

3.4.4 Wildlife Ecology Comments and Responses

Comment 3.4-1 (Letter 3, John W. Petronella, Environmental Analyst, New York State Department of Environmental Conservation, July 1, 2010): According to the DEIS (section 1.2.4 p20 & 3.4 p26) it is indicated that there will be no impacts to wetland species, yet wetland species are not defined or described. Turtles, upland nesting habitat, salamanders and other vernal pool species are all species and habitats that will be impacted, and are described in other sections as being impacted. This statement is potentially misleading and not substantiated.

Response 3.4-1: *The intent of the text in the DEIS was to conclude that there will be no long term adverse impact to site populations of wetland-dependent species during or following construction. These species would include most of the amphibian species, several reptile species and all fish and waterfowl. The remaining herpetile species, which are better adapted to drier conditions, are not constrained by the need for the wetter conditions within the wetlands, and are thus not considered in this discussion. The preservation of 100-foot buffers at a minimum around virtually all portions of the State-regulated wetlands in the proposed project plan is partially the basis for the conclusion that wetland wildlife species are not expected to be impacted by the development to any significant extent. Other mitigation measures, including erosion controls, clearing limits and stormwater quality practices will ensure that clean water continues to enter the wetland.*

The 100-foot adjacent area does more than ensure water quality to the wetland, particularly on a site like Lost Lake. The dense woody canopy and vegetation provides a physical and visual barrier between human activities and the habitat of the more sensitive site species. The leaf litter in this area also provides a basis for the food chain that produces vegetative food, insects, worms and other food sources for the amphibians and reptiles. While the substrate is not wet enough to provide permanent habitat, the filtering action of this decomposing material remains moist during and following rain events and provides occasional habitat for those herpetiles that are more sensitive to dry conditions.

Under current regulations, only the adjacent area to the State wetlands is regulated; the smaller "federal only" wetlands are not offered such protection. However, as part of the overall mitigation plan for the site, a 100-foot buffer has also been maintained around the smaller wetlands and identified vernal pools. It is also important to note that the most significant wetland habitat on the site, the large riparian and wetland corridor on the south parcel, with the broadest area from 350 to 1850 feet wide and over 120 acres in size, provides a large area of available wetland habitat for all species of concern.

In many locations, including house lots that are developed in front and left in their natural state in the rear toward the wetland, the dimension of undeveloped upland woods to remain adjacent to wetlands is greater than 100 feet. Thus, direct impacts on the wetlands and the adjacent uplands upon which many reptiles and amphibious species rely will be avoided except in limited areas where road crossings are proposed. The identified turtle nesting habitat, which was identified along the railroad embankment in the eastern and southern part of the site, will not be affected by this proposal.

Wildlife that rely on wetland habitats for one or more functions are generally described in the DEIS, including numerous species of reptiles, amphibians, songbirds, and small mammals. Turtles, salamanders and other vernal pool species that may rely on extensive areas of nearby upland habitat for a portion of their life cycle will be impacted to some extent. As noted, however, the intent of preserving a minimum of 100 feet of buffer in all but two crossing locations is to provide this transitional area for those species that might utilize it. To address concerns about such species (among other concerns discussed elsewhere in this document), modifications to the site Master Plan have been made. Refer to discussion in Responses 3.2-4 and 3.2-5.

Comment 3.4-2 (Letter 3, John W. Petronella, Environmental Analyst, New York State Department of Environmental Conservation, July 1, 2010): Forest interior birds - The DEIS claims that the forest interior birds will use the 233 acres of preserved wetlands for habitat. However, the majority of the wetland types identified in the DEIS are not strictly forested wetlands. It is not clear how it was determined that forest interior birds will shift habitats so easily. This claim needs further clarification.

Response 3.4-2: *The DEIS states: "The proposed plan includes preservation of an expanse of the central wetland and buffers surrounding it in contiguous, undisturbed forest cover (comprising approximately 233 acres not counting additional forest left undisturbed on adjoining house lots) that would continue to provide breeding habitat for many forest interior bird species." The revised Master Plan preserves approximately 47 acres of additional upland forest associated with the central wetland than the DEIS plan, thereby providing approximately 211 acres of contiguous, undisturbed forest cover (not counting non-forested wetlands and additional forest edges left undisturbed including on adjoining house lots) that would continue to provide breeding habitat for forest interior songbird species¹. Such species represented in the list in the Wildlife Ecology section of the DEIS include: Acadian Flycatcher (*Empidonax virescens*), Eastern Wood Peewee (*Contopus virens*), Hairy Woodpecker (*Picoides villosus*), Northern Parula Warbler (*Parula americana*), Ovenbird (*Seiurus aurocapillus*), Red-eyed Vireo (*Vireo olivaceus*), Scarlet Tanager (*Piranga olivacea*), Veery (*Catharus fuscescens*), Worm-eating Warbler (*Helmitheros vermivorus*), Wood Thrush (*Hylocichla mustelina*), and Yellow-throated vireo (*Vireo flavifrons*). These and similar forest interior bird species will continue to utilize forested portions of the preserved wetlands and uplands on the property and, to a lesser extent, the shrub swamp areas. Species that typically require more than 200 or 250 acres of contiguous forest and utilize the project site for breeding or other vital activities will be more impacted by the project. Such species listed in the DEIS include: American Redstart (*Setophaga ruticella*), Barred Owl (*Strix varia*), Black-and-white Warbler (*Mniotilta varia*), Black-throated Green Warbler (*Dendroica virens*), Broad-winged Hawk (*Buteo platypterus*), Brown Creeper (*Certhia americana*), Hooded Warbler (*Wilsonia citrina*), Louisiana Waterthrush (*Seiurus motacilla*), Pileated Woodpecker (*Dryocopus pileatus*), and Red-shouldered Hawk (*Buteo lineatus*). These more sensitive species will rely on the preservation of natural connections to larger off-site forest land. The revised Master Plan will provide forest connections to adjoining*

¹ Forest interior dwelling birds require sizable forest areas to breed successfully and maintain viable populations. This diverse group includes colorful songbirds -- tanagers, warblers, vireos -- that breed in North America and winter in the Caribbean, Central and South America, as well as residents and short-distance migrants -- woodpeckers, hawks, and owls.

habitats (see Figure 2-4 at the end of section 2.7). For the latter listed species, the Beech-Maple Mesic Forest area in the vicinity of the Bush Kill (mapped as B-MM in the southeast portion of Figure 2-4) is the largest such habitat connection.

Comment 3.4-3 (Letter 3, John W. Petronella, Environmental Analyst, New York State Department of Environmental Conservation, July 1, 2010): According to the DEIS, there will be “some” no build lots (3.4 page 32). It is indicated that these no build lots will be determined after a more detailed review is completed by the developer. This statement is very unclear. What additional analysis will be conducted to make this determination? Why was this analysis not conducted for the DEIS? How likely is it that there will be no build lots? What deed restrictions would be used? Are figures depicting these potential areas available? How many acres will this entail? A plan clearly indicating these no build lots should be included in the DEIS.

Response 3.4-3: *At this time there are no “no build” lots proposed. The total number of house lots shown in the Master Plan is what is proposed for consideration in the environmental review and PDD approval. As described in the DEIS, it is possible that adjacent lots may be purchased by a single buyer for construction of one house, thereby allowing a deed restriction to be established to prevent building on a portion of the lots and preserve its natural condition. It is also possible that as the development plans for future project phases are designed in detail for site plan approval (for example, when the proposed road alignment in future phases is staked and walked by the Applicant’s design team), certain individual lots shown in the PDD Master Plan may be reconsidered to remain natural and undeveloped. However, since no such lots are identified at this time, the DEIS evaluates the full build Master Plan and takes no credit for such lots.*

Comment 3.4-4 (Letter 3, John W. Petronella, Environmental Analyst, New York State Department of Environmental Conservation, July 1, 2010): Nuisance Wildlife - This section should include a discussion of nuisance bears, nuisance deer and nuisance coyotes; and how those situations will be dealt with in this development in relation to garbage collection, composting, human wildlife interactions and prevention of nuisance situations.

Response 3.4-4: *A provision in the Covenants and Restrictions for Lost Lake Resort stipulates: “Each lot shall have proper trash receptacles with lids or covers. All trash receptacles shall be kept inside or shall be kept in outdoor areas screened from view from roads, recreational facilities and common areas, and shall be of such construction so as to prevent intrusion by animals.” A development such as this where natural areas will remain over much of the site for many years to come, and with their connections to off-site natural areas, it is inevitable that there will be both positive and negative human-wildlife interactions. New residents will be advised of this likelihood in sales literature for Lost Lake Resort.*

The mentioned species can become nuisances if precautions aren’t taken to avert the behaviors by both wildlife and humans that contribute to nuisance activities. The resort’s quarterly newsletter will provide opportunities to distribute information to the property owners describing indigenous wildlife species and ways of avoiding nuisance situations. The newsletter will contain seasonal reminders on the proper cleaning of garbage containers and backyard grills, proper care of pets during the active months for coyote and bear, and how to respond if these species appear.

Such reminders may include the following: garbage containers should not be placed curbside longer than one day before a scheduled pick-up; composting should be done in a secured compost system; residents wishing to have bird feeders will be encouraged to do so outside of the summer months to reduce bear attraction to feeders and coyote attraction to the birds and small mammals that utilize feeders; residents will be encouraged to bring feeders inside overnight and during periods of time when they will be away from home; feeding of household pets outside the home will be discouraged; pets should not be left outside while residents are away from the home.

Solid waste storage at resort facilities (i.e. dumpsters or compactors) will be in enclosed containers or fenced enclosures. The resort will require regular weekly garbage pickups by a private carter.

To reduce interactions with white-tailed deer and their attraction to landscaping as forage material, the Lost Lake Design Manual contains a list of landscaping species selected for use in the development including species less attractive to deer.

Comment 3.4-5 (Letter 3, John W. Petronella, Environmental Analyst, New York State Department of Environmental Conservation, July 1, 2010):

Bears - The following statement should include a reference for verification: "Black bears are typically solitary animals except during the breeding season and when a female has cubs. Overall, home ranges for bears are extremely variable and are dependent on the season and available food resources. Young male bears dispersing from their maternal home range may travel great distances. For example, one yearling male bear was treed and captured in Rockland County, New York. The bear was tagged and moved 49 miles northwest into preferable bear range in the Catskills. One year later the bear was treed and recaptured in Westhaven, Connecticut, approximately 115 miles due east. Several months later the bear moved over 124 miles southwest to Pennsylvania where a hunter harvested it during the hunting season." [3.4 p3 last paragraph] A discussion of typical home ranges for bears based on peer review literature for NY and the Northeast would be more applicable.

Response 3.4-5: *The quote is taken from the publication: "Black Bears in New York: Natural History, Range, and Interactions with People", written by the NYSDEC Bureau of Wildlife – Black Bear Management Team, Second Edition 2007. As cited by the NYSDEC Black Bear Management Team, home ranges for black bears in New York State are extremely variable and are dependent on the season and available food resources. According to this publication, all of Sullivan County is situated in the southern black bear range, which covers over 15,850 square miles in New York State and extends southwestward into Pennsylvania.*

Comment 3.4-6 (Letter 3, John W. Petronella, Environmental Analyst, New York State Department of Environmental Conservation, July 1, 2010):

Bald Eagles - According to records maintained by Department staff, one pair of Bald Eagles currently utilize a nest adjacent to St. Joseph Lake (located west of Lost Lake). This pair has two nest trees adjacent to the lake, one active and one alternate. There are not two pairs of eagles at St. Joseph Lake. If two pairs of eagles have been identified, that would be new information and the Department would like the source of the information and verification.

The Department utilizes the federal guidelines when evaluating impacts to Bald Eagles. These guidelines are recommendations to avoid "take" of the species. If they are not used, then a

review for an Article 11 taking permit may be required. This review should include an analysis of the foraging and the roosting habitats as well as nesting habitats. A more detailed discussion of potential impacts to Bald Eagles should be addressed. This should include potential impacts on foraging at Lost Lake, a summary of blasting activities, and time lines for blasting within the specified distances from the known eagle nests.

Response 3.4-6: *Information provided in the DEIS about the existing bald eagles at St. Joseph's Lake was ascertained from information provided verbally by NYSDEC, and erroneously refers to two pairs of eagles rather than one nesting pair. No more than one pair of eagles was observed during ecological surveys at the project site.*

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit, from "taking" bald eagles, including their parts, nests, or eggs. The Act defines "take" to include "disturb" which is further defined as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

A pair of bald eagles is known to nest at a nearby site, and individuals have been occasionally observed during warm months flying over the project site although, as described in the DEIS, actual onsite wildlife reconnaissance visits have found no evidence that indicates that the site is important for roosting or foraging. Given the proximity of Lost Lake to St. Joseph's Lake, the seclusion and the abundance of fish and wildlife at Lost Lake, possible eagle activity at the lake cannot be ruled out. And given that two years of biological investigations at the Lost Lake property recorded bald eagle observations only twice, confirmation of whether they actually use the lake or not may prove time-consuming and elusive. For this reason the project Applicant proposes to incorporate a management strategy following the USFWS guidelines to avoid any "take", including disturbance that might disrupt the eagle presence nearby.

The US Fish and Wildlife Services' (USFWS) "National Bald Eagle Management Guidelines" published in May 2007 provides the USFWS management recommendations for avoiding bald eagle disturbance from activities in close proximity to bald eagle nests. These activity-specific recommendations primarily apply to activities within 660 feet of the nest site. The area of the existing nest sites is known to be located 1,000 feet or greater from the site property line. (It is noted that neither NYSDEC nor USFWS has disclosed the exact location of the existing nests to the Applicant for this study.) The applicability of the activity-specific guidance to Lost Lake Resort is outlined below:

- A. Building construction under 0.5 acre disturbance - not applicable.*
- B. Building construction over 0.5 acre disturbance within 660 feet - not applicable.*
- C. Timber Operations and Forestry Practices within 660 feet - not applicable.*
- D. Off-road vehicle use within 660 feet - not applicable.*
- E. Motorized watercraft use within 330 feet - not applicable.*
- F. Non-motorized recreation and human entry within 330 feet - not applicable.*

- G. Helicopters and fixed-wing aircraft within 1,000 feet - not applicable.
- H. Blasting and other extremely loud, intermittent noises within ½ mile of an active nest - A small portion of the proposed development is located within ½ mile radius of the nest locations. Initial assessment in the DEIS for potential rock removal for site development concluded that rock will likely be encountered in limited areas and removal will be completed using methods other than blasting wherever possible. Where rock removal is necessary in the noted radius, no blasting or rock hammering will be conducted during the breeding and nesting period, which is generally between February and July in this region.

The Guidelines also provide recommendations for avoiding disturbance at important or critical foraging areas and communal roost sites. As previously noted in Chapter 3.4 of the DEIS, observations made around Lost Lake indicated no evidence of bald eagle foraging or roosting activity and more importantly, no evidence of important or critical foraging areas and communal roost sites where eagles congregate. This is not unusual given the relatively small size of Lost Lake in relation to the larger St. Joseph's Lake and a number of larger water bodies in the region. It is also noted that Lost Lake freezes over and thus is not a food source in winter. However, to avoid any significant impact to possible foraging areas and roost sites of eagles that may periodically use the Lost Lake site, the Applicant proposes to adhere to the measures outlined below. These measures shall apply specifically for construction activities in the northwestern portion of the site in a flight path between the two lakes (generally west of Lost Lake and north of St. Joseph's Road):

1. Potentially disruptive (noisy) activities associated with construction will be limited to short periods of time (21 day duration or less) during February through July.
2. No blasting or preparatory rock work for blasting will be conducted in the months of February through July.
3. No blasting will be allowed on any lot for individual house construction.
4. The proposed development will not introduce aircraft to the area.
5. The extent of water dependent facilities will be limited to the beach/marina area and activities will be passive boating, fishing and a limited area of swimming. There will be no combustion engine motor boats allowed on the lake.
6. All healthy, non-hazardous trees within 100 feet of Lost Lake will be preserved (except for the beach and boat mooring area).

It is noted that post-development uses of Lost Lake Resort will not be unlike the current uses of St. Joseph's Lake and development nearby where the eagle pair has been comfortable enough with the area activity to maintain their nest for years.

Comment 3.4-7 (Letter 3, John W. Petronella, Environmental Analyst, New York State Department of Environmental Conservation, July 1, 2010): Bog Turtles - Although the Department has no record of bog turtles being identified on the site, this is not a result of any habitat assessment conducted by the Department. The Department has no information about

suitable bog turtle habitat in this area. In order to claim that there is no habitat on site, as is done in section 3.4 p28, an appropriate phase one habitat survey must be conducted.

Response 3.4-7: *The DEIS includes the following language:*

“The ecological habits of the bog turtle, as presented in the United States Fish and Wildlife Service (USFWS) species Recovery Plan², generally define the animal as a semi-aquatic species, preferring habitat with cool, shallow, slow-moving water, deep soft muck soils, and tussock-forming herbaceous vegetation in areas of broadly open tree or shrub canopies. Nesting typically occurs on top of relatively tall and sparsely vegetated tussocks while shrub and tree root systems are frequently associated with hibernation sites. Bog turtle habitats are typically areas where groundwater discharge produces a shallow flow of surface water and saturated soils throughout all four seasons. Subsurface groundwater flow and shallow rivulets are common indicators of appropriate hydrology within a bog turtle wetland.

The project site does not contain the habitat needed to support bog turtles and the NYSDEC Herpetological Atlas does not list this species as having been observed within the mapping unit that includes the project site. Thus, it is unlikely that the species would be present on or in the near vicinity of the project.” (DEIS pp. 3.4-9, 3.4-10)

A thorough visual inspection of the site was performed on October 7, 2010, by a project biologist experienced in bog turtle assessments to determine the presence or absence of the three (3) criteria identified as key indicators of bog turtle habitat in the USFWS Recovery Plan Phase I habitat assessment protocols, namely: suitable hydrology, suitable soils, and suitable vegetation.

Definitions of Suitable Criteria

The various indicators used to assess the presence or absence of the three criteria are based in part on information provided in the USFWS habitat assessment protocols. However, these indicators were expanded based on this biologist’s experience with this species and its habitat. Definitions of suitable criteria are as follows:

- *SUITABLE HYDROLOGY: Suitable hydrology is considered to be present if the wetland contains clear, cold surface water typically between 0.5 to 6 inches deep (may be greater than 6 inches deep in some areas). This surface water occurs in small pools and hollows between tussocks and in slow-moving rivulets. These rivulets may be natural topographic features or the result of repeated travel by larger animals (i.e. deer runs). In many sites, these small hydrological features coalesce to form small discharge streams. In southeastern New York, ideal bog turtle habitat is frequently associated with the discharge of alkaline (calcareous) groundwater. In drier months, much of the wetland may contain only saturated soils with standing water confined to spring heads.*
- *SUITABLE SOILS: Suitable soils are considered to be present if the soil is soft, deep and mucky enough to permit burrowing by the bog turtle. Soils can be either mineral soils that have a mucky surface horizon or highly organic (muck and peat) soils. Suitable soils are typically classified as somewhat poorly drained, poorly drained, or very poorly drained. In southeastern New York, suitable soils are frequently derived from calcareous*

² Klemens, M. 2001. Bog Turtle (*Clemmys mühlenbergii*) Northern Population Recovery Plan. 2001. United States Fish and Wildlife Service, Region 5, Hadley, Massachusetts. 83 pp. + appendices.

(lime rich) glacial till and outwash and have a circumneutral to alkaline pH between 6.6 and 8.4. Typical soil series found at known bog turtle sites in the Hudson Valley include: Sun silt loam, Wayland silt loam, Canandaigua silt loam, Palms muck, and Carlisle muck. A deep, soft substrate is critical for winter time hibernation and estivation during extreme summer time heat.

- *SUITABLE VEGETATION: Suitable vegetation is considered to be present if the wetland has an open canopy formed by low growing plants that allow sunlight to reach basking surfaces. Grazed lands appear to be preferred. The dominant species include tussock forming grasses, sedges, and moss. In ungrazed wetlands, short shrubs less than two (2) feet tall may be relatively abundant and areas of taller shrubs and young trees can occur in small patches. Bog turtle habitat often occurs within a wetland complex comprised of forested or shrub swamp and open emergent plant communities. These open, tussocky plant communities are crucial for bog turtles as they provide key spring time basking and nesting habitats.*

In the mid-Hudson valley, bog turtles are frequently (but not always) associated with the rich sloping fen, rich graminoid fen, and rich shrub fen plant communities³. Bog turtle habitat may also include other plant communities such as wet sedge meadows, shallow emergent marshes, inland poor fens and openings within shrub bogs. What each of these communities has in common is a relatively open canopy with at least some areas dominated by low, tussock forming graminoid species.

Habitat Assessment Methodology and Extent

The only wetland area on the subject site exhibiting presence of the three key indicators of bog turtle habitat, based on the DEIS field surveys, is a portion of Wetland HA-40. The open canopy areas of this wetland, which once was raised higher by a downstream dam, were investigated in numerous locations at four stations (Figure 3.4-1) over a five hour period. USFWS Bog Turtle Habitat Evaluation Field Forms were completed for each of these stations and are included in FEIS Appendix F. This part of the wetland, as shown on Figure 3.4-2, is dominated by scrub-shrub vegetation including highbush blueberry, steplebush, leatherleaf and tussock sedge. While some clumps of tussock sedge are present in the herbaceous layer of the open canopy area, the area is dominated by the woody shrub component of the vegetation community.

Hydrologically, there are no flows from rivulets or spring points apparent within the wetland proper. This wetland derives its hydrology from flooding of the main tributary and sheet flow of runoff from the adjacent slopes.

As shown on the Sullivan County Soil Survey map, Carlisle muck and Palms muck are reported to exist in this central wetland corridor. However, these are not the dominant soils types within the wetland corridor based on observations of soils within the wetlands. The soils in these areas were probed for depth of penetrable organic substrate, and in no location was the depth more than two inches, and typically there was very little penetration at all. The soil substrate within the corridor is made up of compacted glacial till and would not provide the deep unconsolidated substrate that bog turtles would require for over-wintering or summer cooling.

³ For descriptions see: Reschke, C. 1990. Ecological Communities of New York State. New York Natural Heritage Program. NYS Department of Environmental Conservation. 96pp.

There is some historical context to the existing wetland conditions. Mapping available from the 1850's through the 1890's show Wetland HA-40 as a drowned river valley formed by a dam at the south end of the wetland (Figure 3.4-4). The resulting lake was known as Little Beaver Pond. Remnants of this dam still exist on site. USGS mapping of the site completed in 1908-1909 does not show the pond, so it is presumed that the dam was breached either on purpose or by natural causes in the intervening years. During such a breach any accumulated unconsolidated sediments in that area would have washed away, leaving only the till subsoils. Hardy shrubs and herbaceous plants re-colonized the broad, flat flood plain which resulted in the community as it exists today (Figure 3.4-3). Because the surrounding hillsides have remained forested, sediment loading to the wetland appears to be minimal and deep organic soils have not developed.

Bog Turtle Habitat Assessment Conclusions

Based on the indicators observed during the field visit, the site wetlands do not exhibit the criteria typically associated with bog turtle habitat. The hydrology and soils of the wetlands do not meet the bog turtle's general foraging and burrowing needs. The vegetation community is also marginal with respect to turtle requirements.

Comment 3.4-8 (Letter 3, John W. Petronella, Environmental Analyst, New York State Department of Environmental Conservation, July 1, 2010): Turtle Nesting Habitat - It is

mentioned that some areas of the property (old railroad bed in particular) serve as nesting areas for turtles. The DEIS does not indicate how this area may be protected or the exact location of the nesting area. It is mentioned that the area will remain, but no details are provided. Will there be a road between the wetland and this area? If so, is there any mitigation planned?

Response 3.4-8: *The old railroad bed along the eastern property boundary (in which predated turtle nests were observed but their locations were not recorded) is proposed to remain undisturbed and preserved as open space land in the site Master Plan. Proposed site disturbances (primarily limited to grading) within 100 feet of the railroad bed occur at seven distinct locations: an outlet from stormwater detention basin I-2 in the northeast corner, four sediment traps along Road D, the sewer treatment plant, and detention basin J at the southeast corner. No disturbance is proposed between the railroad bed and adjacent wetlands.*

Sheets C-9, C-11 and C-12 of the Preliminary Design Plans show the areas along the old railway embankment at eastern property boundary in the vicinity of encountered turtle nests, and proximity to proposed development areas. Evidence of nests was observed in the embankment at Wetland G (HA-41) south of St. Joseph's Road (Sheets C-9 and C-11) and Wetland ABD (HA-41) near the Bush Kill (Sheets C-11 and C-12). Individual nest locations were not recorded in the field surveys.

Comment 3.4-8 (Letter 3, John W. Petronella, Environmental Analyst, New York State Department of Environmental Conservation, July 1, 2010): Bird Surveys - It is not clear if

the bird surveys conducted in 2008 and 2009 were done utilizing the same survey methods. This needs to be clarified.

Response 3.4-9: *Bird surveys conducted in 2008 and 2009 followed the general survey methodology outlined in the DEIS Scope. These surveys consisted of biologists walking*

survey routes through the various, previously identified ecological communities on the site to observe and identify what species use the property. As indicated in the DEIS, the bird inventory conducted in 2008 focused primarily on identifying avian species that inhabit the property. Observations of any breeding behavior were recorded in the 2008 surveys and this information was included in the subsequent breeding bird survey results of 2009.

Comment 3.4-10 (Letter 3, John W. Petronella, Environmental Analyst, New York State Department of Environmental Conservation, July 1, 2010):

Wildlife Corridors/Habitat Connectivity - According to the accepted scoping document, the potential impacts on habitat due to habitat loss and fragmentation will be assessed, as well as impacts to wildlife corridors and biodiversity. Based upon review of the DEIS, it does not appear that this has been done with sufficient detail. It is indicated in the DEIS that the project site does not act as a substantial wildlife corridor between significant habitats. However, it is also concluded that a majority of the wildlife movement from the site will be to the south and east, towards the Neversink River Unique Area rather than other areas around the site. It is not clear how either of these determinations were made. What analysis was conducted to reach these conclusions? It is likely that this statement is made because the direction of the large regulated wetland HA-40 runs in a south-east (north-west) direction. However, many species do not use wetlands as travel corridors due to the difficulty of maneuvering through inundated areas. There is also no discussion of the site being located between two large protected areas of land, the Neversink Unique Area and the Mongaup Valley State Wildlife Management Area, or the potential adverse impacts associated with this. The DEIS should further evaluate wildlife corridors and existing habitat connectivity related to this site and the larger surrounding area. This analysis should focus on potential corridors, impacts to corridors after full build-out, as well as measures to avoid and mitigate any adverse impacts. Alternatives that preserve more expansive, robust and effective natural corridors are needed.

Response 3.4-10: *The statement in the DEIS indicating the project site is not likely to act as significant wildlife corridor is based on the site's location within a minimally impacted landscape. First-hand knowledge of the site characteristics from numerous field visits and review of 2009 ortho-imagery of the project site in its current state do not indicate any significant impediments to wildlife movement or focal points that might concentrate such movement into or out of the site. The project site, which is almost entirely an undeveloped environment with the exception of St. Joseph's Road, is situated within a sparsely developed subregion that generally includes (within an approximate 5 mile radius) the Neversink River corridor and associated Neversink Unique Area to the east and southeast (undeveloped); rural development to the north that makes way to mixed development in Monticello and the Route 17 transportation corridor; sparse, rural development to the west, and the Mongaup River corridor and associated Mongaup Valley State Wildlife Management Area further west; and substantially undeveloped land with very sparse development to the south. While these named areas provide significant expanses of land set aside primarily for wildlife refuge, they are but a portion of the greater forest landscape that is available to wildlife in this part of Sullivan County. With the exception of the development pattern north of the project site and a few other pockets of development, there are few major impediments to wildlife habitation and movement on the subregional scale other than the road corridors. Topographically, the subregional terrain has generally north/south trending peaks and valleys of moderate elevation changes without notable extremes, and as described in the DEIS, the large central wetland on the site forms a pronounced*

localized valley trending NW/SE. For small wildlife, local north/south roads (Cold Spring Road to the east and NYS Route 42 to the west) near the site may impede east/west wildlife movements.

Based on the foregoing, it is concluded that the project site does not act as a substantial wildlife corridor between significant habitats, as indicated in the DEIS. This is not to say that wildlife do not use the site but that the site does not act as an identifiable corridor between off-site sanctuaries. The project site is a small part of a very large tract of forest with minimal development. The DEIS states that wildlife movement from this site is expected to be multi-directional since vast tracts of unfragmented forest exist on all sides of the property. Due to the layout of the proposed project, however, which leaves a wide natural corridor through the center of the property (including wetlands, uplands, and the golf course areas during nighttime hours), larger wildlife relocating from the site as it is developed from north to south can be expected to move to the south and east (which includes the Neversink Unique Area) since these areas are the least disturbed by development and provide a diversity of natural habitats like those of the project site.

Comment 3.4-11 (Letter 3, John W. Petronella, Environmental Analyst, New York State Department of Environmental Conservation, July 1, 2010): Biodiversity - Based upon review

of the wildlife information provided in the DEIS, it appears that the site contains a diverse mix of wildlife and habitats. Although required by the scope, impacts to biodiversity have not been fully assessed, including means to avoid, minimize and mitigate impacts to biodiversity. A complete biodiversity assessment of the site should be included in the DEIS. The project sponsor should be aware that focusing biodiversity assessments on only proposed areas of development will not provide the comprehensive “big picture” look that is required for accurately assessing biodiversity. This may result in habitat fragmentation and obstacles to certain species corridors of migration. The bio-diversity assessment should assess the entire site, as well as how the site fits with the surrounding landscape and ecosystem. The ultimate purpose of biodiversity conservation is to conserve the entire complement of species, habitats, and processes so that ecological function can be sustained. The NYSDEC, in conjunction with Cornell University has developed documents that could potentially assist the project sponsor when conducting the required biodiversity assessments.

Response 3.4-11: *DEIS sections 3.2.1, 3.3.1, and 3.4.1 (Existing Conditions: Wetlands, Vegetation, and Wildlife Ecology, respectively), which provide thorough inventories and assessments of vegetation, wildlife, and communities located on the project site, and sections 3.2.2, 3.3.2, and 3.4.2 (Impacts: Wetlands, Vegetation, and Wildlife Ecology, respectively), which assess the anticipated impacts to these resources associated with the proposed development of Lost Lake Resort, constitute a biodiversity assessment of the site, although this information is not formally packaged as a “biodiversity assessment”. The DEIS documents and analyzes the flora and fauna found on and near the project site, including their relationships to existing habitat conditions (i.e. ecological communities and resources, and their anticipated reactions upon introduction of the proposed development).*

As required per the adopted scoping document, the DEIS, in multiple aspects, evaluates the project site in relation to off-site and regional resources and assesses the anticipated impacts associated with the proposed development. The results of this analysis indicate that while habitat lost to the Lost Lake Resort development will contribute to a overall reduction in wildlife populations at the project site scale, mitigation

measures will protect flora and fauna species from being completely eliminated from the site. Portions of the ecological communities identified on-site will remain available for habitat, albeit at a smaller scale, after the development is complete. This transition will occur over several decades. Mitigation measures integral to the current Master Plan design include: preserving streams, vernal pools, and wetlands; preserving natural buffers around the streams, high quality vernal pools, and wetlands; connecting on-site open space to larger tracts off of the project site; limitations on construction disturbance (in particular tree cutting limitations) to minimize permanent disturbance and preserve existing communities; and landscaping with native vegetation. The project has been designed to maintain areas of the existing complement of flora and fauna as an amenity to the Lost Lake Resort. Additionally, the introduction of new ecological communities associated with the resort, such as roughs around the golf course and naturalized landscape areas, may attract new species of flora and fauna that would increase biodiversity at the project site.

Comment 3.4-12 (Letter 3, John W. Petronella, Environmental Analyst, New York State Department of Environmental Conservation, July 1, 2010): Wildlife Mitigation Measures - According to the DEIS, 1,215 acres of upland forested habitat has been strategically placed throughout the project site. However, no basis for these locations is provided. A habitat map clearly indicating the various habitats observed on site and in relation to the proposed development needs to be included for further analysis.

Response 3.4-12: *Figure 2-4 at the end of this section illustrates the preservation areas set aside in the revised Master Plan that will provide natural ecological connections to adjoining woodland habitats. Preserved areas within Lost Lake Resort include a variety of existing habitats, including portions of the Hemlock-Northern Hardwood Forest areas north of St. Joseph's Road, the Beech-Maple Mesic Forest areas immediately north and south of St. Joseph's Road, the Allegheny Oak Forest areas in the western side, and the Appalachian Oak-Pine Forest areas in the southwestern corner.*

Comment 3.4-13 (Letter 4, CT Male Associates, July 1, 2010): Wildlife Migration - The DEIS comes to the conclusion that the proposed action will have minimal impacts to wildlife migration. This conclusion is not supported by regional mapping that considers adjacent and nearby available similar habitat.

Response 3.4-13: *Refer to Response 3.4-10.*

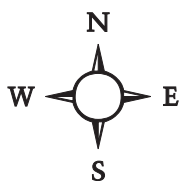
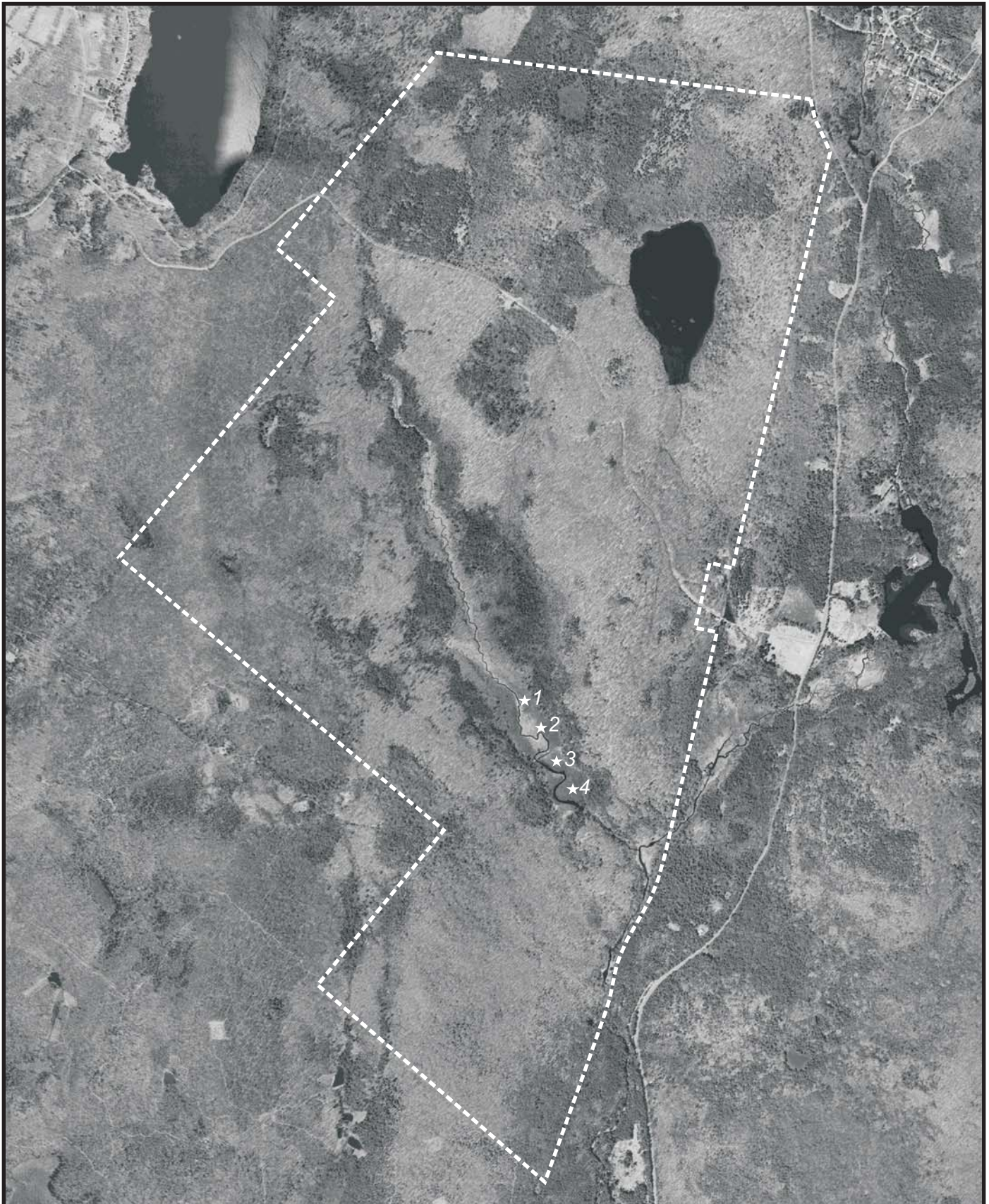


Figure 3.4-1: Bog Turtle Habitat Assessment Locations

Lost Lake Resort

Town of Forestburgh, Sullivan County, New York

Base: NYS GIS Clearinghouse Orthoimagery, 2004

Scale: 1" = 2,000'



File 07093 10/05/09
JS:107093

Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

Figure 3.4-2: Photos
Bog Turtle Habitat Assessment
Lost Lake Resort
Town of Forestburgh, Sullivan County, New York
Source: Tim Miller Associates, 10/2010



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JS:107093

Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

Figure 3.4-3: Photos
Bog Turtle Habitat Assessment
Lost Lake Resort
Town of Forestburgh, Sullivan County, New York
Source: Tim Miller Associates, 10/2010

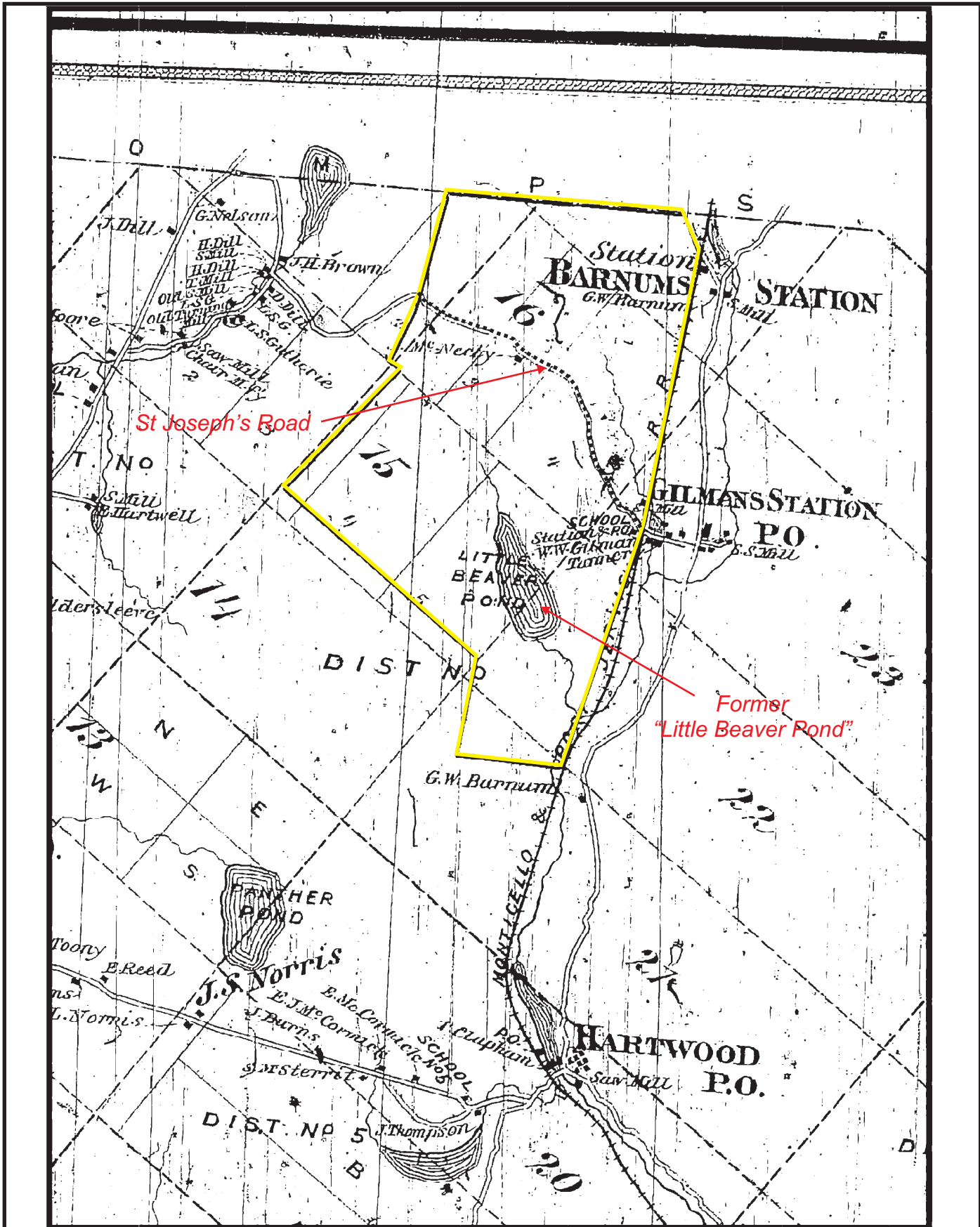


Figure 3.4-4: Lost Lake site in 1875
 Bog Turtle Habitat Assessment
 Lost Lake Resort
 Town of Forestburgh, Sullivan County, New York
 Source: Beers, 1875

