4.dsf/6-25-09

LEGEND

HHF - Hemlock-Northern Hardwood Forest
HHS - Hemlock-Hardwood Swamp
HWS - Hardwood Swamp
MHF - Maple-Northern Hardwood Forest
P - Pond
SBS - Shrub Swampland
SEM - Shallow Emergent Marsh
SNH - Successional Northern Hardwoods
SOF - Successional Old Field
SSL - Successional Shrubland
SSL/SNH - Patchwork of Small Areas of Successional Shrubland and Successional Northern Hardwoods

NORTH

0 325' 650'

APPROXIMATE SCALE IN FEET

Figure Prepared by Terrestrial Environmental Specialists, Inc.

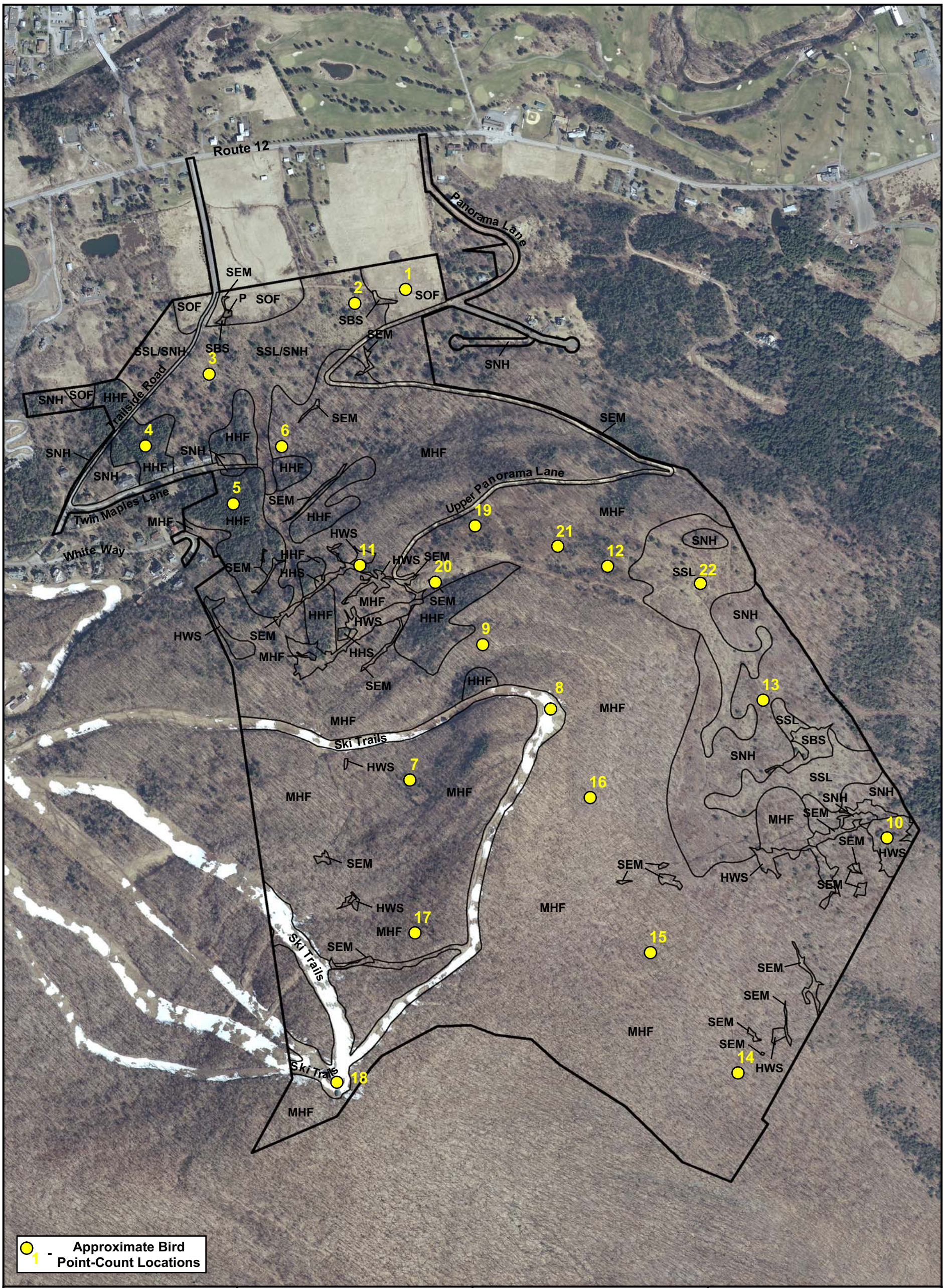
Vegetation Cover Mapping Prepared by the LA Group

Aerial Photograph obtained from NYS GIS Clearinghouse 2009

Figure 5.

Aerial Photograph with Vegetation Cover Types

TES File: TEP-3406\3406-aerial-cover.dsf\10-18-11



LEGEND

HHF - Hemlock-Northern Hardwood Forest
HHS - Hemlock-Hardwood Swamp
HWS - Hardwood Swamp
MHF - Maple-Northern Hardwood Forest
P - Pond
SBS - Shrub Swampland
SEM - Shallow Emergent Marsh
SNH - Successional Northern Hardwoods
SOF - Successional Old Field
SSL - Successional Shrubland
SSL/SNH - Patchwork of Small Areas of Successional Shrubland and Successional Northern Hardwoods

NORTH

0 325' 650'

APPROXIMATE SCALE IN FEET

Figure Prepared by Terrestrial Environmental Specialists, Inc.

Vegetation Cover Mapping Prepared by the LA Group

Aerial Photograph obtained from NYS GIS Clearinghouse 2009

Figure 6.

Breeding Bird Point-Count Locations

TES File: TEP-3406\3406-aerial-bird.dsf\10-18-11

APPENDIX A – Correspondence

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, Albany, New York 12233-4757
Phone: (518) 402-8935 • **FAX:** (518) 402-8925

Alexander B. Grannis
Commissioner

October 6, 2008

Megan Caves
terrestrial Environmental Specialists, Inc
23 County Rte 6, Suite A
Phoenix, NY 13135

RECEIVED 10-8-08

Dear Ms. Caves:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Feasibility Study of 450-Acres, Project 3406, area as indicated on the map you provided, located in the Town of Windham, Greene County.

We have no records of known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain any information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. For these reasons, we cannot provide a definitive statement on t he presence or absence of rare or state-listed species, or of significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

Sincerely,

Tara Seoane

Tara Seoane, Information Services
NY Natural Heritage Program

Enc.
cc:

Terrestrial Environmental Specialists, inc.
23 COUNTY ROUTE 6, SUITE A, PHOENIX, NY 13135
(315) 695-7228 FAX (315) 695-3277 E-MAIL: tesinc@alltel.net

September 19, 2008

Ms. Jean Petrusiak
NYSDEC Wildlife Resources Center-Information Services
New York Natural Heritage Program
625 Broadway, 5th Floor
Albany, NY 12233-4757

Re: State-listed Endangered/Threatened Species and Significant Habitats
Town of Windham, Greene County, NY
TES File No. 3406

Dear Ms. Petrusiak:

Please find enclosed a Data Request Form for significant and state-listed endangered/threatened species for a site located in the Town of Windham, Greene County, New York. I have also included a NYSDOT topographic map (Ashland & Hensonville Quadrangle) with the approximate site location outlined. Please respond in writing regarding the presence of any known occurrences of state-listed (or proposed for listing) endangered/threatened species located within or near the site boundary.

If you need additional information or have any questions, please contact me. Thank you.

Sincerely,

TERRESTRIAL ENVIRONMENTAL SPECIALISTS, INC.

Megan Caves

Megan Caves
Environmental Technician

mmc
Enclosures

Requestor Code/Date Received (yy-mm-dd) Request #

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
Wildlife Resources Center – New York Natural Heritage Program
700 Troy-Schenectady Road, Latham, New York 12110-2400
Phone: (518) 783-3932 FAX: (518) 783-3916

John P. Cahill
Commissioner

DATA REQUEST FORM: Please complete one form per project or activity.

Requestor: Megan Caves

Organization: Terrestrial Environmental Specialists, Inc.

Address: 23 Canby Rate 6, Suite A

City: Phoenix State: NY Zip: 13135

Phone: (315) 695-7228 Fax: (315) 695-3277

Signature of Requestor: Megan Caves

---

1. Title of Project: Windham Site

2. Site Location:
Town(s): Windham , ,

County(ies): Greene , ,

USGS Topographic 7 ½ ' Quad Name(s): Ashland & Hensonville

3. Describe the current and past use of the site (e.g. commercial, agricultural land, forest, roadway, etc.):

Current: forest

Past: forest

4. Is this project subject to SEQR review? X Yes ___ No

If yes, who is the Lead Agency? Unknown

Address of Lead Agency:

5. Proposed Project or Activity. Please check one. If you want to give additional details, you may do so on the lines below or in an accompanying letter.

___ Residential Development ___ Commercial Development ___ Industrial Development
___ Municipal or County Planning/Zoning ___ Utility (electric, water, sewer)
___ Assessment for Conservation ___ Cellular/Communications Tower
___ Potential Land Purchase (to be used for:)
X Other: feasibility Study

(OVER)

6. Size in acres: Approx. 450 or hectares: _____ or Length in miles: _____

7. In which of the following documents do you expect to use Heritage data:

___Environmental Impact Statement	_X_Phase I Assessment
___Environmental Assessment Form	___State Wetlands Permit Application
___Conservation Plan	___Management Plan
_X_Research Report	___Remedial Site Investigation
___Other: _____	

Please check below which data you are requesting:

_____Standard Rare Species/Natural Communities Report _X_Breeding Bird Atlas Data

Be sure to enclose a copy of a 7 ½ minute USGS topographical map with the project site clearly marked.

The "User's Guide to New York Natural Heritage Data" and "NYS Department of Environmental Conservation Division of Environmental Permits Regional Office" will be sent with each request. Frequent requestors: Check here if you DO NOT need a copy of these: _X_

Heritage Office Use Only

Date Processed: _____ Processed By: _____

Export File Name(s): _____

Quadname/Quadcode: _____ Dot #s: _____

_____ _____

BBA Blocks: _____ SigHab: _____

Report: _____IR1_____IR2_____IR1Area_____IR2Area_____IRHAZWASTE_____Other_____

Data_____No Data_____

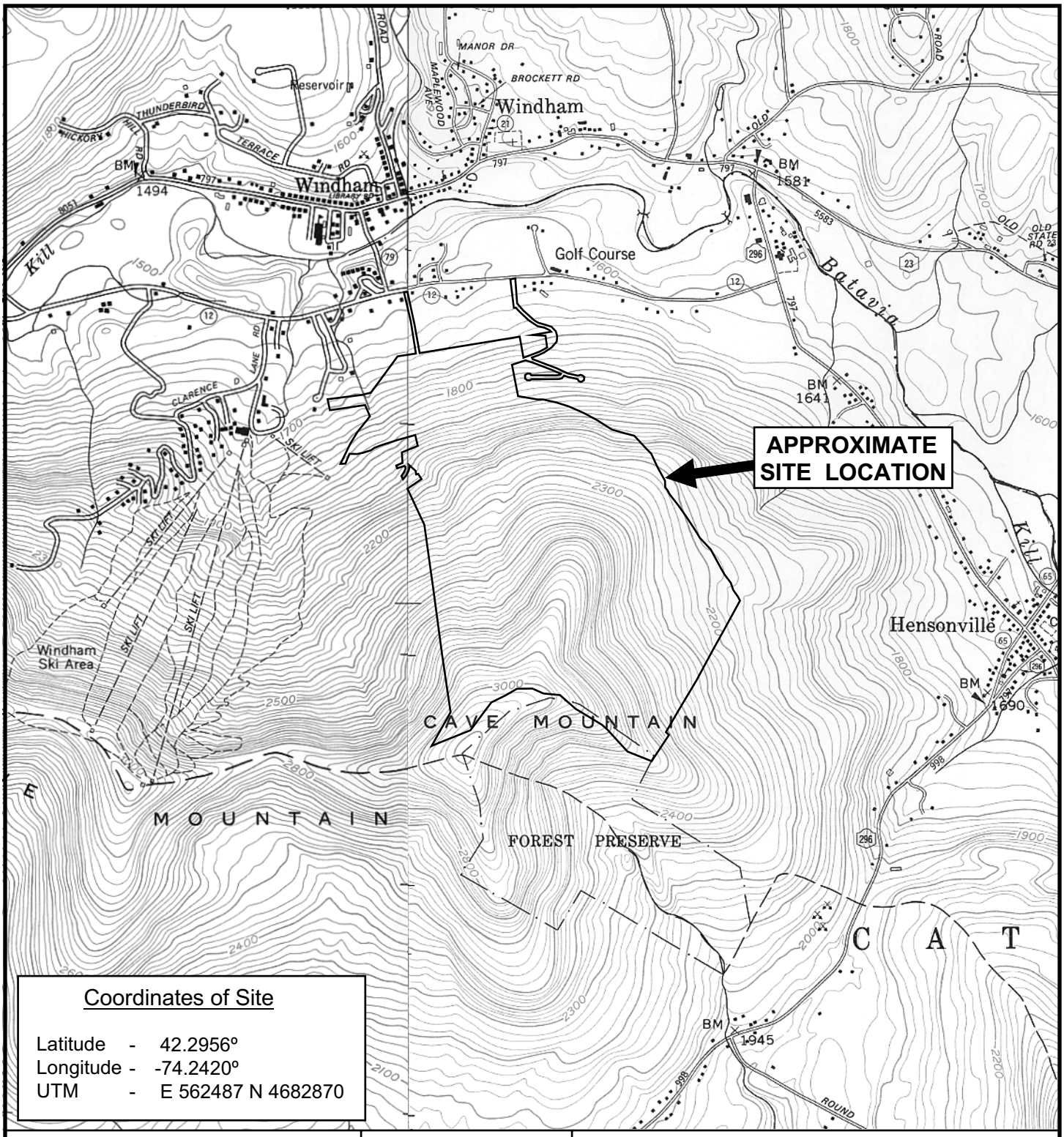
Coastal Management Program? _____ (Check if yes.)

Copy:

_____Regional Wildlife Manager(s)
_____Regional Fisheries Manager(s)
_____Regional Bureau of Habitat(s)

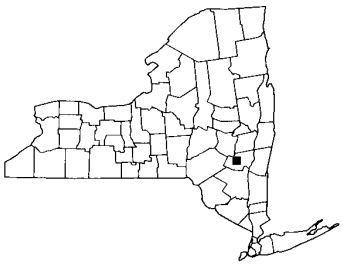
____Peter Nye (Endangered Species Unit)
____Pat Festa (Bureau of Fisheries)
____Lead Agency

Other: _____



Coordinates of Site

Latitude - 42.2956º
Longitude - -74.2420º
UTM - E 562487 N 4682870



QUADRANGLE LOCATION

0 1000' 2000'

SCALE 1" = 2000'

NORTH

Figure 1. Site Location

NYS DOT Topographic Map

Ashland and Hensonville Quadrangles
1976

Prepared by TERRESTRIAL ENVIRONMENTAL SPECIALISTS, Inc.

TES file: TEP-3406/3406Figure1.dsf/6-25-09

Greene County

Federally Listed Endangered and Threatened Species and Candidate Species

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

Common Name	Scientific Name	Status
Bald eagle[1]	*Haliaeetus leucocephalus*	D
Indiana bat (S)	*Myotis sodalis*	E
Shortnose sturgeon[2]	*Acipenser brevirostrum*	E

Status Codes: E=Endangered T=Threatened P=Proposed C=Candidate D=Delisted

W=Winter S=Summer

[1] The bald eagle was delisted on August 8, 2007. While there are no ESA requirements for bald eagles after this date, the eagles continue to receive protection under the Bald and Golden Eagle Protection Act (BGEPA). Please follow the Service's May 2007 Bald Eagle Management Guidelines to determine whether you can avoid impacts under the BGEPA for your projects. If you have any questions, please contact the endangered species branch in our office.

[2]Primarily occurs in Hudson River. Principal responsibility for this species is vested with the National Oceanic and Atmospheric Administration/Fisheries.

Information current as of: 2/12/2009

Print Species List

APPENDIX B – Photographs

Photo 1. Black bear tracks

Photo 2. Coyote tracks

Photo 3. Northern dusky salamander

Photo 4. Allegheny mountain dusky salamander

Photo 5. Forested landscape with ski slopes

Photo 6. Ski slope with wooded edges

Photo 7. Second-growth forest with dense understory

Photo 8. Logging trail

Photo 9. Rocky intermittent stream

Photo 10. Open field and scrub-shrub habitat in northern portion of site

Photo 11. Pond in northwestern portion of site

Photo 12. Waterfalls in northwestern portion of site