

# **United States of America** Niagara River Corridor



Designation date 3 October 2019 Site number 2402 Area 5 247,70 ha

Coordinates 43°02'37"N 78°58'11"W

https://rsis.ramsar.org/ris/2402 Created by RSIS V.1.6 on - 17 December 2019

## Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

## 1 - Summary

## Summary

The Niagara River is a freshwater strait that forms the border between the U.S. and Canada. The river flows approximately 58 km (36 mi) from Lake Erie in the south, over one of Earth's natural wonders, Niagara Falls, and through the Niagara Gorge, emptying at Lake Ontario in the north. The river's depth and width vary greatly; shallow and wide above Niagara Falls, and deep and narrow below. Along the river's shoreline are protected nature reserves, parks, large cities, transportation infrastructure, and farmland.

The local communities benefit immensely from the Niagara River. The Niagara River will be among the most visited Ramsar sites in the world. On the U.S. side alone, hundreds of thousands of people swim, fish, boat, hunt, birdwatch, conduct research, and hike on and along the river. Eight million people visit the U.S. side of Niagara Falls each year. Tourism to the Niagara region contributes \$2.7 billion to the economy and supports 53,168 jobs. In addition, nearly a million people get their freshwater from the river, and electricity generated from the river powers millions of homes and businesses.

The Niagara River Corridor supports numerous species of protected flora and fauna. The river is an extremely important spawning ground for fish and a migratory corridor for birds. It supports several birds that congregate in globally significant numbers, and supports massive congregations of waterbirds during the winter. Upland areas along the river are home to threatened ecological communities and old growth forests. The Niagara Escarpment is designated as a UNESCO Biosphere Reserve in Canada, and the entire Niagara River Corridor is designated a globally significant Important Bird Area.

The ecology of the corridor has been shaped by millennia of human activity, from indigenous civilizations to today's cities. The corridor hosted battles of the War of 1812, was the last stop on the Underground Railroad, saw the continent's first state and provincial parks, and saw the birth of hydroelectric energy. Over the last two centuries, industrialization and population growth caused environmental degradation, yet the river and its people have proven to be resilient. The infamous Love Canal helped to spur the environmental justice movement, and plans are being implemented to reverse past and prevent future degradation. Today, the river is healthier than it has been in generations.

## 2 - Data & location

- 2.1 Formal data
- 2.1.1 Name and address of the compiler of this RIS

## Compiler 1

| Name               | Niagara River Corridor Ramsar Site Steering Committee  |
|--------------------|--|
| Institution/agency | University at Buffalo School of Law                    |
| Postal address     | 507 O'Brian Hall, North Campus, Buffalo, NY 14260-1100 |
| E-mail             | kimconno@buffalo.edu                                   |
| Phone              | 716-645-2092   |
| Fax                | 716-645-6199   |
|                    |  |
|                    |  |

Compiler 2

| Name               | Cade London  |
|--------------------|--|
| Institution/agency | U.S. Fish and Wildlife Service                           |
| Postal address     | 5275 Leesburg Pike, MS:IA<br>Falls Church, VA 22041-3803 |
| E-mail             | cade_london@fws.gov                                      |
| Phone              | 703-358-2584   |
| Fax                | 703-358-2277   |

2.1.2 - Period of collection of data and information used to compile the RIS

| From year | 2014 |
|-----------|------|
| To year   | 2019 |

## 2.1.3 - Name of the Ramsar Site

| Official name (in English, French or | Niagara River Corridor |
|--------------------------------------|------------------------|
| Spanish)                             | Nagara River Comuon    |

## 2.2 - Site location

## 2.2.1 - Defining the Site boundaries

## b) Digital map/image

<1 file(s) uploaded>

Former maps 0

## Boundaries description

The site includes the U.S. side of the Niagara River, from Lake Ontario in the north to Lake Erie in the south. The site includes much of the riparian lands along the river's edge. The riparian lands included are located on protected green spaces adjacent to or near the river and incorporate parks, nature preserves, undeveloped islands in the river, and other greenspaces around institutional land and public infrastructure. The site excludes privately-owned land along the shoreline, private holdings that extend into the river, and private railroad bridges that cross the river. The ecological values of the site are not compromised due to these exclusions; the site includes nearly all of the U.S. side of the river itself.

## 2.2.2 - General location

| a) In which large administrative region does | State of New York  |
|--|--|
| the site lie:                                |  |
| b) What is the nearest town or population    | The City of Niagara Falls (population of 48,460) and City of Buffalo (population of 258,612) are the |
| centre?                                      | largest nearby population centers.   |

## 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes I No O

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party?

## 2.2.4 - Area of the Site

Official area, in hectares (ha): 5247.7

Area, in hectares (ha) as calculated from GIS boundaries 5245.819

## 2.2.5 - Biogeography

| Biogeographic regions                  |  |
|--|--|
| Regionalisation scheme(s)              | Biogeographic region   |
| Udvardy's Biogeographical<br>Provinces | The Neararctic Realm - Great Lakes / Eastern Forests Biogeographical Provinces |
| WWF Terrestrial<br>Ecoregions          | Temperate Broadleaf & Mxed Forest (Carolinian)                                 |

## 3 - Why is the Site important?

## 3.1 - Ramsar Criteria and their justification

## Criterion 1: Representative, rare or unique natural or near-natural wetland types

| Hydrological services provided    | The Niagara River drains the majority of the Great Lakes Basin, which in total contains 84% of the surface freshwater of North America and 21% of the world's fresh surface water (US EPA website "Great Lakes"). Numerous population centres along the river obtain their drinking water from the river. On the U.S. side, approximately one million people get their freshwater directly from the river. Large cities on Lake Ontario, like Toronto, obtain their drinking water from the lake after it passes through the Niagara River. The water from the Niagara River is used to power the Robert Moses Niagara Power Plant on the U.S. side (Gawronski et al. 2006, NYPA "Niagara Power Plant"), and the Sir Adam Beck Hydroelectric Generating Station on the Canadian side (NPC " The History of Sir Adam Beck"). Electricity from these two hydroelectric power plants is used by millions of people in the U.S. and Canada. The water from the river is also used by industry along the river, especially on the U.S. side, as well as agriculture, especially on the Canadian side.  |
|-----------------------------------|---|
| Other ecosystem services provided | The Niagara River Corridor provides numerous other non-hydrological ecosystem services. The river is the spawning ground for many freshwater fish species that support fisheries, sport fishing, and some subsistence fishing in the river itself and surrounding lakes. The river supports recreation, especially water-based recreation like boating and tourism. In fact, more than 22.5 million people visit both sides of Niagara Falls annually (Travel and Leisure "World's Most Visited Tourist Attractions"), 125 million people live within an 8-hour drive, multi-billion dollar spending on tourism and recreational occurs annually, over 100,000 students are enrolled in over 20 local colleges and universities, and the Niagara River is located within the "Golden Horseshoe" (an international region extending from metropolitan Toronto, through the Southern Ontario and Buffalo-Niagara regions, to Rochester, NY) (http://www.niagarafallsredevelopment.com/niagara-falls-facts/). The river is also the basis of countless scientific studies and monitoring programs, including several annual bird counts by the Buffalo Ornithological Society, fish monitoring programs of the U.S. Fish and Wildlife Service, the Great Lakes Marsh Monitoring Program by Bird Studies Canada, and many more conducted by university researchers. |

The Niagara River is unique because it is home to Niagara Falls, three separate waterfalls which combine to form the highest volume waterfall in North America (including the Great Lakes/Eastern Forests Biogeographical Provinces) (World Waterfall Database "Niagara Falls").

The Niagara River is a strait connecting two larger fresh water lakes, Lake Erie and Lake Ontario. There are few other straits in North America (including the Great Lakes/Eastern Forests Biogeographical Provinces) that connect large bodies of freshwater, and none that carry as much water annually as the Niagara River, making the Niagara River unique.

The New York State Department of State has identified numerous Significant Coastal Fish and Wildlife Habitats within the Niagara River Corridor, including a riverine littoral zone in the upper Niagara River that is a rare ecosystem type in the Great Lakes and extremely valuable fish and wildlife habitat (NYS DOS "Significant Coastal Fish & Wildlife Habitats").

#### Other reasons

The 30-hectare cattail marsh at the Tifft Nature Preserve is the largest section remaining of a much larger marsh once found at the mouth of the Buffalo River on Lake Erie and previously common on the Great Lakes (Spiering 2009), and is representative of the Tp: Permanent freshwater marshes/ pools wetland type. The marshes in Buckhorn Island State Park, the East River Marsh, and Strawberry Island are also representative of the Tp: Permanent freshwater marshes/ pools wetland type.

Economic opportunities surround the Niagara River Corridor. The U.S. side of the Niagara region (Erie, Genesee, Niagara, Orleans, and Wyoming counties) attracts 22.5 million visitors annually. The tourism industry associated with the Niagara region has \$2.7 billion of sales annually, supports 53,168 jobs, and generates generated \$891 million in direct labor income and \$1.5 billion of income including indirect and induced impacts. Tourism generates 13.2% of Niagara County's labor income and 4.4% of Erie County's labor income. (https://www.wycochamber.org/files/mgQwaU/NYS%20Tourism%20Impact%20-%20Greater%20Niagara%202017.pdf)

## Criterion 2 : Rare species and threatened ecological communities

## Criterion 3 : Biological diversity

Of the high biological diversity supported at the Niagara River Corridor, at least one species is considered a "keystone" species: the Emerald Shiner (Notropis atherinoides). Although much of the Emerald Shiner's life cycle is unknown, they are considered the base of the food web for many fish-eating birds and sports fish. They are particularly important to the Common Tern (Sterna hirundo), a NYS threatened species ("New projects: Researching a keystone species in the Niagara River").

## Criterion 4 : Support during critical life cycle stage or in adverse conditions

## Criterion 5 : >20,000 waterbirds

Start year 1979

Source of data: Important Bird Areas in Canada website. "IBA Database – Niagara River Corridor". Source of data: Retrieved on 11/15/2014.

## Criterion 6 : >1% waterbird population

## Criterion 7 : Significant and representative fish

Justification The Niagara River Corridor sustains at least 89 species of indigenous, freshwater fish. (see Appendix 1)

## Criterion 8 : Fish spawning grounds, etc.

The New York State Department of State has identified numerous Significant Coastal Fish and Wildlife Habitats within the Niagara River Corridor (NYS DOS "Significant Coastal Fish and Wildlife Habitats"). Most of these are important spawning grounds for native freshwater fish. From recent studies, at least 41 species of fish are known to spawn in the Niagara River, although it is likely that more species spawn there. (see Appendix 1)

## 3.2 - Plant species whose presence relates to the international importance of the site

| Scientific name                  | Common name            | Criterion 2 | Criterion 3 | Criterion 4 | IUCN<br>Red<br>List | CITES Appendix I | Other status     | Justification |
|----------------------------------|------------------------|-------------|-------------|-------------|---------------------|------------------|------------------|---------------|
| Carex garberi                    | Elk Sedge              | ×           |             |             |                     |                  | Endangered (NYS) |               |
| Fraxinus americana               | White Ash              | <b>X</b>    |             |             | CR                  |                  |                  |               |
| Fraxinus pennsylvanica           | Red/Green Ash          | <b>X</b>    |             |             | CR                  |                  |                  |               |
| Gentianopsis virgata             | Lesser Fringed Gentian | V           |             |             | LC                  |                  | Endangered (NYS) |               |
| Pellaea glabella glabella        | Smooth Cliff-brake     | V           |             |             |                     |                  | ESA threatened   |               |
| Symphyotrichum<br>oolentangiense | Sky Blue Aster         |             |             |             |                     |                  | Endangered (NYS) |               |

## See full species lists in Appendix 1

Other status lists include:

US (Endangered Species Act) - "U.S. Fish and Wildlife Service, Endangered Species" (http://www.fws.gov/ENDANGERED/species/usspecies.html)

• New York State (Natural Heritage Program) - New York Rare Plant Status Lists, 2017, Edited by Stephen M. Young (https://www.dec.ny.gov/docs/wildlife\_pdf/2017rareplantlists.pdf)

Additional notes on the criteria:

• For criteria two, species that are listed in the IUCN Red List, CITES, or any of the federal or state lists satisfy this criteria.

## 3.3 - Animal species whose presence relates to the international importance of the site

| Phylum            | Scientific name    | Common name               | Species<br>qualifies<br>under<br>criterion<br>2 4 6 9 | Species<br>contributes<br>under<br>criterion<br>3 5 7 8 | Pop.<br>Size | Period of pop. Est. occurrence | IUCN<br>Red<br>List | CITES<br>Appendix<br>I | CMS<br>Appendix<br>I | Other Status                              | Justification                  |
|-------------------|--------------------|---------------------------|---|---|--------------|--------------------------------|---------------------|------------------------|----------------------|---|--------------------------------|
| Birds             |                    |                           |   |   |              |                                |                     |                        |                      |   |                                |
| CHORDATA/<br>AVES | Acanthis flammea   | Common Redpoll            |   |   | ]            |                                | LC                  |                        |                      |   | Overwintering Mgratory         |
| CHORDATA/<br>AVES | Accipiter cooperii | Cooper's Hawk             | 220C  |   | ]            |                                | LC                  |                        |                      | Special Concern (NYS) & CITES Appendix II | Overwintering Mgratory Nesting |
| CHORDATA/<br>AVES | Accipiter gentilis | Northern<br>Goshawk       | ØOOC  |   | ]            |                                | LC                  |                        |                      | Special Concern (NYS) & CITES Appendix II |                                |
| CHORDATA/<br>AVES | Accipiter striatus | Sharp-shinned<br>Hawk     | ØOOC  |   | ]            |                                | LC                  |                        |                      | Special Concern (NYS) CITES Appendix II   | Overwintering Mgratory Nesting |
| CHORDATA/<br>AVES | Actitis macularius | Spotted Sandpiper         | r 🗆 🖉 🗆 🖸   |   | ]            |                                | LC                  |                        |                      |   | Mgratory Nesting               |
| CHORDATA/<br>AVES | Aegolius acadicus  | Northern Saw-<br>whet Owl |   |   | ]            |                                | LC                  |                        |                      |   | Mgratory                       |

| Phylum            | Scientific name          | Common name                            | Species<br>qualifies<br>under<br>criterion | Spe<br>contri<br>un<br>crite | cies<br>butes<br>ler<br>rion<br>7 8 | ).<br>Period of pop. E | %<br>st. occurrence<br>1) | IUCN<br>Red A<br>List | CITES<br>oppendix<br>I | CMS<br>Appendix<br>I | Other Status                       | Justification                              |
|-------------------|--------------------------|--|--|------------------------------|-------------------------------------|------------------------|---------------------------|-----------------------|------------------------|----------------------|------------------------------------|--|
| CHORDATA/<br>AVES | Agelaius<br>phoeniceus   | Red-winged<br>Blackbird                |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Overwintering Mgratory Nesting             |
| CHORDATA/<br>AVES | Aix sponsa               | Wood Duck                              |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Mgratory/Nesting                           |
| CHORDATA/<br>AVES | Ammodramus<br>henslowii  | Henslow's<br>Sparrow                   | 220C                                       |                              |                                     |                        |                           |                       |                        |                      | Threatened (NYS)                   | Mgratory                                   |
| CHORDATA/<br>AVES | Ammodramus<br>savannarum | Grasshopper<br>Sparrow                 | 220C                                       |                              |                                     |                        |                           | LC                    |                        |                      | Special Concern (NYS)              | `Mgratory Nesting                          |
| CHORDATA/<br>AVES | Anas acuta               | Northern Pintail                       |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Overwintering / Waterbird / Mgratory       |
| CHORDATA/<br>AVES | Anas americana           | American Wigeon                        |  |                              |                                     |                        |                           |                       |                        |                      |                                    | Mgratory/Nesting                           |
| CHORDATA/<br>AVES | Anas clypeata            | Northern Shoveler                      |  |                              |                                     |                        |                           |                       |                        |                      |                                    | Mgratory/Nesting                           |
| CHORDATA/<br>AVES | Anas crecca              | Green-winged<br>Teal; Eurasian<br>Teal |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Mgratory / Nesting                         |
| CHORDATA/<br>AVES | Anas discors             | Blue-winged Teal                       |  |                              |                                     |                        |                           |                       |                        |                      |                                    | Mgratory/Nesting                           |
| CHORDATA/<br>AVES | Anas<br>platyrhynchos    | Mallard                                |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Overwintering / Mgratory Waterbird Nesting |
| CHORDATA/<br>AVES | Anas rubripes            | American Black<br>Duck                 |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Overwintering / Mgratory Waterbird Nesting |
| CHORDATA/<br>AVES | Anas strepera            | Gadwall                                |  |                              |                                     |                        |                           |                       |                        |                      |                                    | Overwintering / Waterbird                  |
| CHORDATA/<br>AVES | Anser albifrons          | Greater White-<br>fronted Goose        |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Mgratory                                   |
| CHORDATA/<br>AVES | Anthus rubescens         | Buff-bellied Pipit                     |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Mgratory                                   |
| CHORDATA/<br>AVES | Aquila chrysaetos        | Golden Eagle                           | ØOOC                                       |                              |                                     |                        |                           | LC                    |                        |                      | Endangered (NYS) CITES Appendix II |  |
| CHORDATA/<br>AVES | Archilochus<br>colubris  | Ruby-throated<br>Hummingbird           |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | MgratoryNesting                            |
| CHORDATA/<br>AVES | Ardea alba               | Great Egret                            |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Mgratory / Nesting                         |
| CHORDATA/<br>AVES | Ardea herodias           | Great Blue Heron                       |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Overwintering / Waterbird Mgratory Nesting |
| CHORDATA/<br>AVES | Arenaria interpres       | Ruddy Turnstone                        |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Mgratory                                   |
| CHORDATA/<br>AVES | Asio flammeus            | Short-eared Owl                        | 990  |                              |                                     |                        |                           | LC                    |                        |                      | Endangered (NYS)                   | Overwintering Mgratory                     |
| CHORDATA/<br>AVES | Asio otus                | Long-eared Owl                         |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Overwintering Mgratory                     |
| CHORDATA/<br>AVES | Aythya affinis           | Lesser Scaup                           |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Overwintering / Waterbird Mgratory         |
| CHORDATA/<br>AVES | Aythya americana         | Redhead                                |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Overwintering / Waterbird Mgratory         |
| CHORDATA/<br>AVES | Aythya collaris          | Ring-necked Duck                       |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Overwintering / Waterbird Mgratory         |
| CHORDATA/<br>AVES | Aythya marila            | Greater Scaup                          |  |                              | 150                                 | 00 1979                | 2                         | LC                    |                        |                      |                                    | Overwintering / Waterbird Mgratory         |
| CHORDATA/<br>AVES | Aythya valisineria       | Canvasback                             |  |                              | 140                                 | 00 1997                | 2                         | LC                    |                        |                      |                                    | Overwintering / Waterbird Mgratory         |
| CHORDATA/<br>AVES | Baeolophus<br>bicolor    | Tufted Titmouse                        |  |                              |                                     |                        |                           | LC                    |                        |                      |                                    | Overwintering Nesting                      |

| Phylum            | Scientific name          | Common name                 | Spec<br>qualit<br>und<br>criter | ies<br>fies<br>er<br>rion<br>6 9 | Spe<br>contri<br>un<br>crite<br>3 5 | cies<br>butes<br>der S<br>rion 5 | op.<br>ize Pe | eriod of pop. Est | %<br>occurrence<br>1) | IUCN<br>Red A<br>List | CITES<br>ppendix<br>I | CMS<br>Appendix<br>I | Other Status                              | Justification                      |
|-------------------|--------------------------|-----------------------------|---------------------------------|----------------------------------|-------------------------------------|----------------------------------|---------------|-------------------|-----------------------|-----------------------|-----------------------|----------------------|---|------------------------------------|
| CHORDATA/<br>AVES | Bartramia<br>Iongicauda  | Upland Sandpiper            | ZZ                              |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      | Threatened (NYS)                          | Mgratory / Nesting                 |
| CHORDATA/<br>AVES | Bombycilla<br>cedrorum   | Cedar Waxwing               |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Overwintering Mgratory Nesting     |
| CHORDATA/<br>AVES | Bonasa umbellus          | Ruffed Grouse               |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Overwintering                      |
| CHORDATA/<br>AVES | Botaurus<br>Ientiginosus | American Bittern            | ZZ                              |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      | Special Concern (NYS)                     | Mgratory/Nesting                   |
| CHORDATA/<br>AVES | Branta bernicla          | Brent Goose;<br>Brant Goose |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Branta canadensis        | Canada Goose                | ۵Ø                              |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Bubo scandiacus          | Snowy Owl                   | ZZ                              |                                  |                                     |                                  |               |                   |                       | VU                    |                       |                      |   | Overwintering Mgratory             |
| CHORDATA/<br>AVES | Bubo virginianus         | Great Horned Owl            |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Overwintering Nesting              |
| CHORDATA/<br>AVES | Bucephala albeola        | Bufflehead                  |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Bucephala<br>clangula    | Common<br>Goldeneye         | o 21                            |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Buteo jamaicensis        | Red-tailed Hawk             |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      | CITES Appendix II                         | Overwintering / Nesting            |
| CHORDATA/<br>AVES | Buteo lineatus           | Red-shouldered<br>Hawk      | ZZ                              |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      | Special Concern (NYS) & CITES Appendix II | Mgratory                           |
| CHORDATA/<br>AVES | Buteo platypterus        | Broad-winged<br>Hawk        |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      | CITES Appendix II                         | Mgratory/Nesting                   |
| CHORDATA/<br>AVES | Butorides<br>virescens   | Green Heron                 |                                 |                                  |                                     |                                  |               |                   |                       |                       |                       |                      |   | Mgratory/Nesting                   |
| CHORDATA/<br>AVES | Calcarius<br>Iapponicus  | Lapland Longspur            |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Overwintering Mgratory             |
| CHORDATA/<br>AVES | Calidris alba            | Sanderling                  |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Calidris alpina          | Dunlin                      |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Calidris bairdii         | Baird's Sandpiper           |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Calidris canutus         | Red Knot                    |                                 |                                  |                                     |                                  |               |                   |                       | NT                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Calidris<br>fuscicollis  | White-rumped<br>Sandpiper   |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Calidris<br>himantopus   | Stilt Sandpiper             | OØ                              |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Calidris maritima        | Purple Sandpiper            |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Calidris mauri           | Western<br>Sandpiper        |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Calidris<br>melanotos    | Pectoral<br>Sandpiper       |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Calidris minutilla       | Least Sandpiper             |                                 |                                  |                                     |                                  |               |                   |                       | LC                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Calidris pusilla         | Semipalmated<br>Sandpiper   |                                 |                                  |                                     |                                  |               |                   |                       | NT                    |                       |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Caprimulgus<br>vociferus | Whip-poor-will              | ZZ                              |                                  |                                     |                                  |               |                   |                       |                       |                       |                      | Special Concern (NYS)                     | Mgratory                           |

| Phylum            | Scientific name                 | Common name                                     | Species<br>qualifies<br>under<br>criterion | Spec<br>contrik<br>und<br>criter | ies<br>outes<br>er<br>ion<br>7 8 | Period of pop. Est. | %<br>occurrence<br>1)<br>IUCN<br>Red<br>List | CITES<br>Appendix<br>I | CMS<br>Appendix<br>I | Other Status                       | Justification                              |
|-------------------|---------------------------------|---|--|----------------------------------|----------------------------------|---------------------|--|------------------------|----------------------|------------------------------------|--|
| CHORDATA/<br>AVES | Cardellina<br>canadensis        | Canada Warbler                                  |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory                                   |
| CHORDATA/<br>AVES | Cardellina pusilla              | Wilson's Warbler                                |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory                                   |
| CHORDATA/<br>AVES | Cardinalis<br>cardinalis        | Northern Cardinal                               |  |                                  |                                  |                     | LC   |                        |                      |                                    | Overwintering Nesting                      |
| CHORDATA/<br>AVES | Cathartes aura                  | Turkey Vulture                                  |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Catharus<br>fuscescens          | Veery   |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Catharus guttatus               | Hermit Thrush                                   |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory                                   |
| CHORDATA/<br>AVES | Catharus minimus                | Grey-cheeked<br>Thrush; Gray-<br>cheeked Thrush |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory                                   |
| CHORDATA/<br>AVES | Catharus<br>ustulatus           | Swainson's<br>Thrush                            |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory                                   |
| CHORDATA/<br>AVES | Certhia americana               | Brown Creeper                                   |  |                                  |                                  |                     | LC   |                        |                      |                                    | Overwintering Nesting                      |
| CHORDATA/<br>AVES | Chaetura pelagica               | Chimney Swift                                   |  |                                  |                                  |                     | VU   |                        |                      |                                    | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Charadrius<br>melodus           | Piping Plover                                   | ØOOO                                       |                                  |                                  |                     | NT   |                        |                      | Endangered (US, NYS)               |  |
| CHORDATA/<br>AVES | Charadrius<br>semipalmatus      | Semipalmated<br>Plover                          |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory                                   |
| CHORDATA/<br>AVES | Charadrius<br>vociferus         | Killdeer  |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Chen<br>caerulescens            | Snow Goose                                      |  |                                  |                                  |                     |  |                        |                      |                                    | Mgratory                                   |
| CHORDATA/<br>AVES | Chlidonias niger                | Black Tern                                      | ØØOO                                       |                                  |                                  |                     | LC   |                        |                      | Endangered (NYS)                   | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Chordeiles minor                | Common<br>Nighthawk                             | ØØ00                                       |                                  |                                  |                     | LC   |                        |                      | Special Concern (NYS)              | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Chroicocephalus<br>philadelphia | Bonaparte's Gull                                |  |                                  | 1000                             | 00 1995             | 25   |                        |                      |                                    | Overwintering / Waterbird Mgratory         |
| CHORDATA/<br>AVES | Chroicocephalus<br>ridibundus   | Black-headed Gull                               |  |                                  |                                  |                     |  |                        |                      |                                    | Mgratory                                   |
| CHORDATA/<br>AVES | Circus cyaneus                  | Northern Harrier                                |  |                                  |                                  |                     | LC   |                        |                      | Threatened (NYS) CITES Appendix II | Overwintering / Waterbird Mgratory Nesting |
| CHORDATA/<br>AVES | Cistothorus<br>palustris        | Marsh Wren                                      |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Cistothorus<br>platensis        | Sedge Wren                                      |  |                                  |                                  |                     | LC   |                        |                      | Threatened (NYS)                   | Mgratory                                   |
| CHORDATA/<br>AVES | Clangula hyemalis               | Oldsquaw; Long-<br>tailed Duck                  |  |                                  |                                  |                     | VU   |                        |                      |                                    | Overwintering / Waterbird Mgratory         |
| CHORDATA/<br>AVES | Coccyzus<br>americanus          | Yellow-billed<br>Cuckoo                         |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Coccyzus<br>erythropthalmus     | Black-billed<br>Cuckoo                          |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Colaptes auratus                | Northern Flicker                                |  |                                  |                                  |                     | LC   |                        |                      |                                    | Overwintering Mgratory Nesting             |
| CHORDATA/<br>AVES | Contopus cooperi                | Olive-sided<br>Flycatcher                       |  |                                  |                                  |                     | NT   |                        |                      |                                    | Mgratory                                   |
| CHORDATA/<br>AVES | Contopus virens                 | Eastern Wood-<br>Pewee; Eastern<br>Wood Pewee   |  |                                  |                                  |                     | LC   |                        |                      |                                    | Mgratory Nesting                           |

| Phylum            | Scientific name            | Common name   | S<br>qu<br>ci | pecie<br>Jalifie<br>unde<br>riteri | es<br>es<br>er<br>on | Si<br>con<br>cr | ecies<br>tributes<br>nder<br>terion | Pop.<br>Size | Period | of pop. Est | %<br>cccurrence<br>1) | IUCN<br>Red<br>List | CITES<br>Appendix<br>I | CMS<br>Appendix<br>I | Other Status          | Justification                      |
|-------------------|----------------------------|---|---------------|------------------------------------|----------------------|-----------------|-------------------------------------|--------------|--------|-------------|-----------------------|---------------------|------------------------|----------------------|-----------------------|------------------------------------|
| CHORDATA/<br>AVES | Corvus<br>brachyrhynchos   | American Crow   |               | 20                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Overwintering Nesting              |
| CHORDATA/<br>AVES | Cyanocitta cristata        | Blue Jay  |               | ØC                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Overwintering Nesting              |
| CHORDATA/<br>AVES | Cygnus<br>columbianus      | Tundra Swan   |               | ZC                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Overwintering / Waterbird Nesting  |
| CHORDATA/<br>AVES | Dolichonyx<br>oryzivorus   | Bobolink  |               | ØC                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Dryocopus<br>pileatus      | Pileated<br>Woodpecker  |               | ØC                                 |                      |                 |                                     | ]            |        |             |                       |                     |                        |                      |                       | Overwintering Nesting              |
| CHORDATA/<br>AVES | Dumetella<br>carolinensis  | Grey Catbird  |               | 20                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Egretta thula              | Snowy Egret   |               | 20                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Nesting                            |
| CHORDATA/<br>AVES | Empidonax<br>alnorum       | Alder Flycatcher  |               | 20                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Empidonax<br>flaviventris  | Yellow-bellied<br>Flycatcher                                    |               | 20                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Mgratory                           |
| CHORDATA/<br>AVES | Empidonax<br>minimus       | Least Flycatcher  |               | ØC                                 |                      |                 |                                     | כ            |        |             |                       | LC                  |                        |                      |                       | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Empidonax traillii         | Willow Flycatcher   |               | ZC                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Empidonax<br>virescens     | Acadian Flycatche   | r 🗆 🛛         | ØC                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Mgratory                           |
| CHORDATA/<br>AVES | Eremophila<br>alpestris    | Horned Lark   | Ø             | ØC                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      | Special Concern (NYS) | Overwintering Mgratory Nesting     |
| CHORDATA/<br>AVES | Euphagus<br>carolinus      | Rusty Blackbird   | Ø             |                                    |                      |                 |                                     | ]            |        |             |                       | VU                  |                        |                      |                       | Mgratory                           |
| CHORDATA/<br>AVES | Falco<br>columbarius       | Merlín  |               | ZC                                 |                      |                 |                                     | ו            |        |             |                       | LC                  |                        |                      | CITES Appendix II     | MgratoryNesting                    |
| CHORDATA/<br>AVES | Falco peregrinus           | Peregrine Falcon  |               | 20                                 |                      |                 |                                     | ]            |        |             |                       | LC                  | ×.                     |                      | Endangered (NYS)      | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Falco rusticolus           | Gyrfalcon   |               | 20                                 |                      |                 |                                     | ]            |        |             |                       | LC                  | ×.                     |                      |                       | Full migrant                       |
| CHORDATA/<br>AVES | Falco sparverius           | American Kestrel  |               | ZC                                 |                      |                 |                                     | ן            |        |             |                       | LC                  |                        |                      |                       | Overwintering Nesting              |
| CHORDATA/<br>AVES | Fulica americana           | American Coot   |               | ZC                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Overwintering / Waterbird          |
| CHORDATA/<br>AVES | Gallinago delicata         | Wilson's Snipe  |               | 20                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Gavia immer                | Great Northern<br>Loon; Great<br>Northern Diver;<br>Common Loon | Ø             | ØC                                 |                      |                 |                                     | נ            |        |             |                       | LC                  |                        |                      | Special Concern (NYS) | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Gavia stellata             | Red-throated<br>Loon; Red-<br>throated Diver                    |               | ZC                                 |                      |                 |                                     | ו            |        |             |                       | LC                  |                        |                      |                       | Mgratory                           |
| CHORDATA/<br>AVES | Geothlypis<br>philadelphia | Mourning Warbler  |               | ZC                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Nesting                            |
| CHORDATA/<br>AVES | Geothlypis trichas         | Common<br>Yellowthroat  |               | ZC                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Grus canadensis            | Sandhill Crane  | Ø             | ØC                                 |                      |                 |                                     | ]            |        |             |                       |                     |                        |                      | CITES Appendix I      | Mgratory                           |
| CHORDATA/<br>AVES | Haemorhous<br>purpureus    | Purple Finch  |               | ZC                                 |                      |                 |                                     | ]            |        |             |                       | LC                  |                        |                      |                       | Overwintering Mgratory Nesting     |

| Phylum            | Scientific name              | Common name                           | Species<br>qualifies<br>under<br>criterion<br>2 4 6 9 | Spe<br>contr<br>un<br>crite | cies<br>butes<br>der<br>rion<br>7 8 | pp.<br>ze Period | of pop. Est. | %<br>occurrence<br>1) | e Red A<br>List | CITES<br>ppendix | CMS<br>Appendix<br>I | Other Status                         | Justification                      |
|-------------------|------------------------------|---------------------------------------|---|-----------------------------|-------------------------------------|------------------|--------------|-----------------------|-----------------|------------------|----------------------|--------------------------------------|------------------------------------|
| CHORDATA/<br>AVES | Haliaeetus<br>leucocephalus  | Bald Eagle                            | 220C  |                             |                                     |                  |              |                       | LC              |                  |                      | Threatened (NYS) & CITES Appendix II | Overwintering / Waterbird Nesting  |
| CHORDATA/<br>AVES | Helmitheros<br>vermivorum    | Worm-eating<br>Warbler                |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Mgratory                           |
| CHORDATA/<br>AVES | Hesperiphona<br>vespertina   | Evening Grosbeak                      | 220C  |                             |                                     |                  |              |                       | W               |                  |                      |                                      | Overwintering Mgratory             |
| CHORDATA/<br>AVES | Histrionicus<br>histrionicus | Harlequin Duck                        | 220C  |                             |                                     |                  |              |                       | LC              |                  |                      | species of concern in U.S.           | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Hydrocoloeus<br>minutus      | Little Gull                           |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Hydroprogne<br>caspia        | Caspian Tern                          |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Mgratory                           |
| CHORDATA/<br>AVES | Hylocichla<br>mustelina      | Wood Thrush                           |   |                             |                                     |                  |              |                       | NT              |                  |                      |                                      | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Icteria virens               | Yellow-breasted<br>Chat               | 220C  |                             |                                     |                  |              |                       | LC              |                  |                      | Special Concern (NYS)                | Mgratory                           |
| CHORDATA/<br>AVES | Icterus galbula              | Baltimore Oriole                      |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Icterus spurius              | Orchard Oriole                        |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Ixobrychus exilis            | Least Bittern                         |   |                             |                                     |                  |              |                       | LC              |                  |                      | Threatened (NYS)                     | Mgratory/Nesting                   |
| CHORDATA/<br>AVES | Junco hyemalis               | Dark-eyed Junco                       |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Overwintering Mgratory Nesting     |
| CHORDATA/<br>AVES | Lanius excubitor             | Northern Shrike;<br>Great Grey Shrike |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Overwintering Mgratory             |
| CHORDATA/<br>AVES | Lanius<br>Iudovicianus       | Loggerhead<br>Shrike                  | ØOOC  |                             |                                     |                  |              |                       | NT              |                  |                      | Endangered (NYS)                     |                                    |
| CHORDATA/<br>AVES | Larus argentatus             | European Herring<br>Gull              |   |                             | 500                                 | 000 1997         |              | 1                     | LC              |                  |                      |                                      | Overwintering / Waterbird Nesting  |
| CHORDATA/<br>AVES | Larus<br>delawarensis        | Ring-billed Gull                      |   |                             | 320                                 | 000 1998         |              | 1                     | LC              |                  |                      |                                      | Overwintering / Waterbird Nesting  |
| CHORDATA/<br>AVES | Larus fuscus                 | Lesser Black-<br>backed Gull          |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Larus glaucoides             | Iceland Gull                          |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Larus<br>hyperboreus         | Glaucous Gull                         |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Larus marinus                | Great Black-<br>backed Gull           |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Larus thayeri                | Thayer's Gull                         |   |                             |                                     |                  |              |                       |                 |                  |                      |                                      | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Leiothlypis celata           | Orange-crowned<br>Warbler             |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Mgratory                           |
| CHORDATA/<br>AVES | Leiothlypis<br>peregrina     | Tennessee<br>Warbler                  |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Mgratory                           |
| CHORDATA/<br>AVES | Leiothlypis<br>ruficapilla   | Nashville Warbler                     |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Leucophaeus<br>pipixcan      | Franklin's Gull                       |   |                             |                                     |                  |              |                       |                 |                  |                      |                                      | Mgratory                           |
| CHORDATA/<br>AVES | Limnodromus<br>griseus       | Short-billed<br>Dowitcher             |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Mgratory                           |
| CHORDATA/<br>AVES | Limosa fedoa                 | Marbled Godwit                        |   |                             |                                     |                  |              |                       | LC              |                  |                      |                                      | Mgratory                           |

| Phylum            | Scientific name               | Common name   | Spe<br>qual<br>un<br>crite | cies<br>lifies<br>der<br>erion | c  | Spec<br>ontril<br>und<br>crite | cies<br>butes<br>ler<br>rion | Pop.<br>Size | Period of pop. Est | %<br>. occurrence<br>1) | IUCN<br>Red<br>List | CITES<br>Appendix<br>I | CMS<br>Appendix<br>I | Other Status                              | Justification                      |
|-------------------|-------------------------------|---|----------------------------|--------------------------------|----|--------------------------------|------------------------------|--------------|--------------------|-------------------------|---------------------|------------------------|----------------------|---|------------------------------------|
| CHORDATA/         | Limosa                        | Hudsonian Godwit  | 24                         | 6                              | 93 | 5<br>] 🗆 (                     | 78                           |              |                    |                         | LC                  |                        |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Lophodytes                    | Hooded<br>Merganser   |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Loxia leucoptera              | White-winged<br>Crossbill; Two-<br>barred Crossbill           | J                          |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Megaceryle alcyon             | Belted Kingfisher   |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Megascops asio                | Eastern Screech<br>Owl; Eastern<br>Screech-Owl                |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Overwintering Nesting              |
| CHORDATA/<br>AVES | Melanerpes<br>carolinus       | Red-bellied<br>Woodpecker                                     | J                          |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Overwintering Nesting              |
| CHORDATA/<br>AVES | Melanerpes<br>erythrocephalus | Red-headed<br>Woodpecker                                      | //                         |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      | Special Concern (NYS)                     | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Melanitta nigra<br>americana  | Black Scoter  |                            |                                |    |                                |                              |              |                    |                         |                     |                        |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Melanitta<br>perspicillata    | Surf Scoter   |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Meleagris<br>gallopavo        | Wild Turkey   | V                          |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Overwintering Nesting              |
| CHORDATA/<br>AVES | Melospiza<br>georgiana        | Swamp Sparrow   |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Melospiza<br>lincolnii        | Lincoln's Sparrow   |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Melospiza<br>melodia          | Song Sparrow  |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Overwintering Mgratory Nesting     |
| CHORDATA/<br>AVES | Mergus<br>merganser           | Common<br>Merganser   |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Mergus serrator               | Red-breasted<br>Merganser                                     |                            | Ø                              |    |                                |                              | 9000         | 2011               | 2                       | LC                  |                        |                      |   | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Mimus polyglottos             | Northern<br>Mockingbird                                       |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Overwintering Nesting              |
| CHORDATA/<br>AVES | Mniotilta varia               | Black-and-white<br>Warbler                                    |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Molothrus ater                | Brown-headed<br>Cowbird                                       |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Overwintering Mgratory Nesting     |
| CHORDATA/<br>AVES | Myiarchus crinitus            | Great Crested<br>Flycatcher                                   |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Numenius<br>phaeopus          | Whimbrel [  |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Nycticorax<br>nycticorax      | Black-crowned<br>Night-Heron;<br>Black-crowned<br>Night Heron | J                          |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Mgratory/Nesting                   |
| CHORDATA/<br>AVES | Oporornis agilis              | Connecticut<br>Warbler  |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Oxyura<br>jamaicensis         | Ruddy Duck  |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Pandion haliaetus             | Western Osprey,<br>Osprey                                     | //                         |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      | CITES Appendix II & Special Concern (NYS) | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Parkesia motacilla            | Louisiana<br>Waterthrush                                      |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Mgratory                           |
| CHORDATA/<br>AVES | Parkesia<br>noveboracensis    | Northern<br>Waterthrush                                       |                            |                                |    |                                |                              |              |                    |                         | LC                  |                        |                      |   | Mgratory Nesting                   |

| Phylum            | Scientific name              | Common name   | Spec<br>qualif<br>und<br>criter | ies<br>fies<br>ler<br>rion<br>6 9 | Special Specia | ecies<br>ibutes<br>ider<br>erion<br>7 8 | Pop.<br>Size Pe | eriod of pop. Es | t. occurrend<br>1) | ce Red A | CITES<br>ppendix<br>I | CMS<br>Appendix<br>I | Other Status          | Justification                              |
|-------------------|------------------------------|---|---------------------------------|-----------------------------------|--|---|-----------------|------------------|--------------------|----------|-----------------------|----------------------|-----------------------|--|
| CHORDATA/<br>AVES | Passerculus<br>sandwichensis | Savannah<br>Sparrow                                   | 0Ø                              |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Passer<br>domesticus         | House Sparrow   | oø                              |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Overwintering Nesting                      |
| CHORDATA/<br>AVES | Passerella iliaca            | Fox Sparrow   | o 20                            |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory                                   |
| CHORDATA/<br>AVES | Passerina cyanea             | Indigo Bunting  | o Ø                             |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Petrochelidon<br>pyrrhonota  | Cliff Swallow;<br>American Cliff<br>Swallow           |                                 |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Phalacrocorax<br>auritus     | Double-crested<br>Cormorant                           | o 20                            |                                   |  |   |                 |                  |                    |          |                       |                      |                       | Overwintering / Waterbird Mgratory Nesting |
| CHORDATA/<br>AVES | Phalaropus<br>fulicarius     | Red Phalarope   | o 20                            |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory                                   |
| CHORDATA/<br>AVES | Phalaropus<br>Iobatus        | Red-necked<br>Phalarope                               | o Ø                             |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory                                   |
| CHORDATA/<br>AVES | Phalaropus<br>tricolor       | Wilson's<br>Phalarope                                 | oø(                             |                                   |  |   |                 |                  |                    |          |                       |                      |                       | Mgratory                                   |
| CHORDATA/<br>AVES | Pheucticus<br>Iudovicianus   | Rose-breasted<br>Grosbeak                             | oø(                             |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | MgratoryNesting                            |
| CHORDATA/<br>AVES | Picoides<br>pubescens        | Downy<br>Woodpecker                                   | oø(                             |                                   |  |   |                 |                  |                    |          |                       |                      |                       | Overwintering Nesting                      |
| CHORDATA/<br>AVES | Picoides villosus            | Hairy Woodpecker                                      | oø(                             |                                   |  |   |                 |                  |                    |          |                       |                      |                       | Overwintering Nesting                      |
| CHORDATA/<br>AVES | Pinicola<br>enucleator       | Pine Grosbeak   | oø(                             |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory                                   |
| CHORDATA/<br>AVES | Pipilo<br>erythrophthalmus   | Rufous-sided<br>Towhee; Eastern<br>Towhee             |                                 |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Piranga olivacea             | Scarlet Tanager                                       | o 20                            |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Plectrophenax<br>nivalis     | Snow Bunting  | oø(                             |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Overwintering Mgratory                     |
| CHORDATA/<br>AVES | Pluvialis dominica           | American Golden-<br>Plover; American<br>Golden Plover | oø                              |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory                                   |
| CHORDATA/<br>AVES | Pluvialis<br>squatarola      | Black-bellied<br>Plover                               | oø                              |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory                                   |
| CHORDATA/<br>AVES | Podiceps auritus             | Horned Grebe  | ZZ                              |                                   |  |   |                 |                  |                    | VU       |                       |                      |                       | Overwintering / Waterbird Mgratory         |
| CHORDATA/<br>AVES | Podilymbus<br>podiceps       | Pied-billed Grebe                                     | II.                             |                                   |  |   |                 |                  |                    | LC       |                       |                      | Threatened (NYS)      | Overwintering / Waterbird Mgratory Nesting |
| CHORDATA/<br>AVES | Poecile<br>atricapillus      | Black-capped<br>Chickadee                             | oø(                             |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Overwintering Nesting                      |
| CHORDATA/<br>AVES | Polioptila caerulea          | Blue-grey<br>Gnatcatcher; Blue-<br>gray Gnatcatcher   |                                 |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Pooecetes<br>gramineus       | Vesper Sparrow  | II.                             |                                   |  |   |                 |                  |                    | LC       |                       |                      | Special Concern (NYS) | Mgratory                                   |
| CHORDATA/<br>AVES | Porzana carolina             | Sora  | oø(                             |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory/Nesting                           |
| CHORDATA/<br>AVES | Progne subis                 | Purple Martin   |                                 |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory Nesting                           |
| CHORDATA/<br>AVES | Protonotaria citrea          | Prothonotary<br>Warbler                               |                                 |                                   |  |   |                 |                  |                    | LC       |                       |                      |                       | Mgratory                                   |

| Phylum            | Scientific name            | Common name                     | Species<br>qualifies<br>under<br>criterion | Specie<br>contribu<br>under<br>criterio | s<br>tes<br>n<br>Size | Period of pop. Est | %<br>occurrence<br>1) | IUCN<br>Red A<br>List | CITES<br>Appendix<br>I | CMS<br>Appendix<br>I | Other Status          | Justification                  |
|-------------------|----------------------------|---------------------------------|--|---|-----------------------|--------------------|-----------------------|-----------------------|------------------------|----------------------|-----------------------|--------------------------------|
| CHORDATA/<br>AVES | Pterodroma<br>hasitata     | Black-capped<br>Petrel          | ØÖÖC                                       |   |                       |                    |                       | EN                    |                        |                      |                       |                                |
| CHORDATA/<br>AVES | Quiscalus<br>quiscula      | Common Grackle                  |  |   |                       |                    |                       | NT                    |                        |                      |                       | Mgratory Nesting               |
| CHORDATA/<br>AVES | Rallus elegans             | King Rail                       | ØOOC                                       |   |                       |                    |                       | NT                    |                        |                      | Threatened (NYS)      |                                |
| CHORDATA/<br>AVES | Rallus limicola            | Virginia Rail                   |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory / Nesting             |
| CHORDATA/<br>AVES | Recurvirostra<br>americana | American Avocet                 |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory                       |
| CHORDATA/<br>AVES | Regulus calendula          | Ruby-crowned<br>Kinglet         |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory                       |
| CHORDATA/<br>AVES | Regulus satrapa            | Golden-crowned<br>Kinglet       |  |   |                       |                    |                       | LC                    |                        |                      |                       | Overwintering Mgratory         |
| CHORDATA/<br>AVES | Rissa tridactyla           | Black-legged<br>Kittiwake       |  |   |                       |                    |                       | VU                    |                        |                      |                       | Mgratory                       |
| CHORDATA/<br>AVES | Sayomis phoebe             | Eastern Phoebe                  |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory Nesting               |
| CHORDATA/<br>AVES | Scolopax minor             | American<br>Woodcock            |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory Nesting               |
| CHORDATA/<br>AVES | Seiurus<br>aurocapilla     | Ovenbird                        |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory Nesting               |
| CHORDATA/<br>AVES | Setophaga<br>americana     | Northern Parula                 |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory Nesting               |
| CHORDATA/<br>AVES | Setophaga<br>caerulescens  | Black-throated<br>Blue Warbler  |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory                       |
| CHORDATA/<br>AVES | Setophaga<br>castanea      | Bay-breasted<br>Warbler         |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory                       |
| CHORDATA/<br>AVES | Setophaga cerulea          | Cerulean Warbler                | 220C                                       |   |                       |                    |                       | VU                    |                        | V                    | Special Concern (NYS) | Mgratory                       |
| CHORDATA/<br>AVES | Setophaga<br>coronata      | Yellow-rumped<br>Warbler        |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory                       |
| CHORDATA/<br>AVES | Setophaga<br>discolor      | Prairie Warbler                 |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory Nesting               |
| CHORDATA/<br>AVES | Setophaga fusca            | Blackburnian<br>Warbler         |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory                       |
| CHORDATA/<br>AVES | Setophaga<br>magnolia      | Magnolia Warbler                |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory                       |
| CHORDATA/<br>AVES | Setophaga<br>pensylvanica  | Chestnut-sided<br>Warbler       |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory Nesting               |
| CHORDATA/<br>AVES | Setophaga<br>petechia      | Yellow Warbler                  |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory Nesting               |
| CHORDATA/<br>AVES | Setophaga pinus            | Pine Warbler                    |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory                       |
| CHORDATA/<br>AVES | Setophaga ruticilla        | American Redstart               |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory Nesting               |
| CHORDATA/<br>AVES | Setophaga striata          | Blackpoll Warbler               |  |   |                       |                    |                       | NT                    |                        |                      |                       | Mgratory                       |
| CHORDATA/<br>AVES | Setophaga tigrina          | Cape May Warbler                |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory                       |
| CHORDATA/<br>AVES | Setophaga virens           | Black-throated<br>Green Warbler |  |   |                       |                    |                       | LC                    |                        |                      |                       | Mgratory                       |
| CHORDATA/<br>AVES | Sialia sialis              | Eastern Bluebird                |  |   |                       |                    |                       | LC                    |                        |                      |                       | Overwintering Mgratory Nesting |

| Phylum            | Scientific name               | Common name                       | q | Specie<br>Jualifie<br>unde | es<br>r  | S<br>cor | pecies<br>itributes<br>under | Pop. | Period of po | p. Est. | %<br>occurrence | IUCN<br>Red | CITES<br>Appendix | CMS<br>Appendix | Other Status      | Justification                      |
|-------------------|-------------------------------|-----------------------------------|---|----------------------------|----------|----------|------------------------------|------|--------------|---------|-----------------|-------------|-------------------|-----------------|-------------------|------------------------------------|
|                   |                               |                                   | 2 | riterio<br>46              | on<br>39 | 3        | iterion<br>5 7 8             | 1    |              |         | 1)              | List        |                   |                 |                   |                                    |
| CHORDATA/<br>AVES | Sitta canadensis              | Red-breasted<br>Nuthatch          |   | ØC                         | יסנ      |          |                              | ]    |              |         |                 | LC          |                   |                 |                   | Overwintering Nesting              |
| CHORDATA/<br>AVES | Sitta carolinensis            | White-breasted<br>Nuthatch        |   |                            |          |          |                              |      |              |         |                 | LC          |                   |                 |                   | Overwintering Nesting              |
| CHORDATA/<br>AVES | Somateria<br>spectabilis      | King Eider                        |   | Ø                          | וסנ      |          |                              | ]    |              |         |                 | LC          |                   |                 |                   | Overwintering / Waterbird Mgratory |
| CHORDATA/<br>AVES | Sphyrapicus<br>varius         | Yellow-bellied<br>Sapsucker       |   | Ø                          | וסנ      |          |                              | )    |              |         |                 | LC          |                   |                 |                   | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Spinus pinus                  | Pine Siskin                       |   | 2                          | וסנ      |          |                              |      |              |         |                 | LC          |                   |                 |                   | Overwintering Mgratory             |
| CHORDATA/<br>AVES | Spinus tristis                | American<br>Goldfinch             |   | Ø                          | וסנ      |          |                              | ]    |              |         |                 | LC          |                   |                 |                   | Overwintering Nesting              |
| CHORDATA/<br>AVES | Spiza americana               | Dickcissel                        |   | Ø                          | וסנ      |          |                              | ]    |              |         |                 | LC          |                   |                 |                   | Mgratory                           |
| CHORDATA/<br>AVES | Spizella pallida              | Clay-colored<br>Sparrow           |   | Ø                          | וסנ      |          |                              | )    |              |         |                 | LC          |                   |                 |                   | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Spizella pusilla              | Field Sparrow                     |   | 1                          | וסנ      |          |                              |      |              |         |                 | LC          |                   |                 |                   | Mgratory                           |
| CHORDATA/<br>AVES | Spizelloides<br>arborea       | American Tree<br>Sparrow          |   | Ø                          | וסנ      |          |                              | ]    |              |         |                 |             |                   |                 |                   | Overwintering Mgratory             |
| CHORDATA/<br>AVES | Stelgidopteryx<br>serripennis | Northern Rough-<br>winged Swallow |   | Ø                          | וסנ      |          |                              | ]    |              |         |                 | LC          |                   |                 |                   | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Stercorarius<br>parasiticus   | Parasitic Jaeger                  |   | Ø                          | וסנ      |          |                              | )    |              |         |                 | LC          |                   |                 |                   | Mgratory                           |
| CHORDATA/<br>AVES | Sterna hirundo                | Common Tern                       | Ø | Ø                          | וםנ      |          |                              |      |              |         |                 | LC          |                   |                 | Threatened (NYS)  | MgratoryNesting                    |
| CHORDATA/<br>AVES | Sturnella magna               | Eastern<br>Meadowlark             |   | 1                          | וסנ      |          |                              |      |              |         |                 | NT          |                   |                 |                   | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Tachycineta<br>bicolor        | Tree Swallow                      |   | 1                          | וסנ      |          |                              |      |              |         |                 | LC          |                   |                 |                   | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Thryothorus<br>Iudovicianus   | Carolina Wren                     |   | Ø                          | סנ       |          |                              |      |              |         |                 | LC          |                   |                 |                   | Overwintering Nesting              |
| CHORDATA/<br>AVES | Toxostoma rufum               | Brown Thrasher                    |   | ØC                         |          |          |                              |      |              |         |                 | LC          |                   |                 |                   | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Tringa flavipes               | Lesser Yellowlegs                 |   | ØC                         |          |          |                              |      |              |         |                 | LC          |                   |                 |                   | Mgratory                           |
| CHORDATA/<br>AVES | Tringa<br>melanoleuca         | Greater<br>Yellowlegs             |   |                            |          |          |                              |      |              |         |                 | LC          |                   |                 |                   | Mgratory                           |
| CHORDATA/<br>AVES | Tringa<br>semipalmata         | Willet                            |   | Ø                          | סנ       |          |                              | ]    |              |         |                 | LC          |                   |                 |                   | Mgratory                           |
| CHORDATA/<br>AVES | Tringa solitaria              | Solitary Sandpiper                |   | ØC                         |          |          |                              |      |              |         |                 | LC          |                   |                 |                   | Mgratory                           |
| CHORDATA/<br>AVES | Troglodytes aedon             | House Wren                        |   | ØC                         |          |          |                              |      |              |         |                 | LC          |                   |                 |                   | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Troglodytes<br>hiemalis       | Winter Wren                       |   | Ø                          | םנ       |          |                              |      |              |         |                 | LC          |                   |                 |                   | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Tryngites<br>subruficollis    | Buff-breasted<br>Sandpiper        |   | Ø                          |          |          |                              | ו    |              |         |                 |             |                   |                 |                   | Mgratory                           |
| CHORDATA/<br>AVES | Turdus<br>migratorius         | American Robin                    |   | ØC                         | סנ       |          |                              |      |              |         |                 | LC          |                   |                 |                   | Overwintering Mgratory Nesting     |
| CHORDATA/<br>AVES | Tyrannus tyrannus             | Eastern Kingbird                  |   | Ø                          | סנ       |          |                              |      |              |         |                 | LC          |                   |                 |                   | Mgratory Nesting                   |
| CHORDATA/<br>AVES | Tyto alba                     | Barn Owl                          |   | 2                          | וסנ      |          |                              | כ    |              |         |                 | LC          |                   |                 | CITES Appendix II | Nesting                            |

| Phylum                      | Scientific name           | Common name  | Spe<br>qua<br>un<br>crite<br>2 4 | cies<br>lifies<br>der<br>erion<br>6 9 | Spe<br>contr<br>ur<br>crit | ecies<br>ibutes<br>der<br>erion<br>7 8 | Pop.<br>Size | Period of pop | o. Est. C | %<br>occurrence<br>1) | IUCN<br>Red A<br>List | CITES<br>Appendix<br>I | CMS<br>Appendix<br>I | Other Status                       | Justification          |
|-----------------------------|---------------------------|--|----------------------------------|---------------------------------------|----------------------------|--|--------------|---------------|-----------|-----------------------|-----------------------|------------------------|----------------------|------------------------------------|------------------------|
| CHORDATA/<br>AVES           | Vermivora<br>chrysoptera  | Golden-winged<br>Warbler   | Ø                                |                                       |                            |  |              |               |           |                       | NT                    |                        |                      | Special Concern (NYS)              | Mgratory               |
| CHORDATA/<br>AVES           | Vermivora<br>cyanoptera   | Blue-winged<br>Warbler   | DØ                               |                                       |                            |  |              |               |           |                       | LC                    |                        |                      |                                    | Mgratory Nesting       |
| CHORDATA/<br>AVES           | Vireo flavifrons          | Yellow-throated<br>Vireo   | ٦ø                               |                                       |                            |  |              |               |           |                       | LC                    |                        |                      |                                    | Mgratory Nesting       |
| CHORDATA/<br>AVES           | Vireo gilvus              | Warbling Vireo   |                                  |                                       |                            |  |              |               |           |                       | LC                    |                        |                      |                                    | Mgratory Nesting       |
| CHORDATA/<br>AVES           | Vireo griseus             | White-eyed Vireo   |                                  |                                       |                            |  |              |               |           |                       | LC                    |                        |                      |                                    | Mgratory               |
| CHORDATA/<br>AVES           | Vireo olivaceus           | Red-eyed Vireo   | Dø                               |                                       |                            |  |              |               |           |                       | LC                    |                        |                      |                                    | Mgratory Nesting       |
| CHORDATA/<br>AVES           | Vireo<br>philadelphicus   | Philadelphia Vireo   | ٦ø                               |                                       |                            |  |              |               |           |                       | LC                    |                        |                      |                                    | Mgratory               |
| CHORDATA/<br>AVES           | Vireo solitarius          | Blue-headed Vireo  | DØ                               |                                       |                            |  |              |               |           |                       | LC                    |                        |                      |                                    | Mgratory               |
| CHORDATA/<br>AVES           | Xema sabini               | Sabine's Gull  | DØ                               |                                       |                            |  |              |               |           |                       | LC                    |                        |                      |                                    | Mgratory               |
| CHORDATA/<br>AVES           | Zenaida macroura          | Mourning Dove  | Dø                               |                                       |                            |  |              |               |           |                       | LC                    |                        |                      |                                    | Overwintering Nesting  |
| CHORDATA/<br>AVES           | Zonotrichia<br>albicollis | White-throated<br>Sparrow  | ٦ø                               |                                       |                            |  |              |               |           |                       | LC                    |                        |                      |                                    | Overwintering Mgratory |
| CHORDATA/<br>AVES           | Zonotrichia<br>leucophrys | White-crowned<br>Sparrow   | ٦ø                               |                                       |                            |  |              |               |           |                       | LC                    |                        |                      |                                    | Mgratory               |
| Fish, Mollusc and Cr        | rustacea                  |  |                                  |                                       |                            |  |              |               |           |                       |                       |                        |                      |                                    |                        |
| CHORDATA/<br>ACTINOPTERYGII | Acipenser<br>fulvescens   | Lake Sturgeon;<br>Lake Sturgeon;<br>Lake Sturgeon;<br>Lake Sturgeon  | 2                                |                                       |                            | <b>I</b> 🗆                             |              |               |           |                       | LC                    |                        |                      | Threatened (NYS) CITES Appendix II | Indigenous             |
| CHORDATA/<br>ACTINOPTERYGII | Ambloplites<br>rupestris  | Northern rock<br>bass  |                                  |                                       | סס                         | Z                                      |              |               |           |                       | LC                    |                        |                      |                                    | Indigenous Spawning    |
| CHORDATA/<br>ACTINOPTERYGII | Ameiurus melas            | Black Bullhead   |                                  |                                       |                            | ØO                                     |              |               |           |                       | LC                    |                        |                      |                                    | Indigenous             |
| CHORDATA/<br>ACTINOPTERYGII | Ameiurus natalis          | Yellow bullhead;<br>Yellow bullhead;<br>Yellow bullhead;<br>Yellow bullhead  |                                  |                                       |                            | 20                                     |              |               |           |                       | LC                    |                        |                      |                                    | Indigenous             |
| CHORDATA/<br>ACTINOPTERYGII | Ameiurus<br>nebulosus     | Northern brown<br>bullhead; Mudcat;<br>Minister;<br>Hornpout; Horned<br>pout; Horned pout;<br>Common catfish;<br>Brown catfish | DØ                               |                                       |                            |  |              |               |           |                       | LC                    |                        |                      |                                    | Indigenous Spawning    |
| CHORDATA/<br>ACTINOPTERYGII | Amia calva                | Bowfin   |                                  |                                       |                            | I I                                    |              |               |           |                       | LC                    |                        |                      |                                    | Indigenous Spawning    |
| CHORDATA/<br>ACTINOPTERYGII | Anguilla rostrata         | American Eel   | Ø                                |                                       |                            | Ø                                      |              |               |           |                       | EN                    |                        |                      |                                    | Indigenous             |
| CHORDATA/<br>ACTINOPTERYGII | Aplodinotus<br>grunniens  | Freshwater drum;<br>Freshwater drum;<br>Freshwater drum;<br>Freshwater drum;<br>Freshwater drum                                |                                  |                                       |                            | 20                                     |              |               |           |                       | LC                    |                        |                      |                                    | Indigenous             |

| Phylum                      | Scientific name           | Common name   | Spec<br>qualif<br>unde<br>criter<br>2 4 | ies<br>ies<br>er<br>ion<br>6 9 | Sp<br>cont<br>ur<br>crit<br>3 5 | ecies<br>ibutes<br>ider<br>erion<br>7 8 | Pop.<br>Size | Period of po | op. Est. | %<br>occurrence<br>1) | IUCN<br>Red<br>List | CITES<br>Appendix<br>I | CMS<br>Appendix<br>I | Other Status     | Justification       |
|-----------------------------|---------------------------|---|---|--------------------------------|---------------------------------|---|--------------|--------------|----------|-----------------------|---------------------|------------------------|----------------------|------------------|---------------------|
| CHORDATA/<br>ACTINOPTERYGI  | Campostoma<br>anomalum    | Central<br>stoneroller;<br>Central<br>stoneroller;<br>Central<br>stoneroller;<br>Central stoneroller  |   |                                |                                 |   | ]            |              |          |                       | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Carpiodes<br>cyprinus     | Quillback<br>Carpsucker   |   |                                |                                 | 11                                      | ]            |              |          |                       | LC                  |                        |                      |                  | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII | Catostomus<br>catostomus  | Longnose Sucker   |   |                                |                                 |   | ]            |              |          |                       | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Catostomus<br>commersonii | White Sucker  |   |                                |                                 | ZZ                                      | 0            |              |          |                       | LC                  |                        |                      |                  | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII | Coregonus<br>clupeaformis | Great Lakes<br>whitefish; Inland<br>whitefish; Gizzard<br>fish; Eastern<br>whitefish  |   |                                |                                 |   | ]            |              |          |                       |                     |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Cottus bairdii            | Speckled sculpin;<br>Beard's sculpin;<br>Miller's thumb;<br>Freshwater<br>sculpin; Blob   | oø(                                     |                                |                                 |   |              |              |          |                       | LC                  |                        |                      |                  | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII | Cottus cognatus           | Slimy muddler;<br>Cockatouch;<br>Common slimy<br>muddler; Bear<br>Lake bullhead   |   |                                |                                 |   | ]            |              |          |                       | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGI  | Couesius<br>plumbeus      | Plumbeus<br>minnow; Moose<br>lake minnow;<br>Northern chub;<br>Lake northern<br>chub; Creek chub;<br>Bottlefish; Chub<br>minnow                       |   |                                |                                 | 2                                       | ]            |              |          |                       | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGI  | Culaea inconstans         | Variable<br>stickleback; Six-<br>spined<br>stickleback; Five-<br>spined<br>stickleback; Common<br>stickleback;<br>Common<br>freshwater<br>stickleback |   |                                |                                 |   | ]            |              |          |                       | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Cyprinella<br>spiloptera  | Spotfin shiner;<br>Spotfin shiner;<br>Spotfin shiner  |   |                                |                                 |   | ]            |              |          |                       | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Erimyzon sucetta          | Lake chubsucker;<br>Lake chubsucker   |   |                                |                                 |   | ]            |              |          |                       | LC                  |                        |                      | Threatened (NYS) | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Esox americanus           | Grass Pickerel  |   |                                |                                 |   | ]            |              |          |                       | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Esox lucius               | Great northern pike   |   |                                |                                 | ZZ                                      | 0            |              |          |                       | LC                  |                        |                      |                  | Indigenous Spawning |

| Phylum                      | Scientific name           | Common name  | Speci<br>qualif<br>unde<br>criter | ies<br>ies<br>er<br>ion<br>6 9 | Spe<br>contri<br>un<br>crite<br>3 5 | cies<br>butes<br>der<br>rion<br>7 8 | Pop.<br>Size Period | d of pop. Est | occurrence | IUCN<br>Red<br>List | CITES<br>Appendix<br>I | CMS<br>Appendix<br>I | Other Status     | Justification       |
|-----------------------------|---------------------------|--|-----------------------------------|--------------------------------|-------------------------------------|-------------------------------------|---------------------|---------------|------------|---------------------|------------------------|----------------------|------------------|---------------------|
| CHORDATA/<br>ACTINOPTERYGII | Esox<br>masquinongy       | Wisconsin<br>muskie; White<br>pike; White<br>pickerel; Ohio<br>muskie; Muskie;<br>Mascalonge;<br>Lunge; Great pike;<br>Barred muskie;<br>Allegheny River<br>pike | o Ø                               |                                |                                     | 22                                  |                     |               |            | LC                  |                        |                      |                  | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII | Etheostoma<br>blennioides | Greenside darter;<br>Greenside darter;<br>Greenside darter   |                                   |                                |                                     |                                     |                     |               |            | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Etheostoma<br>caeruleum   | Rainbow darter;<br>Rainbow darter;<br>Rainbow darter   | DØ                                |                                |                                     | I I                                 |                     |               |            | LC                  |                        |                      |                  | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII | Etheostoma exile          | Yellowbelly; Weed darter   |                                   |                                |                                     |                                     |                     |               |            | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Etheostoma<br>flabellare  | Fantail darter;<br>Fantail darter;<br>Fantail darter   |                                   |                                |                                     | ØD                                  |                     |               |            | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Etheostoma<br>nigrum      | Johnny darter  |                                   |                                |                                     | I                                   |                     |               |            | LC                  |                        |                      |                  | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII | Etheostoma<br>olmstedi    | Tessellated darter   |                                   |                                |                                     |                                     |                     |               |            | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Hiodon tergisus           | Mooneye;<br>Mooneye;<br>Mooneye; Notch-<br>finned hiodon;<br>River whitefish;<br>Moon-eye  | ØOC                               |                                |                                     | 20                                  |                     |               |            | LC                  |                        |                      | Threatened (NYS) | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Hypentelium<br>nigricans  | Northern hog<br>sucker; Northern<br>hog sucker;<br>Northern hog<br>sucker  |                                   |                                |                                     | s<br>S                              |                     |               |            | LC                  |                        |                      |                  | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII | lctalurus<br>punctatus    | Channel catfish;<br>Channel catfish;<br>Channel catfish;<br>Channel catfish;<br>Channel catfish;<br>Channel catfish;<br>Channel catfish;<br>Channel catfish;     |                                   |                                |                                     |                                     |                     |               |            | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | lctiobus<br>cyprinellus   | Bigmouth buffalo;<br>Bigmouth buffalo;<br>Bigmouth buffalo;<br>Bigmouth buffalo;<br>Bigmouth buffalo   |                                   |                                |                                     | Ø                                   |                     |               |            | LC                  |                        |                      |                  | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Labidesthes<br>sicculus   | Brook silverside;<br>Brook silverside;<br>Brook silverside   | DØ                                |                                |                                     | I I                                 |                     |               |            | LC                  |                        |                      |                  | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII | Lepisosteus<br>osseus     | Longnose gar;<br>Longnose gar  |                                   |                                |                                     | Z                                   |                     |               |            | LC                  |                        |                      |                  | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII | Lepomis cyanellus         | Green sunfish;<br>Green sunfish;<br>Green sunfish  |                                   |                                |                                     | I I                                 |                     |               |            | LC                  |                        |                      |                  | Indigenous Spawning |

| Phylum                          | Scientific name             | Common name   | Species<br>qualifies<br>under<br>criterior<br>2 4 6 | s co<br>n 93 | Species<br>ontribute<br>under<br>criterion<br>5 7 | Pop.<br>Size | Period of pop. Est. | %<br>occurrence<br>1) | IUCN<br>Red A<br>List | CITES<br>Appendix<br>I | CMS<br>Appendix<br>I | Other Status          | Justification       |
|---------------------------------|-----------------------------|---|---|--------------|---|--------------|---------------------|-----------------------|-----------------------|------------------------|----------------------|-----------------------|---------------------|
| CHORDATA/<br>ACTINOPTERYGII     | Leporris gibbosus           | Yellow sunfish;<br>Sunny; Punky; Sun<br>bass;<br>Pumpkinseed<br>sunfish; Pond<br>perch              |   |              | ] 🗆 🗹 (   | Z            |                     |                       | LC                    |                        |                      |                       | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII     | Lepomis<br>macrochirus      | Bluegill sunfish;<br>Bluegill sunfish;<br>Bluegill sunfish  |   |              |   | s d          |                     |                       | LC                    |                        |                      |                       | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII     | Lepomis<br>megalotis        | Pumpkinseed;<br>Northern longear;<br>Great lakes<br>longear; Creek<br>perch                         | ØOO   |              |   |              |                     |                       | LC                    |                        |                      | Threatened (NYS)      | Indigenous          |
| CHORDATA/<br>CEPHALASPIDOMORPHI | Lethenteron<br>appendix     | American Brook<br>Lamprey   |   |              |   |              |                     |                       | LC                    |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII     | Lota lota                   | Maria; Freshwater<br>cod; Lush;<br>American burbot  |   |              |   |              |                     |                       | LC                    |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII     | Luxilus<br>chrysocephalus   | Striped shiner;<br>Striped shiner   |   |              |   |              |                     |                       | LC                    |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII     | Luxilus cornutus            | Common shiner;<br>Common shiner;<br>Common shiner   |   |              |   | ×            |                     |                       | LC                    |                        |                      |                       | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII     | Lythrurus<br>umbratilis     | Redfin shiner;<br>Redfin shiner   | ØOO   |              |   |              |                     |                       | LC                    |                        |                      | Special Concern (NYS) | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII     | Micropterus<br>dolomieu     | Smallmouth Bass   |   |              |   | <b>X</b>     |                     |                       | LC                    |                        |                      |                       | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII     | Micropterus<br>salmoides    | Largemouth black<br>bass; Largemouth<br>black bass;<br>Northern<br>largemouth bass;<br>Largemouth   |   |              |   | <b>X</b>     |                     |                       | LC                    |                        |                      |                       | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII     | Morone chrysops             | White Bass  |   |              |   |              |                     |                       | LC                    |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGI      | Moxostoma<br>anisurum       | White nose<br>redhorse; White<br>nosed mullet;<br>White nosed<br>sucker; Silver<br>mullet           |   |              |   |              |                     |                       | LC                    |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII     | Moxostoma<br>duquesnii      | Greater Redhorse  |   |              |   |              |                     |                       |                       |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII     | Moxostoma<br>erythrurum     | Golden redhorse;<br>Golden redhorse;<br>Golden redhorse   |   |              |   |              |                     |                       | LC                    |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII     | Moxostoma<br>macrolepidotum | Northern<br>shorthead<br>redhorse;<br>Common<br>redhorse;<br>Northern<br>redhorse;<br>Common mullet |   |              |   |              |                     |                       | LC                    |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII     | Myoxocephalus<br>thompsonii | Deepwater<br>sculpin;<br>Deepwater<br>sculpin   | ØOO   |              |   |              |                     |                       | LC                    |                        |                      | Endangered            | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII     | Nocomis<br>biguttatus       | Hornyhead chub;<br>Hornyhead chub;<br>Hornyhead chub  |   |              |   | s l          |                     |                       | LC                    |                        |                      |                       | Indigenous Spawning |

| Phylum                      | Scientific name            | Common name   | Spe<br>qual<br>un<br>crite<br>2 4 | cies<br>lifies<br>der<br>erion<br>6 | C ( | Speci<br>ontrib<br>unde<br>criter<br>5 | ies<br>utes<br>er<br>ion<br>7 8 | Pop.<br>Size | Period of pop. I | Est. occ | %<br>currence<br><sup>1)</sup> | JCN<br>Red A<br>List | CITES<br>Appendix /<br>I | CMS<br>Appendix<br>I | Other Status | Justification                  |
|-----------------------------|----------------------------|---|-----------------------------------|-------------------------------------|-----|--|---------------------------------|--------------|------------------|----------|--------------------------------|----------------------|--------------------------|----------------------|--------------|--------------------------------|
| CHORDATA/<br>ACTINOPTERYGII | Nocomis<br>micropogon      | River chub; River<br>chub; River chub   |                                   |                                     |     |  | 20                              |              |                  |          | 1                              | LC                   |                          |                      |              | Indigenous                     |
| CHORDATA/<br>ACTINOPTERYGII | Notemigonus<br>crysoleucas | Golden shiner<br>minnow   |                                   |                                     |     |  | 11                              |              |                  |          | I                              | LC                   |                          |                      |              | Indigenous Spawning            |
| CHORDATA/<br>ACTINOPTERYGII | Notropis<br>atherinoides   | Shiner; Common<br>emerald shiner;<br>Lake emerald<br>shiner; Lake<br>shiner       | DØ                                |                                     | J   |  | 22                              |              |                  |          | 1                              | LC                   |                          |                      |              | Keystone, Indigenous, Spawning |
| CHORDATA/<br>ACTINOPTERYGII | Notropis<br>bifrenatus     | Bridle shiner;<br>Bridle shiner   |                                   |                                     |     |  | //                              |              |                  |          | I                              | LC                   |                          |                      |              | Indigenous                     |
| CHORDATA/<br>ACTINOPTERYGII | Notropis<br>heterodon      | Blackchin shiner;<br>Blackchin shiner;<br>Blackchin shiner                        |                                   |                                     |     |  | II                              |              |                  |          | 1                              | LC                   |                          |                      |              | Indigenous Spawning            |
| CHORDATA/<br>ACTINOPTERYGII | Notropis<br>heterolepis    | Blacknose shiner;<br>Blacknose shiner;<br>Blacknose shiner                        | DØ                                |                                     |     |  |                                 |              |                  |          | I                              | LC                   |                          |                      |              | Indigenous Spawning            |
| CHORDATA/<br>ACTINOPTERYGII | Notropis<br>hudsonius      | Spottail minnow;<br>Spot-tail minnow;<br>Sucking carp;<br>Spottail;<br>Spawneater |                                   |                                     |     |  |                                 |              |                  |          | 1                              | LC                   |                          |                      |              | Indigenous Spawning            |
| CHORDATA/<br>ACTINOPTERYGII | Notropis rubellus          | Rosyface shiner;<br>Rosyface shiner;<br>Rosyface shiner                           |                                   |                                     |     |  | 20                              |              |                  |          | 1                              | LC                   |                          |                      |              | Indigenous                     |
| CHORDATA/<br>ACTINOPTERYGII | Notropis<br>stramineus     | Sand shiner; Sand<br>shiner; Sand<br>shiner; Sand<br>shiner                       |                                   |                                     |     |  | 20                              |              |                  |          | 1                              | LC                   |                          |                      |              | Indigenous                     |
| CHORDATA/<br>ACTINOPTERYGII | Notropis<br>volucellus     | Mmic shiner;<br>Mmic shiner;<br>Mmic shiner                                       |                                   |                                     |     |  | 20                              |              |                  |          | 1                              | LC                   |                          |                      |              | Indigenous                     |
| CHORDATA/<br>ACTINOPTERYGII | Noturus flavus             | Stonecat;<br>Stonecat; Stonecat   |                                   |                                     |     |  | 20                              |              |                  |          | I                              | LC                   |                          |                      |              | Indigenous                     |
| CHORDATA/<br>ACTINOPTERYGII | Noturus gyrinus            | Tadpole madtom;<br>Tadpole madtom;<br>Tadpole madtom                              |                                   |                                     |     |  | 20                              |              |                  |          | I                              | LC                   |                          |                      |              | Indigenous                     |
| CHORDATA/<br>ACTINOPTERYGII | Noturus miurus             | Brindled madtom;<br>Brindled madtom   |                                   |                                     |     |  | 20                              |              |                  |          | I                              | LC                   |                          |                      |              | Indigenous                     |
| CHORDATA/<br>ACTINOPTERYGII | Perca flavescens           | Yellow Perch  |                                   |                                     |     |  | //                              |              |                  |          | I                              | LC                   |                          |                      |              | Indigenous Spawning            |
| CHORDATA/<br>ACTINOPTERYGII | Percina caprodes           | Manitou darter;<br>Log perch  |                                   |                                     |     |  | 22                              |              |                  |          | I                              | LC                   |                          |                      |              | Indigenous Spawning            |
| CHORDATA/<br>ACTINOPTERYGII | Percina maculata           | Blackside darter;<br>Blackside darter   |                                   |                                     |     |  | 20                              |              |                  |          | I                              | LC                   |                          |                      |              | Indigenous                     |
| CHORDATA/<br>ACTINOPTERYGII | Percopsis<br>omiscomaycus  | Troutperch; Silver chub   |                                   |                                     |     |  | 22                              |              |                  |          | I                              | LC                   |                          |                      |              | Indigenous Spawning            |
| CHORDATA/<br>ACTINOPTERYGII | Pimephales<br>notatus      | Bluntnose<br>minnow;<br>Bluntnose<br>minnow                                       |                                   |                                     |     |  | 22                              |              |                  |          | 1                              | LC                   |                          |                      |              | Indigenous Spawning            |
| CHORDATA/<br>ACTINOPTERYGII | Pimephales<br>promelas     | Fathead Minnow  |                                   |                                     |     |  | 22                              |              |                  |          | 1                              | LC                   |                          |                      |              | Indigenous Spawning            |
| CHORDATA/<br>ACTINOPTERYGII | Pomoxis annularis          | White Crappie   |                                   |                                     |     |  | 20                              |              |                  |          | 1                              | LC                   |                          |                      |              | Indigenous                     |
| CHORDATA/<br>ACTINOPTERYGII | Pomoxis<br>nigromaculatus  | Black Crappie   |                                   |                                     |     |  | 11                              |              |                  |          | 1                              | LC                   |                          |                      |              | Indigenous Spawning            |
| CHORDATA/<br>ACTINOPTERYGII | Rhinichthys<br>atratulus   | Blacknose dace;<br>Blacknose dace;<br>Blacknose dace                              |                                   |                                     |     |  | 20                              |              |                  |          | 1                              | LC                   |                          |                      |              | Indigenous                     |

| Phylum                      | Scientific name             | Common name  | Species<br>qualifies<br>under<br>criterion<br>2 4 6 9 | Specie<br>contribu<br>unde<br>criterie | es<br>ites<br>r<br>on<br>8 | Period of pop. Est. | occurrence | IUCN<br>Red<br>List | CITES<br>Appendix<br>I | CMS<br>Appendix<br>I | Other Status          | Justification       |
|-----------------------------|-----------------------------|--|---|--|----------------------------|---------------------|------------|---------------------|------------------------|----------------------|-----------------------|---------------------|
| CHORDATA/<br>ACTINOPTERYGII | Rhinichthys<br>cataractae   | Longnose dace;<br>Longnose dace;<br>Longnose dace;<br>Longnose dace                                    |   |  | 0                          |                     |            | LC                  |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Salvelinus<br>namaycush     | Lake trout(=Char)  |   |  | 9                          |                     |            |                     |                        |                      |                       | Indigenous Spawning |
| CHORDATA/<br>ACTINOPTERYGII | Sander<br>canadensis        | Sauger   |   |  |                            |                     |            | LC                  |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Sander vitreus              | Walleye  |   |  |                            |                     |            | LC                  |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Semotilus<br>atromaculatus  | Creek Chub   |   |  |                            |                     |            | LC                  |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Semotilus<br>corporalis     | Windfish; White;<br>Shining dace;<br>Roughnosed<br>chub; Mohawk;<br>Corporal; Chivin;<br>American chub |   |  |                            |                     |            | LC                  |                        |                      |                       | Indigenous          |
| CHORDATA/<br>ACTINOPTERYGII | Umbra limi                  | Central<br>mudminnow;<br>Central<br>mudminnow  |   |  |                            |                     |            | LC                  |                        |                      |                       | Indigenous          |
| Others                      |                             |  |   |  |                            |                     |            |                     |                        |                      |                       |                     |
| CHORDATA/<br>AMPHIBIA       | Ambystoma<br>jeffersonianum | Jefferson<br>Salamander  | ØOOC  |  |                            |                     |            | LC                  |                        |                      | Special Concern (NYS) |                     |
| CHORDATA/<br>AMPHIBIA       | Ambystoma<br>laterale       | Blue-Spotted<br>Salamander   | ØOOC  |  |                            |                     |            | LC                  |                        |                      | Special Concern (NYS) |                     |
| CHORDATA/<br>REPTILIA       | Emydoidea<br>blandingii     | Blanding's Turtle  | ØOOC  |  |                            |                     |            | EN                  |                        |                      | CITES Appendix II     |                     |
| CHORDATA/<br>REPTILIA       | Graptemys<br>geographica    | Common Map<br>Turtle   |   |  |                            |                     |            | LC                  |                        |                      | CITES Appendix III    | Nesting             |

1) Percentage of the total biogeographic population at the site

See full species lists in Appendix 1. Other status lists include:

• US (Endangered Species Act) - "U.S. Fish and Wildlife Service, Endangered Species" (http://www.fws.gov/ENDANGERED/species/us-species.html)

New York State (Environmental Conservation Law) - List of Endangered, Threatened and Special Concern Fish & Wildlife Species of New York State (http://www.dec.ny.gov/animals/7494.html)

Additional notes on the criteria:

• For criteria three, the Emerald Shiner is considered a 'keystone' species, as referenced in "New Projects..." from the Fall 2013 Great Lakes Center (GLC) Newsletter.

• For criteria six, population estimates are from the Important Bird Areas in Canada "IBA Database – Niagara River Corridor."

Human impact:

• Birdwatching, hunting, photographing, and fishing opportunities provide a significant reason for the amount of tourism to the Niagara River Corridor. Several organizations and businesses that make a significant economic impact on the Niagara River Corridor are associated with such animal related activities.

3.4 - Ecological communities whose presence relates to the international importance of the site

| Name of ecological community    | Community qualifies under<br>Criterion 2? | Description   | Justification   |
|---------------------------------|---|---|---|
| Calcareous Cliff Community      | Ø   | This community occurs "on vertical<br>exposures of resistant, calcareous bedrock<br>(such as limestone or dolomite) or<br>consolidated material; these cliffs often<br>include ledges and small areas of talus<br>(Edinger et al. 2002).                      | It is ranked S3 (vulnerable) because it is<br>limited in distribution to calcareous regions of<br>New York State, and because of threats<br>including mineral extraction, adjacent<br>upslope development and run-off,<br>recreational overuse, and invasive species. |
| Calcareous Talus Slope Woodland | Ø   | This community consists of "an open or<br>closed canopy community that occurs on<br>talus slopes composed of calcareous<br>bedrock such as limestone or dolomite."<br>(Edinger et al. 2002) This community is found<br>in the Niagara River Gorge (EDR 2010). | This community is vulnerable because it is<br>limited in distribution to calcareous regions of<br>New York State, and because of threats<br>including development, forest fragmentation,<br>invasive species, recreational overuse, and<br>over-browsing by deer.     |
| Old Growth Forests              | V   | Asmall portion of forest in DeVeaux Woods<br>State Park is a dedicated forest in the Old-<br>Growth Forest Network.   | Old growth forests are rare in the Niagara region and throughout New York State.  |

## 4 - What is the Site like? (Ecological character description)

## 4.1 - Ecological character

The ecological components that are most critical to determining the ecological character of the Niagara River Corridor are its major wetland type (M) and Köppen-Gieger Climate type (Dfb). The Niagara River is a freshwater, flowing, permanent river, connecting two large freshwater lakes. The river region has cold winters, warm summers, and year-round precipitation. The natural variability in the ecological character of the river is mostly seasonal, due to its climatic conditions, but the Niagara River stays open year-round even as most other freshwater in the region is frozen over in the cold winter. These conditions allow the river to support considerable populations of native fish and other aquatic organisms, as well as large congregations of waterbirds during winter months.

The most significant ecological services to humans that the river provides are fresh drinking water to large population centres and water used in hydroelectric power generation. On the U.S. side, the river is the source of drinking water for nearly one million people in two counties. The Niagara Power Project, which is home to one of the New York Power Authority's three visitor centers, operates with a dependable maximum net capacity of 2,675,000 kW. At the time it was built it was the largest hydropower facility in the Western world.

## 4.2 - What wetland type(s) are in the site?

Inland wetlands

| Wetland types (code and name)  | Local name   | Ranking of extent (1: greatest - 4: least) | Area (ha)<br>of wetland type | Justification of Criterion 1 |
|--|--|--|------------------------------|------------------------------|
| Fresh water > Flowing<br>water >> M Permanent<br>rivers/<br>streams/<br>creeks   | Niagara River  | 1  | 3450                         | Rare                         |
| Fresh water > Lakes and<br>pools<br>>> O: Permanent<br>freshwater lakes  | Lake Erie and Lake Ontario   | 4  |                              |                              |
| Fresh water > Marshes on<br>inorganic soils >> Tp:<br>Permanent freshwater<br>marshes/<br>pools                                    | Tifft Nature Preserve, Times Beach<br>Nature Preserve, Buckhorn Island<br>State Park, Grass Island | 2  | 100                          |                              |
| Fresh water > Marshes on<br>inorganic soils >> Ts:<br>Seasonal/<br>intermittent freshwater<br>marshes/<br>pools on inorganic soils | N/A  | 4  |                              |                              |
| Fresh water > Marshes on<br>inorganic<br>soils >> W: Shrub-<br>dominated wetlands  | N/A  | 4  |                              |                              |
| Fresh water > Marshes on<br>inorganic<br>soils >> Xf: Freshwater,<br>tree-dominated wetlands                                       | N/A  | 4  |                              |                              |

#### Human-made wetlands

| Wetland types (code and name)                    | Local name             | Ranking of extent (1: greatest - 4: least) | Area (ha)<br>of wetland type | Justification of Criterion 1 |
|--|------------------------|--|------------------------------|------------------------------|
| 9: Canals and drainage<br>channels or<br>ditches | Buffalo Shipping Canal | 3  | 100                          |                              |

#### Other non-wetland habitat

| Other non-wetland habitats within the site                            | Area (ha) if known |
|---|--------------------|
| Park and recreation areas, with a few large patches of mature forest. | 1500               |

(ECD) Habitat connectivity There's a high degree of habitat connectivity along the river corridor

## 4.3 - Biological components

#### 4.3.1 - Plant species

## Other noteworthy plant species

| Scientific name       | Common name         | Position in range / endemism / other |
|-----------------------|---------------------|--------------------------------------|
| Cypripedium calceolus | Yellow Lady Slipper |                                      |
| Epipactis helleborine | Helleborine         |                                      |

Invasive alien plant species

| Scientific name                    | Common name                | Impacts                  |           |
|------------------------------------|----------------------------|--------------------------|-----------|
| Acer platanoides                   | Norway Maple               | Actually (major impacts) | No change |
| Acer pseudoplatanus                | Sycamore Maple             | Actually (major impacts) | No change |
| Ailanthus altissima                | Tree of Heaven             | Actually (minor impacts) | No change |
| Alliaria petiolata                 | Garlic Mustard             | Actually (major impacts) | No change |
| Artemisia vulgaris                 | Mugwort                    | Actually (major impacts) | No change |
| Berberis vulgaris                  | Common Barberry            | Actually (minor impacts) | No change |
| Celastrus orbiculatus              | Oriental Bittersweet       | Actually (major impacts) | No change |
| Centaurea cuneifolia<br>cuneifolia | Spotted Knapweed           | Actually (major impacts) | No change |
| Cirsium arvense                    | Canada Thistle             | Actually (major impacts) | No change |
| Elaeagnus umbellata                | Autumn Olive               | Actually (major impacts) | No change |
| Fallopia multiflora ciliinervis    | Japanese Knotweed          | Actually (major impacts) | No change |
| Ficaria verna                      | Fig Buttercup              | Actually (major impacts) | No change |
| Hedera helix                       | English ivy                | Actually (minor impacts) | No change |
| Hemerocallis fulva                 | Orange Day Lily            | Actually (minor impacts) | No change |
| Hesperis matronalis                | Dame's Rocket              | Actually (minor impacts) | No change |
| Hypericum perforatum               | Common St. John's -wort    | Actually (minor impacts) | No change |
| Ligustrum vulgare                  | Privet                     | Actually (minor impacts) | No change |
| Lonicera chrysantha                | Morrow's Honeysuckle       | Actually (major impacts) | No change |
| Lonicera maackii                   | Amur Honeysuckle           | Actually (major impacts) | No change |
| Lotus corniculatus                 | Common Bird's-foot-trefoil | Actually (minor impacts) | No change |
| Lysimachia nummularia              | Creeping Jennie            | Actually (minor impacts) | No change |
| Lythrum salicaria                  | Purple Loosestrife         | Actually (major impacts) | No change |
| Morus alba                         | White Mulberry             | Actually (minor impacts) | No change |
| Phleum pratense                    | Timothy                    | Actually (minor impacts) | No change |
| Phragmites australis               | Common Reed                | Actually (major impacts) | No change |
| Prunus avium                       | Sweet Cherry               | Actually (minor impacts) | No change |
| Rhamnus cathartica                 | Common Buckthorn           | Actually (major impacts) | No change |
| Robinia pseudoacacia               | Black Locust               | Actually (major impacts) | No change |
| Rosa clinophylla                   | Multiflora Rose            | Actually (major impacts) | No change |
| Rubus phoenicolasius               | Wineberry                  | Actually (major impacts) | No change |
| Securigera varia                   | Trailing Crown Vetch       | Actually (minor impacts) | No change |
| Tussilago farfara                  | Coltsfoot                  | Actually (minor impacts) | No change |
| Veronica officinalis               | Common Speedwell           | Actually (minor impacts) | No change |
| Viburnum lantana                   | Wayfaring Tree             | Actually (minor impacts) | No change |
| Vicia cracca                       | Cow Vetch                  | Actually (minor impacts) | No change |
| Vinca minor                        | Common Periwinkle          | Actually (minor impacts) | No change |
| Wisteria sinensis                  | Chinese Wisteria           | Actually (minor impacts) | No change |

#### Optional text box to provide further information

Large beds of subaquatic vegetation sustain populations of fish, amphibians, and aquatic invertebrates.

Note – Rating of the impact of the species on the character of the site is based on New York Invasive Species Clearinghouse Website. "Non-Native Plant Species Invasiveness Assessments." Retrieved on 10/4/2014. http://nyis.info/non-native-plant-assessments/

Actually major impact = Very High or High ecological rank

Actually minor impact = Medium, Low, or Insignificant ecological rank

Potentially = Not assessed (not included in this table)

Only introduced species that are rated in the "Non-Native Plant Species Invasiveness Assessments" are included in the table above. All introduced species are noted in appendix 1.

## 4.3.2 - Animal species

#### Invasive alien animal species Scientific name Common name Phylum Impacts Actually (minor impacts) Alosa pseudoharengus Anadromous alewives **CHORDATA/ACTINOPTERYGII** No change Carassius auratus Goldfish Actually (major impacts) CHORDATA/ACTINOPTERYGII No change Columba livia Common Pigeon Potentially **CHORDATA/AVES** No change Mute Swan Actually (major impacts) Cvanus olor **CHORDATA/AVES** No change Common Carp Cvprinus carpio Actually (major impacts) CHORDATA/ACTINOPTERYGII No change Mud shad;Hickory shad;Eastern gizzard Dorosoma cepedianum Potentially shad;American gizzard CHORDATA/ACTINOPTERYGII No change shad Dreissena bugensis Quagga Mussel Actually (major impacts) MOLLUSCA/BIVALVIA No change many-shaped Dreissena polymorpha Actually (major impacts) dreissena;zebra mussel MOLLUSCA/BIVALVIA No change Banded killifish;Banded Potentially Fundulus diaphanus CHORDATA/ACTINOPTERYGII killifish No change Three-spined Stickleback Potentially Gasterosteus aculeatus **CHORDATA/ACTINOPTERYGII** No change Haemorhous mexicanus House Finch Potentially **CHORDATA/AVES** No change Wreckfish;White Morone americana perch;White perch;White Potentially CHORDATA/ACTINOPTERYGII No change perch;White perch Caspian round goby Neogobius melanostomus Actually (major impacts) **CHORDATA/ACTINOPTERYGII** No change Oncorhynchus kisutch Coho(=Silver) salmon Actually (minor impacts) CHORDATA/ACTINOPTERYGII No change Coast rainbow trout Actually (minor impacts) Oncorhynchus mykiss CHORDATA/ACTINOPTERYGII No change Chinook(=Spring=King) Oncorhynchus tshawytscha Actually (minor impacts) CHORDATA/ACTINOPTERYGII salmon No change Rainbow Smelt Osmerus mordax Potentially CHORDATA/ACTINOPTERYGII No change Sea Lamprey Actually (minor impacts) Petromyzon marinus CHORDATA/CEPHALASPIDOMORPHI No change Common Pheasant Phasianus colchicus Actually (major impacts) **CHORDATA/AVES** No change Rattus norvegicus Norway Rat;Brown Rat Potentially CHORDATA/MAMMALIA No change Brown trout Actually (minor impacts) Salmo trutta CHORDATA/ACTINOPTERYGII No change Scardinius Rudd Actually (minor impacts) CHORDATA/ACTINOPTERYGII erythrophthalmus No change Sturnus vulgaris European Starling Potentially CHORDATA/AV/FS No change Trachemys scripta elegans Red-eared Slider Actually (minor impacts) CHORDATA/REPTILIA No change

Optional text box to provide further information

Note – Rating of the impact of the species on the character of the site is based on New York Invasive Species Clearinghouse Website. "Non-Native Animal Species Invasiveness Assessments." Retrieved on 10/4/2014. http://nyis.info/?action=israt\_nn\_animal&sort=scientific\_name • Actually major impact = Very High or High ecological rank

- Actually minor impact = Medium, Low, or Insignificant ecological rank
- Potentially = Not assessed

## 4.4 - Physical components

## 4.4.1 - Climate

| Climatic region                                   | Subregion   |
|---|---|
| D: Moist Md-Latitude<br>climate with cold winters | Dfb: Humid continental<br>(Humid with severe winter,<br>no dry season, warm |
|   | summer)   |

The average annual temperature for the Niagara region has increased by 1.3 degrees centigrade in the last 40 years, resulting in a trend towards more days with temperatures over 30 degrees centigrade. As is true of much of the northern part of the continent, the area is being subjected to an increase in heat waves (3 or more consecutively hot days) and a significantly warmer and longer growing season. Climate change has brought more summer droughts and dry spells to the region along with an increase in the number of freeze-thaw cycles (Penney 2012).

## 4.4.2 - Geomorphic setting

| a) Minimum elevation above sea level (in metres) 73 |
|---|
| a) Maximum elevation above sea level (in metres)    |
| Entire river basin 🗹                                |
| Upper part of river basin 🗖                         |
| Mddle part of river basin                           |
| Lower part of river basin                           |
| More than one river basin $\Box$                    |
| Not in river basin 🗖                                |
| Coastal 🗖   |

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

Niagara River, between Lake Erie and Lake Ontario.

4.4.3 - Soil

Mineral 🗹 Organic 🗹

No available information

## Are soil types subject to change as a result of changing hydrological Yes O No O conditions (e.g., increased salinity or acidification)?

## Please provide further information on the soil (optional)

Except for a portion of the Niagara Escarpment (Ecology and Environment 2014), and the Niagara Gorge, the landscape on the U.S. side of the Niagara River is a nearly flat plain. Common soil mapping units include Odessa, Schoharie and Rhinebeck with minor inclusions of Claverack, Cosad, Cayuga, Churchville, Niagara, Lakemont and Wayland. The soils formed in clayey glacial lake-laid (lacustrine) deposits. Seasonal wetness, slow or very slow permeability in the subsoil, and the clayey texture are the main limitations of these soils for most uses. A small percentage of the area consists of deeper soils derived from glacial outwash deposits, which are more gravelly or shaly in texture. These may form a shallow mantle over the clayey or silty lacustrine deposits. These areas tend to be better drained and more suitable for vegetable, specialty crop, and fruit production. The immediate gorge walls of major sections of the Niagara River are ecologically unique soils.

#### 4.4.4 - Water regime

| Water permanence                |           |  |
|---------------------------------|-----------|--|
| Presence?                       |           |  |
| Usually permanent water present | No change |  |

| Source of water | that maintains | character | of the site |  |
|-----------------|----------------|-----------|-------------|--|
|                 |                |           |             |  |

| Presencer                       | Predominant water source |           |
|---------------------------------|--------------------------|-----------|
| Water inputs from surface water | ×.                       | No change |
|                                 |                          |           |

| Water destination       |           |
|-------------------------|-----------|
| Presence?               |           |
| To downstream catchment | No change |

| Stability of water regime   |           |
|-----------------------------|-----------|
| Presence?                   |           |
| Water levels largely stable | No change |

#### Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology.

Annually, only 1% of the water in the Great Lakes originates from rivers, precipitation, and groundwater springs that drain into the lakes. The other 99% came from glacial melt from the last ice age. Evaporation and drainage balance this out, making the lake levels constant (Grady, 2007). The Niagara River's drainage basin is 684,000 square km (264,000 square mi) (NPC website "Niagara Falls Geology Facts & Figures"). The Niagara River has an annual mean discharge of 5,799 cubic metres per second (204,800 cubic ft per second) (Hornlein, et al. 2004). The Niagara River is shallow and wide above Niagara Falls (upper Niagara River), and deep and narrow below Niagara Falls (lower Niagara River), especially in the gorge. Its width ranges from 2,000 m (6,500 ft) across at its widest, to less than 90 m (300 ft) at its narrowest. Its depth averages approximately 6 m (20 ft) in the upper Niagara River and drops to approximately 58 m (190 ft) at its deepest point in the lower Niagara River (Buffalo Niagara Riverkeeper website "Niagara River").

In the Niagara River, a substantial portion of water is diverted from the river to large reservoirs on both the U.S. and Canadian sides that are used to generate hydroelectricity. On the U.S. side, the water goes through the Lewiston Pump Generating Plant and the Robert Moses Niagara Power Plant where 748,000 gallons of water per second produce up to 2.6 million kW. Diversion quantities fluctuate to preserve water levels going over Niagara Falls during peak tourism seasons (tourism brought over \$700 million to Niagara County in 2017) and to supply more power during peak demand times ("Niagara Power Goes Under Ground"). This diversion and return results in daily and seasonal fluctuations in river levels below the hydroelectric intakes. Flooding on the river caused by ice jams during the spring still occurs as well.

## 4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site Significant accretion or deposition of sediments occurs on the site Significant transportation of sediments occurs on or through the site Sediment regime is highly variable, either seasonally or inter-annually Sediment regime unknown

#### Please provide further information on sediment (optional):

The upper Niagara River has more turbidity that the lower Niagara River. Turbidity in the upper Niagara River is related to inflows from Lake Erie and smaller tributaries, and turbidity increases with runoff events. Combined sewer overflows (CSOs) may affect the turbidity in the upper and lower Niagara River during wet weather events. Erosion along the banks of the upper and lower Niagara River is caused by waves from wind and boats (URS Corporation and Gomez and Sullivan Engineers, P.C. 2005).

## 4.4.6 - Water pH

| Acid (pH<5.5)               |   |
|-----------------------------|---|
| Circumneutral (pH: 5.5-7.4) |   |
| Alkaline (pH>7.4)           | 1 |
| Unknown                     |   |

#### Please provide further information on pH (optional):

A study with field measurements for the Niagara River at Fort Niagara show that the pH is alkaline, with 80% of the samples ranging from pH 7.7 to pH 8.4 (URS Corporation and Gomez and Sullivan Engineers, P.C. 2005).

## 4.4.7 - Water salinity

- Fresh (<0.5 g/l) 🜌
- Mixohaline (brackish)/Mixosaline (0.5-30 g/l)
  - Euhaline/Eusaline (30-40 g/l) 🗖
    - Hyperhaline/Hypersaline (>40 g/l)
      - Unknown 🗖

#### 4.4.8 - Dissolved or suspended nutrients in water

- Eutrophic 🗖
- Mesotrophic 🗹
- Oligotrophic
- Dystrophic
- Unknown

## 4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the i) broadly similar O ii) significantly different I

site itself:

## Surrounding area has greater urbanisation or development $\ensuremath{\mathnormal{\mathbb Z}}$

## Surrounding area has higher human population density $\blacksquare$

Surrounding area has more intensive agricultural use

Surrounding area has significantly different land cover or habitat types  $\ensuremath{\mathnormal{S}}$ 

## 4.5 - Ecosystem services

## 4.5.1 - Ecosystem services/benefits

## Provisioning Services

| Ecosystem service | Examples  | Importance/Extent/Significance |
|-------------------|---|--------------------------------|
| Food for humans   | Sustenance for humans<br>(e.g., fish, molluscs, grains) | Medium                         |
| Fresh water       | Drinking water for humans<br>and/or livestock           | High                           |
| Fresh water       | Water for industry                                      | High                           |
| Fresh water       | Water for energy production<br>(hydro-electricity)      | High                           |

## Regulating Services

|   | Ecosystem service                   | Examples  | Importance/Extent/Significance |
|---|-------------------------------------|---|--------------------------------|
| I | Maintenance of hydrological regimes | Storage and delivery of<br>water as part of water<br>supply systems for<br>agriculture and industry | High                           |
|   | Climate regulation                  | Regulation of greenhouse<br>gases, temperature,<br>precipitation and other<br>climactic processes   | Medium                         |
|   | Hazard reduction                    | Flood control, flood storage  | Medium                         |

## Cultural Services

| Ecosystem service                  |                             | Examples  | Importance/Extent/Significance |  |
|------------------------------------|-----------------------------|---|--------------------------------|--|
|                                    | Recreation and tourism      | Recreational hunting and fishing  | High                           |  |
|                                    | Recreation and tourism      | Water sports and activities   | Medium                         |  |
|                                    | Recreation and tourism      | Picnics, outings, touring   | Medium                         |  |
|                                    | Recreation and tourism      | Nature observation and<br>nature-based tourism  | High                           |  |
|                                    | Spiritual and inspirational | Inspiration   | High                           |  |
|                                    | Spiritual and inspirational | Cultural heritage (historical and archaeological)   | High                           |  |
| Spiritual a                        | Spiritual and inspirational | Contemporary cultural<br>significance, including for<br>arts and creative<br>inspiration, and including<br>existence values | High                           |  |
|                                    | Spiritual and inspirational | Spiritual and religious values  | High                           |  |
|                                    | Spiritual and inspirational | Aesthetic and sense of<br>place values  | High                           |  |
|                                    | Scientific and educational  | Educational activities and<br>opportunities   | High                           |  |
|                                    | Scientific and educational  | Important knowledge<br>systems, importance for<br>research (scientific<br>reference area or site)                           | High                           |  |
|                                    | Scientific and educational  | Long-term monitoring site   | High                           |  |
| Scientific and educational Major s |                             | Major scientific study site   | High                           |  |
|                                    |                             |   |                                |  |

## Supporting Services

| Ecosystem service | Examples  | Importance/Extent/Significance |  |
|-------------------|---|--------------------------------|--|
| Biodiversity      | Supports a variety of all life<br>forms including plants,<br>animals and<br>microorganizms, the genes<br>they contain, and the<br>ecosystems of which they<br>form a part | High                           |  |

Within the site: 100000

Outside the site: 10000000

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes O No O Unknown O

## 4.5.2 - Social and cultural values

i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and 🖉 use that maintain the ecological character of the wetland

Description if applicable

The Boundary Water Treaty (BWT) of 1909 between the U.S. and Canada established limits on the amount of water diverted from the Niagara River for hydro-electric power production. The 1950 Niagara Treaty replaced certain paragraphs of the BWT and re-defined the diversion and division of water to protect the scenic beauty of Niagara Falls and at the same time provide for increased hydro-electric power production (Niagara Falls and at the same time provide for increased hydro-electric power production (Niagara Falls Thunder Alley website "A River Diversion"). The International Joint Commission, with appointees from the U.S. and Canada, prevents and resolves disputes between the United States of America and Canada under the 1909 BWT.

ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland

#### Description if applicable

The history of human activity in the region began as far back as 8,000 years ago. The most recent indigenous civilization is the Haudenosaunee Confederacy, or "People of the Longhouse," called the Iroquois Confederacy by the French and the League of Five Nations by the English (Ecology and Environment Inc. 2014).

The Niagara River hosted significant War of 1812 activities. The war ended with the signing of the Treaty of Ghent in 1815, the beginning of unbroken peace between the two countries. Today, Old Fort Niagara operates as a museum and educational canter, drawing 100,000 visitors annually. More information can be found here: The Official War of 1812 Bicentennial Website.

During the 1800s, prior to the abolition of slavery in the United States, the Niagara River and its communities played a significant role in the Underground Railroad. Today, the recently-opened Niagara Falls Underground Railroad Heritage Center welcomes visitors. More information can be found here: Niagara Falls Underground Railroad Heritage.

The Erie Canal was completed in 1825, connecting Albany to Buffalo and opening trade and travel between the Atlantic coast and the U.S. interior. The Erie Canal is now primarily used for recreational boating and biking. The western terminus of the Erie Canal includes portions of the upper Niagara River. More information can be found here: Erie Canalway National Heritage Corridor.

Niagara Falls is the birthplace of hydroelectric power. The region's first small-scale hydroelectric plant was built in 1881 by the Niagara Falls Hydraulic Power & Manufacturing Company (Niagara Falls Thunder Alley website "A History of Power."). More information can be found here: Niagara Falls History of Power.

The first state park in the U.S. and the first provincial park in Canada are located along the Niagara River. The Niagara Reservation (Niagara Falls State Park) was established in 1885 and was designed by Frederick Law Olmsted, Sr., and declared a National Historic Landmark (NPS National Historic Landmark Program website "Niagara Reservation").

In many ways, the now infamous Love Canal, located on the Niagara River, was the impetus for the environmental justice movement in the U.S. The federal Superfund program, meant to remediate legacy toxic waste sites, was established as a result (Geneseo website "Love Canal – a Brief History").

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples

iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

## 4.6 - Ecological processes

<no data available>

## 5 - How is the Site managed? (Conservation and management)

## 5.1 - Land tenure and responsibilities (Managers)

## 5.1.1 - Land tenure/ownership

| Public ownership   |                        |                         |  |  |
|--|------------------------|-------------------------|--|--|
| Category   | Within the Ramsar Site | In the surrounding area |  |  |
| National/Federal<br>government                           |                        | V                       |  |  |
| Provincial/region/state<br>government                    | V                      | V                       |  |  |
| Local authority,<br>municipality, (sub)district,<br>etc. | Ø                      | V                       |  |  |
| Other public ownership                                   |                        | ×                       |  |  |

## Private ownership

| Category  | Within the Ramsar Site | In the surrounding area |  |
|---|------------------------|-------------------------|--|
| Commercial (company)                                  |                        | ×                       |  |
| Foundation/non-<br>governmental<br>organization/trust | V                      | Ø                       |  |
| Religious body/organization                           |                        | ×                       |  |
| Other types of<br>private/individual owner(s)         |                        | ×.                      |  |

#### Other

| Category                      | Within the Ramsar Site | In the surrounding area |
|-------------------------------|------------------------|-------------------------|
| Commoners/customary<br>rights | V                      | V                       |

## Provide further information on the land tenure / ownership regime (optional):

The State of New York owns the land beneath the Niagara River, as it is a navigable waterway. Landowners whose property adjoins the river have riparian rights, or the right to make reasonable use of it. Additionally, the public has certain rights to use the Niagara River for navigation purposes, pursuant to the public trust doctrine. On the US side, other adjoining land areas may also be included in the public trust. In New York, one court opined that "the entire ecological system supporting the waterways is an integral part of them (the waterways) and must necessarily be included within the purview of the trust." 336 N.Y.S.2d 764 (1972). The greenspaces along the river included in the site are publicly owned, except for a nature preserve privately owned by a land trust called the Western New York Land Conservancy. The land surrounding the site is comprised of public and private land in large metropolitan regions. (See Appendix 2 for land ownership details).

## 5.1.2 - Management authority

| Please list the local office / offices of any<br>agency or organization responsible for<br>managing the site: | Niagara River Greenway Commission        |
|---|--|
| Provide the name and title of the person or people with responsibility for the wetland:                       | Greg Stevens, Executive Director         |
| Postal address:   | 3160 Deveaux St, Niagara Falls, NY 14305 |
| E-mail address:   | gregory.stevens@parks.ny.gov             |

## 5.2 - Ecological character threats and responses (Management)

## 5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

| Human settlements (non agricultural) |               |                  |                 |                         |  |
|--------------------------------------|---------------|------------------|-----------------|-------------------------|--|
| Factors adversely<br>affecting site  | Actual threat | Potential threat | Within the site | In the surrounding area |  |
| Housing and urban areas              | High impact   |                  |                 | ×                       |  |
| Commercial and industrial areas      | High impact   |                  |                 | ×                       |  |
| Tourism and recreation areas         | Medium impact |                  | ×               | ×                       |  |

Water regulation

| Factors adversely<br>affecting site | Actual threat | Potential threat | Within the site | In the surrounding area |
|-------------------------------------|---------------|------------------|-----------------|-------------------------|
| Water abstraction                   | High impact   |                  | s.              | 1                       |
| Dredging                            | High impact   |                  | s.              | ×                       |
| Water releases                      | High impact   |                  | s.              | ×                       |
| Canalisation and river regulation   | High impact   |                  | <b>X</b>        | ×                       |

How is the Site managed?, S5 - Page 1

| Agriculture and aquaculture               |               |                  |                 |                         |
|---|---------------|------------------|-----------------|-------------------------|
| Factors adversely<br>affecting site       | Actual threat | Potential threat | Within the site | In the surrounding area |
| Livestock farming and<br>ranching         | High impact   |                  |                 | V                       |
| Annual and perennial non-<br>timber crops | High impact   |                  |                 | V                       |

## Energy production and mining

| Factors adversely<br>affecting site | Actual threat | Potential threat | Within the site | In the surrounding area |
|-------------------------------------|---------------|------------------|-----------------|-------------------------|
| Oil and gas drilling                | High impact   |                  |                 | ×                       |
| Mining and quarrying                | High impact   |                  |                 | ×                       |
| Renewable energy                    | High impact   |                  | ×               | ×                       |

## Transportation and service corridors

| Factors adversely<br>affecting site         | Actual threat | Potential threat | Within the site | In the surrounding area |
|---|---------------|------------------|-----------------|-------------------------|
| Roads and railroads                         | High impact   |                  | ×               |                         |
| Utility and service lines (e.g., pipelines) | High impact   |                  | ×               | V                       |
| Shipping lanes                              | High impact   |                  | ×               | ×                       |
| Aircraft flight paths                       | Low impact    |                  | ×               | ×                       |

## Biological resource use

| Factors adversely<br>affecting site           | Actual threat | Potential threat | Within the site | In the surrounding area |
|---|---------------|------------------|-----------------|-------------------------|
| Hunting and collecting<br>terrestrial animals | Low impact    |                  |                 | V                       |
| Gathering terrestrial plants                  | Low impact    |                  | ×               | ×                       |
| Logging and wood<br>harvesting                | Low impact    |                  |                 | V                       |
| Fishing and harvesting aquatic resources      | Medium impact |                  | ×               | V                       |

## Human intrusions and disturbance

| Factors adversely<br>affecting site | Actual threat | Potential threat | Within the site | In the surrounding area |
|-------------------------------------|---------------|------------------|-----------------|-------------------------|
| Recreational and tourism activities | Medium impact |                  | ×               | V                       |
| (Para)military activities           | Low impact    |                  | ×               | ×                       |

## Natural system modifications

| Factors adversely<br>affecting site   | Actual threat | Potential threat | Within the site | In the surrounding area |
|---------------------------------------|---------------|------------------|-----------------|-------------------------|
| Dams and water management/use         | High impact   |                  | ×               | V                       |
| Vegetation clearance/ land conversion | High impact   |                  |                 | V                       |

## Invasive and other problematic species and genes

| Factors adversely<br>affecting site | Actual threat | Potential threat | Within the site | In the surrounding area |
|-------------------------------------|---------------|------------------|-----------------|-------------------------|
| Invasive non-native/ alien species  | High impact   |                  | Ń               | <b>X</b>                |

Pollution

| Factors adversely<br>affecting site    | Actual threat | Potential threat | Within the site | In the surrounding area |
|--|---------------|------------------|-----------------|-------------------------|
| Household sewage, urban<br>waste water | High impact   |                  | ×               | V                       |
| Industrial and military<br>effluents   | High impact   |                  | ×               | V                       |
| Agricultural and forestry effluents    | High impact   |                  | ×               | ×.                      |
| Garbage and solid waste                | High impact   |                  |                 | ×                       |
| Air-borne pollutants                   | High impact   |                  | ×               | ×                       |
| Excess heat, sound, light              | High impact   |                  | ×               | ×                       |

## Climate change and severe weather

| Factors adversely<br>affecting site | Actual threat | Potential threat | Within the site | In the surrounding area |
|-------------------------------------|---------------|------------------|-----------------|-------------------------|
| Habitat shifting and alteration     |               | High impact      | ×               | V                       |
| Droughts                            |               | High impact      | ×               | ×                       |
| Temperature extremes                | High impact   |                  | 1               | ×                       |
| Storms and flooding                 | Medium impact |                  | ×               | ×                       |

## Please describe any other threats (optional):

Current threats to water quality and quantity include water diversion for industry and hydroelectric power generation, urban and agricultural land uses in the watershed, legacy and ongoing toxic contamination, and ongoing untreated sewage discharges. The potential for hydraulic fracturing (hydro-fracking) for shale gas reserves in the watershed is a potential threat to water quality. Biodiversity is currently threatened by invasive species, including plants like the common reed (Phragmites australis) and animals like the zebra mussel (Dreissena polymorpha). The introduction of Asian carp into the Great Lakes would be a threat to biodiversity.

## 5.2.2 - Legal conservation status

#### National legal designations

| Designation type           | Name of area                                | Online information url             | Overlap with Ramsar Site |
|----------------------------|---|------------------------------------|--------------------------|
| Nationally designated site | Erie Canalway National<br>Heritage Corridor | http://www.nps.gov/erie/index.ht m | partly                   |
| Nationally designated site | Niagara Falls National<br>Heritage Area     | http://www.nps.gov/nifa/index.ht m | partly                   |

#### Non-statutory designations

| Designation type    | Name of area                                  | Online information url  | Overlap with Ramsar Site |
|---------------------|---|---|--------------------------|
| Important Bird Area | Niagara River Corridor<br>Important Bird Area | http://netapp.audubon.org/iba/Si te/1724<br>and : https://www.audubon.org/importan<br>t-bird-areas/state/new-york?fiel<br>d_iba_status=All&priority=All&pa ge=4 | whole                    |

## 5.2.3 - IUCN protected areas categories (2008)

## la Strict Nature Reserve 🗷

- Ib Wilderness Area: protected area managed mainly for wilderness protection
  - Il National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

#### 5.2.4 - Key conservation measures

## Legal protection

| Measures         | Status      |
|------------------|-------------|
| Legal protection | Implemented |

#### Habitat

| Implemented |
|-------------|
| Implemented |
|             |

#### Species

| Measures                                      | Status      |
|---|-------------|
| Threatened/rare species management programmes | Implemented |
| Control of invasive alien<br>plants           | Implemented |
| Control of invasive alien animals             | Implemented |

#### Human Activities

| Measures   | Status      |
|--|-------------|
| Management of water<br>abstraction/takes                                   | Implemented |
| Regulation/management of<br>wastes   | Implemented |
| Fisheries<br>management/regulation   | Implemented |
| Harvest controls/poaching<br>enforcement                                   | Implemented |
| Regulation/management of recreational activities                           | Implemented |
| Communication, education,<br>and participation and<br>awareness activities | Implemented |
| Research   | Implemented |
|  |             |

## 5.2.5 - Management planning

## Is there a site-specific management plan for the site? Yes

Has a management effectiveness assessment been undertaken for the site? Yes O No O

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning Yes O No processes with another Contracting Party?

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

Not a formal transboundary site but there are shared management planning processes with Canada

Several educational / visitor facilities are located within the Niagara River Corridor. A few of these include:

- Beaver Island State Park Visitor Center
- Buffalo and Erie County Naval & Military Park
- Fort Niagara State Park Nature Center
- Niagara Falls State Park Visitor Center
- Niagara Falls Underground Railroad Heritage Center
- Niagara Power Vista Visitors Center
- Old Fort Niagara
- Tifft Farm Nature Preserve Visitor Center
- Western New York Welcome Center on Grand Island

## 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

## 5.2.7 - Monitoring implemented or proposed

| Monitoring              | Status      |
|-------------------------|-------------|
| Water regime monitoring | Implemented |
| Water quality           | Implemented |
| Plant community         | Implemented |
| Animal community        | Implemented |
| Birds                   | Implemented |

## 6 - Additional material

## 6.1 - Additional reports and documents

## 6.1.1 - Bibliographical references

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International Joint Commission (IJC) website. "Great Lakes". Retrieved on 10/13/2014. http://www.ijc.org/en\_/Great\_Lakes\_Basin

## 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<1 file(s) uploaded

ii. a detailed Ecological Character Description (ECD) (in a national format)

iii. a description of the site in a national or regional wetland inventory

iv. relevant Article 3.2 reports

v. site management plan

<no file available>

vi. other published literature

## 6.1.3 - Photograph(s) of the Site

#### Please provide at least one photograph of the site:







Niagara river corridor (*Ana Margarita Hernandez Balzac, 05-08-2006*)



Gorgeous morning over America falls (New York State Parks, 26-05-2015)

## 6.1.4 - Designation letter and related data

**Designation letter** <1 file(s) uploaded>

Date of Designation 2019-10-03