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Wetland Delineation Report

for the

Marble River Wind Farm Clinton County, New York



Prepared for
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by



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1.0 INTRODUCTION

Horizon Wind Energy contracted with Tetra Tech EC, Inc. (TtEC) to delineate wetlands associated with the proposed Marble River Wind Farm located in Clinton County, New York (the Site). The Site comprises approximately 18,520 acres and includes rural, agricultural and undeveloped areas. The proposed approximately 218-megawatt (mw) project includes the construction of 109 wind driven turbines (Figure 1). Electricity generated from the turbines would be transmitted to a substation via an electric collection system and then to an existing 230 kilovolt (kV) New York Power Authority transmission line that bisects the Site. Project components assessed as part of this wetland delineation report include proposed turbine locations, access roads, underground electric collection lines, an overhead electric collection line, a substation and an operations and maintenance (O&M) building/temporary laydown area. In addition, three public road widening, 13 public road intersection improvement, and seven potential public road culvert replacement areas were also surveyed for the presence of wetlands as part of this effort. The State Plane NY East (feet) NAD 83 coordinates for the approximate center of the Site are 2227217.5 N and 642639.4 E.

Wetlands within the project area fall under the jurisdiction of the New York State Department of Environmental Conservation (NYSDEC) and the U.S. Army Corps of Engineers (USACE). New York State's freshwater wetlands are protected under Article 24 of the Environmental Conservation Law, commonly known as the Freshwater Wetlands Act. The NYSDEC defines wetlands as "Those areas of land and water that support a preponderance of characteristic wetlands plants that out-compete upland plants because of the presence of wetlands hydrology (such as prolonged flooding) or hydric (wet) soils. Freshwater wetlands commonly include marshes, swamps, bogs, and fens" (NYSDEC, 2007). The USACE defines wetlands as "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (USACE, 1987).

Wetlands provide critical habitat to a variety of plants and animals, which are often dependent upon the characteristic attributes of wetland ecosystems. These areas are typically abundant with vegetation that offers food, nesting substrates, and essential cover for numerous species during breeding seasons, migration, and winter months. In addition to wildlife value, wetlands offer hydrological benefits such as water quality improvement, floodwater retention and erosion control. Water quality is improved through the removal and retention of nutrients, the processing of organic and chemical wastes, and the reduction of sediment load. During flood periods, wetlands act to alleviate rising storm waters by serving as temporary storage areas and protecting downstream areas from flood damage. Also, because wetlands serve as buffers between land and water, they significantly decrease stream-bank and shoreline erosion. Therefore, alterations or the destruction of wetlands may result in a decline in water quality downstream or in adjacent lakes. In addition, wetlands have a recreational significance as they contribute to the aesthetic value of the landscape as well as provide habitat to numerous game species of fish and wildlife. For example, these areas provide important hunting, fishing, bird watching, photography, and other recreational opportunities.

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This report provides a description of the Federal and State freshwater wetlands identified at the Site. Included are descriptions of the Site, methods used to determine the presence of wetlands, information reviewed (concerning wetlands, soils, and threatened and endangered species), field survey results (relating to delineated wetlands, surface waterbodies, vegetation, soils, and hydrology), a summary of NYSDEC wetlands and adjacent areas and a literature cited section. Appendices attached include delineated wetland data forms and sketch sheets, stream crossing data sheets, select Site photographs and agency correspondence regarding the presence of threatened and endangered species.

2.0 SITE DESCRIPTION

The Site is located in the Townships of Clinton and Ellenburg, both in the northwest corner of Clinton County, New York (Figure 1, Project Location Map). Canada, Mooers Township, Adirondack Park and Franklin County surround the Site to the north, east, south and west, respectively. The bulk of the Site (approximately 90 percent) occurs in the Township of Clinton, with a smaller portion of the Site (approximately 10 percent) occurring in the northern portion of the Township of Ellenburg. The Site is located on a plateau with limited topographic relief. Site elevations range from 800 feet above mean sea level (msl) in the northern portion of the Site to 1,500 feet msl in the southern portion of the Site. Crystal Creek, Allen Brook, English River, and their associated tributaries drain the eastern portion of the Site; Brandy Brook and tributaries to the North Branch Great Chazy River drain the southeastern portion of the Site; Hinchinbrook Brook, Dry Brook, Marble River, and their tributaries drain the western portion of the Site; and tributaries flowing directly into Canada drain the northern portion of the Site.

Highways, and major and minor local roads bisect the Site. Minor local roads are seasonal roads and are not maintained during winter months. Rural residential properties and agricultural properties border the highways and major local roads with undeveloped and seasonal use properties occurring on the minor local roads. Highways that bisect the Site include U.S. Federal Highway 11 and State Highways 189 and 190. Major local roads including Frontier, Liberty Pole, Merchia, Whalen, Looby, Lagree, Campbell, Gagnier, Brandy Brook, Sancomb, Ryan, Number 5, Bohon, Clinton Mills and Jones Roads and minor seasonal use roads including Soucia, Robare Pond, Patnode and Jones Roads occur within the project boundaries. The hamlet of Churubusco, an abandoned railroad, a diner, and an electric transmission line also occur within the project boundaries. Structures within Churubusco are limited to a conglomeration of residential structures, a firehouse, a recreation field, a church and a cemetery. The diner (Filion's) is located on Route 11 near the Looby Road intersection. The abandoned railroad, located in the northern portion of the Site, and the electric transmission line, located in the southern portion of the Site, bisect the Site from east to west.

3.0 METHODS

3.1 Wetland Field Delineation Methods

Field delineations were conducted at the proposed Marble River Wind Farm in 2005 from September 19 through November 7, in 2006 from May 2 through December 21 and in 2007 from May 2 through June 1. Desktop information reviewed prior to field mobilization included USGS 7.5-minute topographic maps, NYSDEC Freshwater Wetland Maps and United States Department of the Interior National Wetland Inventory (NWI) Maps that were associated with the project. The characterized area, hereafter referred to as the survey area, included a 200-foot radius around each of the proposed 109 turbine locations (314 acres), 50 feet either side of the proposed access road centerline (100-foot total corridor width), 25 feet either side of the proposed underground electric collection line centerline (50-foot total corridor width), 100 feet either side of the proposed overhead electric collection line centerline (200-foot total corridor width) and the footprint of disturbance for the substation and O&M building/temporary laydown area (4.3 and 15.9 acres, respectively). A 50-foot wide area (25 feet either side of centerline) was surveyed for all access road turnaround areas. To ensure that all NYSDEC adjacent area impacts were included wetlands that occurred within NYSDEC mapped wetlands and within 100 feet of the survey area were also delineated. Approximately 50 miles of access roads (47.81 miles of access roads and 2.22 miles of access roads turnarounds), 53 miles of underground electric collection lines (17.63 miles of underground electric collection line and 34.98 miles of underground electric collection lines co-located along access roads) and 13.23 miles of overhead electric collection lines are proposed for the Marble River Wind Farm.

Proposed public road improvements also surveyed as part of the project include seven culvert replacements, 13 intersection improvements, and three road widenings. Culverts to be replaced are located on Bootleg Road (two culverts), Ryan Road (two culverts), Lagree Road (one culvert), Campbell Road (one culvert) and the intersection of Lagree Road and Route 189 (one culvert). Intersection improvements are proposed for the junctions of Merchia, Lagree and Liberty Pole Roads with Route 189; Patnode, Looby, Gagnier and Brandy Brook Roads with Route 11; Sancomb, Ryan and Brandy Brook Roads with Route 190; Route 11 and Route 189; Whalen and Looby Roads; and Campbell and Gagnier Roads. Road widenings include portions of Patnode Road (from Gagnier Road south to Turbine 62 Access Road); LaGree Road (from Turbine 83 Access Road east to Turbine 42 Access Road); and Merchia Road (from Turbine 31 Access Road east to Turbine 208 Access Road). Property access restrictions limited the survey at the culvert locations to within 20 feet of the road centerline.

Wetland boundaries were delineated in the field using the Routine Onsite Determination Method as described in the Corps of Engineers Wetlands Delineation Manual (USACE, Environmental Laboratory, 1987) and the Routine Delineation Procedure as described in the 1985 New York State Freshwater Wetlands Delineation Manual (Browne *et al.* 1995). These methods incorporate a three-parameter approach using vegetation, soils and hydrology to identify the presence of freshwater wetlands. Wetland boundaries were initially identified through visual assessment of vegetation and hydrology. This visual boundary was used to establish two sample locations (one wetland station and one upland station) to verify the boundary of the wetland by analyzing dominant vegetation, soil classification, and hydrology at each sample station. Wetland boundaries and sample stations were identified with pink and blue surveyor flagging,

respectively, and corresponding GPS waypoints were recorded using Trimble® GeoXT™ handheld units. This unit generally provides sub-meter accuracy; however, accuracy can range within three to five meters.

Dominant vegetation in each strata (tree, shrub, and herbaceous) was identified using an appropriate regional field guide (Newcomb, 1977) and assigned a wetland indicator status obtained from Reed, 1988. Cover classes for wetlands were based on the National Wetland Inventory classification hierarchy (Cowardin *et al.* 1979). Cover classes were assigned by determining the most abundant cover class in the wetland. A wetland was assigned multiple cover classes if more than one class comprised at least 30 percent aerial coverage. The plant communities of each wetland sample and corresponding upland sample were categorized according to a list of ecological communities known to occur in New York State as described in Edinger *et al.*, 2002. Soil profiles were examined using a hand auger or spade shovel at depths no less than 18 inches unless the auger or spade was refused, typically due to shallow bedrock. Soil characteristics were recorded in standard soil log format using a Munsell Soil Color Chart (Kollmorgen Corporation, 2000). A visual assessment of primary wetland hydrology indicators (*e.g.*, inundation or soil saturation), and secondary wetland hydrology indicators (*e.g.*, oxidized rhizospheres or water-stained leaves) was conducted. Sketch maps and site photographs were recorded concurrent with sample station data. Sample station data sheets (including sketch maps), and wetland photographs recorded during the field efforts are provided in Attachments 1 and 3, respectively.

Nomenclature for delineated wetlands consists of an alphanumeric coding. Wetlands delineated within 200 feet of a Wind Turbine Generator (WTG) were identified as WTG wetlands. Wetlands delineated within the 100-foot right-of-way of an access road, the 50 foot right-of-way of an underground electric collection line or the 200-foot right-of-way of the overhead electric collection line were identified as AR, IC and OH wetlands, respectively. Wetlands associated with culverts were identified as CV wetlands. Intersection improvement and road widening wetlands were identified as AR wetlands. WTG wetlands were further identified by the turbine number they were associated with (*i.e.*, a wetland within 200 feet of Turbine 33 would be identified as WTG33), while a consecutive numbering system was employed for the AR, IC and OH wetlands. Wetlands were not identified within the footprint of the O&M building/temporary laydown area. One wetland that was delineated within the substation footprint was identified as a SS wetland. Changes to the project layout resulted in some wetland labels that no longer reflect the project components that the wetlands are currently associated with. For example, an AR wetland may also occur within a WTG location and/or an electric collection line right-of-way. Some wetland labels refer to project components that are no longer part of the proposed layout; for example, wetlands labeled as SA, RD and CW.

3.2 Surface Waterbody Field Delineation Methods

Surface waterbodies were identified within the survey area of the Site and flagged with orange surveyor flagging and corresponding GPS waypoints were recorded. For streams greater than five feet in width both banks were delineated. For streams less than five feet in width only the centerline of the water course was delineated. Waterbodies were photo-documented and their characteristics, including width, depth, substrate and bankside vegetation, were recorded on stream datasheets. Wetland drainage patterns were noted on sketch maps but not recorded on

stream sheets unless a distinct bed and bank were observed. Waterbody nomenclature was similar to that established for wetlands with the addition of “-ST” suffix to indicate the presence of a stream versus a wetland. Copies of stream data sheets and stream photographs recorded during the field effort are provided in Attachments 2 and 3, respectively.

4.0 INFORMATION REVIEW

4.1 Mapped Wetlands

State and NWI data regarding mapped wetlands were reviewed for the Site. Based on the review, 27 NYSDEC mapped wetlands, totaling 7,666 acres and 822 NWI mapped wetland polygons, totaling 5,614 acres, occur throughout the Site. The NYSDEC mapped wetlands are distributed somewhat evenly throughout the Site, while the NWI mapped wetlands are more prevalent in the northeast portion of the Site. Approximately 41 percent of the Site is occupied by NYSDEC mapped wetlands and approximately 30 percent of the Site is occupied by NWI mapped wetlands.

The NYSDEC Freshwater Wetlands Act (1975) rank wetlands in one of four classes ranging from Class I, which provide the most benefits, to Class IV, which provide the fewest benefits. Class I and Class IV wetlands were not identified within the Site. Table 4.1 provides the number of mapped NYSDEC wetlands by class. The NWI inventory maps wetlands by cover class. Table 4.2 provides the number and acreage, by cover class, of the NWI mapped wetlands identified within the Site.

Class	Number of Mapped Wetlands	Acreage
I	0	0
II	17	4,160
III	10	3,506
IV	0	0
Total	27	7,666



Class	Number of Mapped Wetland Polygons	Acreage
PFO ¹	253	2,316
PFO/PSS	11	133
PSS ²	351	2,428
PSS/PEM	21	139
PEM ³	129	480
PUB ⁴	57	118
Total	822	5,614

¹ Palustrine Forested

³ Palustrine Emergent

² Palustrine Scrub Shrub

⁴ Palustrine Unconsolidated Bottom

Based on the NWI and State wetland maps, approximately 111 NYSDEC and 220 NWI crossings of mapped wetlands, totaling approximately 261 acres and 136 acres, respectively, occur within the survey area. Table 4.3 provides the number of crossing and associated acreage for NYSDEC mapped wetlands identified within the survey area. Table 4.4 provides the number of crossings and acreage of the federally mapped wetlands identified within the survey area by cover class.

Class	Number of Crossings	Acreage
I	0	0
II	71	141
III	40	120
IV	0	0
Total	111	261

Cover Class	Number of Crossings ⁵	Acreage
PFO ¹	66	52.1
PFO/PSS	7	6.3
PSS ²	121	66.3
PSS/PEM	3	3.0
PEM ³	20	8.0
PUB ⁴	3	0.5
Total	220	136.2

¹ Palustrine Forested

³ Palustrine Emergent



Individual NYSDEC and NWI wetlands could be crossed at multiple locations. Mapped wetlands were not identified within the substation and O&M building/temporary laydown area. Maps of the NYSDEC and NWI wetlands associated with the Site are provided as Figures 2 and 3, respectively.

4.2 Soil Survey

A review of the USDA NRCS electronic METADATA files for Clinton County, New York was conducted to determine what soil types were present within the survey area. A soils map was generated from the METADATA files and is provided as Figure 4. Fifty-four mapped soil types were identified within the survey area of the proposed Marble River Wind Farm. Twenty-three of the 54 mapped soil types were identified as wetland soil types (hydric soils and soils with hydric inclusions). The descriptions for these hydric soil types are as follows:

Adirondack loam, 3 to 8 percent slopes (AgB) - This very deep, somewhat poorly drained, loamy soil formed in low lime, upland glacial till. It is underlain by a dense substratum. The available water capacity is moderate. Permeability is moderate in the surface and subsoil, and slow in the substratum. Capability unit is 3w. This unit of Adirondack soils is designated as farmland of state-wide importance. Adirondack has possible inclusions of Lyonmounten, Sabattis and other soils considered as hydric in the Clinton County area.

Adirondack loam, gently sloping, very bouldery (AhB) - This unit consists of very deep, somewhat poorly drained, low lime, loamy soil. It is on upland till plains underlain by a dense substratum. Slopes range from 0 to 8 percent. Boulders cover up to 3 percent of the ground surface. The available water capacity is moderate. Permeability is moderate in the surface and subsoil, and slow in the substratum. Capability unit is 6s. Adirondack has possible inclusions of Lyonmounten, Sabattis, and other soils considered as hydric in the Clinton County area.

Bucksport mucky peat (Bx) - This very deep, very poorly drained soil formed in low to medium lime, organic materials greater than 51 inches thick. It occurs in depressions on lake plains and till plains. The available water capacity is high. Permeability is moderately slow to moderately rapid. Capability unit is 7w. Bucksport is recognized as a hydric soil in Clinton County.

Churubusco muck (Ck) - This unit consists of nearly level, very poorly drained, organic deposits underlain by sandstone bedrock. Depth to bedrock ranges from 16 to 50 inches. Available water capacity is high. Permeability is moderate or moderately rapid. Capability unit is 7w. Churubusco is recognized as a hydric soil in Clinton County.

Cook mucky loamy fine sand (Crk) - This unit is very deep, very poorly drained, sandy soil overlying loamy material. It formed in medium lime, water-worked deposits over glacial till. Slope ranges from 0 to 3 percent. The available water capacity is low to moderate. Permeability is moderately rapid in the surface, rapid in the upper substratum, and moderately slow in the loamy substratum. Capability unit is 4w. Cook is recognized as a hydric soil in the Clinton County area.

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Deinache fine sand (Df) - This is a very deep, poorly drained, sandy soil formed in medium lime, glacial outwash material. The available water capacity is low to moderate. Permeability is rapid in the mineral surface, subsoil, and upper substratum, and moderate or moderately rapid in the lower substratum. Capability unit is 4w un-drained (3w drained). Deinache is designated as farmland of state-wide importance. Deinache is recognized as a hydric soil in Clinton County.

Hailesboro silt loam (Ha) - This very deep, somewhat poorly drained, silty soil formed in medium to high lime material on lake plains. The available water capacity is high. Permeability is moderate in the mineral surface layer and moderately slow in the subsoil and substratum. Capability unit is 3w. Only drained areas of Hailesboro soil are designated as prime farmland. Hailesboro has possible inclusions of Adjidaumo and other soils considered as hydric soils in the Clinton County area.

Lyonmounten loam (Lv) - This is a very deep, poorly drained, loamy soil formed in low lime, glacial till on uplands. Slope ranges from 0 to 3 percent. The available water capacity is high. Permeability is moderate in the mineral surface, and moderate or moderately slow in the subsoil and substratum. Capability unit is 4w un-drained (3w drained). This unit is on the New York listing for farmland of state-wide importance. Lyonmounten is listed as a hydric soil in Clinton County.

Lyonmounten loam, very stony (Ly) - This is a very deep, poorly drained, loamy soil. It formed in low lime, glacial till in depressional areas on Uplands. Slope ranges from 0 to 8 percent, but is dominantly 0 to 3 percent. Large stones cover up to 3 percent of the ground surface. The available water capacity is high. Permeability is moderate in the mineral surface, and moderate or moderately slow in the subsoil and substratum. Capability unit is 6s. Lyonmounten is recognized as a hydric soil in Clinton County.

Malone gravelly loam, 0 to 3 percent slopes (MeA) - This is a very deep, somewhat poorly drained, loamy soil formed in high lime, glacial till. The available water capacity is moderate. Permeability is moderate in the mineral surface, and moderately slow or slow in the subsoil and substratum. Capability unit is 3w. Only drained areas of this unit qualify as prime farmland in the Clinton County area. Malone has possible inclusions of Runeberg, Cook, and other soils considered as hydric in the Clinton County area.

Malone gravelly loam, 3 to 8 percent slopes (MeB) - This is a very deep, somewhat poorly drained, loamy soil formed in high lime, glacial till. The available water capacity is moderate. Permeability is moderate in the mineral surface, and moderately slow or slow in the subsoil or substratum. Capability unit is 3w. Only drained areas of this soil qualify as prime farmland in the Clinton County area. Malone has possible inclusions of Runeberg, Cook and other soils considered as hydric soils in the Clinton County area.

Malone gravelly loam, gently sloping, very stony (MfB) - This is a very deep, somewhat poorly drained, loamy soil formed in high lime, glacial till. Slope ranges from 0 to 8 percent. Large stones cover up to 3 percent of the ground surface. The available water capacity is moderate. Permeability is moderate in the mineral surface, and moderately slow or slow in the subsoil and

substratum. Capability unit is 6s. Malone has possible inclusions of Runeberg, Cook and other soils considered as hydric in the Clinton County area.

Muskellunge silty clay loam, 3 to 8 percent slopes (MwB) - This very deep, somewhat poorly drained, clayey soil formed in high lime sediments on lake plains. The available water capacity is high. Permeability is moderately slow in the mineral surface and slow in the subsoil and substratum. Capability unit is 3w. Only drained areas of this unit are recognized as prime farmland. Muskellunge has possible inclusions of Adjidaumo and other soils considered as hydric soils in Clinton County.

Peasleeville loam, 0 to 3 percent slopes (PeA) - This very deep, somewhat poorly drained, loamy soil formed in medium lime, glacial till uplands. The available water capacity is high. Permeability is moderate. Capability unit is 3w. Only drained areas of this unit are recognized as prime farmland in Clinton County. Peasleeville has possible inclusions of Lyonmounten, Sabattis and other soils considered as hydric in the Clinton County area.

Peasleeville loam, 3 to 8 percent slopes (PeB) - This very deep, somewhat poorly drained, loamy soil formed in medium lime, glacial till uplands. The available water capacity is high. Permeability is moderate. Capability unit is 3w. Only drained areas of this unit are recognized as prime farmland in Clinton County. Peasleeville has possible inclusions of Lyonmounten, Sabattis and other soils considered as hydric in the Clinton County area.

Peasleeville loam, gently sloping, very stony (PfB) - This is a very deep, somewhat poorly drained, loamy soil formed in medium lime, glacial till uplands. Slope ranges from 0 to 8 percent. Large stones cover up to 3 percent of the ground surface. The available water capacity is high. Permeability is moderate. Capability unit is 6s. Peasleeville has possible inclusions of Lyonmounten, Sabattis and other soils considered as hydric in the Clinton County area.

Pits, gravel (Pn) - Gravel pits are generally very deep. Series consists of excessively drained to well drained material on glacial outwash plains, terraces, kames, and eskers. Available water capacity is very low. Permeability is rapid. This unit is not assigned to a capability unit. This unit may have hydric soil inclusions; on-site investigation is recommended.

Runeberg mucky loam (Ry) - This very deep, very poorly drained, loamy soil formed in medium to high lime, glacial till. The available water capacity is moderate to high. Permeability is moderate in the mineral surface, moderately slow in the subsoil, and moderately slow or slow in the substratum. Capability unit is 5w undrained (4w drained). Runeberg is recognized as a hydric soil in the Clinton County area.

Sabattis mucky fine sandy loam, very bouldery (Sb) - This very deep, very poorly drained soil formed in low lime, glacial till. It has a thin organic surface overlying loamy till. The available water capacity is high. Permeability is moderately slow to moderately rapid in the organic surface, moderate or moderately rapid in the subsoil, and moderately slow in the substratum. Capability unit is 5w. Sabattis is recognized as a hydric soil in Clinton County.

Saprists and Aquents, ponded (Se) - This unit consists of very deep, very poorly drained, organic and mineral soil formed in depressions on lake plains and uplands. The common name for this unit is fresh water marsh. Available water capacity is high. Permeability is moderately slow to moderately rapid in the surface, and ranges from very slow to rapid below. Capability unit is 8. Saprists and Aquents are recognized as a hydric soil type in Clinton County.

Sciota fine sand (Sn) – This is a very deep and somewhat poorly drained soil that is formed in sandy, medium to high lime, outwash material. Slopes range from 0 to 3 percent. The available water capacity ranges from low to moderate and permeability is rapid. Capability unit is 3w. This unit has possible inclusions of Deinache, Pinconning or other soils considered as hydric in the Clinton County area.

Topknot-Chazy complex, gently sloping, rocky (TcB) - This unit is shallow and moderately deep, somewhat poorly drained, loamy soil. It formed in a thin mantle of low lime, glacial till overlying sandstone bedrock on upland. Bedrock exposures occur on less than 2 percent of the ground surface. Slope ranges from 0 to 8 percent. The available water capacity ranges from very low to moderate. Permeability is moderate. Capability unit is 6s. This unit has possible inclusions of Sabattis, Wonsqueak and other soils considered as hydric in the Clinton County area.

Wonsqueak muck (Wu) - This is a very deep, very poorly drained soil formed in 16 to 51 inches of low to medium lime, organic material overlying loamy deposits. It occurs in depressions on lake and till plains. The available water capacity is high. Permeability is moderately slow to moderately rapid in the organic part, and moderately slow or moderate in the substratum. Capability unit is 7w. Wonsqueak is recognized as a hydric soil in Clinton County.

4.3 Threatened and Endangered Species

The New York Natural Heritage Program (NYNHP) and the United States Fish and Wildlife Service (USFWS) were contacted in 2004, 2005 and 2007 to determine documented occurrences of State and Federally-listed threatened and endangered species in the vicinity of the Marble River Wind Farm Project. The following summarizes the agency response letters by year. Copies of the aforementioned correspondence are provided in Attachment 4.

2004 - The response from the USFWS, dated April 15, 2004, indicated that except for the Indiana bat (*Myotis sodalis*) and occasional transient individuals, no other Federally-listed or proposed endangered or threatened species under USFWS jurisdiction are known to exist in the project area. In addition, no habitat in the project area is currently designated or proposed “critical habitat” in accordance with provisions of the Endangered Species Act. The Indiana bat is a Federally-listed endangered species. Its occurrence is associated with winter hibernacula, which have been documented within 75 miles of the project area. The USFWS also indicated that the small-footed bat (*Myotis leibii*) was also found at the same hibernacula as the Indiana bat. The small-footed bat is listed as a federal species of special concern (formerly known as Category 2 Candidate species). The March 9, 2004 response from the NYNHP indicated that one hibernacula, one occurrence of the least bittern (*Ixobrychus exilis*) (State-listed threatened), and two occurrences of the common loon (*Gavia immer*) (State protected - special concern) were

documented within the vicinity of the project area. However, none of these occurrences coincided with wetlands potentially affected by the project.

2005 - Correspondence from the USFWS and the NYSDEC dated October 20 and November 3, 2005, respectively, regarding the presence of listed animals, plants or significant habitats or communities within the proposed Marble River Wind Farm project area, indicated that except for occasional transient individuals, there are no Federally or State-listed species or communities documented as occurring within the proposed Site.

2007 – NYSDEC correspondence dated January 30, 2007 indicated there were no State-listed animals, plants or significant habitats or communities within the proposed Marble River Wind Farm project area. Correspondence from the USFWS, dated March 14, 2007 requested that the search request be performed using their website. A search conducted using the USFWS website on that same day indicated that except for transient individuals, including bald eagle (*Haliaeetus leucocephalus*) and Indiana bat, there were no Federally-listed species or communities documented as occurring within the proposed Site.

5.0 DELINEATION RESULTS

Four hundred and twenty-six (426) wetland crossings and 95 surface waterbody crossings were delineated within the survey area of the proposed Marble River Wind Farm.

5.1 Wetlands

Two hundred and ninety-four (294) of the 426 delineated wetland crossings within the survey area occurred solely within one project component. The remaining 132 wetland crossings are associated with more than one project component (Table 5.1).

Project Component	Number of Wetland Crossings
Turbines	68
Access roads	84
Underground electric collection lines	46
Overhead electric collection lines	90
Road improvements	6
Turbine and access roads	19
Turbine, access road and substation	1
Turbine and underground electric collection lines	8
Turbine, access roads and underground electric collection lines	11
Turbine, access roads and overhead electric collection lines	1
Turbine, access road, underground electric collection lines and overhead electric collection lines	1
Access roads and underground electric collection lines	78
Access roads and overhead electric collection lines	4
Access roads, underground and overhead electric collection lines	5
Underground and overhead electric collection lines	4

Total	426
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One hundred and fifty-eight (157.91) acres of wetlands were delineated within the Marble River Wind Farm Project survey area. Delineated wetlands included 25 acres in the turbine survey area, 33 acres associated with access roads, 16 acres associated with underground electric collection lines, 83 associated with overhead electric collection lines, 0.1 acre associated with road improvements, and 1 acre associated with the substation. Only those portions of the wetland that occurred within a project footprint were tallied for that component. When calculating wetland acreage that occurs within more than one project component, the turbine areas and overhead electric collection lines took precedence over the access roads which took preference over the underground electric collection lines. Delineated wetlands and their associated project components are provided in Table 5.2. Wetland locations are depicted on Figure 5 (plates 1 through 8).

Wetland location, with respect to project component, is provided in Table 5.2. On occasion, the wetland prefix (AR, IC, WTG, and etc.) differs from the actual component presented in Table 5.2 due to changes made in the project layout to avoid or minimize wetland impacts after field delineations were completed. In addition, several turbines were moved after field delineation of wetlands and some wetland labels no longer correspond to the actual turbine number.

Wetland classes and acreages encountered at the Site included 78 acres of palustrine forested (PFO), 48 acres of palustrine scrub shrub (PSS), and 32 acres of palustrine emergent (PEM) complexes defined by Cowardin and others (1979). Specific community characteristics of all wetland classes encountered during field efforts are detailed in Section 5.4.

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5.2 Surface Waterbodies

Ninety-five (95) surface waterbody crossings were identified within the survey area during the field delineation effort. The surface waterbodies consist of 61 streams (17 perennial, 44 intermittent), 14 stream crossings at existing culverted locations (2 perennial, 12 intermittent), 16 drainage ditches/swales, roadside ditches or field drainages (all intermittent), three ponds, and one intermittent pond outfall. Six surface waterbodies are located within a turbine location; one surface waterbody is located within a turbine location, access road and an underground electric collection line; 17 surface waterbodies are crossed by access roads; 44 surface waterbodies are crossed by access roads and underground electric collection lines; six surface waterbodies are crossed by access roads and overhead electric collection lines; 17 surface waterbodies are crossed by underground electric collection lines; two are crossed by overhead electric collection lines; and two surface waterbodies are crossed by public road improvements.

Table 5.3 lists each surface waterbody identified during the delineation effort that is crossed by the project, its NYSDEC classification and location. Other descriptive information including flow regime, real-time velocity, and direction, and stream width, depth, substrate, bank vegetation and wetland association are also provided in Table 5.3. Surface waterbody crossings are depicted on the Delineated Wetlands and Surface Waterbodies Map provided as Figure 5.

Under the Environmental Conservation Law (Article 15), New York regulates surface freshwater resources as best usage classifications (6 NYCRR Part 701) or as Wild, Scenic and Recreation Rivers (6 NYCRR Part 666). Wild, Scenic and Recreation Rivers were not identified at the Site. State water quality classifications of watercourses within the survey area fall into two categories, Class C and Class D streams. Classification C waters support fisheries and are suitable for non-contact activities and Classification D waters are suitable for fishing and contact recreation. Class C Waters may also have a standard of (T), indicating that it may support a trout population. In addition, small lakes and ponds with a surface area of 10 acres or less, located within the course of a stream, are considered to be part of a stream and are subject to regulation under the stream protection category of Protection of Waters. Only streams classified as A, AA, B, BB, or C(T) are regulated by the State.

Ninety-four of the 95 waterbody crossings surveyed are not regulated by the State as they are either classified as a D stream or not classified by the NYSDEC at all. The English River, located in the northeastern portion of the Site, is crossed by an access road and overhead electric collection line to the southwest of the Clinton Mills Road and Soucia Road intersection. This regulated stream is classified as a Class C(T) stream, indicating that it supports a trout population.

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5.3 Soils

Multiple soil borings were inspected during the wetland boundary determination, but soil data were recorded only for paired wetland sample stations along delineated boundaries. At least one wetland and one upland soil boring were examined for each delineated wetland. Additional soil borings were examined in cases where wetlands were extensive and included several covertypes. Extremely shallow bedrock was encountered at many of the Site sample stations and refusal of auger was routinely met at or about six inches.

Generally wetland soils included low chroma horizons that ranged from a dark gray to very dark brown. Occasionally a gray to grayish brown clay layer was also encountered. Soil textures varied and included silt loam, sandy loam, and clay loam. Encounters of pure clay textures were rare. A black organic soil was encountered at one wetland (AR80A), believed to be a rich shrub fen. Upland soils varied but generally consisted of a brown to dark brown silt or sandy loam.

5.4 Vegetation

Wetlands delineated at the Site consisted of palustrine systems. Vegetative species composition of these wetlands was used to differentiate them into plant communities defined by Edinger et al.'s *Ecological Communities of New York State* (2002). Red maple-hardwood swamp, shrub swamp and shallow emergent marsh communities occurred most frequently at the Site. Less common wetland communities included Northern white cedar swamp, deep emergent marsh, spruce-fir swamp, black spruce-tamarack bog, and red maple-tamarack peat swamp. Despite being classified as upland community types, balsam flat, pastureland, cropland/row crops, cropland/field crops, successional old field, mowed lawn, and northern successional hardwood communities were also used to describe wetlands found at the Site. These upland community types provided the closest match to field sample stations taken at the delineated wetlands in terms of plant species composition. Ecological communities found at the Site and the acreage that occurred within the survey area are described below. Complete lists of plants species found in wetlands and adjacent uplands during the field effort are provided after the summaries in Tables 5.4 and 5.5, respectively.

5.4.1 Red Maple Hardwood Swamp (62.02 acres)

Red Maple Hardwood Swamp is the most dominant forested coertype and one of the most common wetland community types occurring within the Survey area. These areas may consist of a monoculture canopy of red maple (*Acer rubrum*) or a co-dominance of red maple and gray birch (*Betula populifolia*). American elm (*Ulmus americana*), yellow birch (*B. alleghaniensis*) and balsam fir (*Abies balsamea*) occasionally occur as sub-dominants. These swamps often have gaps in the canopy allowing for a dense understory with many saplings and a thick shrub layer containing species such as speckled alder (*Alnus rugosa*), beak willow (*Salix bebbiana*), silky willow (*S. sericea*) and meadowsweet (*Spiraea latifolia*). The herbaceous layer may be quite diverse with ferns including sensitive fern (*Onoclea sensibilis*) and cinnamon fern (*Osmunda cinnamomea*). Characteristic herbs include soft rush (*Juncus effusus*), Northern bugleweed (*Lycopus uniflorus*), rough-stemmed golden rod (*Solidago rugosa*), flat-topped aster (*Aster umbellatus*), sphagnum moss (*Sphagnum* sp.) and sedge species including bladder sedge (*Carex intumescens*), shallow sedge (*C. lurida*) and pointed broom sedge (*C. scoparia*).

Table 5.4
Plant Species Encountered in Wetlands
Marble River Wind Farm
Clinton County, New York

Scientific Name	Common Name	Regional Indicator Status ¹
<i>Abies balsamea</i>	Balsam Fir	FAC
<i>Acer negundo</i>	Box Elder	FAC+
<i>Acer rubrum</i>	Red Maple	FAC
<i>Acorus calamus</i>	Sweet Flag	OBL
<i>Agrostis alba</i>	Redtop	FACW
<i>Agrostis cf. stolonifera</i>	Spreading Bentgrass	FACW
<i>Alisma subcordatum</i>	American Water Plantain	OBL
<i>Alnus rugosa</i>	Speckled Alder	FACW+
<i>Alopecurus pratensis</i>	Meadow Foxtail	FACW
<i>Andromeda glaucophylla</i>	Bog Rosemary	OBL
<i>Aster junciformis</i>	Rush Aster	OBL
<i>Aster novi-belgii</i>	New York Aster	FACW+
<i>Aster puniceus</i>	Purple-Stemmed Aster	OBL
<i>Aster umbellatus</i>	Flat-Top White Aster	FACW
<i>Betula alleghaniensis</i>	Yellow Birch	FAC
<i>Betula populifolia</i>	Gray Birch	FAC
<i>Calla palustris</i>	Water Arum	OBL
<i>Caltha palustris</i>	Yellow Marsh Marigold	OBL
<i>Carex crinita</i>	Fringed Sedge	OBL
<i>Carex intumescens</i>	Greater Bladder Sedge	FACW+
<i>Carex lupulina</i>	Hop Sedge	OBL
<i>Carex lurida</i>	Shallow Sedge	OBL
<i>Carex scoparia</i>	Pointed Broom Sedge	FACW
<i>Carex stricta</i>	Tussock Sedge	OBL
<i>Carex vulpinoidea</i>	Fox Sedge	OBL
<i>Carpinus caroliniana</i>	American Hornbeam	FAC
<i>Chamerion angustifolium</i>	Fireweed	FAC
<i>Cinna arundinacea</i>	Wood Reed Grass	FACW
<i>Circaea alpina</i>	Small Enchanter's Nightshade	FACW
<i>Cladium moriscoides</i>	Twig Rush	OBL
<i>Clementatis virginiana</i>	Virginia Virgins-Bower	FAC
<i>Clintonia borealis</i>	Blue Beadlily	FAC
<i>Coptis groenlandica</i>	Three Leaf Goldthread	FACW
<i>Coptis trifolia</i>	Alaska Goldenthread	FACW
<i>Cornus amomum</i>	Silky Dogwood	FACW



**Table 5.4
Plant Species Encountered in Wetlands
Marble River Wind Farm
Clinton County, New York**

Scientific Name	Common Name	Regional Indicator Status ¹
<i>Cornus canadensis</i>	Canadian Bunchberry	FAC-
<i>Cornus racemosa</i>	Gray Dogwood	FAC
<i>Cornus sericea</i>	Red-Osier Dogwood	FACW+
<i>Corylus</i> spp.	Hazelnut	FACU-
<i>Dalibarda repens</i>	Robin Runaway	FAC
<i>Eleocharis acicularis</i>	Least Spikerush	OBL
<i>Epilobium coloratum</i>	Purple-Leaf Willow-Herb	OBL
<i>Epilobium leptophyllum</i>	Linear-Leaf Willow-Herb	OBL
<i>Epilobium strictum</i>	Downy Willow-Herb	OBL
<i>Equisetum arvense</i>	Field Horsetail	OBL
<i>Equisetum sylvaticum</i>	Woodland Horsetail	FACW
<i>Equisetum</i> spp.	Horsetail species	FACW
<i>Eriophorum</i> spp.	Cotton Grass	OBL
<i>Eupatoriadelphus dubium</i>	Eastern Joepyeweed	FACW
<i>Eupatorium maculatum</i>	Spotted Joepyeweed	FACW
<i>Eupatorium perfoliatum</i>	Common Boneset	FACW+
<i>Euthamia graminifolia</i>	Lance-Leaved Golden-Rod	FAC
<i>Fraxinus pennsylvanica</i>	Green Ash	FACW
<i>Galium asprellum</i>	Rough Bedstraw	OBL
<i>Glyceria canadensis</i>	Rattlesnake Grass	OBL
<i>Glyceria maxima</i>	Reed Mannagrass	OBL
<i>Glyceria striata</i>	Fowl Mannagrass	OBL
<i>Hepatica</i> sp.	Hepatica	NI
<i>Huperzia lucidula</i>	Shining Firmoss / Shining Clubmoss	FACW-
<i>Hydrocotyle americana</i>	American Marsh Penny-Wort	OBL
<i>Hypericum virginicum</i>	Marsh St. Johnswort	UPL*
<i>Ilex verticillata</i>	Common Winterberry	FACW+
<i>Impatiens capensis</i>	Spotted Touch-Me-Not	FACW
<i>Iris versicolor</i>	Harlequin Blueflag Iris	OBL
<i>Iris</i> sp.	Iris species	OBL
<i>Juncus canadensis</i>	Canada Rush	OBL
<i>Juncus effusus</i>	Soft Rush	FACW+
<i>Kalmia angustifolia</i>	Sheep Laurel	FAC
<i>Larix laricina</i>	Tamarack	FACW
<i>Ledum groenlandicum</i>	Bog Labrador Tea	OBL
<i>Leersia oryzoides</i>	Rice Cutgrass	OBL



**Table 5.4
Plant Species Encountered in Wetlands
Marble River Wind Farm
Clinton County, New York**

Scientific Name	Common Name	Regional Indicator Status ¹
<i>Leersia virginica</i>	Whitegrass	FACW
<i>Lemna</i> sp.	Duckweed	OBL
<i>Lycopus uniflorus</i>	Northern Bugleweed	OBL
<i>Lythrum salicaria</i>	Purple Loosestrife	FACW+
<i>Matteuccia struthiopteris</i>	Ostrich Fern	FACW
<i>Nemopanthus mucronatus</i>	Mountain Holly	OBL
<i>Onoclea sensibilis</i>	Sensitive Fern	FACW
<i>Osmunda cinnamomea</i>	Cinnamon Fern	FACW
<i>Osmunda claytoniana</i>	Interrupted Fern	FAC
<i>Osmunda regalis</i>	Royal Fern	OBL
<i>Oxalis</i> sp.	Woodsorrel	NI
<i>Panicum clandestinum</i>	Deer-Tongue Grass	FAC+
<i>Phalaris arundinacea</i>	Reed Canary Grass	FACW+
<i>Phleum pratense</i>	Timothy	FACU
<i>Photinia melanocarpa</i>	Black Chokecherry	FAC
<i>Phragmites australis</i>	Common Reed	FACW
<i>Pilea pumila</i>	Canada Clearweed	FACW+
<i>Poa palustris</i>	Fowl Meadow Grass	FACW
<i>Polygonum hydropiper</i>	Marshpepper Smartweed	OBL
<i>Polygonum hydropiperoides</i>	Swamp Smartweed	OBL
<i>Polygonum lapathifolium</i>	Curlytop Knapweed	FACW+
<i>Polygonum pensylvanicum</i>	Pennsylvania Smartweed	FACW
<i>Polygonum persicaria</i>	Lady's Thumb	FACW
<i>Polygonum sagittatum</i>	Arrow-Leaf Tearthumb	OBL
<i>Populus grandidentata</i>	Bigtooth Aspen	FACU-
<i>Populus tremuloides</i>	Quaking Aspen	FACU
<i>Ranunculus acris</i>	Tall Buttercup	FAC+
<i>Ranunculus repens</i>	Creeping Buttercup	FAC
<i>Rhododendron viscosum</i>	Swamp Azalea	OBL
<i>Rubus hispida</i>	Bristly Blackberry	FACW
<i>Rubus pubescens</i>	Dwarf Blackberry	FACW
<i>Salix bebbiana</i>	Beak Willow	FACW
<i>Salix fragilis</i>	Crack Willow	FAC+
<i>Salix sericea</i>	Silky Willow	OBL
<i>Sambucus canadensis</i>	American Elder	FACW-
<i>Sambucus nigra</i>	European Elderberry	FACW-



**Table 5.4
Plant Species Encountered in Wetlands
Marble River Wind Farm
Clinton County, New York**

Scientific Name	Common Name	Regional Indicator Status ¹
<i>Scirpus atrovirens</i>	Green Bulrush	OBL
<i>Scirpus cyperinus</i>	Woolgrass	FACW+
<i>Scirpus microcarpus</i>	Panicled Bulrush	OBL
<i>Solidago gigantea</i>	Late Goldenrod	FACW
<i>Solidago graminifolia</i>	Grass-Leaved Goldenrod	OBL
<i>Solidago rugosa</i>	Rough-Stemmed Goldenrod	FAC
<i>Sparganium americanum</i>	Lesser Burreed	OBL
<i>Sphagnum</i> sp.	Sphagnum Moss	OBL*
<i>Spiraea alba</i>	Narrow-Leaf Meadowsweet	FACW+
<i>Spiraea latifolia</i>	Broad-Leaf Meadowsweet	FAC+
<i>Spiraea tomentosa</i>	Steeple-Bush	FACW
<i>Symplocarpus foetidus</i>	Skunk Cabbage	OBL
<i>Thalictrum pubescens</i>	Meadow Rue	FACW+
<i>Thelypteris palustris</i>	Eastern Marsh Fern	NI
<i>Thelypteris simulata</i>	Massachusetts Fern / Bog Fern	FACW
<i>Thuja occidentalis</i>	Northern White Cedar	FACW
<i>Typha angustifolia</i>	Narrow-Leaf Cattail	OBL
<i>Typha latifolia</i>	Broad-Leaf Cattail	OBL
<i>Ulmus americana</i>	American Elm	FACW-
<i>Ulmus rubra</i>	Slippery Elm	FAC
<i>Vaccinium corymbosum</i>	Highbush Blueberry	FACW-
<i>Vaccinium myrtilloides</i>	Velvetleaf Huckleberry	FAC
<i>Veratrum viride</i>	Green Flase Hellebore	FACW+
<i>Viburnum cassinoides</i>	Withe-rod	FACW
<i>Viburnum nudum</i>	Possumhaw Viburnum	OBL
<i>Viburnum trilobum</i>	American Cranberrybush	FACW
<i>Vitis riparia</i>	Riverbank Grape	FACW
<i>Zizia aurea</i>	Golden Alexanders	FAC

¹ Indicator Categories:

FAC = Facultative – Equally likely to occur in wetlands or non wetlands

FACW = Facultative wetland – Usually occurs in wetlands

FACU = Facultative upland – Usually occurs in uplands

OBL = Obligate wetland – In natural conditions, occurs almost always in wetlands

No indicator status

+ = More frequently found in wetlands

- = Less frequently found in wetlands

Table 5.5
Plant Species Encountered in Uplands
Marble River Wind Farm
Clinton County, New York

Scientific Name	Common Name	Regional Indicator Status ¹
<i>Abies balsamea</i>	Balsam Fir	FAC
<i>Abies fraseri</i>	Fraser Fir	FACU
<i>Abutilon theophrasti</i>	Velvetleaf	UPL
<i>Acer pensylvanicum</i>	Striped Maple	FACU
<i>Acer rubrum</i>	Red Maple	FAC
<i>Acer saccharum</i>	Sugar Maple	FACU-
<i>Achillea millefolium</i>	Common Yarrow	FACU
<i>Alnus crispa</i>	Mountain Alder	FAC
<i>Ambrosia artemisiifolia</i>	Annual Ragweed	FACU
<i>Amelanchier laevis</i>	Shadbush Serviceberry	FAC
<i>Anaphalis margaritacea</i>	Pearly Everlasting	UPL*
<i>Anemone thalictroides</i>	Rue Anemone	UPL*
<i>Anthoxanthum odoratum</i>	Sweet Vernalgrass	FACU
<i>Apocynum androsaemifolium</i>	Spreading Dogbane	NI
<i>Apocynum cannabinum</i>	Clasping-Leaf Dogbane	FACU
<i>Aralia nudicaulis</i>	Wild Sarsaparilla	UPL*
<i>Arctium lappa</i>	Great Burdock	UPL*
<i>Asclepias syriaca</i>	Common Milkweed	UPL*
<i>Aster acuminatus</i>	Whorled Wood Aster	UPL*
<i>Aster vimineus</i>	Small White Aster	FAC
<i>Athyrium filix-femina</i>	Subarctic Lady Fern	FAC
<i>Barbarea verna</i>	Early Wintercress	FACU
<i>Betula alleghaniensis</i>	Yellow Birch	FAC
<i>Betula papyrifera</i>	Paper Birch	FACU
<i>Betula populifolia</i>	Gray Birch	FAC
<i>Brachyelytrum erectum</i>	Long Awned Woodgrass	UPL*
<i>Brassica rapa</i>	Field Mustard	UPL*
<i>Caulophyllum thalictroides</i>	Blue Cohosh	NI
<i>Centaurea maculosa</i>	Spotted Knapweed	UPL*
<i>Chenopodium album</i>	White Goosefoot	FACU+
<i>Cinna latifolia</i>	Wood Reedgrass	UPL*
<i>Cirsium arvense</i>	Canada Thistle	FACU
<i>Cirsium vulgare</i>	Bull Thistle	FACU-
<i>Claytonia caroliniana</i>	Carolina Springbeauty	FACU
<i>Clementatis virginiana</i>	Virginia Virgins-Bower	FAC



**Table 5.5
Plant Species Encountered in Uplands
Marble River Wind Farm
Clinton County, New York**

Scientific Name	Common Name	Regional Indicator Status ¹
<i>Clintonia borealis</i>	Bluebead	FAC
<i>Cornus canadensis</i>	Canadian Bunchberry	FAC-
<i>Cornus mas</i>	Cornelian Cherry	NI
<i>Cornus rugosa</i>	Round-Leaved Dogwood	UPL*
<i>Corylus cornuta</i>	Beaked Hazel	FACU-
<i>Crataegus</i> sp.	Hawthorn	UPL*
<i>Dactylis glomerata</i>	Orchard Grass	FACU
<i>Daucus carota</i>	Queen Anne's Lace	UPL*
<i>Dryopteris carthusiana</i>	Spinulose Wood Fern	FAC+
<i>Dryopteris intermedia</i>	Common Wood Fern	FACU
<i>Echinochloa crusgalli</i>	Barnyard Grass	FACU
<i>Elymus repens</i>	Quack Grass	FACU-
<i>Epipactis helleborine</i>	Helleborine	UPL*
<i>Erigeron annuus</i>	White-Top Fleabane	FACU
<i>Erysimum cheiranthoides</i>	Worm-Seed Wallflower	FAC
<i>Erythronium americanum</i>	Trout Lily, Yellow	UPL*
<i>Euthamia graminifolia</i>	Lance-Leaf Goldenrod	FAC
<i>Fagus grandifolia</i>	American Beech	FACU
<i>Festuca elatior</i>	Meadow Fescue	UPL*
<i>Festuca arundinacea</i>	Giant Fescue	FACU
<i>Festuca elatior</i>	Meadow Fescue	UPL*
<i>Fragaria vesca</i>	Strawberry	UPL*
<i>Fragaria virginiana</i>	Virginia Strawberry	FACU
<i>Fraxinus americana</i>	White Ash	FACU
<i>Galium mollugo</i>	Wild Madder	UPL*
<i>Gaultheria procumbens</i>	Wintergreen	FACU
<i>Geum canadense</i>	White Avens	FACU
<i>Hamamelis virginiana</i>	Witch Hazel	FAC-
<i>Hieracium aurantiacum</i>	Hawkweed (Orange)	UPL*
<i>Hieracium pratense</i>	Hawkweed	UPL*
<i>Hordeum vulgare</i>	Common Barley	NI
<i>Hylotelephium telephioides</i>	Allegheny Stonecrop	NI
<i>Isotria</i> sp.	Fiveleaf Orchid	FACU
<i>Juncus tenuis</i>	Path Rush	FAC-
<i>Juniperus communis</i>	Common Juniper	UPL*
<i>Kalmia angustifolia</i>	Sheep Laurel	FAC



**Table 5.5
Plant Species Encountered in Uplands
Marble River Wind Farm
Clinton County, New York**

Scientific Name	Common Name	Regional Indicator Status ¹
<i>Lactuca canadensis</i>	Wild Lettuce	FACU-
<i>Leontodon autumnalis</i>	Fall Dandelion	UPL*
<i>Leucanthemum vulgare</i>	Oxeye Daisy	FACU
<i>Linaria vulgaris</i>	Butter And Eggs	UPL*
<i>Lobelia inflata</i>	Indian-tobacco	FACU
<i>Lolium perenne</i>	Perennial Ryegrass	FACU-
<i>Lonicera morrowii</i>	Morrow's Honeysuckle	NI
<i>Lycopodium annotinum</i>	Stiff Clubmoss	FAC
<i>Lycopodium clavatum</i>	Running Pine	FAC
<i>Lycopodium dendroideum</i>	Tree-like Clubmoss (Tree Groundpine)	FACU
<i>Lycopodium obscurum</i>	Ground Pine (Princess Pine)	FACU
<i>Lycopodium spp.</i>	Clubmoss species	NI
<i>Maianthemum canadense</i>	Canada Mayflower	FAC-
<i>Malva neglecta</i>	Common Mallow	UPL*
<i>Matricaria chamomilla</i>	Wild Chamomile	UPL*
<i>Medicago sativa</i>	Alfalfa	UPL*
<i>Melilotus alba</i>	White Sweet Clover	UPL*
<i>Melilotus officinalis</i>	Yellow Sweet Clover	FACU-
<i>Mitchella repens</i>	Partridge-Berry	FACU
<i>Monotropa uniflora</i>	Ghost Pipe	FACU-
<i>Oenothera biennis</i>	Common Evening-Primrose	FACU-
<i>Osmunda cinnamomea</i>	Cinnamon Fern	FACU
<i>Osmunda claytoniana</i>	Interrupted Fern	FAC
<i>Ostrya virginiana</i>	Hop Hornbeam	FACU-
<i>Oxalis corniculata</i>	Creeping Woodsorrel	FACU
<i>Panax trifolius</i>	Dwarf Ginseng	UPL*
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	FACU
<i>Phalaris arundinacea</i>	Reed Canary Grass	OBL
<i>Phleum pratense</i>	Timothy	FACU
<i>Picea abies</i>	Norway Spruce	UPL*
<i>Picea mariana</i>	Black Spruce	FACU-
<i>Picea rubens</i>	Red Spruce	FACU
<i>Pinus rigida</i>	Pitch Pine	FACU
<i>Pinus strobus</i>	Eastern White Pine	FACU
<i>Plantago lanceolata</i>	English Plantain	UPL
<i>Plantago major</i>	Common Plantain	FACU



**Table 5.5
Plant Species Encountered in Uplands
Marble River Wind Farm
Clinton County, New York**

Scientific Name	Common Name	Regional Indicator Status ¹
<i>Polygonatum</i> sp.	Solomon's Seal	FACU
<i>Polygonum scandens</i>	Climbing False Buckwheat	FACU
<i>Polystichum acrostichoides</i>	Christmas Fern	FACU-
<i>Populus grandidentata</i>	Big-Tooth Aspen	FACU-
<i>Populus tremuloides</i>	Quaking Aspen	FACU
<i>Potentilla simplex</i>	Common Cinquefoil	FACU-
<i>Prunella vulgaris</i>	Common Selfheal	FACU+
<i>Prunus pensylvanica</i>	Pin Cherry	FACU-
<i>Prunus serotina</i>	Black Cherry	FACU
<i>Prunus virginiana</i>	Chokecherry	FACU
<i>Pseudotsuga menziesii</i>	Douglas Fir	UPL*
<i>Pteridium aquilinum</i>	Bracken Fern	FACU
<i>Pyrus americana</i>	American Mountain Ash	UPL*
<i>Pyrus malus</i>	Apple	UPL*
<i>Quercus rubra</i>	Red Oak	FACU-
<i>Ranunculus repens</i>	Creeping Buttercup	FAC
<i>Rhus typhina</i>	Staghorn Sumac	UPL*
<i>Ribes glandulosum</i>	Skunk Currant	FACW
<i>Rubus allegheniensis</i>	Allegheny Blackberry	FACU-
<i>Rubus idaeus</i>	Common Red Raspberry	FAC-
<i>Rubus orarius</i>	Blackberry	UPL*
<i>Rumex acetosella</i>	Field Sorrel	UPL*
<i>Rumex crispus</i>	Curly Dock	FACU
<i>Sanicula</i> sp.	Black Snakeroot	NI
<i>Sicyos angulatus</i>	Oneseed Burr Cucumber	FACU
<i>Smilacina racemosa</i>	False Solomon's Seal	FACU
<i>Solanum dulcamara</i>	Climbing Nightshade	FAC-
<i>Solidago altissima</i>	Tall Goldenrod	FACU-
<i>Solidago canadensis</i>	Canada Goldenrod	FACU
<i>Solidago gigantea</i>	Late Goldenrod	FACW
<i>Solidago hispida</i>	Hairy Goldenrod	Not listed
<i>Solidago rugosa</i>	Rough-Stemmed Goldenrod	FAC
<i>Sonchus asper</i>	Spiny-Leaf Sow Thistle	FAC
<i>Sonchus oleraceus</i>	Common Sowthistle	UPL
<i>Sorbus americana</i>	American Mountain Ash	FACU
<i>Spiraea latifolia</i>	Broad-Leaf Meadowsweet	FAC+



**Table 5.5
Plant Species Encountered in Uplands
Marble River Wind Farm
Clinton County, New York**

Scientific Name	Common Name	Regional Indicator Status ¹
<i>Stellaria graminea</i>	Grasslike Starwort	FACU-
<i>Taraxacum officinale</i>	Common Dandelion	FACU-
<i>Thelypteris noveboracensis</i>	New York Fern	FAC
<i>Thlaspi arvense</i>	Field Penny Cress	NI
<i>Tiarella cordifolia</i>	Foamflower	FAC-
<i>Tilia americana</i>	American Basswood	FACU
<i>Trientalis borealis</i>	Starflower	FAC
<i>Trifolium arvense</i>	Rabbitfoot Clover	UPL
<i>Trifolium dubium</i>	Least Hop Clover	UPL
<i>Trifolium hybridum</i>	Alsike Clover	FACU-
<i>Trifolium pratense</i>	Red Clover	FACU-
<i>Trifolium repens</i>	White Clover	FACU-
<i>Trillium undulatum</i>	Painted Trillium	FACU*
<i>Tsuga canadensis</i>	Hemlock	FACU
<i>Uvularia perfoliatum</i>	Perfoliate Bellwort	FACU
<i>Vaccinium angustifolium</i>	Lowbush Blueberry	FACU-
<i>Verbascum thapsus</i>	Common Mullein	UPL*
<i>Viburnum lantago</i>	Nannyberry	FAC
<i>Viburnum lantanoides</i>	Hobblebush	FAC
<i>Viburnum rhytidophyllum</i>	Leatherleaf	UPL*
<i>Vicia cracca</i>	Cow Vetch	UPL*
<i>Viola canadensis</i>	Canada Violet	UPL*

¹ Indicator Categories:

FAC = Facultative – Equally likely to occur in wetlands or non wetlands

FACU = Facultative upland – Usually occurs in non-wetlands

UPL = Obligate upland - In natural conditions, occurs almost always in non-wetlands

NI = No indicator status

+ = More frequently found in wetlands

- = Less frequently found in wetlands

UPL* = not listed on Region 1 National List of Plant Species that Occur in Wetlands: Northeast (Region 1)



5.4.2 Shrub Swamp (45.94 acres)

Shrub swamps are dominated by tall shrubs that occur along the shore of lakes or rivers, in a wet depression not associated with lakes, or in a transitional zone between a marsh, swamp, or bog and an upland community. This is a broadly defined, highly variable covertype that includes several distinct communities and many intermediates. Shrub swamps may have a single dominant shrub species or be co-dominated by a mixture of species. Speckled alder, beak willow and silky willow are the most frequently dominating shrubs of this community within the survey area. Various other shrub species with occasional occurrence include highbush cranberry (*Viburnum trilobum*), steplebush (*Spirea tomentosa*), meadowsweet and red osier dogwood (*Cornus stolonifera*). These wetland communities are frequently associated with stream complexes and may contain emergent wetland sedges and grasses.

5.4.3 Shallow Emergent Marsh (17.30 acres)

Shallow emergent marshes are permanently saturated and seasonally flooded wetlands that can be dominated by a variety of herbaceous vegetation. Common dominant herbaceous plants within the Survey area include soft rush, green bulrush (*Scirpus atrovirens*), wool-grass (*S. cyperinus*), bladder sedge, shallow sedge, pointed broom sedge, fox sedge (*Carex vulpinoidea*), rush aster (*Aster junciformis*), flat-topped aster, New York aster (*A. novi-belgii*), arrow-leaf tearthumb (*Polygonum sagittatum*), marshpepper smartweed (*P. hydropiper*), eastern Joe-pye-weed (*Eupatoriadelphus dubium*), lance-leaf goldenrod (*Euthamia graminifolia*), rough-stemmed goldenrod, jewelweed (*Impatiens capensis*), rattle snake grass (*Glyceria canadensis*), fowl meadow grass (*Poa palustris*), broad-leaved cattail (*Typha latifolia*) and reed canary grass (*Phalaris arundinacea*). Marshes must have less than 50 percent cover of peat and tussock-forming sedges such as tussock sedge (*Carex stricta*); otherwise it may be classified as a sedge meadow. Other plants characteristic of shallow emergent marshes include blue flag iris (*Iris versicolor*), sensitive fern, cinnamon fern, and rushes (*Juncus* spp.). Shallow emergent marshes commonly have scattered shrub species including speckled alder, dogwoods (*Cornus* spp.), willows (*Salix* spp.) and spireas (*Spirea* spp.).

5.4.4 Northern White Cedar Swamp (1.76 acres)

Northern white cedar (*Thuja occidentalis*) swamps are conifer or mixed conifer swamps that occur on organic soils in cool, poorly drained depressions, and along lakes and streams. Co-dominants at the 11 delineated wetlands classified as northern white cedar swamp include gray birch, yellow birch (*Betula alleghaniensis*), balsam fir, and red maple. Understories of these wetlands include tree saplings and species such as speckled alder, Canadian serviceberry (*Amelanchier canadensis*), and meadowsweet in the shrub strata, and sedge species (*Carex* spp.), sensitive fern, cinnamon fern, and sphagnum moss in the herbaceous layer.

5.4.5 Balsam Flats (7.02 acres)

Balsam flats are generally an upland conifer forest community that occurs on well drained soils of low flats adjoining swamps, gentle low ridges, and knolls within swamps. At the Site, balsam flats occur in 28 delineated wetlands. Co-dominants in these wetlands include red maple, and gray birch. The herbaceous layers include species such as nannyberry, sheep laurel (*Kalmia angustifolia*), speckled alder, meadowsweet, sensitive fern, and sphagnum moss.

5.4.6 Rich Shrub Fen (3.40 acres)

Rich shrub fens are open peatlands with greater than 8 inches (20 cm) of woody peat. At the Site, rich shrub fen communities are present at two delineated wetlands: the AR80A portion of wetland AR80/81A and AR606B. Wetland AR80A occurs between Robare Pond Road and Turbine 10A and wetland AR606B occurs along Bootleg Road. At wetland AR80A, the sparse tree, moderate shrub and dense herbaceous layers are dominated by northern white cedar, speckled alder and sphagnum moss, respectively. At wetland AR606B, gray birch, speckled alder, and nannyberry dominate the shrub layer, and sedge and moss species dominate the dense herbaceous layer.

5.4.7 Successional Northern Hardwoods (5.14 acres)

Successional northern hardwoods are hardwood or mixed forests that occur on sites that have been cleared or otherwise disturbed. This broadly-defined community occurs at 17 wetlands at the Site. Characteristic trees and saplings in these wetlands include gray birch, red maple, American elm (*Ulmus Americana*), yellow birch, and aspen (*Populus* spp.). Communities are often dominated by species well adapted to establishment following disturbance. Common understory vegetation at the Site includes sensitive fern, jewelweed, Canada mayflower, and sedge and moss species.

5.4.8 Hemlock-Hardwood Swamp (0.76 acres)

Hemlock-hardwood swamps are mixed swamps with a fairly closed canopy, sparse shrub layer, and low species diversity. At the Site, this community occurs at one wetland (AR941A) in conjunction with a balsam flats community. Hemlock (*Tsuga canadensis*) is typically co-dominated by yellow birch and red maple. The herbaceous layer includes sensitive fern, New York fern (*Thelypteris noveboracensis*), and Northern bugleweed.

5.4.9 Black Spruce-Tamarack Bog (0.01 acres)

Black spruce-tamarack bogs are conifer forests that occur on acidic peatlands in cool, poorly drained depressions. At the Site, this community occurs at one wetland (IC1038A) and will not be affected by the project. Tamarack (*Larix laricina*) is the dominant tree species at this wetland; black spruce was not observed at the sample station but may occur elsewhere. The shrub and herb layers consist of low-growing evergreen, ericaceous shrubs and sphagnum mosses and include leatherleaf (*Viburnum rhytidophyllum*), bog labrador tea (*Ledum groenlandicum*), bog rosemary (*Andromeda glaucophylla*), sheep laurel, and sphagnum moss.

5.4.10 Red Maple-Tamarack Peat Swamp (0.05 acres)

Red maple-tamarack peat swamps are mixed swamps that occur on organic soils in poorly drained depressions. At the Site, this community occurs at one wetland (IC1038B). Dominant trees are red maple and tamarack while the understory is dominated by highbush blueberry (*Vaccinium corymbosum*), mountain holly (*Nemopanthus mucronatus*), and sphagnum moss.

5.4.11 Spruce-fir Swamp (1.20 acres)

Spruce-fir swamps are conifer swamps that typically occur in drainage basins, but can also occur at the edge of a lake or pond. In the Adirondacks, these swamps are often found in drainage basins occasionally flooded by beaver. At the Site, spruce-fir swamp communities were found at four delineated wetlands. The dominant tree is usually red spruce (*Picea rubens*). Co-dominant

trees include balsam fir and red maple, but gray birch was also found in the wetlands. Shrub layers include serviceberry and meadowsweet; herb layers include peat and club mosses, sheep laurel, soft rush, and sedge species.

5.4.12 Cropland/Row Crops (0.12 acres)

Cropland/row crops are agricultural fields planted in row crops (*e.g.* corn). This community occurs in two wetlands (AR16A and AR16BC). Because these field wetlands had been plowed at the time of the Site visit, most of the vegetation was unidentifiable, presenting an Atypical Situation. Wetland plant species observed at these two sites included reed canary grass and *Scirpus* species. Upland species included common plantain (*Plantago major*), fall dandelion (*Leontodon autumnalis*), and clover (*Trifolium* spp.).

5.4.13 Cropland/Field Crops (6.30 acres)

Cropland/field crops are agricultural fields planted in field crops (*e.g.* timothy) and includes hayfields that are rotated to pasture. This community occurs in 18 wetlands. Dense herbaceous layers are dominated by vegetative species such as reed canary grass (*Phalaris arundinacea*), timothy (*Phleum pretense*), sedge species, and fowl meadow grass.

5.4.14 Pastureland (4.54 acres)

Pastureland is defined as agricultural land permanently maintained (or recently abandoned) as a pasture area for livestock. This community occurs in 25 wetlands. Herbaceous species dominating these wetlands include various grass species, sedge species, green bulrush (*Scirpus atrovirens*), soft rush (*Juncus effuses*), goldenrod species (*Solidago* spp.), aster species (*Aster* spp.), and buttercup species (*Ranunculus* spp.).

5.4.15 Successional Old Field (1.24 acres)

Successional old fields are meadows dominated by forbs and grasses that occur on sites that have been cleared and plowed (*e.g.* for farming) and then abandoned. This community occurs in eight wetlands. Vegetative species dominating these wetlands include fowl mannagrass (*Glyceria striata*); sedge species including fringed, shallow and bladder sedges; aster species; purple-leaf willow-herb (*Epilobium coloratum*); bulrush species, Northern bugleweed; and goldenrod species.

5.4.16 Mowed Lawn (1.10 acres)

Mowed lawn is a terrestrial community type in which ground cover is dominated by clipped grasses which are maintained by mowing. This community occurs in a portion of one wetland (AR719-A/B/C) in the vicinity of a residential structure and included various sedge (*Carex* spp.) and spikerush (*Eleocharis* spp.) species, not able to be identified to the species level in the field due to regular lawn maintenance.

5.5 Hydrology

Primary indicators of wetland hydrology predominantly consisted of inundated and saturated soils and evidence of drainage patterns in the wetlands. Secondary indicators of wetland hydrology included the presence of oxidized root channels in the upper 12 inches and water stained leaves. Fifty of the 95 surface waterbodies delineated at the Site (53%) were associated with one of the Site's delineated wetlands.

Hydrology strongly influences the plant communities, which develop within wetlands, and consists of a variety of water regimes. These water regimes are in turn defined in length of the growing season, which is equal to the frost-free period of the seasonal year. The rest of the year is defined as the dormant season, a time when even extended periods of flooding may have little influence on the development of plant communities. Common water regimes found in palustrine systems are presented in Table 5.6. The most common hydrological regimes associated with wetlands in the survey area were the saturated and seasonally flooded regimes. In the saturated wetlands, the surface of the wetland soil expands or rises as it gets wetter, thus they are not considered flooded.

	Regime	Description
Driest	Intermittently Flooded	The substrate is usually exposed, but surface water is present for variable periods without detectable seasonal periodicity. Weeks, months, or even years may intervene between periods of inundation. The dominant plant communities under this regime may change as soil moisture conditions change. Some areas exhibiting this regime do not fall within our definition of wetland because they do not have hydric soils or support hydrophytes.
	Temporarily Flooded	Surface water is present for brief periods during the growing season, but the water table usually lies well below the soil surface for most of the season. Plants that grow both in uplands and wetlands are characteristic of the temporarily flooded regime.
↓	Saturated	The substrate is saturated to the surface for extended periods during the growing season, but surface water is seldom present.
	Seasonally Flooded	Surface water is present for extended periods especially early in the growing season, but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface.
	Semi-Permanently Flooded	Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land surface.
Wettest	Intermittently Exposed	Surface water is present throughout the year except in years of extreme drought.
	Permanently Flooded	Water covers the land surface throughout the year in all years. Vegetation is composed of obligate hydrophytes.

5.6 Hydrography

The Site is situated along the drainage divide between the Lake Champlain (Hydrologic Unit Code (HUC): 020100)) and Saint Lawrence (HUC: 041503) Drainage Basins. Crystal Creek, Allen Brook, English River, and their associated tributaries drain the eastern portion of the Site; Brandy Brook and tributaries to the North Branch Great Chazy River drain the southeastern portion of the Site; Hinchinbrook Brook, Dry Brook, Marble River, and their tributaries drain the western portion of the Site; and tributaries flowing directly into Canada drain the northern portion of the Site. A map of the drainage boundaries and a flow chart identifying the hierarchy of the site drainage are presented in Figures 6 and 7, respectively.

The northern 89 percent of the Site (16,506 acres or 25.79 square miles) is located in the Saint Lawrence Drainage Basin, which drains roughly 3.55 million acres (5,600 square miles) in New York State. Tributary headwaters of this basin originate high in the Adirondack Mountains and flow north to the Saint Lawrence River. Major tributaries in this basin include the Salmon, Saint Regis, Raquette, Grass, Oswegatchie, and Indian Rivers. Within this drainage basin, the Site falls within the English-Salmon Watershed (HUC: 04150307), which contains 1,096 miles of streams and 34,010 acres of NYSDEC-regulated (>12.4 acres) wetlands. The English-Salmon Watershed comprises 13 smaller subwatersheds, five of which intersect the Site: Chateaugay River; Direct Canadian Drainage; English River; Hinchinbrook & Collins Brooks; and Shea Brook & Kellas Creek. These subwatersheds occupy 3,459; 6,058; 6,743; 3,363; and 922 acres of the Site, respectively.

The remaining 11 percent of the Site (2,014 acres or 3.15 square miles), is located in the Lake Champlain Drainage Basin. This basin drains approximately 1.93 million acres (3,000 square miles) in New York State to Lake Champlain via major tributaries that include the Great Chazy, Saranac, Ausable, and Boquet Rivers. Lake Champlain drains north to Southern Quebec via the Richelieu River and discharges to the Saint Lawrence River. Within the Lake Champlain Drainage Basin, the Site is situated within the Northern Lake Champlain Watershed (HUC: 02010006), which contains 655 miles of streams and 35,120 acres of NYSDEC-regulated wetlands. The entire portion of the Site within the Northern Lake Champlain watershed is associated with one of ten subwatersheds, the Upper Great Chazy River.

|

Insert Figure 6

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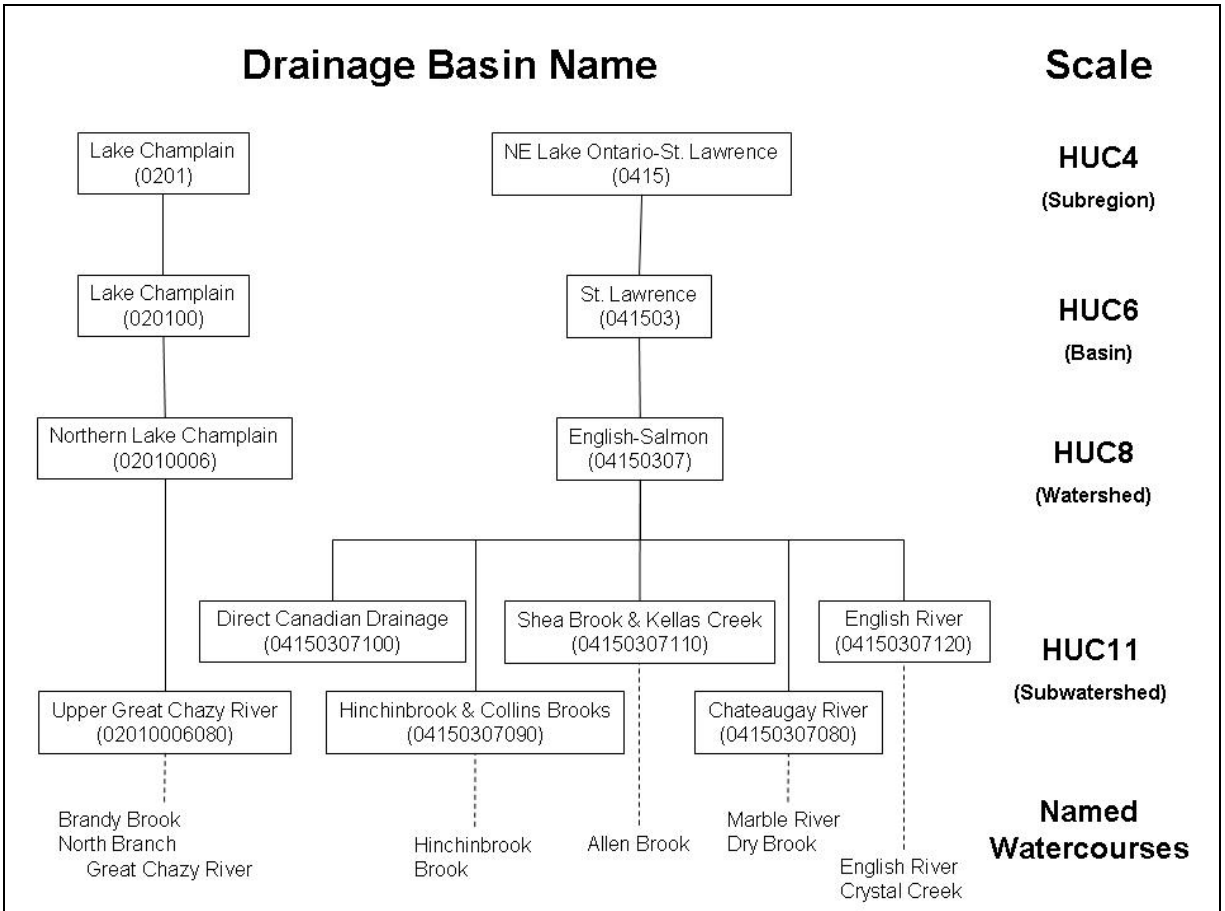


Figure 7

Hierarchical Drainage System Intersecting The Site



6.0 NYSDEC WETLANDS AND ADJACENT AREAS

Delineated wetlands that were located within the boundaries of NYSDEC mapped wetland polygons were designated as NYSDEC wetlands. A 100-foot adjacent area was generated for each wetland identified as a NYSDEC wetland. Adjacent areas from more than one wetland were joined to prevent an over estimate of adjacent areas acreage.

Two hundred and one (201) of the 426 wetlands that are intersected by the proposed Marble River Wind Farm project (47 percent) were identified as NYSDEC wetlands (116.34 acres total). Wetland acreages, summarized by Cowardin coetypes, are presented in Table 6.1. A list of each state regulated wetland delineated in the field and their acreages within the survey area are provided in Table 6.2.

Cowardin Coetype	Acreage
PFO1	45.27
PFO4	2.33
PFO1/PFO4	3.74
PFO1/PFO4/PSS	1.19
PFO2/PSS	0.01
PFO2/PFO1/PSS	0.10
PFO1/PSS	10.85
PFO4/PSS	1.25
PFO1/PFO4/PSS/PEM	4.04
PFO1/PSS/PEM	1.01
PFO4/PSS/PEM	0.25
PFO1/PEM	2.98
PFO1/PFO4/PEM	0.10
PSS	19.72
PSS/PEM	15.69
PEM	7.81
Total	116.34

Two hundred eighteen (217.88) acres of NYSDEC adjacent area also occurs within the survey area. The acreages of the state regulated adjacent areas that occur within the survey area, and their wetland associations, are provided in Table 6.3.

**Table 6.2
NYSDEC Wetland Acreage
Marble River Wind Farm
Clinton County, New York**

Wetland ID	Covertypes	Project Component					Total
		WTG ¹	AR ²	IC ³	OH ⁴	RD ⁵	
AR/IC1021-A/B	PFO1 ⁵	0.00	1.22	0.08	0.00	0.00	1.30
AR1-A	PEM ⁶	0.00	0.08	0.00	0.00	0.00	0.08
AR3-A	PEM	0.10	0.00	0.00	0.00	0.00	0.10
AR3-B	PSS/PEM	0.01	0.02	0.00	0.00	0.00	0.02
AR4-A	PEM	0.00	0.02	0.00	0.00	0.00	0.03
AR5-A	PEM	0.00	0.04	0.00	0.00	0.00	0.04
AR16-A	PEM	0.00	0.01	0.00	0.00	0.00	0.01
AR16-B/C	PEM	0.00	0.11	0.00	0.00	0.00	0.11
AR18-A,OH1201-A	PFO1	0.00	0.00	0.00	2.74	0.00	2.74
AR22-A	PEM	0.00	0.00	0.04	0.00	0.00	0.04
AR35-A	PSS/PEM	0.00	0.14	0.01	0.00	0.00	0.14
AR41-A	PEM	0.00	0.55	0.02	0.00	0.00	0.58
AR62-A	PSS ⁷	0.00	0.00	0.00	0.71	0.00	0.71
AR62-B	PSS	0.00	0.00	0.00	0.30	0.00	0.30
AR63-A	PSS/PEM	0.00	0.00	0.00	0.02	0.00	0.02
AR64-A/B	PFO1	0.00	0.00	0.00	0.14	0.00	0.14
AR66-A	PSS/PEM	0.00	0.01	0.00	0.00	0.00	0.01
AR68-A	PSS/PEM	0.00	0.00	0.00	0.00	0.00	0.00
AR79A	PSS	0.00	0.37	0.00	0.00	0.00	0.37
AR79-B	PSS	0.00	0.30	0.06	0.00	0.00	0.35
AR79C	PFO4 ⁸ /PSS	0.00	0.01	0.00	0.00	0.00	0.01
AR111-A/B	PFO1	0.00	0.16	0.01	0.00	0.00	0.17
AR114-A/B	PFO1	0.00	0.10	0.01	0.00	0.00	0.11
AR115-A/B/C	PSS	0.00	1.50	0.42	0.00	0.00	1.92
AR117-A	PSS	0.00	0.00	0.01	0.00	0.00	0.01
AR205-A	PSS	0.00	0.00	0.00	0.16	0.00	0.16
AR205-B	PSS/PEM	0.00	0.00	0.00	0.19	0.00	0.19
AR209-A	PFO1/PEM	0.00	0.03	0.00	0.00	0.00	0.03
AR360-A	PSS/PEM	0.00	0.14	0.04	0.00	0.00	0.17
AR370-A	PEM	0.38	0.00	0.00	0.00	0.00	0.38
AR502-A	PSS	0.00	0.00	0.00	5.46	0.00	5.46
AR505-A/B	PFO1/PSS	0.00	0.00	0.00	4.53	0.00	4.53
AR506, OH1206	PSS/PEM	0.00	0.14	0.01	3.44	0.00	3.59
AR507-A	PSS/PEM	0.00	0.00	0.00	0.39	0.00	0.39
AR509-A/B	PFO1	0.00	0.20	0.01	1.85	0.00	2.06
AR513-A/B	PFO1	0.00	0.27	0.03	0.00	0.00	0.31
AR514-A	PSS/PEM	0.09	0.00	0.00	0.00	0.00	0.09



**Table 6.2
NYSDEC Wetland Acreage
Marble River Wind Farm
Clinton County, New York**

Wetland ID	Covertypes	Project Component					Total
		WTG ¹	AR ²	IC ³	OH ⁴	RD ⁵	
AR523-A	PEM	0.00	0.02	0.00	0.00	0.00	0.02
AR524-A	PSS/PEM	0.00	0.24	0.00	0.00	0.00	0.24
AR524-B	PFO1/PEM	0.00	0.06	0.02	0.00	0.00	0.09
AR524-D	PFO1/PEM	0.00	0.03	0.00	0.00	0.00	0.03
AR525-A	PFO1	0.00	0.03	0.05	0.00	0.00	0.08
AR526-A/B	PSS	0.00	0.17	0.00	0.00	0.00	0.17
AR530-A/B	PFO1	0.00	0.09	0.01	0.00	0.00	0.10
AR531-A	PSS	0.00	0.03	0.01	0.00	0.00	0.04
AR534-A	PFO1/PSS	0.00	0.02	0.00	0.00	0.00	0.02
AR534-B	PEM	0.00	0.06	0.00	0.00	0.00	0.06
AR600-A	PSS	0.00	0.00	0.00	0.03	0.00	0.03
AR602-A	PSS/PEM	0.00	0.00	0.00	0.11	0.00	0.11
AR602-B	PSS/PEM	0.00	0.00	0.00	0.20	0.00	0.20
AR603-A	PFO1/PSS	0.00	0.00	0.00	0.81	0.00	0.81
AR603-B	PFO1/PSS	0.00	0.00	0.00	0.57	0.00	0.57
AR604-A	PEM	0.00	0.00	0.00	0.17	0.00	0.17
AR604-B	PSS/PEM	0.00	0.00	0.00	0.19	0.00	0.19
AR605-A	PFO4/PSS	0.00	0.00	0.00	0.25	0.00	0.25
AR605-B	PFO4/PSS	0.00	0.00	0.00	0.34	0.00	0.34
AR606-A/C	PFO1/PFO4/PSS/PEM	0.00	0.00	0.00	2.02	0.00	2.02
AR606-B	PSS/PEM	0.00	0.00	0.00	3.38	0.00	3.38
AR607-A	PFO4/PSS	0.00	0.00	0.00	0.28	0.00	0.28
AR607-B	PFO4/PSS/PEM	0.00	0.00	0.00	0.25	0.00	0.25
AR608-A	PFO1/PEM	0.00	0.00	0.00	0.42	0.00	0.42
AR609-A	PFO1/PFO4/PSS	0.00	0.00	0.00	0.57	0.00	0.57
AR609-B	PFO1/PFO4/PSS	0.00	0.00	0.00	0.59	0.00	0.59
AR610-A	PSS/PEM	0.00	0.00	0.00	0.54	0.00	0.54
AR610-B	PSS/PEM	0.00	0.00	0.00	1.23	0.00	1.23
AR611-A/B/C/D/E	PFO1/PFO4/PSS/PEM	0.00	0.88	0.09	1.05	0.00	2.02
AR611-B	PFO1/PSS	0.00	0.00	0.00	1.71	0.00	1.71
AR615-A	PFO1/PSS	0.01	0.03	0.00	0.23	0.00	0.26
AR615-B	PFO1/PSS	0.00	0.01	0.00	1.11	0.00	1.12
AR617-A	PSS/PEM	0.36	0.02	0.00	0.00	0.00	0.38
AR619-A	PSS/PEM	0.00	0.08	0.02	0.00	0.00	0.10
AR619-B	PSS	0.00	0.24	0.00	0.00	0.00	0.24
AR625-A	PFO1/PSS	0.00	0.49	0.00	0.00	0.00	0.49
AR625-B	PFO1/PSS	0.00	0.41	0.00	0.00	0.00	0.41
AR700-A	PSS	0.00	0.00	0.00	0.34	0.00	0.34



**Table 6.2
NYSDEC Wetland Acreage
Marble River Wind Farm
Clinton County, New York**

Wetland ID	Covertypes	Project Component					Total
		WTG ¹	AR ²	IC ³	OH ⁴	RD ⁵	
AR713-B	PSS	0.00	0.00	0.17	0.00	0.00	0.17
AR720-A	PSS	0.00	0.11	0.00	0.00	0.00	0.11
AR724-A	PFO1	0.00	0.07	0.66	0.00	0.00	0.74
AR802-A	PFO1/PSS/PEM	0.00	0.00	0.00	0.51	0.00	0.51
AR803-A/B/C	PSS/PEM	0.00	0.08	0.00	1.01	0.00	1.09
AR825-A/B	PFO1	0.00	0.53	0.03	1.69	0.00	2.26
AR852-A/B	PFO1	0.00	0.60	0.01	0.00	0.00	0.61
AR902-A	PFO1	0.00	0.00	0.00	0.08	0.00	0.08
AR906-A	PSS/PEM	0.20	0.00	0.00	0.00	0.00	0.20
AR907-A	PEM	0.00	0.02	0.00	0.00	0.00	0.02
AR909-A	PEM	0.00	0.03	0.00	0.00	0.00	0.03
AR917-A	PSS	0.00	0.00	0.00	0.00	0.0145	0.01
AR917-C	PFO1/PSS	0.00	0.00	0.00	0.00	0.0246	0.02
AR925-A/B/C, IC	PFO1	0.00	0.00	0.06	0.00	0.00	0.06
AR926-A/B	PFO1	0.00	0.00	0.00	12.10	0.00	12.10
AR941,IC942	PFO1/PFO4	0.37	0.20	0.97	0.00	0.00	1.53
AR949-A	PEM	0.00	0.21	0.00	0.00	0.00	0.21
AR950-A	PFO1	0.00	0.01	0.01	0.00	0.00	0.02
AR952-A	PFO1	0.00	0.05	0.00	0.00	0.00	0.05
AR954-A	PFO1	0.00	0.12	0.00	0.00	0.00	0.12
AR958-A,IC962	PSS	0.99	1.21	0.57	0.00	0.00	2.78
AR965-A/B	PFO1/PFO4	0.00	0.00	0.00	0.00	0.00	0.00
AR967-A/B	PFO1/PEM	1.20	0.60	0.00	0.00	0.00	1.80
AR967-D	PFO1/PEM	0.00	0.13	0.03	0.00	0.00	0.16
AR967-E	PFO1/PEM	0.00	0.26	0.03	0.00	0.00	0.29
AR986-B	PFO1	0.00	0.11	0.01	0.00	0.00	0.12
AR1026-A	PFO1	0.00	0.09	0.00	0.00	0.00	0.09
AR1027-A/B	PFO1	0.00	0.25	0.02	0.00	0.00	0.26
AR1028-A/B	PFO1	0.00	0.52	0.02	0.00	0.00	0.54
AR1029-A/B	PFO1	0.00	0.24	0.05	0.00	0.00	0.29
AR1030-A/B	PFO1	0.00	0.21	0.03	0.00	0.00	0.25
AR1031-A	PFO1	0.09	0.05	0.01	0.00	0.00	0.16
AR1032-A	PFO1	0.00	0.19	0.01	0.00	0.00	0.19
AR1033-A/B	PFO1	0.00	0.12	0.01	0.00	0.00	0.13
AR1037-A/D/C	PEM	0.00	1.45	0.05	0.00	0.00	1.51
AR1105-A	PSS/PEM	1.38	0.00	0.08	0.00	0.00	1.46
AR1105-B	PSS/PEM	0.00	0.08	0.00	0.00	0.00	0.08



**Table 6.2
NYSDEC Wetland Acreage
Marble River Wind Farm
Clinton County, New York**

Wetland ID	Covertypes	Project Component					Total
		WTG ¹	AR ²	IC ³	OH ⁴	RD ⁵	
AR1107-A	PFO1/PFO4	0.00	0.02	0.00	0.00	0.00	0.02
AR1108-A	PSS	0.44	0.00	0.00	0.00	0.00	0.44
AR1275-A/B	PFO1	0.00	0.00	0.00	0.00	0.00	0.00
AR1305-A	PSS/PEM	0.00	0.04	0.00	0.00	0.00	0.04
AR1307-A	PFO1/PEM	0.00	0.16	0.00	0.00	0.00	0.16
AR1312-A	PFO1/PSS/PEM	0.00	0.20	0.00	0.00	0.00	0.20
CW715-B, IC1022	PSS	0.00	1.32	0.18	0.00	0.00	1.50
CW715-C	PFO1/PFO4/PEM	0.00	0.00	0.00	0.00	0.00	0.00
CW829-A	PFO4	0.00	0.53	0.00	0.00	0.00	0.53
IC360-A	PSS/PEM	0.00	0.00	0.34	0.03	0.00	0.37
IC361-A	PSS/PEM	0.00	0.00	0.03	0.00	0.00	0.03
IC364-A	PSS/PEM	0.00	0.00	0.35	0.00	0.00	0.35
IC366-A	PSS/PEM	0.00	0.00	0.16	0.00	0.00	0.16
IC371-A	PEM	0.00	0.00	0.02	0.00	0.00	0.02
IC371-B	PEM	0.00	0.00	0.02	0.00	0.00	0.02
IC727-A/B	PFO1	0.00	0.00	0.76	0.00	0.00	0.76
IC738-A	PEM	0.00	0.62	0.08	0.00	0.00	0.71
IC818-A	PFO4/PSS	0.09	0.00	0.25	0.00	0.00	0.34
IC818-B	PSS	0.08	0.00	0.52	0.00	0.00	0.60
IC827-A/B/C	PFO4	0.00	0.00	0.00	0.49	0.00	0.49
IC919-A	PFO1/PFO4	0.02	0.16	0.02	0.00	0.00	0.20
IC969-A/B	PFO1/PFO4	0.00	0.46	0.03	0.00	0.00	0.49
IC971-A	PFO1	0.00	0.11	0.00	0.00	0.00	0.11
IC978-A	PSS	0.00	0.00	1.57	0.00	0.00	1.57
IC983-A/B	PEM	0.00	0.00	0.16	0.00	0.00	0.16
IC1014-A/B	PSS	0.00	0.00	0.09	0.00	0.00	0.09
IC1015-A	PSS	0.00	0.00	0.05	0.00	0.00	0.05
IC1015-B	PEM	0.00	0.00	0.01	0.00	0.00	0.01
IC1038-A	PFO2/PSS	0.00	0.00	0.01	0.00	0.00	0.01
IC1038-B	PFO2/PFO1/PSS	0.00	0.00	0.10	0.00	0.00	0.10
IC1039-A/B	PFO4/PSS	0.00	0.00	0.02	0.00	0.00	0.02
IC1047-A	PFO1	0.00	0.00	0.25	0.00	0.00	0.25
IC1048-A	PFO1/PFO4/PSS	0.00	0.00	0.04	0.00	0.00	0.04
IC1049-A	PSS	0.00	0.00	0.22	0.00	0.00	0.22
IC1050-A	PFO1	0.00	0.00	0.16	0.00	0.00	0.16
IC1052-A	PFO1/PSS	0.00	0.00	0.01	0.00	0.00	0.01
IC1156-A/B	PFO1	0.00	0.00	0.12	0.00	0.00	0.12
IC1300-B	PFO1	0.00	0.00	0.09	0.00	0.00	0.09



**Table 6.2
NYSDEC Wetland Acreage
Marble River Wind Farm
Clinton County, New York**

Wetland ID	Covertypes	Project Component					Total
		WTG ¹	AR ²	IC ³	OH ⁴	RD ⁵	
IC1311-A	PEM	0.00	0.00	0.00	0.00	0.00	0.00
MET1003-A	PEM	0.00	0.02	0.00	0.00	0.00	0.02
OH1110-A,IC1123	PFO1	0.00	0.00	0.00	0.16	0.00	0.16
OH1110-B	PFO1	0.00	0.00	0.00	0.06	0.00	0.06
OH1111-A/B	PEM	0.00	0.00	0.00	1.24	0.00	1.24
OH1117-A	PFO1	0.00	0.00	0.00	0.60	0.00	0.60
OH1117-B	PFO1	0.00	0.00	0.00	0.36	0.00	0.36
OH1119-A	PFO1	0.00	0.00	0.00	0.35	0.00	0.35
OH1120-A/B/C/D	PFO1	0.00	0.00	0.00	13.10	0.00	13.10
OH1200-A	PFO1	0.00	0.00	0.00	1.05	0.00	1.05
OH1205-A	PFO1	0.00	0.00	0.00	0.01	0.00	0.01
OH1350-A/B	PFO1	0.00	0.00	0.00	0.69	0.00	0.69
RW1163-A	PSS	0.00	0.00	0.00	0.00	0.002 2	0.00
RW1163-B	PSS	0.00	0.00	0.00	0.00	0.000 6	0.00
WTG1A, AR905	PSS	0.00	0.20	0.01	0.00	0.00	0.22
WTG5A-A	PSS	0.00	0.12	0.01	0.00	0.00	0.13
WTG15-1A	PEM	0.01	0.21	0.00	0.00	0.00	0.22
WTG21-A	PFO1/PFO4/PEM	0.10	0.00	0.00	0.00	0.00	0.10
WTG28A-A	PFO1/PFO4	0.74	0.00	0.00	0.00	0.00	0.74
WTG28A-B	PFO1/PFO4	0.09	0.00	0.00	0.00	0.00	0.09
WTG31-R-A	PFO1/PFO4	0.13	0.00	0.00	0.00	0.00	0.13
WTG31-R-B	PFO1/PFO4	0.00	0.00	0.00	0.00	0.00	0.00
WTG52-A	PEM	0.02	0.00	0.00	0.00	0.00	0.02
WTG57-A/B	PSS/PEM	0.42	0.48	0.00	0.00	0.00	0.91
WTG58-A	PEM	0.16	0.00	0.00	0.00	0.00	0.16
WTG64-A	PSS	0.27	0.00	0.00	0.00	0.00	0.27
WTG70R-A,IC1012	PFO1/PSS/PEM	0.00	0.00	0.31	0.00	0.00	0.31
WTG77-A	PSS	0.15	0.00	0.00	0.00	0.00	0.15
WTG78-A	PEM	0.06	0.00	0.00	0.00	0.00	0.06
WTG84-A	PFO1/PFO4	0.53	0.00	0.00	0.00	0.00	0.53
WTG85-A/B	PFO1/PSS	0.14	0.00	0.00	0.00	0.00	0.14
WTG87-A/C	PSS	0.44	0.46	0.01	0.00	0.00	0.91
WTG93-A	PEM	0.06	0.00	0.00	0.00	0.00	0.06
WTG119-A	PFO1/PSS	0.00	0.00	0.00	0.00	0.00	0.00
WTG120-B	PFO1	0.14	0.00	0.00	0.00	0.00	0.14
WTG124-B	PFO1	0.30	0.00	0.00	0.00	0.00	0.30
WTG134S-B	PSS	0.40	0.00	0.00	0.00	0.00	0.40



**Table 6.2
NYSDEC Wetland Acreage
Marble River Wind Farm
Clinton County, New York**

Wetland ID	Covertypes	Project Component					Total
		WTG ¹	AR ²	IC ³	OH ⁴	RD ⁵	
WTG137-A	PFO1/PSS	0.00	0.05	0.02	0.00	0.00	0.07
WTG137W-A	PFO1	0.47	0.00	0.00	0.00	0.00	0.47
WTG140-A/D	PFO1	0.22	0.00	0.00	0.00	0.00	0.22
WTG140-C	PFO1	0.34	0.00	0.00	0.00	0.00	0.34
WTG140-D	PFO1	0.13	0.00	0.00	0.00	0.00	0.13
WTG155-A/B	PFO1/PSS	0.66	0.03	0.00	0.00	0.00	0.69
WTG155-C	PEM	0.04	0.00	0.00	0.00	0.00	0.04
WTG173-D	PFO1	0.23	0.00	0.00	0.00	0.00	0.23
WTG175A-WA	PFO4	0.03	0.00	0.00	0.00	0.00	0.03
WTG202A-A	PFO1	0.43	0.02	0.00	0.00	0.00	0.45
WTG204-A/B	PFO1	0.04	0.00	0.00	0.00	0.00	0.04
WTG208-R-A/B	PFO4	1.26	0.02	0.00	0.00	0.00	1.28
WTG209-A	PFO1	0.00	0.00	0.00	0.00	0.00	0.00
WTG1051-A/B	PEM	0.68	0.00	1.01	0.00	0.00	1.69
	Total	14.47	21.13	10.84	69.85	0.04	116.34

¹ = Turbine Location

² = Access Road

³ = Underground Electric Collection Line

⁴ = Overhead Electric Collection Line

⁵ = Public Road Improvement

⁶ = Palustrine Deciduous Forest Wetland

⁷ = Palustrine Emergent Wetland

⁸ = Palustrine Scrub Shrub Wetland

⁹ = Palustrine Coniferous Forest Wetland



**Table 6.3
NYSDEC Adjacent Area Acreage
Marble River Wind Farm
Clinton County, New York**

Wetland ID	Project Component				Total
	WTG ¹	AR ²	IC ³	OH ⁴	
AR1029-A/B,WTG137W-A,B	1.24	0.56	0.10	0.00	1.90
AR1030-A/B	0.00	0.56	0.09	0.00	0.65
AR1037-A/D/C	0.11	1.26	0.10	0.00	1.47
AR1105-A,B	1.26	0.93	0.51	0.00	2.70
AR111-A/B	0.00	0.48	0.02	0.00	0.50
AR114-A/B	0.00	0.53	0.02	0.00	0.55
AR1153-A	0.00	0.38	0.01	0.00	0.39
AR117-A, AR713-A,B, AR965-A/B	0.67	0.38	0.44	0.00	1.50
AR16-A, AR16-B/C	0.00	0.66	0.01	0.00	0.67
AR18-A,OH1201-A	0.00	0.00	0.00	1.28	1.28
AR1-A	0.00	0.59	0.03	0.00	0.63
AR205-A,B	0.00	0.00	0.00	1.67	1.67
AR22-A	0.00	0.37	0.24	0.00	0.61
AR35-A	0.00	0.56	0.03	0.00	0.59
AR41-A, WTG78-A	1.26	0.95	0.03	0.00	2.24
AR4-A	0.00	0.53	0.02	0.00	0.55
AR501-A	0.02	0.00	0.00	0.00	0.02
AR507-A,AR802-A, AR506, OH1206	0.42	1.13	0.06	6.62	8.24
AR509-A/B	0.00	0.79	0.03	1.28	2.11
AR516-A, AR514-A, WTG173-A,B,C,D, CWIC911-A/B, WTG4A,IC1053-A	1.55	1.07	1.35	0.00	3.98
AR524-A,B,C,D,AR523-A,WTG155-A/B,C,AR949-A, AR948-A	1.73	3.33	0.56	0.00	5.62
AR526-A/B,AR525-A, AR950-A	0.00	2.37	0.38	0.00	2.75
AR530-A/B, AR531-A, AR532-A, WTG139-A,WTG140A/D,C, AR1032-A,AR1033-A/B	2.43	2.22	0.12	0.00	4.77
AR534-A,B	0.00	0.71	0.00	0.00	0.71
AR5-A, AR3-A,B, AR370-A, AR906-A, WTG-908A, AR907-A, WTG15-1A	2.46	1.75	0.06	0.00	4.27
AR605-A,B, AR602-A,B, AR603-A,B, AR604-A,B	0.00	0.00	0.00	6.91	6.91
AR606-A/C,B	0.00	0.00	0.00	6.38	6.38
AR607-A,B	0.81	3.51	0.22	13.50	18.04
AR615-B,A, WTG120-B, AR902-A	1.28	0.40	0.01	2.93	4.61
AR617-A, WTG134S-B, AR1000-A, MET1003-A	1.59	1.27	0.03	0.00	2.89
AR619-A,B	0.00	1.97	0.06	0.00	2.03
AR625-A,B	0.00	1.63	0.00	0.00	1.63
AR62-A,B	0.00	0.00	0.00	2.05	2.05
AR63-A, AR64-A/B	0.00	0.00	0.00	1.40	1.40
AR66-A, AR67-A, AR68-A,AR209-A,AR211-A,AR1307-A	0.00	3.10	0.09	0.00	3.19
AR711-A	0.00	0.38	0.00	0.00	0.38
AR720-A	0.00	1.33	0.37	0.00	1.70
AR724-A,AR926-A/B, AR925-A/B/C, IC, WTG70R-C/D, WTG70-R,IC1012, AR110-A	0.00	1.47	1.25	2.08	4.80



**Table 6.3
NYSDEC Adjacent Area Acreage
Marble River Wind Farm
Clinton County, New York**

Wetland ID	Project Component				Total
	WTG ¹	AR ²	IC ³	OH ⁴	
AR730	0.00	0.15	0.00	0.00	0.15
AR79-A,B,C	0.00	1.79	0.09	0.00	1.88
AR803-A/B/C	0.00	0.13	0.00	2.21	2.33
AR909-A	0.00	0.54	0.03	0.00	0.56
AR941,IC942	0.85	1.88	1.13	0.00	3.85
AR954-A,AR1031-A, AR952-A,AR1275-A/B	0.78	1.45	0.26	0.00	2.48
AR958-A,B,IC962, AR115-A/B/C	1.60	3.81	0.76	0.00	6.18
CW715-A,IC1022,ARIC1021-A/B, CW715-C,WTG208-R-A/B, AR360-A	1.62	6.76	0.39	0.00	8.77
IC1014-A/B, IC1311-A	0.00	0.00	0.62	0.00	0.62
IC1015-A,B	0.00	0.00	0.37	0.00	0.37
IC1038-A,B, IC364-A, IC978-A, E	0.00	0.00	2.22	0.00	2.22
IC1039-A/B	0.00	0.07	0.46	0.00	0.54
IC1045-A/B, IC1300-B	0.00	0.00	0.46	0.00	0.46
IC1047-A, IC1048-A	0.00	0.00	0.73	0.00	0.73
IC1049-A	0.00	0.00	0.45	0.00	0.45
IC1050-A	0.00	0.03	0.49	0.00	0.52
IC366-A	0.00	0.00	0.34	0.00	0.34
IC371-B	0.00	0.00	0.36	0.00	0.36
IC716-A/B	0.00	0.00	0.01	0.00	0.01
IC717-A/B, AR967-A/B,D,E, AR1312-A, WTG85-A/B	2.54	3.73	0.26	0.00	6.53
IC718-B/C/D, WTG77-A	0.89	0.00	0.00	0.00	0.89
IC727-A/B	0.00	0.00	0.86	0.00	0.86
IC738-A	0.00	1.65	0.03	0.00	1.68
IC818-A, B	1.44	0.00	1.37	0.00	2.82
IC919-A, CW829-A, WTG84-A	1.37	1.44	0.11	0.00	2.92
IC922-A/B/C	0.33	0.00	0.01	0.00	0.34
IC923-A	0.00	0.00	0.23	0.35	0.58
IC969-A/B	0.00	0.53	0.03	0.00	0.56
IC971-A	0.00	0.68	0.00	0.00	0.68
IC982-A	0.00	0.00	2.82	0.00	2.82
IC988-A, IC1157-A, IC1156-A/B	0.00	0.00	1.87	0.00	1.87
OH1117-A,B, OH1119-A,	0.00	0.00	0.00	4.54	4.54
OH1120-A/B/C/D	0.00	0.00	0.00	1.65	1.65
OH1200-A	0.00	0.00	0.00	2.48	2.48
OH1350-A/B, OH1111-A/B, IC1123-A, OH1110-A, IC1123, OH1110-B	0.00	0.00	0.00	3.53	3.53
WTG119-A	0.62	0.00	0.00	0.00	0.62
WTG13-A	0.25	0.00	0.00	0.00	0.25
WTG172-A	0.08	0.07	0.02	0.00	0.17
WTG175A-WA, AR825-A/B, IC827-A/B/C, AR852-A/B	0.68	1.59	0.04	3.07	5.38
WTG175-B	0.00	0.32	0.00	0.00	0.32
WTG1A, AR905	0.00	0.97	0.02	0.00	0.99



**Table 6.3
NYSDEC Adjacent Area Acreage
Marble River Wind Farm
Clinton County, New York**

Wetland ID	Project Component				Total
	WTG ¹	AR ²	IC ³	OH ⁴	
WTG202A-A	0.86	0.38	0.00	0.00	1.24
WTG204-A/B	0.62	0.00	0.00	0.00	0.62
WTG209-A, AR1305-A, AR1105-B, A, AR1108-A, AR1107-A	1.59	0.84	1.70	14.63	18.75
WTG21-A	1.19	0.02	0.00	0.00	1.20
WTG28A-A, B	1.88	0.00	0.00	0.00	1.88
WTG31-R-B	0.54	0.00	0.25	0.00	0.79
WTG52-A	1.64	0.00	0.18	0.00	1.82
WTG58-A	0.89	0.40	0.01	0.00	1.29
WTG59-A, WTG57-B	1.49	1.48	0.02	0.00	2.99
WTG5A-A	0.00	0.50	0.02	0.00	0.53
WTG64-A	0.78	0.00	0.00	0.00	0.78
WTG87-A/C	1.79	1.76	0.16	0.00	3.71
WTG93-A	0.56	0.00	0.00	0.00	0.56
Total	43.71	70.17	25.46	78.54	217.88

¹ = Turbine Location

² = Access Road

³ = Underground Electric Collection Line

⁴ = Overhead Electric Collection Line



7.0 REFERENCES

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**ATTACHMENT 1
WETLAND DATA FORMS AND SKETCH SHEETS**

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**ATTACHMENT 2
STREAM CROSSING DATA SHEETS**

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**ATTACHMENT 3
SELECT SITE PHOTOGRAPHS**

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**ATTACHMENT 4
AGENCY CORRESPONDENCE**