

overhead transmission line corridor crossing the Chaumont River may need to be cleared. If practicable, SLW will avoid such clearing.

Although wetland impacts will be avoided if practicable, any clearing through forested wetlands could result in a change from tree species to shrub and herbaceous vegetation. Non-forested wetlands within the proposed overhead transmission line right-of-way consist of emergent and scrub-shrub wetlands. Impacts to non-forested wetlands are expected to be short term and the vegetation should return to pre-construction conditions in one to two growing seasons.

3.2.3.3 Mitigation Measures

To minimize the impacts to wetlands no Project infrastructure will be placed in wetlands, unless absolutely necessary. SLW will have qualified wetland biologists field verify the absence of wetlands in the Project footprint, using field delineation methods prescribed by the United States Army Corps of Engineers (USACE). Where impacts could occur, if practicable, Project components will be moved to avoid or minimize impacts to wetlands. Any unavoidable wetland impacts will be permitted according to USACE Sections 10 and 404 regulations, and NYSDEC Freshwater Wetlands, as well as Water Quality Certification requirements.

3.3 Ecological Resources

The St. Lawrence Wind Energy Project is located in the St. Lawrence River Valley, the physiographic area associated with the floodplain of the St. Lawrence River. In New York, elevations in this vast flat plain are generally below 900 feet. The valley is characterized by abundant diverse wetland resources, interspersed with dairy-based agricultural grasslands that support large populations of waterfowl and grassland-nesting birds. It represents the best farmland in much of the northeastern United States and functions as an expansive "agricultural grassland" that supports some of the largest populations of grassland and early successional bird species found in eastern North America. In this region, unlike other agricultural regions, climate and poor drainage conditions favor establishment of freshwater wetlands and promote late season harvesting, which enhance the value of the region to breeding birds (Pashley, *et al.*, 2000). Forest habitat occurs as isolated fragments displaying reduced tree species diversity due to repeated selective harvesting.

The river valley is also an important part of the Atlantic Flyway providing stopover habitat for migratory birds. The valley lies in the Lower Great Lakes-St. Lawrence Conservation Region (Region 13), as designated by the North American Bird Conservation Initiative and is considered one of the three most important focal regions in that four state, two province region. It is also listed as a priority area for migratory birds in several management plans, including the North

American Waterfowl Management Plan (USFWS 1986), Partners in Flight (Rosenberg, 2001), U.S. Shorebird Conservation Plan (USFWS 2001) and the North American Waterbird Conservation Plan (Kushlan *et al.* 2002).

In addition, the USFWS is proposing to use easements and Waterfowl Protection Areas to provide long term habitat protection for important areas that are relied upon by waterfowl as part of a multi-faceted effort to restore and conserve wetlands and grassland habitat in the St. Lawrence Wetland and Grassland Management District, located in Jefferson, St. Lawrence and Franklin Counties (USFWS, 2006). The USFWS is seeking the authority to use the Small Wetlands Acquisition Program to provide permanent federal protection for 8,000 acres of priority wetlands and grassland habitat in an initial focus area within the district. The focus area is bounded by the St. Lawrence River on the northwest, the Jefferson/St. Lawrence County line on the northeast, Lake Ontario on the southwest to Dexter and State Route 11 on the southeast. The proposed St. Lawrence Wind Energy Project is located within the district and the initial area of focus. If authorized, this program will enable the USFWS to purchase wetland and grassland easements totaling 6,400 acres and acquire 1,600 acres through fee-title purchases.

3.3.1 Vegetation

3.3.1.1 Affected Environment

Vegetative cover in the Project area consists primarily of agriculture (82 percent), forest stands (16 percent), and wetlands (2 percent) (Figures 3-3 and 3-7) (USGS, 1992). Agriculture land includes pastureland (69 percent) and row crops (13 percent). Forest stands include deciduous forests (13 percent), mixed forests (3 percent), and evergreen forests (<1 percent). Dominant species in deciduous forests include American Beech (*Fagus americana*), White Birch (*Betula papyrifera*), and White Oak (*Quercus alba*), while mixed forests can include Red Maple (*Acer rubrum*), Sugar Maple (*Acer saccharum*), and Oak (*Quercus* sp.) interspersed with eastern hemlock (*Tsuga canadensis*) and spruce (*Picea* sp.). Forested cover within the Project area is fragmented and represented by isolated stands, typical of the region. Some edge habitats with shrubby growth occupy the transition between agriculture fields and forested areas; however, an abrupt transition between cover types is common. Forested, scrub/shrub, and emergent wetlands constitute less than two percent of the Project area.

A unique grassland type, alvars, is found in the St. Lawrence River Basin. Alvars consist of grasslands and shrublands that develop on shallow soils with limestone geology. They typically support rare plant communities. Alvars are unique not only to this Basin, but are unique on a state and global level as well. Most alvars are concentrated in Jefferson County. Examples in the Project area are Chaumont Barrens and Three-Mile Creek Barrens.

3.3.1.2 Potential Impact

No significant impact to vegetation will occur. Impact to plant communities associated with the construction of the Project will include the development of approximately 98 acres of agricultural land (78 acres of pasture/hay and 20 acres of cropland) and 14 acres of forest for the construction of the turbines, access roads, and substation. In addition, approximately 68 acres of forested land within the proposed 120-foot overhead transmission line right-of-way will be converted to herbaceous and open shrub cover. Following the completion of construction activities, natural regeneration of vegetative species will occur; therefore the resulting plant community will likely consist of local early successional low shrubs and young trees. The overhead transmission line right-of-way will be selectively managed periodically so that trees or their branches do not compromise the security of the infrastructure.

3.3.1.3 Mitigation Measures

Clearing of vegetation will be minimized in areas that are ecologically sensitive, such as the banks of creeks crossed by the overhead transmission line. All temporary disturbances will be restored. To facilitate restoration, the subsoil used to create access roads will be pervious, native material. Most access roads will be restored to a permanent width of up to 30 feet, including side slopes. In agricultural fields, access roads will be located along existing farm roads or placed along the edge of fields, to the greatest extent practicable to preserve farmland.

3.3.2 Mammals Excluding Bats

3.3.2.1 Affected Environment

Jefferson County supports a large population of white-tailed deer, a sparse localized population of ruffed grouse, and a moderate population of eastern cottontail. Agricultural fields and vegetation cover types within the Project provide habitat for these species of wildlife. Agriculture land such as hayfields and row crops provide nesting and feeding habitats for eastern cottontail, shrews, mice, and birds. Predatory mammals such as coyote and fox use open areas for hunting. Forested areas provide habitat for other wildlife such as grey squirrel, chipmunk, and white-tailed deer. No threatened or endangered mammals, or their critical habitat, are located within the Project area.

3.3.2.2 Potential Impact

No significant impact to mammals (other than bats which are discussed separately in Section 3.3) is anticipated during construction or operation of the Project. Minor, temporary impacts to wildlife habitat associated with construction of the Project will be limited to forested habitat within the 120-foot construction right-of-way for the overhead transmission line. Forested habitat

will also be cleared within portions of the laydown areas for 16 of the 96 turbines. Most wildlife that use this habitat will actively avoid the immediate construction area because of construction related activity and human presence. Displaced individuals will most likely move to adjacent undisturbed areas. However, more sedentary species, such as small mammals, reptiles, and amphibians that lack the mobility needed to avoid construction equipment could be more directly impacted during construction and a few individuals could possibly be lost.

3.3.2.3 Mitigation Measures

The Project was designed to avoid significant impact to wildlife. Project infrastructure is sited away from high quality wildlife habitat and forested clearing has been minimized.

3.3.3 Bats

3.3.3.1 Affected Environment

The Project area is within the geographic range of nine species of bats: big brown bat (*Eptesicus fuscus*), silver-haired bat (*Lasionycteris noctivagans*), eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), small-footed bat (*Myotis leibii*), little brown bat (*Myotis lucifugus*), northern bat (*Myotis septentrionalis*), Indiana bat (*Myotis sodalis*), and eastern bat (*Pipistrellus subflavus*). The Indiana bat, an endangered species, has not been recorded in the Project area but has been documented at several locations within a 15 to 40-mile range of the Project area. A documented hibernaculum containing Indiana bats is located in Glen Park approximately 24 miles southeast of the Project area. In addition, the eastern small-footed myotis has been documented within 25 and 40 miles of the Project area.

SLW has contracted West Ecosystems Technology Inc. (West, Inc.) to conduct surveys for bats within the Project area (see Appendix B). West, Inc. has completed the 2006 bat surveys and is currently analyzing data and preparing a report. These surveys included: spring and fall radar surveys for nocturnal bat migrants, spring and fall AnaBat surveys for migrant bats, summer AnaBat surveys for resident bats, and habitat focused surveys for the Indiana bat and the small-footed myotis.

3.3.3.2 Potential Impact

No significant impacts to bat species are likely during construction of the Project. During Project operation, bat collision with wind turbines is a potential impact. Several bat mortality trends have emerged based on post construction mortality studies at wind projects in the United States and Canada. Most bat fatalities at North American wind projects have involved species of the genus *Lasiurus*, typically hoary bat (*Lasionycteris noctivagans*), red bat (*L. borealis*) and silver-haired bat (*L. noctivagans*). These are long distance migrants that commonly forage in forest canopy

(Johnson, 2005). Eastern pipistrelles (*Pipistrellus subflavus*) fatalities are also often reported (Johnson 2005). Highest mortality to bats at wind turbines generally occurs during the period from late-July to mid-September, which is believed to be the fall migration period for bats. In addition, results of mortality studies suggest that bat mortality is not related to site-specific features or habitats. Predicting bat fatality impact is difficult based on available knowledge of bat interactions with wind facilities but it is expected that impacts to bats at the Saint Lawrence Wind Energy Project would be similar to other regional wind projects. Potential impacts to the Indiana Bat are discussed in Section 3.3.7.

3.3.3.3 Mitigation Measures

Although impacts to bats are not anticipated to be greater than at other wind site throughout the region, SLW may develop a bat fatality monitoring program for implementation once construction is complete. Data collected could provide a better understanding of the relationship between wind power projects and collision mortality. The design would follow scientifically established protocols and procedures. A Technical Advisory Committee (TAC) would review the results and determine the length of the study.

3.3.4 Migrating Birds

3.3.4.1 Affected Environment

Based on available data, the annual number of migrating hawks in the region varies from approximately 5,000 to 31,000 birds (Table 3-5). Six species were observed at nearly all three watch sites. The most common species observed were turkey vultures, broad-winged hawks, red-tailed hawks and sharp-shinned hawks. This data is compiled from three hawk watch sites: Derby Hill located approximately 70 miles south of the Project area; Braddock Bay located approximately 190 miles southwest; and Franklin Mountain located approximately 195 miles southeast (Hawk Migration Association of North America, 2006).

In addition, large open waters associated with the Saint Lawrence River and Lake Ontario, north and west of the Project area, and sheetwater wetlands in the region are used by migratory waterfowl. Mallards, wood ducks, blue-winged teals, American black ducks, Canada geese and to a lesser extent, ring ducks, green-winged teals, gadwalls, American widgeons, and hooded mergansers use these areas as migratory stopovers (Northern Ecological Associates, 1994; Losito, 1993). Other migratory waterfowl documented in the region, include snow goose, northern pintails, northern shoveler, American coot, bufflehead, common merganser, lesser scaup, canvasback and goldeneye.

SLW has contracted West, Inc. to conduct surveys for migrating birds within the Project area which include: spring and fall radar surveys for nocturnal avian migrants, and spring and fall surveys for migrant raptors (see Appendix B). Survey results will identify specific passage rates associated with the site.

Table 3-5
Hawk Observations for the Braddock Bay¹, Franklin Mountain² and Derby Hill³ Bird Observatory: 2006⁴

Common Name	Scientific Name	Braddock Bay	Franklin Mountain	Derby Hill
		Fall 2006	Fall 2006	Spring 2006
Black Vulture	<i>Coragyps atratus</i>	0	0	1
Turkey Vulture	<i>Cathartes aura</i>	4671	393	11375
Osprey	<i>Pandion haliaeetus</i>	1	121	503
Bald Eagle	<i>Haliaeetus leucocephalus</i>	20	121	363
Northern Harrier	<i>Circus cyaneus</i>	89	70	474
Sharp-shinned Hawk	<i>Accipiter striatus</i>	49	573	2706
Cooper's Hawk	<i>Accipiter cooperi</i>	43	115	349
Northern Goshawk	<i>Accipiter gentilis</i>	4	8	29
Red-shouldered Hawk	<i>Buteo lineatus</i>	187	115	578
Broad-winged Hawk	<i>Buteo platypterus</i>	0	774	9442
Red-tailed Hawk	<i>Buteo jamaicensis</i>	419	2711	4859
Rough-legged Hawk	<i>Buteo lagopus</i>	37	4	251
Golden Eagle	<i>Aquila chrysaetos</i>	5	207	41
American Kestrel	<i>Falco sparverius</i>	44	85	216
Merlin	<i>Falco columbarius</i>	0	39	33
Peregrine Falcon	<i>Falco peregrinus</i>	1	14	11
Unknown		3	56	39
<i>Total Number of Hours</i>		<i>157.75</i>	<i>847.25</i>	<i>485.6</i>
<i>Total Number of Individuals Observed</i>		<i>5573</i>	<i>5406</i>	<i>31270</i>

¹ Located on the southern shore of Lake Ontario in the town of Greece, just outside of Rochester, NY.

² Located on the Delaware-Otsego Audubon Society Sanctuary, two miles south of Oneonta, NY, overlooking the Susquehanna River Valley, on the western edge of New York's Catskill Mountains.

³ Located on the southeastern shore of Lake Ontario in Oswego County.

⁴ Source: Hawk Migration Association of North America (2006). Hawkcount Results [Online].

3.3.4.2 Potential Impact

It is not anticipated that Project construction will have significant impact on migratory birds. However, during operation of the Project, there is a potential that migratory birds could collide with wind turbines. Studies in the United States indicate that bird fatalities resulting from collision with wind turbines range between zero and 7 birds/turbine/year with a national average of 2.2 birds/turbine/year (Erickson *et al.*, 2001). However, on an annual basis, fatalities resulting from collisions with wind turbines represent a small fraction of all bird fatalities related to

collision with human structures. Since a concentrated migratory pathway, attractive stop over habitat, and unusually high concentrations of birds are associated with the Project area, there is a potential for the risk of collision mortality to be higher than average compared to other wind projects in the northeast.

3.3.4.3 Mitigation Measures

SLW has selected the proposed Project layout to minimize impacts to sensitive receptors including migrating birds. If the location of particular Project facilities should present a potential high risk for collision impacts, SLW will explore alternative configurations to minimize risk at these locations.

3.3.5 Breeding Birds

3.3.5.1 Affected Environment

The Saint Lawrence River Valley's wetlands and grasslands provide habitat to a diverse collection of breeding birds. Waterfowl are one of the most important wildlife resources in Jefferson County and the Saint Lawrence River Valley provides nesting habitat for numerous species including: mallard, American black duck, wood duck, green-winged teal, northern pintail and Canada goose. It supports the highest density of breeding mallards in the Atlantic Flyway with a population of nearly 15,000 pairs (Losito, 1993; Northern Ecological Associates, 1994). The valley is also a priority area for its obligate grassland-breeding bird habitat. It supports 17 percent of the global population of bobolinks (Wells, 2000). Other important grassland species known to nest in the valley include grasshopper sparrow, upland sandpiper, Henslow's sparrow, savannah sparrow and eastern meadowlark. Wild turkeys also inhabit some the northern part of the county along the St. Lawrence County border. Song birds are common throughout the County and vary with habitat.

Based on results of the 2006 USGS Breeding Surveys for three survey routes located within the Project vicinity (Watertown (61071), Ogdensburg (61096), and Philadelphia (61116)), 131 birds are known to breed in the Project area (Table 3-6). Total number of birds varies between 104 and 117 depending upon the route. The most numerous birds encountered included: red-winged blackbirds, ring-billed gulls, European starlings, American robins, song sparrows, American crows, yellow warblers and bobolinks. SLW has also contracted West, Inc. to conduct breeding bird surveys for the Project area (see Appendix B). Survey results will identify specific breeding species, which use the site.

Table 3-6 (Sheet 1 of 4)

Number of Birds/Route¹ Documented Along the USGS Breeding Bird Survey² Watertown (61071), Ogdensburg (61096), and Philadelphia (61113) Routes³ in the Project Vicinity

Common Name	Scientific Name	Number of Birds/Route		
		Watertown	Ogdensburg	Philadelphia
Common Loon	<i>Gavia immer</i>	----	0.05	0.21
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	----	0.16	0.11
Pied-billed Grebe	<i>Podilymbus podiceps</i>	0.05	----	0.05
American Bittern	<i>Botaurus lentiginosus</i>	1.16	0.21	0.26
Great Blue Heron	<i>Ardea herodias</i>	9.26	2.26	6.00
Green Heron	<i>Butorides virescens</i>	0.79	1.74	0.42
Black-crn. Night Heron	<i>Nycticorax nycticorax</i>	0.05	----	
Turkey Vulture	<i>Cathartes aura</i>	0.47	0.26	2.79
Canada Goose	<i>Branta canadensis</i>	2.53	3.63	1.05
Wood Duck	<i>Aix sponsa</i>	0.26	0.68	1.05
American Black Duck	<i>Anas rubripes</i>	0.26	----	0.11
Mallard	<i>Anas platyrhynchos</i>	1.37	2.63	1.74
Blue-winged Teal	<i>Anas discors</i>	----	0.16	0.21
Hooded Merganser	<i>Lophodytes cucullatus</i>	----	----	0.05
Northern Goshawk	<i>Accipiter gentilis</i>	----	0.16	----
Sharp-shinned Hawk	<i>Accipiter striatus</i>	----	----	0.05
Northern Harrier	<i>Circus cyaneus</i>	0.21	0.37	0.26
Broad-winged hawk	<i>Buteo platypterus</i>	----	----	0.05
Red-tailed Hawk	<i>Buteo jamaicensis</i>	0.42	0.79	0.42
American Kestrel	<i>Falco sparverius</i>	0.63	1.89	0.74
Gray Partridge	<i>Perdix perdix</i>	0.11	----	----
Ring-necked Pheasant	<i>Phasianus colchicus</i>	0.74	0.16	0.05
Ruffed Grouse	<i>Bonasa umbellus</i>	0.11	0.21	----
Wild Turkey	<i>Meleagris gallopavo</i>	0.05	0.05	0.53
Virginia Rail	<i>Rallus limicola</i>	0.05	0.16	0.21
Sora	<i>Porzana carolina</i>	----	0.05	0.05
Common Moorhen	<i>Gallinula chloropus</i>	0.05	0.05	0.11
Killdeer	<i>Charadrius vociferus</i>	11.63	10.89	5.79
Spotted Sandpiper	<i>Actitis macularia</i>	0.42	0.05	0.05
Upland Sandpiper	<i>Bartramia longicauda</i>	0.26	0.21	0.26
Common Snipe	<i>Gallinago gallinago</i>	1.05	7.26	3.53
American Woodcock	<i>Scolopax minor</i>	----	----	0.05
Ring-billed Gull	<i>Larus delawarensis</i>	155.74	52.95	5.05
Herring Gull	<i>Larus argentatus</i>	0.11	----	----
Rock Dove	<i>Columba livia</i>	43.89	26.16	10.37
Mourning Dove	<i>Zenaida macroura</i>	17	7.58	7.00
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	1.26	0.79	1.00
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	0.16	----	0.05

Table 3-6 (Sheet 2 of 4)

Number of Birds/Route¹ Documented Along the USGS Breeding Bird Survey² Watertown (61071),
Ogdensburg (61096), and Philadelphia (61113) Routes³ in the Project Vicinity

Common Name	Scientific Name	Number of Birds/Route		
Eastern Screech-Owl	<i>Otus asio</i>	0.11	-----	-----
Great Horned Owl	<i>Bubo virginianus</i>	0.11	-----	-----
Common Nighthawk	<i>Chordeiles minor</i>	-----	0.11	-----
Chimney Swift	<i>Chaetura pelagica</i>	2.63	0.95	1.32
Ruby-thr. Hummingbird	<i>Archilochus colubris</i>	0.11	0.11	-----
Belted Kingfisher	<i>Ceryle alcyon</i>	0.47	0.47	0.79
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	0.11	-----	-----
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	0.05	-----	0.05
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	-----	-----	0.11
Downy Woodpecker	<i>Picoides pubescens</i>	1.42	0.68	0.68
Hairy Woodpecker	<i>Picoides villosus</i>	0.05	0.11	0.16
Northern Flicker	<i>Colaptes spp.</i>	3.47	3.16	2.21
Pileated Woodpecker	<i>Dryocopus pileatus</i>	0.05	0.26	0.42
Eastern Wood-Pewee	<i>Contopus virens</i>	6.16	4.84	3.47
Alder Flycatcher	<i>Empidonax alnorum</i>	5.00	2.32	1.26
Willow Flycatcher	<i>Empidonax traillii</i>	10.37	0.89	0.74
Willow/Alder Flycatcher	<i>Empidonax spp.</i>	15.37	3.21	2.00
Least Flycatcher	<i>Empidonax minimus</i>	3.63	1.32	1.37
Eastern Phoebe	<i>Sayornis phoebe</i>	4.68	3.68	4.84
Grt. Crested Flycatcher	<i>Myiarchus crinitus</i>	2.74	1.95	1.53
Eastern Kingbird	<i>Tyrannus tyrannus</i>	5.89	5.32	8.16
Loggerhead Shrike	<i>Lanius ludovicianus</i>	-----	0.16	0.05
Yellow-throated Vireo	<i>Vireo flavifrons</i>	0.21	0.32	1.53
Blue-headed Vireo	<i>Vireo solitarius</i>	-----	-----	0.05
Warbling Vireo	<i>Vireo gilvus</i>	15.37	8.26	8.05
Red-eyed Vireo	<i>Vireo olivaceus</i>	5.68	4.58	9.58
Blue Jay	<i>Cyanocitta cristata</i>	3.53	4.68	5.26
American Crow	<i>Corvus brachyrhynchos</i>	35.68	38.21	32.79
Common Raven	<i>Corvus corax</i>	-----	-----	0.21
Horned Lark	<i>Eremophila alpestris</i>	3.68	0.42	0.11
Purple Martin	<i>Progne subis</i>	1.63	0.84	0.53
Tree Swallow	<i>Tachycineta bicolor</i>	8.79	9.95	7.58
N. Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	0.21	0.21	0.21
Bank Swallow	<i>Riparia riparia</i>	7.37	5.58	0.21
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	-----	0.05	1.68
Barn Swallow	<i>Hirundo rustica</i>	19.11	16.89	26.89
Black-capped Chickadee	<i>Poecile atricapillus</i>	5.63	2.32	5.95
White-breasted Nuthatch	<i>Sitta carolinensis</i>	0.16	0.32	1.79
House Wren	<i>Troglodytes aedon</i>	13.63	11.11	10.89
Winter Wren	<i>Troglodytes troglodytes</i>	0.05	-----	0.16
Sedge Wren	<i>Cistothorus platensis</i>	-----	0.16	0.21

Table 3-6 (Sheet 3 of 4)

Number of Birds/Route¹ Documented Along the USGS Breeding Bird Survey² Watertown (61071),
Ogdensburg (61096), and Philadelphia (61113) Routes³ in the Project Vicinity

Common Name	Scientific Name	Number of Birds/Route		
Marsh Wren	<i>Cistothorus palustris</i>	0.11	0.05	3.32
Eastern Bluebird	<i>Sialia sialis</i>	0.11	0.42	0.26
Veery	<i>Catharus fuscescens</i>	3.42	2.16	0.95
Hermit Thrush	<i>Catharus guttatus</i>	-----	-----	0.21
Wood Thrush	<i>Hylocichla mustelina</i>	8.74	4.21	5.05
American Robin	<i>Turdus migratorius</i>	56.26	43.26	47.89
Gray Catbird	<i>Dumetella carolinensis</i>	6.63	4.89	6.58
Northern Mockingbird	<i>Mimus polyglottos</i>	-----	-----	0.16
Brown Thrasher	<i>Toxostoma rufum</i>	1.32	2.47	2.37
European Starling	<i>Sturnus vulgaris</i>	111.63	34.89	21.26
Cedar Waxwing	<i>Bombycilla cedrorum</i>	10.37	4.11	4.89
Blue-winged Warbler	<i>Vermivora pinus</i>	0.11	-----	0.05
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	0.16	0.11	2.21
Nashville Warbler	<i>Vermivora ruficapilla</i>	0.05	0.05	-----
Yellow Warbler	<i>Dendroica petechia</i>	33.05	39.11	32.32
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	5.32	1.42	2.26
Yellow-rumped Warbler	<i>Dendroica coronata</i>	0.05	0.05	0.11
Black-thr. Green Warbler	<i>Dendroica virens</i>	0.11	0.05	0.32
Pine Warbler	<i>Dendroica pinus</i>	0.05	0.26	0.42
Cerulean Warbler	<i>Dendroica cerulean</i>	-----	-----	0.16
Black-and-white Warbler	<i>Mniotilta varia</i>	1.00	1.47	2.84
American Redstart	<i>Setophaga ruticilla</i>	2.47	2.47	4.37
Ovenbird	<i>Seiurus aurocapillus</i>	0.89	1.11	2.89
Northern Waterthrush	<i>Seiurus noveboracensis</i>	0.05	-----	0.68
Common Yellowthroat	<i>Geothlypis trichas</i>	29.89	20.05	30.37
Yellow-breasted Chat	<i>Icteria virens</i>	-----	0.05	-----
Canada Warbler	<i>Wilsonia canadensis</i>	0.11	-----	-----
Scarlet Tanager	<i>Piranga olivacea</i>	0.58	0.32	2.05
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	3.42	2.74	9.79
Chipping Sparrow	<i>Spizella passerina</i>	12.32	8.84	11.37
Field Sparrow	<i>Spizella pusilla</i>	3.84	2.89	7.79
Vesper Sparrow	<i>Pooecetes gramineus</i>	1.32	0.26	0.05
Savannah Sparrow	<i>Passerculus sandwichensis</i>	35.11	12.42	12.26
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	1.42	-----	-----
Henslow's Sparrow	<i>Ammodramus henslowii</i>	0.42	-----	0.05
Song Sparrow	<i>Melospiza melodia</i>	40.89	39.63	31.11
Swamp Sparrow	<i>Melospiza georgiana</i>	3.58	1.84	6.84
White-throated Sparrow	<i>Zonotrichia albicollis</i>	0.32	1.37	0.37
Dark-eyed Junco	<i>Junco hyemalis</i>	-----	-----	0.21
Northern Cardinal	<i>Cardinalis cardinalis</i>	2.63	1.84	0.74
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	2.11	4.26	4.58

Table 3-6 (Sheet 4 of 4)

Number of Birds/Route¹ Documented Along the USGS Breeding Bird Survey² Watertown (61071), Ogdensburg (61096), and Philadelphia (61113) Routes³ in the Project Vicinity

Common Name	Scientific Name	Number of Birds/Route		
		Watertown	Ogdensburg	Philadelphia
Indigo Bunting	<i>Passerina cyanea</i>	0.79	2.11	8.21
Bobolink	<i>Dolichonyx oryzivorus</i>	36.00	28.32	27.00
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	166.05	74.47	86.63
Eastern Meadowlark	<i>Sturnella magna</i>	25.47	21.84	23.84
Common Grackle	<i>Quiscalus quiscula</i>	35.00	14.42	16.63
Brown-headed Cowbird	<i>Molothrus ater</i>	10.84	5.68	4.84
Baltimore Oriole	<i>Icterus galbula</i>	10.47	5.47	3.16
Purple Finch	<i>Carpodacus purpureus</i>	0.05	0.26	0.26
House Finch	<i>Carpodacus mexicanus</i>	4.00	0.37	1.05
American Goldfinch	<i>Carduelis tristis</i>	35.05	13.58	17.58
House Sparrow	<i>Passer domesticus</i>	27.32	27.84	15.74
Total Number of Species		110	104	117

¹ Based on 50 stops per route, 3-minute counts per stop, and representing the averages of the total counts along the route for the period 1966-2005.

² Source: Sauer *et al.* (2005), United States Geological Survey. 1966-2005 North American Breeding Bird Survey Database [Online].

³ The Watertown route is located approximately 10 miles southeast of the Project area; the Ogdensburg route is located approximately 20 miles northeast; and the Philadelphia route is located approximately 30 miles east.

3.3.5.2 Potential Impact

Construction and operation of the proposed Project will likely result in minor, temporary impacts to breeding birds. During construction, clearing and work activities in open habitats will temporarily displace nesting and foraging individuals from the work area and suitable adjacent habitats. Approximately 78 acres of pasture/hay fields, which are abundant in the Project area, may be displaced by Project infrastructure. Similarly, approximately 82 acres of second growth deciduous forest will be cleared for the Project. Of this total, 14 acres will be permanently cleared for Project infrastructure and 78 acres will be temporary cleared for construction. This will result in temporary and permanent minor habitat loss for some forest-nesting avian species. However, unlike most of the northeast where forest habitats remain a high priority, grasslands are more important in the State Lawrence River Valley and forested areas temporarily disturbed will be initially converted to grass habitats.

Some grassland species may be disturbed or displaced by turbine noise and movement. Studies have shown small scale reductions in density for some nesting grassland bird species close to operating wind turbines (Leddy *et al.* 1999, Johnson *et al.* 2000). In general, use by grassland birds was lower in areas with turbines than in areas without. At Buffalo Ridge Montana, areas

located 180 meters from wind turbines support higher densities of breeding birds than areas within 80 meters of turbines.

There is a low potential risk that local breeding birds could collide with the wind turbines. This risk is expected to be very low for most of the grassland species, since breeding individuals typically fly well below tree level. Post construction mortality studies conducted at two eastern wind facilities indicate that turbines result in four to eight bird fatalities per turbine per year (Kerns and Kerlinger, 2004; Nicholson, 2002, 2003). Two thirds of these fatalities were estimated to be migrants. It is expected that impacts at the Saint Lawrence Wind Energy Project will be similar, and risk to breeding birds is expected to be low. The risk is slightly higher that nesting species such as red-tailed and broad-winged hawks, which fly above the tree heights, will collide with turbines, but still very low.

3.3.5.3 Mitigation Measures

The proposed Project will encourage continued farming activities in the area by supplementing area farmers' income. This will also result in the maintenance of open grassland habitats since the regional climate favors a traditional late season harvest which is beneficial for grassland birds. In addition, preconstruction breeding bird surveys will be conducted in the area of impact. Areas grassland species nesting within or adjacent to proposed areas of construction will be avoided until after the breeding season to the extent practicable. If the location of particular Project facilities should present a high potential for displacement impacts, SLW will explore alternative configurations to minimize risk at these locations, to the extent practicable.

3.3.6 Over Wintering Birds

3.3.6.1 Affected Environment

The upper reaches of the St. Lawrence River is one of New York's prime wintering locations for bald eagles (NYSDEC, 2006c). The wintering site is located along the St. Lawrence River in an area roughly bounded by Kingston, Ontario and Cape Vincent, New York on the southwest, and Cornwall, Ontario and Massena, New York on the northeast. Active since at least 1975, this wintering area is the second largest known in New York State and annually supports an average of 20 to 30 eagles. As lakes and rivers freeze, bald eagles that have bred in the northern parts of Canada move south to open water in search of food. In early winter, eagles can be spotted at Wellesley Island State Park along the edge of the ice or roosting in trees along the shoreline. As the river freezes, the eagles move further east to the Brockville Narrows or other open water.

A waterfowl winter conservation area is located at Wilson Marsh along the eastern edge of Lake Ontario. This 305-acre area consists of open water up to 30 feet deep with flat rock, sand, or

gravel on the bottom. A gravel barrier beach at the head of the bay separates it from the marsh, which consists of 98 acres of brushy swamp and 70 acres of mixed hardwood swamp. This area is located at the southwest corner of the Project area.

In addition, results of the Audubon Christmas Bird Counts for the Watertown count circle, conducted December 2004 through January 2005 and December 2005 through January 2006, indicated that 55 species of birds overwintered in the Project vicinity during that two year period (Table 3-7). However, the number of individual species encountered varied from year to year with only 47 species observed each year. Species observed included waterfowl, black birds and starling, and song birds. The most numerous species observed, all exceeding a total of 500 individuals, were Canada geese, American crows, European starlings, rock doves, and house sparrows. SLW has also contracted West, Inc. to conduct winter bird surveys for the Project area (see Appendix B). Survey results will identify specific species that winter at the site and their use patterns of the site.

Table 3-7 (Sheet 1 of 2)

Birds Observed During Audubon Christmas Bird Counts for Watertown, NY (NYWA) for Count Years 105 and 106 (12/2004-1/2005 and 12/2005-1/2006)¹

Common Name	Scientific name	Survey Date	
		18 Dec 2004 (41 hrs)	28 Dec 2005 (31 hrs)
Snow Goose	<i>Chen caerulescens</i>	11	--
Canada Goose	<i>Branta canadensis</i>	4523	913
Tundra Swan	<i>Cygnus columbianus</i>	--	7
American Black Duck	<i>Anas rubripes</i>	16	3
Mallard	<i>Anas platyrhynchos</i>	407	84
Greater Scaup	<i>Aythya marila</i>	4	--
Long-tailed Duck	<i>Clangula hyemalis</i>	4	--
Common Goldeneye	<i>Bucephala clangula</i>	1	170
Hooded Merganser	<i>Lophodytes cucullatus</i>	14	--
Common Merganser	<i>Mergus merganser</i>	39	100
Ring-necked Pheasant	<i>Phasianus colchicus</i>	--	2
Ruffed Grouse	<i>Bonasa umbellus</i>	--	1
Wild Turkey	<i>Meleagris gallopavo</i>	93	290
Great Blue Heron (Blue form)	<i>Ardea herodias</i>	--	2
Bald Eagle	<i>Haliaeetus leucocephalus</i>	1	2
Northern Harrier	<i>Circus cyaneus</i>	17	--
Sharp-shinned Hawk	<i>Accipiter striatus</i>	2	2
Cooper's Hawk	<i>Accipiter cooperii</i>	3	3
Accipiter sp.	<i>Accipiter</i>	--	1
Red-tailed Hawk	<i>Buteo jamaicensis</i>	52	84
Rough-legged Hawk	<i>Buteo lagopus</i>	13	11
American Kestrel	<i>Falco sparverius</i>	1	3

Table 3-7 (Sheet 2 of 2)

Birds Observed During Audubon Christmas Bird Counts for Watertown, NY (NYWA) for
Count Years 105 and 106 (12/2004-1/2005 and 12/2005-1/2006)¹

Common Name	Scientific name	Survey Date	
		18 Dec 2004 (41 hrs)	28 Dec 2005 (31 hrs)
Ring-billed Gull	<i>Larus delawarensis</i>	34	11
Herring Gull	<i>Larus argentatus</i>	38	17
Great Black-backed Gull	<i>Larus marinus</i>	14	12
Rock Pigeon	<i>Columba livia</i>	547	1002
Mourning Dove	<i>Zenaida macroura</i>	284	638
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	2	2
Downy Woodpecker	<i>Picoides pubescens</i>	15	13
Hairy Woodpecker	<i>Picoides villosus</i>	6	7
Northern Flicker	<i>Colaptes auratus</i>	--	5
Pileated Woodpecker	<i>Dryocopus pileatus</i>	1	1
Northern Shrike	<i>Lanius excubitor</i>	2	6
Blue Jay	<i>Cyanocitta cristata</i>	74	163
American Crow	<i>Corvus brachyrhynchos</i>	2601	1330
Common Raven	<i>Corvus corax</i>	1	4
Horned Lark	<i>Eremophila alpestris</i>	55	120
Black-capped Chickadee	<i>Poecile atricapillus</i>	227	206
Tufted Titmouse	<i>Baeolophus bicolor</i>	1	--
Red-breasted Nuthatch	<i>Sitta Canadensis</i>	1	1
White-breasted Nuthatch	<i>Sitta carolinensis</i>	18	18
Eastern Bluebird	<i>Sialia sialis</i>	--	2
American Robin	<i>Turdus migratorius</i>	181	2
European Starling	<i>Sturnus vulgaris</i>	931	1672
Cedar Waxwing	<i>Bombycilla cedrorum</i>	32	--
American Tree Sparrow	<i>Spizella arborea</i>	69	121
White-throated Sparrow	<i>Zonotrichia albicollis</i>	--	3
Dark-eyed (Slate-colored) Junco	<i>Junco hyemalis</i>	14	20
Lapland Longspur	<i>Calcarius lapponicus</i>	--	3
Snow Bunting	<i>Plectrophenax nivalis</i>	614	51
Northern Cardinal	<i>Cardinalis cardinalis</i>	31	41
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	1	--
Brown-headed Cowbird	<i>Molothrus ater</i>	1	--
House Finch	<i>Carpodacus mexicanus</i>	145	66
American Goldfinch	<i>Carduelis tristis</i>	46	35
House Sparrow	<i>Passer domesticus</i>	373	711
<i>Total Number of Species</i>		47	47

¹ Source: National Audubon Society (2002). The Christmas Bird Count Historical Results [Online].

3.3.6.2 Potential Impact

Impacts to wintering birds, in particular waterfowl, are likely to be minimal. Most species of waterfowl forage in the open waters of the Saint Lawrence River and Lake Ontario, and roost in protected coves and wetlands along the shoreline. Turbines will not be placed in flight corridors between these roosting and feeding areas, thereby reducing the impact of collisions. In addition, Project turbines will avoid known feeding areas for most species of waterfowl, thus further reducing the probability of collision.

3.3.6.3 Mitigation Measures

SLW has selected the proposed Project layout to minimize impacts to sensitive receptors including wintering roosting and foraging birds. If the location of particular Project facilities should present a potential high risk for collision impacts, SLW will explore alternative configurations to minimize risk at these locations to the extent practicable.

3.3.7 Threatened and Endangered Species

3.3.7.1 Affected Environment

A written request to the USFWS and the New York State Natural Heritage Program (NHP) regarding the presence of threatened or endangered species and unique or significant natural communities was sent on November 16, 2006. A response from the USFWS is pending. A December 2006 response from the NHP indicates that three endangered, eight threatened, and three special concern bird species; one endangered and one special concern bat species; one threatened turtle species; one rare fish species, and two endangered plants species occur near the Project (Table 3-8).

A hibernaculum for the Indiana bat is located in Glen Park, approximately 24 miles southeast of the proposed Project area. Bald eagles winter along the St. Lawrence River between Cape Vincent and Massena. Common tern have been documented in the Wilson Bay Marsh located west of the Project area; the short-eared owl has been documented in the Dutch Point Uplands southwest of the Project area; and the great blue heron has been documented in Kents Creek also west of the Project (Payne and Cochran, 1972). The northern harrier has been documented at all three locations as well.

3.3.7.2 Potential Impact

Suitable habitat for two threatened plant species, the Michigan lily and autumnal water-starwort is potentially located within the Project footprint. Habitat containing these species may temporarily be disturbed during construction activities.

Table 3-8 (Sheet 1 of 2)
Summary of Listed Species Reported in the Natural Heritage Program (NHP) Database

Common Name	Scientific Name	Status (State/Federal)	Source	Suitable Habitat On-Site? ¹	Suitable Habitat in Project Area? ¹	Suitable Habitat in Project Area? ¹
Vascular Plants						
Michigan Lily	<i>Lilium michiganense</i>	Endangered (St.)	NHP	Yes	Yes	Wet meadows, floodplain forests, swamps
Autumnal Water-Starwort	<i>Callitriche hermaphroditica</i>	Endangered (St.)	NHP	Yes	Yes	Lakes and streams
Fish						
Quillback	<i>Carpiodes cyprinus</i>	S2-Imperiled (NHP listing)	NHP	No	Yes	Rivers and lakes
Reptiles						
Blanding's Turtle ¹	<i>Emydoidea blandingii</i>	Threatened (St.)	NHP	Yes	Yes	Shrub swamps, marshes, and shallow ponds
Birds²						
Short-eared owl	<i>Asio flammeus</i>	Endangered (St.)	NHP	Yes	Yes	Marshes, grasslands and croplands
Black Tern	<i>Chlidonias niger</i>	Endangered (St.)	NHP	No	Yes	Freshwater marshes
Loggerhead Shrike	<i>Lanius ludovicianus</i>	Endangered (St.)	NHP	Yes	Yes	Agricultural areas
Common Tern	<i>Sterna hirundo</i>	Threatened (St.)	NHP	Yes	Yes	Grasslands and rocky inland shores
Least Bittern	<i>Ixobrychus exilis</i>	Threatened (St.)	NHP	No	Yes	Marshes
Upland sandpiper	<i>Bartramia longicauda</i>	Threatened (St.)	NHP	Yes	Yes	Grasslands
Northern harrier	<i>Circus cyaneus</i>	Threatened (St.)	NHP	Yes	Yes	Agriculture fields, grasslands
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened (St./Fed.)	NHP	No	No	Lakes, rivers, reservoirs
Pied-billed grebe	<i>Podilymbus podiceps</i>	Threatened (St.)	NHP	No	Yes	Streams, ponds, lakes, marshes

Table 3-8 (Sheet 2 of 2)
Summary of Listed Species Reported in the Natural Heritage Program (NHP) Database

Common Name	Scientific Name	Status (State/Federal)	Source	Suitable Habitat On-Site? ¹	Suitable Habitat in Project Area? ¹	Suitable Habitat in Project Area? ¹
Sedge Wren	<i>Cistothorus platensis</i>	Threatened (St.)	NHP	Yes	Yes	Marshes and wet meadows
Henslow's sparrow	<i>Ammodramus henslowii</i>	Threatened (St.)	NHP	Yes	Yes	Grasslands
Common Loon	<i>Gavia immer</i>	Special Concern (St.)	NHP	No	Yes	Lakes
Great Blue Heron	<i>Ardea herodias</i>	Special Concern (St.)	NHP	Yes	Yes	Marshes and swamps
Clay-colored sparrow	<i>Spizella pallida</i>	Special Concern (St.)	NHP	Yes	Yes	Grasslands
Mammals³						
Indiana bat	<i>Myotis sodalis</i>	Endangered (St./Fed.)	NHP	Yes	Yes	Caves, mines, under rocks and tree bark, floodplain forest, beech-maple forest, limestone woodlands
Eastern small-footed myotis	<i>Myotis leibii</i>	Special Concern (St.)	NHP	No	Yes	Caves, mines, under rocks and tree bark, forest and forest edge

1. Documented within 0.6 mile of project site (NHP)
2. Avian species that may be located within a 10-mile buffer of the project boundary
3. Bats that may be located within a 40-mile buffer of the project boundary but have been documented beyond the boundaries of the project site

Since river and lake habitats will not be disturbed by the Project, no impacts to the quillback are anticipated. Similarly, potentially suitable habitat for Blanding's turtle is present within the Project area; however, impacts to wetlands and ponds will be avoided. Therefore, construction and operation of the Project would not result in adverse impacts to this species.

Raptors may be at lower risk for collision than others. Based on the wintering bald eagles use of the St. Lawrence River, the Project is not expected to have an adverse affect on eagle foraging or substantially increase the risk of eagle collisions with turbines. Northern harriers observed in the Project area are possible breeding individuals, as well as transient migrants. The wetlands and agricultural settings provide suitable habitat for the northern harrier. Northern harriers could be at risk of collision with turbines as they have been recorded as fatalities at other wind projects. However, the low level flights and low soaring frequency for breeding individual northern harriers is not likely to result in great risks for collision with turbines. In addition, the modern wind turbines proposed for the Project will have relatively low rotational speeds and tubular towers. These are two key factors that are expected to also reduce collision risk for raptors.

It is not anticipated that the listed species associated with wetland habitats (black tern, common tern, least bittern, pied-billed grebe, common loon or great blue heron) would be adversely affected by the Project since documented occurrences are located outside the Project area and habitats located within the Project area will be avoided. As discussed in Section 3.3.5.2, some grassland species may be disturbed or displaced by turbine noise and movement.

Female Indiana bat in New York are known to disperse between 12 and 40 miles from their winter hibernacula to roost locations on their foraging grounds (NYSDEC, 2006d). Although dispersal of the Indiana bat is in the range of the proposed Project, impacts are considered unlikely as Indiana bats typically fly low to the ground, below the rotor sweep area.

3.3.7.3 Mitigation Measures

Prior to construction, SLW will conduct surveys to determine the presence of listed species within and adjacent to the Project footprint. SLW will explore alternative configurations to minimize risk at these locations to the extent practicable. For plant species, if impacts are unavoidable, SLW will develop a management plan to address the handling of these plants during construction.

Pre-construction surveys for listed bird species will be conducted in Project work areas to avoid disturbance of nesting threatened and endangered species. To mitigate temporary impacts to breeding listed species, clearing activities will occur prior to the breeding season. Where nesting

individuals are encountered, construction will be rescheduled to minimize disturbance during construction to the extent possible.

Although impacts to bats are not anticipated, SLW may develop a bat fatality monitoring program for implementation once construction is complete. Data collected could assist in expanding knowledge concerning the relationship between wind power projects and collision mortality. The design would follow established scientific procedures and protocols. A TAC would review the results and determine the length of the study.

3.3.8 Areas of Critical Concern

3.3.8.1 Affected Environment

Critical Environmental Areas (CEAs) are specific local or state agency designated geographic areas that have an exceptional or unique character with respect to one or more of the following attributes:

- A benefit or threat to human health;
- A natural setting (e.g., fish and wildlife habitat, forest and vegetation, open space and areas of important aesthetic or scenic quality);
- Agricultural, social, cultural, historic, archaeological, recreational, or educational values; or
- An inherent ecological, geological or hydrological sensitivity to change that may be adversely affected by any change.

CEAs are designated within the jurisdictional boundaries of a local or state agency and can encompass any geographical area that the agency owns, manages, or regulates. Several critical environmental areas are presently designated in Jefferson County.

The Ashland Flats Wildlife Management Area (AWMA) is located in Jefferson County, in the Towns of Lyme and Cape Vincent in the vicinity of the proposed Project. This 2,037-acre area is owned and managed by the NYSDEC. It was designated a New York State Bird Conservation Area in 2003. AWMA has relatively large areas of early successional habitats, including grassland and shrub land. Forested areas and limestone barrens are also present. These habitats support a diversity of early successional bird species. AWMA is managed to maintain and enhance the grassland habitat present to ensure continued use by grassland birds. AWMA represents a migratory concentration site, a diverse species concentration site, an individual species concentration site, and a species at risk site. Protected species present at the AWMA include Short-eared Owl (endangered), Henslow's Sparrow (threatened), Sedge Wren (threatened), Northern Harrier (threatened), and Upland Sandpiper (threatened).

3.3.8.2 Potential Impact

Critical areas will be avoided.

3.3.8.3 Mitigation Measures

Since critical areas will be avoided, no mitigation measures are proposed.

3.4 Transportation/Traffic

The proposed St. Lawrence Wind Energy Project area would be located in the Towns of Cape Vincent and Lyme, and would be surrounded by an extensive network of local, county and state managed roads (see Figure 2-1). This section describes the network of roads that may be used during construction of the proposed wind energy project, the potential impact of construction traffic on the existing transportation system, and measures to mitigate potential impact.

3.4.1 Affected Environment

Construction of the proposed Project would require hauling long- and semi-heavy loads on local, county and state managed roads. Most of the roads that may be impacted are paved, but some are surfaced with packed gravel. The general Project area includes NYS Route 12E and County Roads 8, 9 and 4. Nearby roads outside the Project area include Interstate Route 81, NYS Route 12, NYS Route 12F, NYS Route 180 and several other County Roads. NYS Route 12E and County Roads 4 and 9 form a closed network of roads around the proposed Project area. NYS Route 12E is a two-lane asphalt-paved road that extends from Watertown northwest toward the Towns of Lyme and Cape Vincent and then to the northeast toward the Town of Clayton, where it joins Route 12. NYS Routes 12 and 12E represent the major supply arteries for the construction phase of the Project. County Roads 4, 8 and 9 are two-lane asphalt-paved roads which are located within or around the Project.

There are several other local roads located within the Project boundary that would be used during construction. These local roads include McKeever, Pelo, Mason, Peo (Gosier), Favret, Hell, Constance, Vincent (Branche), Vorta, Swamp (Wilson), Grant, Deer Lick, Pleasant Valley, Swart Out (Cemetery), Cold Spring, Burnt Rock, Depot, Wells Settlement (Ashland) and Gibbons (Merchant) Roads. Some of these roads have two names; the names in parentheses are the current reference. A majority of the local roads are asphalt paved except for Constance Road, a portion of Swamp (Wilson) Road, and a portion of Mason Road between Favret at County Road 4 which are gravel packed. In general the paved and gravel roads appear to be in good condition and capable of supporting the anticipated heavy and oversize construction vehicles. The preferred major delivery route to the Project area would include Interstate Route 81 to NYS 12E and County Roads 8, 9, and 4.