Tables and Figures

Tables

Figures

Northeast Lake Ontario-St.Lawrence Table 1. Multi-Resolution Land Classification (MRLC) land cover classifications and corresponding percent cover in the NE Lake Ontario - St. Lawrence River Basin.

Classification	% Cover
Deciduous Forest	51.96
Mixed Forest	12.78
Row Crops	10.44
Woody Wetlands	7.63
Pasture/Hay	6.38
Evergreen Forest	5.69
Water	3.53
Barren; Quarries, Strip Mines, Gravel Pits	0.45
Emergent Wetlands	0.37
High Intensity Commercial/Industrial	0.27
High Intensity Residential	0.22
Low Intensity Residential	0.19
Parks, Lawns, Golf Courses	0.10

Northeast Lake Ontario-St.Lawrence Table 2. Species of Greatest Conservation Need currently occurring in the NE Lake Ontario-St. Lawrence River Basin (n=110). Species are sorted alphabetically by taxonomic group and species common name. The Species Group designation is included, indicating which Species Group Report in the appendix will contain the full information about the species. The Stability of this basin's population is also indicated for each species.

TaxaGroup	Species	SpeciesGroup	Stability
Bird	Bald Eagle	Bald eagle	Increasing
Bird	Beach and Island ground-nesting birds	Caspian tern	Increasing
Bird	Beach and Island ground-nesting birds	Common tern	Unknown
Bird	Boreal forest birds	Bay-breasted warbler	Decreasing
Bird	Boreal forest birds	Cape May warbler	Unknown
Bird	Boreal forest birds	Olive-sided flycatcher	Decreasing
Bird	Boreal forest birds	Rusty blackbird	Unknown
Bird	Boreal forest birds	Spruce grouse	Decreasing
Bird	Boreal forest birds	Tennessee warbler	Unknown
Bird	Boreal forest birds	Three-toed woodpecker	Unknown
Bird	Breeding waterfowl	American black duck	Decreasing
Bird	Breeding waterfowl	Blue-winged teal	Decreasing
Bird	Breeding waterfowl	Common goldeneye	Unknown
Bird	Colonial-nesting herons	Black-crowned night-heron	Increasing
Bird	Colonial-nesting herons	Cattle egret	Decreasing
Bird	Common loon	Common loon	Increasing
Bird	Common nighthawk	Common nighthawk	Decreasing
Bird	Deciduous/mixed forest breeding birds	Black-throated blue warbler	Stable
Bird	Deciduous/mixed forest breeding birds	Cerulean warbler	Increasing
Bird	Deciduous/mixed forest breeding birds	Louisiana waterthrush	Unknown
Bird	Deciduous/mixed forest breeding birds	Prothonotary warbler	Unknown
Bird	Deciduous/mixed forest breeding birds	Red-headed woodpecker	Decreasing
Bird	Deciduous/mixed forest breeding birds	Scarlet tanager	Decreasing
Bird	Deciduous/mixed forest breeding birds	Wood thrush	Decreasing
Bird	Early successional forest/shrubland birds	American woodcock	Decreasing
Bird	Early successional forest/shrubland birds	Black-billed cuckoo	Decreasing
Bird	Early successional forest/shrubland birds	Blue-winged warbler	Decreasing
Bird	Early successional forest/shrubland birds	Brown thrasher	Decreasing
Bird	Early successional forest/shrubland birds	Canada warbler	Decreasing
Bird	Early successional forest/shrubland birds	Golden-winged warbler	Decreasing
Bird	Early successional forest/shrubland birds	Prairie warbler	Increasing
Bird	Early successional forest/shrubland birds	Ruffed grouse	Decreasing
Bird	Early successional forest/shrubland birds	Whip-poor-will	Decreasing
Bird	Early successional forest/shrubland birds	Willow flycatcher	Decreasing
Bird	Forest breeding raptors	Cooper's hawk	Increasing
Bird	Forest breeding raptors	Golden eagle	Decreasing
Bird	Forest breeding raptors	Long-eared owl	Unknown
Bird	Forest breeding raptors	Northern goshawk	Increasing
Bird	Forest breeding raptors	Red-shouldered hawk	Increasing
Bird	Forest breeding raptors	Sharp-shinned hawk	Increasing
Bird	Freshwater marsh nesting birds	American bittern	Decreasing
Bird	Freshwater marsh nesting birds	Black tern	Decreasing
Bird	Freshwater marsh nesting birds	Least bittern	Stable
Bird	Freshwater marsh nesting birds	Pied-billed grebe	Decreasing
Bird	Grassland birds	Bobolink	Decreasing
Bird	Grassland birds	Eastern meadowlark	Decreasing
Bird	Grassland birds	Grasshopper sparrow	Decreasing
Bird	Grassland birds	Henslow's sparrow	Decreasing
Bird	Grassland birds	Horned lark	Decreasing
Bird	Grassland birds	Northern harrier	Unknown
Bird	Grassland birds	Sedge wren	Unknown
Bird	Grassland birds	Short-eared owl	Unknown
Bird	Grassland birds	Upland sandpiper	Decreasing
Bird	Grassland birds	Vesper sparrow	Decreasing
Bird	High Altitude Conifer Forest Birds	Bicknell's thrush	Unknown
Bird	Osprey	Osprey	Increasing
Bird	Peregrine falcon	Peregrine falcon	Increasing
Bird	Wintering waterbirds	Greater scaup	Decreasing
Bird	Wintering waterbirds	Horned grebe	Unknown
Bird	Wintering waterbirds	Northern pintail	Unknown
Bird	Wintering waterbirds	Red-throated loon	Unknown
Freshwater fish	Blackchin shiner	Blackchin shiner	Stable
Freshwater fish	Brook trout, Heritage strains	Brook trout, Heritage strains	Stable
Freshwater fish	Eastern sand darter	Eastern sand darter	Increasing
Freshwater fish	Iowa darter	Iowa darter	Unknown
Freshwater fish	Lake sturgeon	Lake sturgeon	Increasing

Northeast Lake Ontario-St.Lawrence Table 2. (continued)

TaxaGroup	Species	SpeciesGroup	Stability
Freshwater fish	Mooneye	Mooneye	Unknown
Freshwater fish	Ninespine stickleback - inland	N. American ninespine stickleback	Unknown
Freshwater fish	Pugnose shiner	Pugnose shiner	Stable
Freshwater fish	Round whitefish	Round whitefish	Decreasing
Herpetofauna	Freshwater wetland amphibians	Four-toed salamander	Unknown
Herpetofauna	Freshwater wetland amphibians	Western chorus frog	Unknown
Herpetofauna	Lake/river reptiles	Eastern ribbonsnake	Unknown
Herpetofauna	Lake/river reptiles	Northern map turtle	Unknown
Herpetofauna	Lake/river reptiles	Spiny softshell	Unknown
Herpetofauna	Lake/river reptiles	Wood turtle	Unknown
Herpetofauna	Mudpuppy	Common mudpuppy	Unknown
Herpetofauna	Snapping Turtle	Snapping turtle	Unknown
Herpetofauna	Uncommon turtles of wetlands	Blanding's turtle	Decreasing
Herpetofauna	Uncommon turtles of wetlands	Spotted turtle	Unknown
Herpetofauna	Uncommon turtles of wetlands	Stinkpot	Unknown
Herpetofauna	Vernal pool salamanders	Blue-spotted salamander	Unknown
Herpetofauna	Vernal pool salamanders	Jefferson salamander	Unknown
Herpetofauna	Woodland/grassland snakes	Black ratsnake	Decreasing
Herpetofauna	Woodland/grassland snakes	Smooth greensnake	Unknown
Insect	Odonates of bogs/fens/ponds	Ebony boghaunter	Unknown
Insect	Odonates of bogs/fens/ponds	Forcipate emerald	Unknown
Insect	Odonates of bogs/fens/ponds	Incurvate emerald	Unknown
Insect	Odonates of bogs/fens/ponds	Subarctic bluet	Unknown
Insect	Odonates of lakes/ponds	Lake emerald	Unknown
Insect	Odonates of rivers/streams	Arrow clubtail	Unknown
Insect	Odonates of rivers/streams	Brook snaketail	Unknown
Insect	Odonates of rivers/streams	Extra-striped snaketail	Unknown
Insect	Odonates of rivers/streams	Rapids clubtail	Unknown
Insect	Odonates of small forest streams	Ocellated emerald	Unknown
Insect	Other butterflies	Gorgone checkerspot	Decreasing
Insect	Other butterflies	Mottled duskywing	Decreasing
Insect	Other butterflies	Olympia marble	Decreasing
Insect	Other butterflies	Silvery blue	Decreasing
Insect	Other moths	*Orthodes obscura*	Stable
Mammal	Furbearers	American marten	Unknown
Mammal	Furbearers	River otter	Stable
Mammal	Indiana Bat	Indiana bat	Stable
Mammal	Tree bats	Eastern red bat	Unknown
Mammal	Tree bats	Hoary bat	Unknown
Marine fish	American eel	American eel	Decreasing
Mollusk	Freshwater bivalves	Eastern pearlshell	Unknown
Mollusk	Freshwater bivalves	Elktoe	Unknown
Mollusk	Freshwater bivalves	Pocketbook	Unknown
Mollusk	Freshwater bivalves	Yellow lamp mussel	Unknown

Northeast Lake Ontario-St.Lawrence Table 3. NE Lake Ontario-St. Lawrence River Basin species diversity relative to the total number of SGCN statewide.

Taxa Group	# Species Groups in the Basin	# Species in the Basin	Total # SGCN Statewide	% of Total SGCN for this Group
BIRDS	**16**	**61**	**118**	**51.7**
Bald Eagle		1		
Beach and Island Ground-Nesting Birds		2	7	28.6
Boreal Forest Birds		7	7	100.0
Breeding Waterfowl		3	4	75.0
Colonial Nesting Herons		2	8	25.0
Common Loon		1		
Common Nighthawk		1		
Deciduous/Mixed Forest Breeding Birds		7	9	77.8
Early Successional Forest Breeding Birds		10	12	83.3
Forest Breeding Raptors		6	6	100.0
Freshwater Marsh Nesting Birds		4	6	66.7
Grassland Birds		10	11	90.9
High Altitude Conifer Forest Birds		1		
Osprey		1		
Peregrine Falcon		1		
Wintering Waterbirds		4	19	21.1
FRESHWATER FISH	**9**	**9**	**40**	**22.5**
Blackchin shiner		1		
Brook trout, Heritage strains		1		
Eastern sand darter		1		
Iowa darter		1		
Lake sturgeon		1		
Mooneye		1		
Ninespine stickleback - inland		1		
Pugnose shiner		1		
Round whitefish		1		
HERPETOFAUNA	**7**	**15**	**44**	**34.1**
Freshwater Wetland Amphibian		2	5	40.0
Lake/River Reptiles		4	5	80.0
Mudpuppy		1		
Snapping Turtle		1		
Uncommon Turtles of Wetlands		3	5	60.0
Vernal Pool Salamanders		2	4	50.0
Woodland/Grassland Snakes		2	8	25.0
INSECT	**6**	**15**	**197**	**7.6**
Odonates of Bogs/Fens/Ponds		4	10	40.0
Odonates of Lakes/Ponds		1	5	20.0
Odonates of Rivers/Streams		4	19	21.1
Odonates of Small Forest Streams		1	3	33.3
Other Butterflies		4	18	22.2
Other Moths		1	92	1.1
MAMMAL	**3**	**5**	**21**	**23.8**
Furbearers		2	2	100.0
Indiana Bat		1		
Tree Bats		2	3	66.7
MARINE FISH	**1**	**1**	**51**	**2.0**
American Eel		1		
MOLLUSK	**1**	**4**	**59**	**6.8**
Freshwater Bivalves		4	39	10.3
TOTAL	**43**	**110**	**537**	**20.5**
% of all spp groups statewide	**33.6**			

Northeast Lake Ontario-St. Lawrence Table 4. SGCN that historically occurred in the NE Lake Ontario-St. Lawrence River Basin, but are now believed to be extirpated from the basin (n=35).

Taxa Group	Species	Species Group
Bird	Barn owl	Barn owl
Bird	Loggerhead Shrike	Loggerhead shrike
Bird	Wintering waterbirds	Long-tailed duck
Freshwater fish	Extirpated Fishes	Atlantic salmon
Freshwater fish	Sauger	Sauger
Freshwater fish	Shortnose Cisco	Shortnose Cisco
Freshwater fish	Shortjaw cisco	Shortjaw cisco
Freshwater fish	Kiyi	Kiyi
Freshwater fish	Bloater	Bloater
Freshwater fish	Deepwater sculpin	Deepwater sculpin
Freshwater fish	Spoonhead sculpin	Spoonhead sculpin
Insect	Karner blue butterfly	Karner blue
Insect	Odonates of rivers/streams	Skillet clubtail
Insect	Odonates of seeps/rivulets	Gray petaltail
Insect	Other moths	*Papaipema aerata*
Insect	Other moths	Hairy artesta
Insect	Other moths	Maroonwing
Insect	Pine barrens tiger beetles	*Cicindela unipunctata*
Insect	Stoneflies/Mayflies of lotic waters	*Baetis rusticans*
Insect	Stoneflies/Mayflies of lotic waters	*Procloeon mendax*
Insect	Stoneflies/Mayflies of lotic waters	*Rhithrogena anomala*
Insect	Stoneflies/Mayflies of uncertain habitat	*Procloeon simile*
Insect	Stoneflies/Mayflies of uncertain habitat	*Procloeon vicinum*
Insect	Tomah mayfly	Tomah mayfly
Mammal	Extirpated large mammals	Canada lynx
Mammal	Extirpated large mammals	Eastern cougar
Mammal	Extirpated large mammals	Gray wolf
Mammal	Tree bats	Silver-haired bat
Mollusk	Freshwater bivalves	Eastern pondmussel
Mollusk	Freshwater bivalves	Hickorynut
Mollusk	Freshwater bivalves	Paper pondshell
Mollusk	Freshwater gastropods	Campeloma spire snail
Mollusk	Freshwater gastropods	Lance aplexa
Mollusk	Freshwater gastropods	Mossy valvata
Mollusk	Freshwater gastropods	Purplecap valvata

Northeast Lake Ontario-St. Lawrence Table 5. Significant Coastal Fish and Wildlife Habitats (n=28) within the NE Lake Ontario-St. Lawrence River Basin. DEC evaluates the significance of coastal fish and wildlife habitat areas, and following a recommendation from DEC, the Department of State designates and maps specific areas.

Habitat Name	County	Acres	Significance Value [a]	Description
Goose Bay and Cranberry Creek	Jefferson	2035	152	One of the largest, shallow, riverine bay and wetland ecosystems on the St. Lawrence River; subject to minimal disturbance; rare in New York State. Habitats include open waters of Goose Bay, the lower one and one-quarter miles of Cranberry Creek (up to Swan Hollow Road), and extensive wetland areas which are an integral part of these aquatic ecosystems.One of the major concentration areas for migratory birds, including waterfowl, in the St. Lawrence Plains ecological region; also a major warmwater fisheries production area in the ecological region. Blanding's turtle (T) reside in the area; also nothern harrier (T) and least bittern (SC) nesting. A major recreational fishing area in the Thousand Islands Region; also an important hunting and trapping area in Jefferson County.
Chippewa Bay	St. Lawrence	3457	110	Largest shallow, open water bay with substantial littoral zone in St. Lawrence County. High quality area, somewhat protected from exposure. The only habitat type of its kind in the St. Lawrence Plains ecological region and one of the only two examples of this ecosystem type in New York State. Muskellunge nursery habitat has been documented at two locations, other suitable nursery sitesmay be in the bay but have not been evaluated. Warmwater fish populations are unusual in the county. Migratory staging of waterfowl, shorebirds, and passerines are unusual at the county level. Common tern (T) feeding area near or adjacent to five documented tern nesting sites. Nesting by common loons (SC) on islets in the bay. Used as a feeding area by bald eagles (E) prior to ice cover; use is not available throughout winter although roosting at several sites has been documented.
Moses - Saunders Tailwater	St. Lawrence	467	103	A relatively large, deep, open water section of river; unusual in the St. Lawrence River, but rarity reduced by habitat alterations. Habitat includes a 500-acre area of riverchannel, extending about two miles from the base of Moses-Saunders Power Dam to the St. Lawrence Seaway navigation channel. This area encompasses a relatively deep (up to approximately 50 feet), wide, open water area below the dam, and a narrow waterway (referred to as Polly's Gut) which connects the two main channels of the river. The area is situated in an undeveloped, steep-sided, rocky gorge. The largely wooded adjacent land area is located within Robert Moses State Park. Bald eagle (E) wintering and feeding; lake sturgeon (T) occur in the area. A major concentration area for migrant and wintering gulls and waterfowl in the St. Lawrence Valley ecological region. One of the most popular birdwatching sites in the Thousand Islands region of New York.
Crooked Creek Marsh	Jefferson	1198	98	One of the four largest, undeveloped, coastal streamside wetlands on the St. Lawrence River; rare in the St. Lawrence Plains ecological region. Crooked Creek is a sizeable warmwater stream, with a broad floodplain occupied by extensive emergent marsh communities (predominantly cattail). All of Crooked Creek Marsh, including the mouth area at Chippewa Bay, is privately owned, and has been subject to minimal habitat disturbance. Upland areas bordering the marsh consist almost entirely of undeveloped forestland.Northern harrier (T) and least bittern (SC) nesting. Common tern (T) feeding area. Waterfowl hunting, recreational sportfishing, and trapping are of county level significance.
Little Galloo Island	Jefferson	43	95	An isolated and undeveloped island subject to minimal human disturbance, and extensive shoal area; unusual in the Great Lakes Plain ecological region. Important habitats include habitat includes the entire island and the surrounding underwater shoals to a depth of approximately 20 feet below mean low water (a total area of approximately 200 acres).One of the largest ring-billed gull colonies in North America, and one of the only Caspian tern nesting locations in New York State. Shoals support a recreational fishery for smallmouth bass of statewide importance.

Northeast Lake Ontario-St. Lawrence Table 5. (continued)

Habitat Name	County	Acres	Significance Value [a]	Description
Dexter Marsh and Black River	Jefferson	2526	90	An extensive, relatively undisturbed, bay-head complex, unusual in the Great Lakes Plain. Includes one of four major New York tributaries to Lake Ontario. Habitats include a 2,000-acre wetland complex located at the confluence of the Black River, Perch River, and Muskalonge Creek. Dexter Marsh is the result of the filling of the head of Black River Bay by deposition of sediments and organic matter from these tributaries, supplemented by detritus blown up the bay from Lake Ontario. Dexter Marsh contains extensive areas of emergent wetland vegetation, dominated by cattail and wild rice. Natural open water channels meander through the marsh, often reaching depths of 10 feet or more. The remainder of the area has water depths varying from 2-8 feet, depending on Lake Ontario water levels. Most of this wetland area is located within the NYSDEC's Dexter Marsh Wildlife Management Area, and experiences relatively little human disturbance. Concentrations of salmonids, marsh-nesting birds, and migrant waterfowl are unusual in the Great Lakes ecological region. Black tern (SC) nesting and feeding area. Salmonid fishery attracts anglers from outside New York State in significant numbers; other recrea
Wilson Hill Wildlife Management Area	St. Lawrence	3386	87	An extensive shallow water area, subject to minimal human disturbance; unusual in the St. Lawrence Plains, but rarity is reduced by artificial creation of the habitat. Habitats include a very large, shallow freshwater impoundment, upland fields and woodlots, shallow river areas, and many small islands. Nesting waterfowl concentrations are unusual in the St. Lawrence Plains ecological region. Northern harrier (T) and least bittern (SC) nesting; blue-spotted salamander (SC) also present. Hunting and trapping opportunities attract considerable use by residents of New York State; also of scientific value as a major goose banding site in the region.
Wilson Bay and Marsh	Jefferson	528	84	One of the largest, undisturbed, scrub-shrub and forested wetlands on Lake Ontario; rare in ecological subregion. Wilson Bay has a maximum depth of approximately 25 feet, a sand and cobble bottom, and beds of submergent aquatic vegetation in shallow areas. Wilson Bay Marsh is located behind a barrier beach which has been stabilized by the construction of a road across its top. The wetland is dominated by an extensive area of flooded shrubs and emergent vegetation. The transition to surrounding uplands occurs through an equally extensive area of forested wetland. Largest black tern colony in New York State; also a major spawning and nursery area fo northern pike in the eastern Lake Ontario ecological subregion. Blanding's turtles (T) also reside in the area; An important waterfowl hunting area in the Thousand Islands region. Regionally significant birdwatching area.
Wellesly Island Pools	Jefferson	463	84	Relatively large, open water pools present year-round; one of four similar open water areas on the St. Lawrence River; rare in ecological region. Important habitats include the main river channel which remains partially open (i.e., ice-free) throughout the winter. The pools are quite consistent in presence and extent during most winters. The St. Lawrence River is generally more than 20 feet deep and narrow at this location, resulting in strong currents and considerable turbulence. Bottom substrates are rocky, and have minimal vegetative cover. Wellesley Island, located just north of the habitat and situated in the center of the Thousand Islands region, is a large island, with some mature woody vegetation.The only major bald eagle wintering area in the Great Lake Plains ecological region.
American Island Pools	St. Lawrence	1352	84	Relatively large, upwelling, open water pools present year-round; one of four similar open water areas on the St. Lawrence River; rare in ecological region. Habitats include a 1200-acre area of the main river channel that remains partially open (i.e., ice-free) throughout the winter. The pools are quite consistent in presence and extent during most winters. The St. Lawrence River is generally less than 20 feet deep and narrow at this location, resulting in strong currents and considerable turbulence. Bottom substrates are rocky, and have minimal vegetative cover. American Island, located at the northern portion of the habitat, is a small, seasonally inhabited rock island, with some mature woody vegetation.One of about four major bald eagle wintering areas in the St. Lawrence Plains ecological region.

Northeast Lake Ontario-St. Lawrence Table 5. (continued)

Habitat Name	County	Acres	Significance Value [a]	Description
Galop Island Pools	St. Lawrence	1332	84	Relatively large, upwelling, open water pools present year-round; one of four similar open water areas on the St. Lawrence River; rare in ecological region. One of four major bald eagle wintering areas in the St. Lawrence Plains ecological region. A major winter waterfowl and gull concentration area in the St. Lawrence Plains ecological region. Galop Island is a large, undeveloped island, with some mature woody vegetation. The island is public land held by the New York Power Authority and is managed as an undeveloped State Park.
French Creek Marsh	Jefferson	2302	82	One of the four largest, undeveloped, coastal streamside wetlands on the St. Lawrence River; rare in ecological subzone. French Creek is a sizeable warmwater stream, with a broad floodplain occupied by extensive emergent marsh communities.Northern harrier (T) and least bittern (SC) nesting. Blanding's turtles (T) reside in the area. Documented common tern (T) feeding area. Primarily of local importance for a variety of recreational uses, including warmwater fishing, waterfowl hunting and birdwatching.
Grasse River	St. Lawrence	1197	76	One of only three major tributaries in the St. Lawrence Plains ecological region; in relatively undisturbed condition. Habitat includes a mix of low intensity uses including active agriculture, fallow fields, small villages, extensive woodlands, and the Village of Massena near its confluence with the St. Lawrence River. The river corridor is largely forested. The river has been dammed at one location with a low weir which appears to be passable by fish, at least at some levels of flow. Only documented population of muskellunge inhabiting a small river system in the St. Lawrence Plain ecosystem. Possibly a rare refugium for St. Lawrence River muskellunge following the construction of the St. Lawrence Power project. Lake Sturgeon (T) present and presumed to successfully spawn based on age of individuals observed.
Chippewa Creek Marsh	St. Lawrence	1027	72	One of the four largest, undeveloped, coastal streamside wetlands on the St. Lawrence River; rare in St. Lawrence Plains ecological region. Habitats include streamside wetland and some adjacent uplands. The habitat is divided into two relatively discrete areas at Oak Point Road, where the marsh is relatively narrow; above and below Oak Point Road, the marsh is significantly wider. Chippewa Creek is a sizeable warmwater stream, with a broad floodplain occupied by extensive emergent marsh communities (predominantly cattail). Chippewa Creek Marsh is essentially undisturbed, with the exception of some habitat disturbance resulting from light residential development. Northern harrier (T) nesting.
Stony Island	Jefferson	1,500	70	A very large, isolated, and undisturbed island and associated shoals; unusual in the Great Lakes Plain ecological region. possesses several terrestrial habitat types, including freshwater wetlands, an inland lake, and upland forest. In addition, the fish and wildlife habitat includes the underwater shoals surrounding the island from shoreline to a depth of approximately 20 feet below mean low water datum.Spawning lake trout and smallmouth bass concentrations are unusual in the Great Lakes Plain ecological region. Contributes to a recreational fishery which attracts many anglers form outside New York State.
Lyme Barrel Shoals	Jefferson	1093	65	An extensive rocky shoal area located in eastern Lake Ontario, uncommon in the Great Lakes Plain ecological region. Concentrations of spawning lake trout and smallmouth bass are unusual in the Great Lakes Plain ecological region. Stony Point-Lime Barrel Shoals provides an extensive shallow water area for fish spawning and feeding that is relatively rare in New York's Great Lakes waters. This large shoal area provides habitat for several important fish species. Contributes to a recreational fishery which attracts many anglers from outside New York State.

Northeast Lake Ontario-St. Lawrence Table 5. (continued)

Habitat Name	County	Acres	Significance Value [a]	Description
Coles Creek	St. Lawrence	638	60	A flooded tributary stream mouth, with a large area of productive littoral zone: uncommon in St. Lawrence County. Coles Creek contains extensive beds of submergent aquatic vegetation and a fringe of emergent marsh vegetation. Upland areas bordering Coles Creek are almost entirely undeveloped. Common tern (T) feeding area; eastern bluebirds (SC) nest in the area.
Point Peninsula	Jefferson	5773	59	A large mosaic of active farmland and fallow old fields, with occasional woodlots and conifer plantations. Habitats include a 2000-acre mosaic of active farmland, old field, and some woodlots and conifer plantations. In some areas, tracts of red cedar mixed with various shrubs are present. The area is characterized by poor shallow soils which are more suited to pastureland and hay production rather than row crops.The most significant concentration of wintering raptors documented in New York State. Supports wintering populations of northern harrier (T) and short-eared owl (SC).
Gull and Bass Islands	Jefferson	5	56	Two isolated and relatively undisturbed islands and associated shoal areas; uncommon in the Great Lakes Plain ecological region.The islands are relatively low-lying, with a vegetative cover dominated by shrubs and grasses. Habitat disturbances at Gull and Bass Islands are minimal. The fish and wildlife habitat includes the surrounding underwater shoals to a depth of approximately 20 feet below mean low water (a total area of approximately 340 acres). Concentrations of colonial waterbirds using the islands is unusual in the Eastern Ontario Plain ecological subzone. Shoals support a recreational fishery for smallmouth bass of statewide importance.
Brandy Brook	St. Lawrence	125	52	A flooded tributary stream mouth, with a sizeable area of productive littoral zone; uncommon in St. Lawrence County. Brandy Brook is a sizeable warmwater stream, with a drainage area of approximately 30 square miles. However, most of the habitat area consists of the segment of stream that was flooded with the creation of Lake St. Lawrence, forming a freshwater "estuary". Brandy Brook is relatively shallow, and contains dense beds of submergent aquatic vegetation and a fringe of emergent marsh vegetation. Upland areas bordering Brandy Brook are rural in nature, including extensive undeveloped forestland on the east side, and low density residential development on the west. Common tern (T) feeding area. Popular recreational fishing area for a variety of warmwater fish species, important to residents of the Thousand Islands region.
Wilson Hill Island - Tucker Terrace Area	St. Lawrence	681	50	A shallow littoral embayment with moderate amounts of submerged aquatic vegetation and substrates composed of sand, gravel, and rocks; Water depths in this habitat range from 3 to 13 feet. Bottom substrates consist of rocks, gravel, and sand with some submerged vegetation. Sand Islands are small undeveloped islands, with mostly open and shrubby vegetation. Sand Islands are privately owned.Common tern (T) feeding area adjacent to three nesting sites supporting approximately 160 pairs of birds. Contributes to a sport fishery of county level importance. Also a locally important waterfowl hunting area.
Point Peninsula Marsh	Jefferson	727	43	One of the largest, undisturbed, scrub-shrub and forested wetlands on Lake Ontario; rare in the eastern Ontario Plain ecological subzone. Habitats include a 300-acre flood pond wetland on the west side of the peninsula, separated from Lake Ontario by a narrow sand and cobble barrier beach, and shoal areas immediately west and south of the wetland. Point Peninsula Marsh is a predominantly scrub-shrub and forested wetland, with a very diverse mixture of emergent and woody plant species and a high degree of interspersion. Black tern (SC) nesting area. Waterfowl hunting opportunities attract visitors from much of Jefferson County.

Northeast Lake Ontario-St. Lawrence Table 5. (continued)

Habitat Name	County	Acres	Significance Value [a]	Description
Fox Island - Grenadier Island Shoals	Jefferson	4239	38	An extensive area of sheltered, shallow, open water, with beds of submergent aquatic vegetation; The fish and wildlife habitat, also referred to as the "Hardscrabble", is an approximate 4,000 acre shallow water area, containing beds of submergent aquatic vegetation (e.g., wild celery, pondweeds), and patches of emergent wetland vegetation around the shoreline.One of the major concentration areas for migrant and wintering waterfowl in the eastern Ontario Plain ecological subzone. An important recreational and commercial fishing area in eastern Lake Ontario of regional significance.
St. Lawrence River Shoreline Bays	Jefferson	711	38	Several shallow shoreline bays with dense beds of aquatic vegetation; rare in Jefferson County based on protected nature of bays. The fish and wildlife habitat consists of eight shallow bays along the River's mainland shoreline. The bays form an almost continuous three and one-half mile reach of productive littoral zone and wetland habitat. All of the bays are generally less than six feet deep (depending on River levels) and are somewhat sheltered from prevailing winds and wave action. Much of the land area surrounding the St. Lawrence River Shoreline Bays is privately owned, and has been developed into seasonal camps, permanaent residences, and small craft harbor facilities (resulting in some habitat disturbance). These bays comprise major spawning and nursery areas for muskellunge on the St. Lawrence River, of statewide significance. The St. Lawrence muskellunge fishery, which is dependent on these bays, attracts anglers from throughout New York State and beyond.
Whitehouse - Ogden Island Bays	St. Lawrence	362	32	A series of shallow littoral embayments with moderate amounts of submerged vegetation and substrates composed of sand, gravel, and rocks; one of only four similar embayment complexes in the county. Ogden Island is a large, undeveloped island, with mostly open and shrubby vegetation.The best documented muskellunge nursery area in the county supporting a young-of-year population level unusual in the St. Lawrence Plains ecological region. Common tern (T) feeding in area, however the numbers of individuals relying on these embayments is not well documented. This nursery complex significantly supports a sport fishery of importance in a major region of New York State.
Galop Island Bays	St. Lawrence	294	29	A series of shallow littoral embayments with moderate amounts of submerged vegetation and substrates composed of sand, gravel, and rocks; a rare embayment complex type in the St. Lawrence Plains ecological region. The fish and wildlife habitat encompasses the bays along the southeast shores of Galop Island; and the bays associated with the mainland shore adjacent to Galop Island. Water depths in this area range from 3 to 13 feet deep. Bottom substrates consist of rocks, sand, and silt with some submerged vegetation. Galop Island is a large, undeveloped island, with mostly open and shrubby vegetation as well as limited mature woody vegetation. The island is public land held by the New York Power Authority and is managed as an undeveloped State Park.Contributes to a sport fishery of county level importance.
Oswegatchie River	St. Lawrence	294	25	The only significant area of riffle habitat associated with the lower St. Lawrence River (ecological subzone), but rarity reduced by human disturbance. Relatively shallow with a rock and rubble bottom, comprising a sizeable area of riffle habitat. However, recent power generation discharge facilities have degraded portions of the river bottom near the dam.Farther downstream, the channel is wider, deeper, and extensively bulkheaded in conjunction with dense urban waterfront development. Records of lake sturgeon (T) and mooneye (SC) exist for the area but the extent of their use of the area has not been adequately documented. Diverse recreational fisheries attract considerable use by residents of the Thousand Islands region.

Northeast Lake Ontario-St. Lawrence Table 5. (continued)

Habitat Name	County	Acres	Significance Value [a]	Description
Campbell Marsh	Jefferson	77	24	A relatively small, streamside wetland, containing a diversity of plant communities located at the eastern end of Lake Ontario in Jefferson County. A diversity of plant communities occurs in this area, including emergent marsh, submergent aquatic beds, sedge meadow, scrub/shrub wetland, and flooded deciduous forest. Much of the land area bordering Campbell Marsh is undeveloped forest, open field, and agricultural land. An important recreational fishing area for local residents and tourists, significant at the county level. Campbell Marsh is privately owned.

[a] Significance Value = [(Ecosystem Rarity + Species Vulnerability + Human Use + Population Level) x Replaceability]

Northeast Lake Ontario-St. Lawrence Table 6. Office of Parks, Recreation & Historic Preservation (OPRHP) land units (n=20) within the NE Lake Ontario - St. Lawrence River Basin. All WMAs within this Basin are in DEC Region 6.

Unit Name (DEC Region)	County	Acres
Burnham Point State Park	Jefferson	12
Cedar Point State Park	Jefferson	49
DeWolf Point State Park	Jefferson	13
Grass Point State Park	Jefferson	124
Keewadin State Park	Jefferson	230
Kring Point State Park	Jefferson	53
Long Point State Park	Jefferson	26
Mary Island State Park	Jefferson	12
Waterson Point State Park	Jefferson	6
Wellesley Island State Park	Jefferson	2,630
Westcott Beach State Park	Jefferson	316
Whetstone Gulf State Park	Lewis	1,886
Cedar Island State Park	St. Lawrence	10
Coles Creek State Park	St. Lawrence	1,737
Eel Weir State Park	St. Lawrence	15
Galop Island State Park	St. Lawrence	675
Higley Flow State Park	St. Lawrence	1,104
Jacques Cartier State Park	St. Lawrence	460
Robert Moses State Park	St. Lawrence	2,654

Northeastern Lake Ontario-St. Lawrence Table 7. NYSDEC Wildlife Management Area (WMA) land units (n=12) within the NE Lake Ontario - St. Lawrence River Basin. All WMAs within this Basin are in DEC Region 6.

Unit Name (DEC Region)	County	Acres
Ashland Wildlife Management Area	Jefferson	2,024
Collins Landing Wildlife Management Area	Jefferson	55
Cranberry Creek Wildlife Management Area	Jefferson	13
Dexter Marsh Wildlife Management Area	Jefferson	1,365
French Creek Wildlife Management Area	Jefferson	2,300
Indian River Wildlife Management Area	Jefferson	975
Lake Ontario Islands Wildlife Management Area	Jefferson	64
Perch River Wildlife Management Area	Jefferson	7,838
Point Peninsula Wildlife Management Area	Jefferson	1,046
Tug Hill Wildlife Management Area	Lewis	5,734
Fish Creek Marsh Wildlife Management Area	St. Lawrence	4,539
Upper and Lower Lakes Wildlife Management Area	St. Lawrence	8,640
Wilson Hill Wildlife Management Area	St. Lawrence	3,513

Northeast Lake Ontario-St. Lawrence Table 8. NYSDEC State Forest, Wild Forest, Wilderness, Primitive Area, and Unique Area land units (n=95) within the NE Lake Ontario - St. Lawrence River Basin.

Unit Name	County	DEC Region	Acres
The Gulf Unique Area	Clinton	5	623
Saranac Lakes Wild Forest	Essex/Franklin	5	25,775
High Peaks Wilderness	Essex/Franklin/Hamilton	5	190,466
Blue Mountain Wild Forest	Essex/Hamilton	5	23,219
Bombay State Forest	Franklin	5	2,763
Debar Mountain Wild Forest	Franklin	5	107,243
Deer River State Forest	Franklin	5	11,760
St. Regis Canoe Area	Franklin	5	17,606
St. Regis River State Forest	Franklin	5	947
Titusville Mountain State Forest	Franklin	5	7,077
Trout River State Forest	Franklin	5	635
Blue Ridge Wilderness	Hamilton	5	46,786
Lake Lila Wilderness	Hamilton	5	4,085
Sargent Ponds Wild Forest	Hamilton	5	42,737
Wakely Mountain Primitive Area	Hamilton	5	226
William C. Whitney Wilderness	Hamilton	5	12,018
Fulton Chain Wild Forest	Hamilton/Herkimer	5, 6	14,705
Moose River Plains Wild Forest	Hamilton/Herkimer	5, 6	82,394
Pigeon Lake Wilderness	Hamilton/Herkimer	5, 6	48,767
West Canada Lake Wilderness	Hamilton/Herkimer	5, 6	169,003
Pepperbox Wilderness	Herkimer	6	14,347
Ha-de-ron-dah Wilderness	Herkimer/Lewis	6	26,081
Independence River Wild Forest	Herkimer/Lewis	6	72,143
Watsons East Triangle Wild Forest	Herkimer/Lewis/St. Lawrence	6	13,910
Black River Wild Forest	Herkimer/Oneida/Lewis	6	123,114
Five Ponds Wilderness	Herkimer/St. Lawrence	6	141268
Coyote Flats State Forest	Jefferson	6	580
Henderson Shores Unique Area	Jefferson	6	889
Pulpit Rock State Forest	Jefferson	6	1,611
Balsam Creek State Forest	Lewis	6	543
Beartown State Forest	Lewis	6	7,281
Bonapartes Cave State Forest	Lewis	6	1,423
Cobb Creek State Forest	Lewis	6	2,201
Frank E. Jadwin State Forest	Lewis	6	20,559
Glenmeal State Forest	Lewis	6	830
Grant Powell State Forest	Lewis	6	8,267
High Towers State Forest	Lewis	6	658
Independence River State Forest	Lewis	6	653
Indian Pipe State Forest	Lewis	6	587
Lesser Wilderness State Forest	Lewis	6	12,897
Lookout State Forest	Lewis	6	3,265
Mohawk Springs State Forest	Lewis	6	592
Onjebonge State Forest	Lewis	6	1,825
Otter Creek State Forest	Lewis	6	1,400
Sandy Bay State Forest	Lewis	6	127
Sandy Flats State Forest	Lewis	6	2,572
Sears Pond State Forest	Lewis	6	5,856
Pinckney State Forest	Lewis/Jefferson	6	2,120
Tug Hill State Forest	Lewis/Jefferson	6	6,553
Hogsback State Forest	Lewis/Oneida	6	1,757
Jackson Hill State Forest	Oneida	6	1,185
Penn Mountain State Forest	Oneida	6	3,500
Popple Pond State Forest	Oneida	6	2,286
Woodhull State Forest	Oneida	6	555
Aldrich Pond Wild Forest	St. Lawrence	6	25,818
Beaver Creek State Forest	St. Lawrence	6	3,679
Brasher Falls State Forest	St. Lawrence	6	19,523
California State Forest	St. Lawrence	6	1,259
Catherineville State Forest	St. Lawrence	6	1,609
Cbuckton State Forest	St. Lawrence	6	1,067
Cold Spring Brook State Forest	St. Lawrence	6	770
Cranberry Lake Wild Forest	St. Lawrence	6	25,189
Crary Mills State Forest	St. Lawrence	6	590
DeGrasse State Forest	St. Lawrence	6	1,171
Downerville State Forest	St. Lawrence	6	1,437
Fire-Fall State Forest	St. Lawrence	6	1,589
Fort Jackson State Forest	St. Lawrence	6	911
Grantville State Forest	St. Lawrence	6	778

Northeast Lake Ontario-St. Lawrence Table 8. (continued)

Unit Name	County	DEC Region	Acres
Grass River Wild Forest	St. Lawrence	6	12,855
Greenwood Creek State Forest	St. Lawrence	6	1,009
Hickory Lake State Forest	St. Lawrence	6	580
High Flats State Forest	St. Lawrence	6	1,880
Horseshoe Lake Wild Forest	St. Lawrence	6	26,067
Knapp Station State Forest	St. Lawrence	6	1,000
Lonesome Bay State Forest	St. Lawrence	6	1,125
Lost Nation State Forest	St. Lawrence	6	1,911
Ore Bed Creek State Forest	St. Lawrence	6	768
Pleasant Lake State Forest	St. Lawrence	6	964
Raquette Boreal Wild Forest	St. Lawrence	6	14,907
Raymondville State Forest	St. Lawrence	6	620
Silver Hill State Forest	St. Lawrence	6	775
Snow Bowl State Forest	St. Lawrence	6	833
Sodom State Forest	St. Lawrence	6	1,417
South Hammond State Forest	St. Lawrence	6	2,093
Southville State Forest	St. Lawrence	6	554
Stammer Creek State Forest	St. Lawrence	6	465
Taylor Creek State Forest	St. Lawrence	6	1,858
Toothaker Creek State Forest	St. Lawrence	6	702
Trout Lake State Forest	St. Lawrence	6	1,085
West Parishville State Forest	St. Lawrence	6	785
Whipporwill Corners State Forest	St. Lawrence	6	1,285
Whiskey Flats State Forest	St. Lawrence	6	2,553
White Hill Wild Forest	St. Lawrence	6	9,517
Wolf Lake State Forest	St. Lawrence	6	4,349
Yellow Lake State Forest	St. Lawrence	6	747

Northeast Lake Ontario-St. Lawrence Table 9. Bird Conservation Areas (BCA) within the NE Lake Ontario-St. Lawrence River Basin (n=5). NYSDEC's BCA Program, established in 1997, is modeled after the National Audubon Society's Important Bird Areas (IBA) program, which began in New York in 1996. The BCA Program applies criteria developed under the IBA program to state-owned properties.

Bird Conservation Area	County	DEC Region	Acres	Description
Adirondack Sub-alpine Forest	Franklin/Clinton/Essex/Warren	5	69,000	This BCA includes Adirondack Mountain summits above 2,800 feet in Clinton, Essex, Franklin, Hamilton and Warren counties. Surveyed and confirmed nesting locations for Bicknell's Thrush include: Mount Marcy, Algonquin Peak, Blue Mountain, Cascade Mountain, Giant Mountain, Kilburn Mountain, Hurricane Mountain, Lower Wolfjaw Mountain, Lyon Mountain, Mount Haystack, Phelps Mountain, Porter Mountain, Rocky Ridge Peak, Santanoni Peak, Snowy Mountain, Vanderwhacker Mountain, Wakely Mountain, Whiteface Mountain and Wright Peak. Critical habitats include dense subalpine coniferous thickets, and to a lesser degree, young or stunted and heavy second growth of cherry or birch.
Upper and Lower Lakes	St. Lawrence	6	8,781	A large complex of open water surrounded by marsh, shrub, swamp, and upland forest. Upland areas include grassland and some shrubland, as well as forest. Species of interest include: Black Tern (endangered), Pied-billed Grebe (threatened), Least Bittern (threatened), Northern Harrier (threatened), Upland Sandpiper (threatened), Sedge Wren (threatened), American Bittern (special concern), Osprey (special concern), Common Loon (special concern), and Cerulean Warbler (special concern).
Ashland	Jefferson	6	2,037	Area has relatively large areas of early successional habitats, including grassland and shrub land. There are also forested areas, and limestone barrens. These habitats support a diversity of early successional bird species, including Short-eared Owl (endangered), Henslow's Sparrow (threatened), Sedge Wren (threatened), Northern Harrier (threatened) and Upland Sandpiper (threatened). Critical habitats include large, contiguous areas of grassland and shrubland.
Perch River	Jefferson	6	7,862	Consists of the entire Perch River WMA. High quality wetlands bordered by deciduous forest, shrubland, and open agricultural fields. There is an interspersion of open water, marsh, shrubland and forested wetland areas. The area supports a diverse array of wetland-associated and grassland species including many state-listed species. Critical habitats include deep emergent marsh, shallow emergent marsh, shrub swamp, and forested wetlands.
Eastern Lake Ontario Marshes	Jefferson/Oswego	6, 7	4,940	A complex of long barrier beaches, embayments, dunes, marshes, and swamps with cold water streams. Lakeshore barrier beach and wetland complexes such as this are rare in New York State. This area has been recognized by the Department of State as a Significant Coastal Fish and Wildlife Habitat and, in part, has also been designated as a National Natural Landmark. This BCA has significant breeding and over-wintering habitats, and serves as a critical migratory corridor for birds. Critical habitats include a mosaic of Great Lakes inland dunes and high quality wetlands with extensive barrier beaches backed by shrub/scrub and forested lands. Rare or exemplary ecological communities: silver maple-ash swamp, Great Lakes dunes, rich shrub fen, medium fen, red maple-hardwood swamp, red maple-tamarack peat swamp, maple-basswood rich mesic forest, deep emergent marsh, sand beach.

Northeast Lake Ontario-St. Lawrence Table 10. Critical **aquatic** habitats found in the NE Lake Ontario-St. Lawrence River Basin, classified at the system and sub-system level, adapted from Edinger et al. (2002). The number of SGCN that indicate each system/ sub-system association as a critical habitat is indicated.

System	Sub-System	Number of Species
Palustrine	mineral soil wetland	20
Riverine	cold water stream	14
Lacustrine	cold water deep	13
Lacustrine	warm water shallow	11
Riverine	warm water stream	10
Palustrine	peatlands	6
Riverine	deep water river	6
Lacustrine	cold water shallow	5
Lacustrine	warm water deep	5
Riverine	coastal plain stream	4
Lacustrine	unknown	2
Lacustrine	coastal plain	1
Palustrine	unknown	1
Palustrine	warm water stream	1
Riverine	cold water deep	1
Riverine	unknown	1
Riverine	warm water deep	1
Riverine	warm water shallow	1

Northeastern Lake Ontario-St. Lawrence Table 11. Critical **terrestrial** habitats found in th NE Lake Ontario-St. Lawrence River Basin, classified at the system and sub-system level, adapted from Edinger et al. (2002). The number of SGCN that indicate each system/ sub-system association as a critical habitat is indicated.

System	Sub-System	Number of Species
Terrestrial	forested	43
Terrestrial	open upland	39
Terrestrial	barrens/woodlands	10
Terrestrial	alpine/mountain	4
Terrestrial	coastal	3
Subterranean	natural/cultural	1

Northeast Lake Ontario-St. Lawrence Table 12. Summary of threats, number of (and percent of all) species groups affected, and percentage of all threats for SGCN in the NE Lake Ontario-St. Lawrence River Basin. For details on threats, see Appendix: *Threats Characterization for Wildlife and Their Habitats.*

Threats	# of Species Groups Affected	% of All Spp Groups in Basin	% of All Threats in Basin
Habitat Loss - cultural (e.g., development)	28	63.6	10.4
Contaminants	21	47.7	7.8
Degradation of Water Quality	16	36.4	5.9
Human Disturbance - illegal/unregulated harvest	15	34.1	5.6
Human Disturbance - collisions	14	31.8	5.2
Barriers to Movement in Aquatic Habitats (e.g., dams, weirs, culverts)	13	29.5	4.8
Disrupted Predator-Prey Cycles	13	29.5	4.8
Interspecific Competition for Resources	13	29.5	4.8
Disease	12	27.3	4.4
Fragmentation	10	22.7	3.7
Human Disturbance - general	8	18.2	3.0
Insensitive/Unsustainable Agricultural/Silvicultural Practices	8	18.2	3.0
Habitat Loss - natural (e.g., succession)	8	18.2	3.0
Sedimentation/Erosion (impacts on aquatic habitats)	8	18.2	3.0
Competition from Invasive Exotics	7	15.9	2.6
Active Alteration/Suppression of Natural Processes (e.g., fire)	7	15.9	2.6
Human Disturbance - entanglement, entrainment, impingement	5	11.4	1.9
Susceptibility to Stochastic Events (isolated pop'ns)	5	11.4	1.9
Unknown Threats	5	11.4	1.9
Loss of Streamside Buffers	4	9.1	1.5
Pollution (e.g., acid rain, soil contamination)	4	9.1	1.5
Habitat Composition Altered by Terrestrial Invasive Species	4	9.1	1.5
Altered Hydrology (water level management/extraction)	4	9.1	1.5
Reduction of Patch Size, Shape, Area	4	9.1	1.5
Loss of Connectivity/Metapopulation Dynamics	4	9.1	1.5
Susceptibility to Stochastic Events (weather, storms)	4	9.1	1.5
Climate Change (change in species range, distb'n, migration)	4	9.1	1.5
Habitat Composition Altered by Aquatic Invasive Species	3	6.8	1.1
Detrimental Hybridization	3	6.8	1.1
Climate Change (change in water level, temperature)	3	6.8	1.1
Barriers to Movement in Terrestrial Habitats (e.g., roads, powerlines)	2	4.5	0.7
Terrestrial Habitat Composition Altered by Overuse (e.g., deer)	2	4.5	0.7
Loss of Host Species	2	4.5	0.7
Parasites	2	4.5	0.7
Susceptibility to Stochastic Events (rare species)	2	4.5	0.7
Aquatic Habitat Composition Altered by Overuse (e.g., swans, muskrat)	1	2.3	0.4
Negative Edge Effects (i.e., increased predation, "ecological traps")	1	2.3	0.4
Aquatic Habitat Altered by Natural Processes (e.g., beaver)	1	2.3	0.4

Northeast Lake Ontario-St. Lawrence Table 13. pproved State Wildlife Grant studies relevant to the NE Lake Ontario-St. Lawrence River Basin (Coordination Grant T-1, Wildlife Grants T-2-1 and T-2-2, and Fish/Marine Grant T-3).

State Wildlife Grant Study	Location	Description
COORDINATION GRANT		
Project 1: Comprehensive Wildlife Conservation Planning & Coordinatior		
Job 1: SWG Coordination & Development of the Comprehensive Wildlife Conservation Strategy	Statewide	New York will develop a Comprehensive Wildlife Conservation Strategy by October 2005, focusing on species of greatest conservation need in the state. We will work closely with partner organizations and the public to develop the plan, which will identify management needs, goals and strategies for more than 500 animal species that are rare, declining, vulnerable, or status unknown in New York State.
WILDLIFE CONSERVATION GRANT		
Project 1: Conservation Planning for Species of Greatest Conservation Need		
Bird Conservation		
Job 1: New York State's 2nd Breeding Bird Atlas	Statewide	New York completed its first Breeding Bird Atlas during 1980-1985, and the second atlas project (2000-2004) is underway. State Wildlife Grant funding will ensure completion of the second atlas, which will document the current distribution of breeding birds in New York State and quantify changes in distributions of species between the two atlas periods. Once completed, Atlas results will be made available in book and web-based formats for use by conservation biologists, planners, and the public.
Job 2: Developing a Grassland Bird Conservation Plan for New York State	Statewide, where grassland habitats are present	Because of widespread loss and fragmentation of grassland habitat, grassland bird populations are declining in New York and throughout North America. This project will develop a comprehensive plan to guide and direct grassland bird conservation and management on public and private lands in New York State. The plan will help direct conservation efforts to the most important areas, provide guidance to grassland owners and managers, and identify monitoring and research needs for grassland birds.
Job 3: Spruce Grouse in Lowland Boreal Habitat of New York State: Distribution, Populations and Movements	Essex, Hamilton, Herkimer counties	The spruce grouse is an endangered species in New York, where some of its spruce-fir forest habitat has been lost due to forest maturation, habitat fragmentation, and logging. Confusion with the more common ruffed grouse has led to accidental hunting, and the species' unwariness has made it vulnerable to human disturbance. Urgently needed are: surveys to determine status and distribution; research to assess factors causing rarity or declines; population or habitat protection and management to secure the species' status; and completion and implementation of a state recovery plan. This project will help address those needs.
Job 4: Common Loon Migration and Wintering Areas	Adirondack Park	We know very little about where common loons, a species of special concern in New York State, spend their non-breeding periods. This project will use satellite telemetry to determine migration routes, wintering areas and seasonal movements of loons that summer in New York. The results will help identify potential threats to common loons during non-breeding periods, including coastal energy developments, exposure to Type E botulism in the Great Lakes, ocean contaminants, and commercial fishing gear.
Job 5: Golden-winged Warbler Habitat and Hybridization Study	Sterling Forest State Park, Orange County	The golden-winged warbler has declined at an annual rate of 8 percent for the last 35 years in the northeastern U.S. Possible factors in its decline include reforestation and range expansion of the blue-winged warbler. This project will investigate genetics and habitat segregation among these two species. Results will help to establish whether they should be considered distinct species and provide guidance for habitat management plans to sustain golden-winged warbler populations.
Job 6: Conservation Plan for Common Terns in Upstate New York	Oneida Lake & St. Lawrence River	Nesting populations of common tern, a threatened species in New York, occur in three upstate areas (Niagara River, Oneida Lake and St. Lawrence River). Most nesting occurs on artificial structures such as piers and navigation structures, which often require annual maintenance of nesting substrate, predator deterrents, and other measures to ensure successful nesting. In order to make management efforts more effective and efficient, a long-term plan will be developed for conservation of common terns in upstate New York.
Job 17: Marshbird Conservation in New York State	Statewide, where freshwater emergent marshes are present	Baseline information on distribution and abundance is needed for many marsh-nesting species in New York State. Species of concern include pied-billed grebe, black tern, least bittern, American bittern, and king rail. This project will survey representative freshwater marsh habitats across the state during 2004-2006 to quantify abundance and habitat use of marsh birds, identify focus areas for marsh bird conservation, and develop a long-term monitoring program.

Northeast Lake Ontario-St. Lawrence Table 13. (continued)

State Wildlife Grant Study	Location	Description
Job 18: Coordinated Comprehensive Bird Monitoring Plan for New York State	Statewide	Comprehensive and coordinated monitoring programs are needed to reliably assess the status of all bird "species of greatest conservation need" in New York State. This project will document details of existing bird monitoring and survey programs in New York and assess their utility for monitoring various species of concern. We will form a bird monitoring partnership, involving agencies, organizations, and individuals, to recommend and help implement new or improved monitoring and survey programs for all bird species in New York State.
Job 19: Assesment of Boreal Forest Bird Habitats in the Adirondack Park	Adirondack Park	Boreal forests are recognized as critical breeding grounds for a variety of bird species that occur nowhere else in New York State. Within the state there are two relatively distinct assemblages of bird species found in "low elevation" and "high elevation" boreal forest types, each of which includes a number of New York's "species of greatest conservation need." The overall goal of this project is to better quantify the status and habitat requirements of various low and high elevation boreal forest birds.
Job 21: Use of Radar to Document Bird and Bat Migrations in New York State	Lewis, Jefferson, Oswego counties	Effective conservation of migratory birds and bats, including many species of greatest conservation need, requires better information on their migration patterns through New York State. This information is needed to help plan wind energy developments (or other tall structures) to prevent significant mortality of migratory species. This project will assess the utility of various techniques, including radar studies, acoustic monitoring, and thermal imaging for documenting timing, altitude, corridors or stopover habitats of birds and bats migrating through New York State.
Job 22: Golden-winged Warbler Habitat Restoration Investigation	Sterling Forest State Park, Orange County	The golden-winged warbler (GWWA) has declined at an annual rate of eight percent for the last 35 years in the northeastern U.S. and is a candidate for federal listing as a threatened or endangered species. Possible factors in its decline include loss of habitat due to reforestation and hybridization with the blue-winged warbler. Results of prior SWG-funded research will be used to design and conduct an experimental habitat restoration project in Sterling Forest State Park to assess the feasibility of creating or maintaining suitable habitat for GWWA in southeastern New York.
Mammal Conservation		
Job 7: Determining Winter Roost Selection of *M. leibii* and summer destination of hibernating *M. sodalis* and *M. Leibii*	Essex and Ulster counties	The small-footed bat is the least common bat encountered during winter surveys in the eastern U.S., and 75 percent occur in New York. The species may be more common than winter counts suggest because it hibernates in hidden locations (under rocks, in crevices). DEC plans to radio-tag a sample of these bats as they enter a major hibernaculum to determine how many are detected during routine surveys. We also plan to radio-tag Indiana and small-footed bats as they emerge from their hibernacula and follow them by airplane to determine summer distribution and habitat preferences.
Job 8: Feasibility of Implementing a Robust Design Mark-Recapture Study for Indiana Bats	Statewide, where Indiana bats are present	The Indiana bat, a federally endangered species, has declined from roughly 600,000 in the 1960s to about 350,000 today. Population declines in southern portions of its range, primarily Kentucky and Missouri, have far exceeded increases in the north, including New York. We hope to conduct a large scale mark-recapture study to identify causes of the decline and regional differences in population trends. The first step is a feasibility study to determine if we can adequately address assumptions of the study design.
Job 9: Determining the Feasibility of a Statewide Summer Survey of Tree Bats	Statewide, north of NYC and Long Island	Tree bats (red, hoary and silver-haired bats) are among the least understood vertebrates in the state. We do not know the current status or distribution of any of these species, and the most comprehensive surveys were conducted more than 100 years ago. Recent technical innovations have increased the reliability of field sampling while reducing costs. We plan to conduct initial surveys to determine the costs and effectiveness of conducting a statewide status survey for tree bats in New York State.
Reptile & Amphibian Conservation		
Job 10: Assessment of the Status and Abundance of High Priority Reptile and Amphibian Species	Statewide	As a group, a higher proportion of amphibian and reptile species have suffered significant declines than any other vertebrate groups in New York State. To date, much effort has been placed on documenting distribution of these endangered and threatened species. This project will focus on collecting information on the status of known populations, following standard protocols, so that conservation efforts can be prioritized on those in greatest need.
Job 12: Reducing Turtle Mortality During Nesting	Statewide	Certain turtle species experience high mortality of females when they migrate from over-wintering locations to traditional egg-laying sites. This project will investigate methods of reducing this mortality through use of subsurface tunnels for crossing roadways, creation of protected nesting sites, and predator exclusions.

Northeast Lake Ontario-St. Lawrence Table 13. (continued)

State Wildlife Grant Study	Location	Description
Job 25: Spiny Softshell Turtle Survey and Life History Studies	Shores of Lake Ontario and its tributaries	Little is know about the distribution, life history, seasonal movements, and habitat-use of spiny softshell turtles in New York State. NYSDEC will assess the status and distribution of spiny softshell turtles in the Finger Lakes and the bays on the southern shore line of Lake Ontario, including the streams and creeks that enter Lake Ontario, in order to make recommendations concerning the management of critical habitats for this species.
Job 26: Reptile and Amphibian Species Inventory (cont'd from Job 10, Grant T-2-1)	Statewide	Previous studies have identified many reptile and amphibian species in need of conservation, which is the first step in developing baseline information to measure changes in populations. This project will help complete surveys of other reptile and amphibian species that are listed as species of special concern by New York State. Completion of these surveys will produce a mechanism to assure continuity of surveys for this group of species, as gather well as data to determine the status of special concern reptile and amphibian species.
Invertebrate Conservation		
Job 15: Odonate Inventory	Statewide	There is a need for a comprehensive survey or inventory for odonates (dragonflies and damselflies) statewide. This project will document the current distribution of odonate species in New York State and direct more intensive sampling in selected habitats, areas with expected high odonate diversity, or habitats of rare species. The project will include general surveys conducted by volunteers as well as directed surveys that target specific species, habitats, or poorly known areas of the state.
FISH AND MARINE CONSERVATION GRANT		
Project 1: Conservation Planning for Aquatic Resources		
Freshwater Fish Conservation		
Job 1: Adirondack Round Whitefish Investigation	Adirondack Park	Round whitefish are classified as threatened in New York and their recovery plan calls for an investigation of causes for and solutions to their decline. This project will include field studies to develop sampling protocols in Adirondack lakes, evaluate existing stocking efforts, and prioritize historic waters for likelihood of successful reestablishment.
Job 2: Conservation of Lesser Known Species of Fish	Statewide	This project involves review of DEC and New York State Museum fish records to identify information needs about the status of rare species. Findings will be used to plan new surveys that will eventually allow a complete assessment of the status and distribution of these "lesser known" freshwater fish species of New York State.

For more information on these projects visit NYSDEC website at www.dec.state.ny.us
or contact NYSDEC at:
State Wildlife Grants Program Coordinator
New York Division of Fish, Wildlife and Marine Resources
625 Broadway
Albany, NY 12233-4754
Phone: (518) 402-8924
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Northeast Lake Ontario-St. Lawrence Table 14. Existing management plans and agreements relevant to the NE Lake Ontario-St. Lawrence River Basin. This is an assortment of the major planning efforts within the Basin and is not a comprehensive list. Other planning efforts may exist at both the local and landscape scale and should be consulted before implementing conservation actions.

Plan/Agreement Name	Involved Parties	Information
St. Lawrence-Champlain Valley Ecoregion Biodiversity Conservation Plan (2002)	The Nature Conservancy	Vision, ecological description, threats assessment, issues and information needs
Fish Community Objectives for Lake Ontario (1999, 2003)	NYSDEC, Ontario MNR	Goals, description of the lake, habitat alterations, fish species, management actions
Fish Community Objectives for the St. Lawrence River (2002)	NYSDEC, Ontario MNR	Goals, description of the waterway, habitat alterations, fish species, management actions
Twenty-five Year Plan for the Great Lakes (1991)	NYSDEC	Goals, water quality, economic development, interstate/internationa partnerships
Lakewide Management Plan for Lake Ontario (1998)	USEPA, Environment Canada, NYSDEC, Ontario Ministry of the Environment	Problem identification, public involvement, monitoring progress
Biodiversity Around the Great Lakes (2002)	USEPA, Purdue University	Educational software program, Great Lakes history, case studies, monitoring, species inventory, habitat restoration
Fish and Wildlife Habitat Status and Trends in the Canadian Watershed of Lake Ontario (2000)	Environment Canada, CWS Ontario Region	Current habitat conditions, threats, current habitat protection/restoration efforts, summary analysis of the status of fish and wildlife habitat, monitoring/evaluation
Lake Ontario and St. Lawrence River - Changes in the Institutiona Structure and Their Impact on Water Levels, 1950-2001 (2002)	International Joint Commission, Federal and State Agencies of U.S. & Canada, Tribal Governments, Universities	Evaluation of current criteria used for regulating water levels on Lake Ontario and in the St. Lawrence River, decision-making process, stakeholders
Strategic Plan for Wetlands of the Great Lakes Basin (1993)	Ontario MNR, Environment Canada, DU Canada, Nature Conservancy of Canada, Federation of Ontario Naturalists	Twenty-five year strategy for wetlands conservation in the Great Lakes Basin
Great Lakes Wetlands Conservation Action Plan (1994, 2002)	Ontario MNR, Environment Canada, DU Canada, Nature Conservancy of Canada, Federation of Ontario Naturalists	Long-term strategies for wetland conservation, implementation of the 25-year Strategic Plan for Wetlands of the Great Lakes Basin
Great Lakes Wetlands Conservation Action Plan Report 2000-2003	Environment Canada	Wetland conservation highlights, review of strategies, partners
Conservation Blueprint for the Great Lakes (2003)	The Nature Conservancy	Preserving biodiversity; framework for action; scientific foundation; threats
Towards a New Conservation Vision for the Great Lakes Region: A Second Iteration (2003)	The Nature Conservancy	Ecoregional planning, visions, goals, identify datagaps and core conservation areas, threats, target species
Great Lakes Strategy - A Plan for the New Millennium (2002)	US Policy Committee for the Great Lakes	Goals, chemical, physical, and biological integrity, partnerships
New York Power Authority Land Management Plan for the St. Lawrence - FDR Power Project (2003)	New York Power Authority	Land management goals, public participation process, description of project area, natural resources, related planning efforts
Fort Drum Integrated Natural Resources Management Plan 2001-2005 (2001)	U.S. Army, NYSDEC, USFWS	Goals, partnerships, history of the property, natural resource inventory, natural resource management and monitoring
Final Environmental Impact Statement Double-crested Cormorant Management in the United States (2003)	U.S. Fish and Wildlife Service, USDA APHIS Wildlife Services	Cormorant population trends and impacts on wildlife and habitats, public input process, evaluation of action alternatives, selection of an alternative and justification
NYSDEC Unit Management Plans Aldrich Pond Wild Forest (1995) Blue Mountain Wild Forest (1995) Blue Ridge Wilderness (Draft) Bog River Complex (2003) Brasher Falls State Forest (Draft) Colton State Forest (Draft) Debar Mountain Wild Forest (Draft) Five Ponds Wilderness (1994) Grass River Wild Forest (Draft) High Peaks Wilderness (1999) Independence River Wild Forest (1986) Moose River Plains Wild Forest (Draft) Raquette Boreal Wild Forest (Draft) Saranac Lakes Wild Forest (Draft) St. Regis Canoe Area (Draft) White Hill Wild Forest (Draft) William C. Whitney Wilderness (1998)	NYSDEC	Assessment of the natural and physical resources present within a unit; opportunities for recreational use and ability of resources and ecosystems to accommodate public use; management objectives for public use
Bird Conservation Area Management Guidance Summaries Adirondack Sub-Alpine Forest Ashland Eastern Lake Ontario Marshes Perch River Upper and Lower Lakes	NYSDEC, OPRHP, Audubon	A physical description of the site, BCA criteria met, important species & habitat types, guidance for management, op/maintenance, research, education and outreach. Includes local contacts.
Wildlife Management Area Plans Cranberry Creek WMA (1966) Fish Creek Marsh WMA (1988) Lake Ontario Islands WMA (2002) Perch River WMA (1969) Tug Hill WMA (1970) Upper & Lower Lakes WMA (1970) Wilson Hill WMA (1970)	NYSDEC	Assessment of the wildlife, habitats and physical resources present history of the property; management, op/maintenance, research, education and outreach objectives; opportunities for recreational use and ability of resources and ecosystems to accommodate public use; management objectives for public use

Other UMPs (in development?):

Black River Wild Forest
Cranberry Lake Wild Forest
Croghan-Diana State Forest
Deer River State Forest
Edwards State Forest
Fulton Chain Wild Forest
Ha-de-ron-dah Wilderness
Hogsback State Forest
Indian River Lakes State Forest
Lesser Wilderness State Forest
Northern Tier State Forest
Norwood State Forest
Ontario Shores State Forest
Osceola State Forest
Penn Mountain State Forest
Pepperbox Wilderness
Pigeon Lake Wilderness
Sargent Ponds Wild Forest
St. Lawrence Plains State Forest
St. Regis River State Forest
Thousand Islands State Forest
Titusville Mountain State Forest
Trout Lake State Forest
Tug Hill State Forest
Watson East Triangle Wild Forest
West Canada Lake Wilderness
Westward Waters State Forest