

Appendix J-3

Wildlife Resources

Appendix J-3

Wildlife Resources

This appendix presents the species of birds, reptiles, and amphibians that were documented by the New York State Department of Environmental Conservation (NYSDEC) 2000–2005 New York State Breeding Bird Atlas and 1990-1999 Herp Atlas Project within the census blocks in which the four study areas are located and lists the species of wildlife observed within the study areas during a reconnaissance survey that was conducted by a wildlife biologist on July 29, 2016 in all four study areas. Following the 2016 wildlife surveys, design refinements were made, and the limits of disturbance were expanded. On July 13, 2017, a wildlife biologist conducted a wildlife reconnaissance survey in the expanded portions of the I-481 East and I-481 North Study Areas. In 2019, 2020, and 2021, additional refinements were made resulting in the expansion of the I-481 East and I-481 North Study Areas. Additional incidental wildlife observations were recorded during ecological communities reconnaissance investigations conducted on September 13, 2019 in the I-481/Route 5 Interchange and June 24 and 25, 2020 in the I-690/I-481 interchange in the I-481 East Study Area; on June 25, 2020 in the northern portion of the I-481 North Study Area; and on May 11, 2021 in the vicinity of Noise Barrier 16A&B in the I-481 North Study Area.

Due to the number of site investigations, this appendix outlines the wildlife observation dates pertaining to each of the four study areas in each section below. This appendix also notes which species of wildlife that are Federally- or State-listed as Endangered, Threatened, or of special concern are reported by the New York Natural Heritage Program (NYNHP) and/or the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) System database as having the potential to occur in the vicinity of the study areas.

A. CENTRAL STUDY AREA

BIRDS

The 2000–2005 New York State Breeding Bird Atlas documented 105 species as confirmed or probable/possible breeders within the four census blocks in which the Central Study Area is located (Blocks 3976B, 4076A, 4076C, and 4076B) (Table J-3-1). These three-square-mile census blocks (12 total square miles) span larger and less disturbed habitats, and different habitat types than those which are present in the vicinity of the Central Study Area. As such, many species documented during the Breeding Bird Atlas are not considered to have the potential to nest in the vicinity of the Central Study Area because it offers minimal and low-quality breeding habitat due to intensive urban development and high levels of noise and human activity.

Table J-3-1

Birds Documented by the 2000–2005 New York State Breeding Bird Atlas in Census Blocks 3976B, 4076A, 4076C, and 4076B

Common Name	Scientific Name
Alder Flycatcher	<i>Empidonax alnorum</i>
American Crow	<i>Corvus brachyrhynchos</i>
American Goldfinch	<i>Spinus tristis</i>
American Kestrel	<i>Falco sparverius</i>

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Table J-3-1 (cont'd)

Birds Documented by the 2000–2005 New York State Breeding Bird Atlas in Census
Blocks 3976B, 4076A, 4076C, and 4076B

Common Name	Scientific Name
American Redstart	<i>Setophaga ruticilla</i>
American Robin	<i>Turdus migratorius</i>
American Woodcock	<i>Scolopax minor</i>
Baltimore Oriole	<i>Icterus galbula</i>
Bank Swallow	<i>Riparia riparia</i>
Barn Swallow	<i>Hirundo rustica</i>
Belted Kingfisher	<i>Megasceryle alcyon</i>
Black-and-white Warbler	<i>Mniotilta varia</i>
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>
Black-capped Chickadee	<i>Poecile atricapillus</i>
Black-throated Green Warbler	<i>Dendroica virens</i>
Blue Jay	<i>Cyanocitta cristata</i>
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>
Blue-winged Warbler	<i>Vermivora pinus</i>
Bobolink	<i>Dolichonyx oryzivorus</i>
Brown Creeper	<i>Certhia americana</i>
Brown Thrasher	<i>Toxostoma rufum</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Canada Goose	<i>Branta canadensis</i>
Carolina Wren	<i>Thryothorus ludovicianus</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>
Chimney Swift	<i>Chaetura pelagica</i>
Chipping Sparrow	<i>Spizella passerina</i>
Common Grackle	<i>Quiscalus quiscula</i>
Common Merganser	<i>Mergus merganser</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Dark-eyed Junco	<i>Junco hyemalis</i>
Double-crested Cormorant	<i>Phalacrocorax auritus</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Eastern Bluebird	<i>Sialia sialis</i>
Eastern Kingbird	<i>Tyrannus tyrannus</i>
Eastern Meadowlark	<i>Sturnella magna</i>
Eastern Phoebe	<i>Sayornis phoebe</i>
Eastern Screech-Owl	<i>Megascops asio</i>
Eastern Towhee	<i>Pipilo erythrophthalmus</i>
Eastern Wood-Pewee	<i>Contopus virens</i>
European Starling	<i>Sturnus vulgaris</i>
Field Sparrow	<i>Spizella pusilla</i>
Fish Crow	<i>Corvus ossifragus</i>
Golden-crowned Kinglet	<i>Regulus satrapa</i>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>
Gray Catbird	<i>Dumetella carolinensis</i>
Great Blue Heron	<i>Ardea herodias</i>
Great Crested Flycatcher	<i>Myiarchus crinitus</i>
Great Horned Owl	<i>Bubo virginianus</i>
Green Heron	<i>Butorides virescens</i>
Hairy Woodpecker	<i>Picoides villosus</i>

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Table J-3-1 (cont'd)

Birds Documented by the 2000–2005 New York State Breeding Bird Atlas in Census
Blocks 3976B, 4076A, 4076C, and 4076B

Common Name	Scientific Name
Hooded Warbler	<i>Wilsonia citrina</i>
House Finch	<i>Carpodacus mexicanus</i>
House Sparrow	<i>Passer domesticus</i>
House Wren	<i>Troglodytes aedon</i>
Indigo Bunting	<i>Passerina cyanea</i>
Killdeer	<i>Charadrius vociferus</i>
Least Flycatcher	<i>Empidonax minimus</i>
Louisiana Waterthrush	<i>Seiurus motacilla</i>
Mallard	<i>Anas platyrhynchos</i>
Marsh Wren	<i>Cistothorus palustris</i>
Mourning Dove	<i>Zenaida macroura</i>
Mute Swan	<i>Cygnus olor</i>
Northern Cardinal	<i>Cardinalis cardinalis</i>
Northern Flicker	<i>Colaptes auratus</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Orchard Oriole	<i>Icterus spurius</i>
Osprey	<i>Pandion haliaetus</i>
Ovenbird	<i>Seiurus aurocapilla</i>
Peregrine Falcon	<i>Falco peregrinus</i>
Pileated Woodpecker	<i>Dryocopus pileatus</i>
Pine Warbler	<i>Dendroica pinus</i>
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>
Red-breasted Nuthatch	<i>Sitta canadensis</i>
Red-eyed Vireo	<i>Vireo olivaceus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Ring-necked Pheasant	<i>Phasianus colchicus</i>
Rock Pigeon	<i>Columba livia</i>
Rose-breasted Grosbeak	<i>Phencticus ludovicianus</i>
Ruby-throated Hummingbird	<i>Archilochus colubris</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>
Scarlet Tanager	<i>Piranga olivacea</i>
Sharp-shinned Hawk	<i>Accipiter striatus</i>
Song Sparrow	<i>Melospiza melodia</i>
Sora	<i>Porzana carolina</i>
Spotted Sandpiper	<i>Actitis macularius</i>
Swamp Sparrow	<i>Melospiza georgiana</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Tufted Titmouse	<i>Baeolophus bicolor</i>
Turkey Vulture	<i>Cathartes aura</i>
Vesper Sparrow	<i>Pooecetes gramineus</i>
Warbling Vireo	<i>Vireo gilvus</i>
White-breasted Nuthatch	<i>Sitta carolinensis</i>
Wild Turkey	<i>Meleagris gallopavo</i>
Willow Flycatcher	<i>Empidonax traillii</i>
Wood Duck	<i>Aix sponsa</i>
Wood Thrush	<i>Hylocichla mustelina</i>
Yellow Warbler	<i>Dendroica petechia</i>
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>

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Table J-3-1 (cont'd)

Birds Documented by the 2000–2005 New York State Breeding Bird Atlas in Census Blocks 3976B, 4076A, 4076C, and 4076B

Common Name	Scientific Name
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
Yellow-throated Vireo	<i>Vireo flavifrons</i>
Note: Boldface indicates the subset of species that is considered to have the potential to nest within the study area on the basis of their habitat associations and sensitivity to human disturbance (Rodewald 2015).	

On the basis of their habitat associations and general sensitivity to human disturbance (Rodewald 2015), only 60 of the 105 species documented by the Breeding Bird Atlas are considered to have the potential to nest in the vicinity of the Central Study Area (see **Table J-3-1**). The most substantive areas of habitat to support native breeding birds are the Oakwood Cemetery, the marshes bordering Ley Creek, and the stormwater management basins at the northern end of the Central Study Area. Otherwise, the Central Study Area is dominated by impervious surfaces and only the most urban-adapted birds, such as the non-native house sparrow (*Passer domesticus*), European starling (*Sterna vulgaris*), and rock pigeon (*Columbia livia*), would be expected to nest in this area. Birds observed in the vicinity of the Central Study Area during the July 29, 2016 wildlife survey, which coincided with the breeding period of most bird species in the region, included: song sparrow (*Melospiza melodia*), warbling vireo (*Vireo gilvus*), yellow warbler (*Dendroica petechial*), cedar waxwing (*Bombycilla cedrorum*), American redstart (*Setophaga ruticilla*), American goldfinch (*Spinus tristis*), American robin (*Turdus migratorius*), and northern flicker (*Colaptes auratus*). The Central Study Area was not visited during the July 13, 2017 wildlife survey or the September 13, 2019, June 24 and 25, 2020, and May 11, 2021 site investigations.

Oakwood Cemetery and the marshes at the north end of the Central Study Area represent the most substantive overwintering and migration stopover habitat for birds within the Central Study Area. Overwintering birds in these areas likely include common backyard birds, such as northern cardinal (*Cardinalis cardinalis*), blue jay (*Cyanocitta cristata*), white-throated sparrow (*Zonotrichia albicollis*), American goldfinch, house finch (*Carpodacus mexicanus*), downy woodpecker (*Picoides pubescens*), hairy woodpecker (*Picoides villosus*), and white-breasted nuthatch (*Sitta carolinensis*). In the more intensively developed portions of the Central Study Area where there is little to no green space, the only birds expected to occur during the wintertime are the house sparrow, European starling, and rock pigeon. Human-modified habitats within cities are commonly used by an abundance of birds as stopover sites during spring and fall migration. Numerous species of birds have the potential to occur briefly in the vegetated areas during spring and fall, with the most species and the most individuals likely occurring in Oakwood Cemetery. Examples include ovenbird (*Seiurus aurocapilla*), hermit thrush (*Catharus guttatus*), yellow-rumped warbler (*Setophaga coronata*), American redstart, magnolia warbler (*Setophaga magnolia*), black and white warbler (*Mniotilta varia*), and white-throated sparrow.

In addition, as described below and in **Appendix J-7** the State-listed Endangered peregrine falcon (*Falco peregrinus*) and Threatened bald eagle (*Haliaeetus leucocephalus*) have been documented in the vicinity of the Central Study Area. Therefore, the peregrine falcon and bald eagle have the potential to occur within the Central Study Area.

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MAMMALS

The majority of the Central Study Area is intensively developed and covered by impervious surfaces and likely supports the most urban-adapted generalist species of mammals. These include the eastern gray squirrel (*Sciurus carolinensis*), Norway rat (*Rattus norvegicus*), raccoon (*Procyon lotor*), house mouse (*Mus musculus*), and feral cat (*Felis domesticus*). Oakwood Cemetery may support some additional mammals, including red fox (*Vulpes vulpes*), eastern coyote (*Canis latrans*), white-footed mouse (*Peromyscus leucopus*), groundhog (*Marmota monax*), striped skunk (*Mephitis*), Virginia opossum (*Didelphis virginiana*), white-tailed deer (*Odocoileus virginianus*), big brown bat (*Eptesicus fuscus*), eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), and silver-haired bat (*Lasionycteris noctivagans*). Muskrats (*Ondatra zibethicus*) are expected to occur within Ley Creek and the stormwater management basins in the vicinity of the north end of the Central Study Area. White-tailed deer and eastern gray squirrel were the only mammal species observed during the July 29, 2016 survey. The Central Study Area was not visited during the July 13, 2017, September 13, 2019, June 24 and 25, 2020, or May 11, 2021 site investigations.

REPTILES AND AMPHIBIANS

The NYSDEC Herp Atlas Project, a survey conducted from 1990 to 1999 to document the geographic distribution of New York's reptile and amphibian species, recorded 21 species in the census block where the Central Study Area is located (Syracuse West Quadrangle) (Table J-3-2).

Table J-3-2
Reptiles and Amphibians Documented by the NYSDEC
Herp Atlas Project in the Syracuse West Quadrangle

Common Name	Scientific Name
Spotted salamander	<i>Ambystoma maculatum</i>
Eastern American toad	<i>Bufo a. americanus</i>
Common snapping turtle	<i>Chelydra s. serpentina</i>
Painted turtle	<i>Chrysemys picta</i>
Wood turtle †	<i>Clemmys insculpta</i> †
Northern dusky salamander	<i>Desmognathus fuscus</i>
Northern ringneck snake	<i>Diadophis punctatus edwardsii</i>
Northern two-lined salamander	<i>Eurycea bislineata</i>
Gray treefrog	<i>Hyla versicolor</i>
Eastern milk snake	<i>Lampropeltis t. triangulum</i>
Northern water snake	<i>Nerodia s. sipedon</i>
Red-spotted newt	<i>Notophthalmus v. viridescens</i>
Northern redback salamander	<i>Plethodon c. cinereus</i>
Northern slimy salamander	<i>Plethodon glutinosus</i>
Northern spring peeper	<i>Pseudacris c. crucifer</i>
Green frog	<i>Rana clamitans melanota</i>
Northern leopard frog	<i>Rana pipiens</i>
Common musk turtle	<i>Sternotherus odoratus</i>
Northern brown snake	<i>Storeria d. dekayi</i>
Northern redbelly snake	<i>Storeria o. occipitamaculata</i>
Common garter snake	<i>Thamnophis sirtalis</i>
Notes: Boldface indicates the subset of species that is considered to have the potential to nest within the study area on the basis of their habitat associations and sensitivity to human disturbance (Rodewald 2015). † denotes State-listed species of special concern.	

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Aside from Ley Creek, the Central Study Area lacks the freshwater habitats that are needed to support most of the reptile and amphibian species of New York State. The only areas where reptiles or amphibians have the potential to occur are Oakwood Cemetery and Ley Creek and the stormwater management basins at the northern end of the area. Of the 21 species documented by the Herp Atlas, only the northern red-backed salamander (*Plethodon cinereus*), eastern American toad (*Anaxyrus americanus*), spring peeper (*Pseudacris crucifer*), green frog (*Rana clamitans melanota*), common snapping turtle (*Chelydra serpentina*), northern brown snake (*Storeria dekayi*), and common garter snake (*Thamnophis sirtalis*) are considered to have the potential to occur within the Central Study Area on the basis of their habitat associations (Gibbs et al. 2007). However, none of these or other species of reptile or amphibian were observed during the July 29, 2016 survey. The Central Study Area was not visited during the July 13, 2017, September 13, 2019, June 24 and 25, 2020, or May 11, 2021 site investigations.

Furthermore, as described below and in **Appendix J-7**, the Federally-listed Threatened and State-listed Endangered eastern massasauga (*Sistrurus catenatus*) has been documented as having the potential to occur in the vicinity of the Central Study Area.

FISH

In addition, as described below and in **Appendix J-7**, the State-listed Threatened lake sturgeon (*Acipenser fulvescens*) has been documented in surface waters of Onondaga Lake, Onondaga Creek, and Ley Creek, which are within the Central Study Area. As such, lake sturgeon has the potential to occur within the Central Study Area.

THREATENED AND ENDANGERED SPECIES

Four Federally- or State-listed wildlife species have been documented by NYNHP (February 3, 2022) as occurring in the vicinity of the Central Study Area. These include the Federally- and State-listed Threatened northern long-eared bat, the Federally- and State-protected bald eagle and the State-listed peregrine falcon and lake sturgeon. The monarch butterfly (*Danaus plexippus*), a candidate species, is listed in the USFWS IPaC System for the Central Study Area (February 2, 2022).

NORTHERN LONG-EARED BAT

The northern long-eared bat is Federally- and State-listed Threatened bat. The northern long-eared bat is listed by the USFWS IPaC System as having the potential to occur within the I-481 Central Study Area. The NYNHP has records of this species roosting within 1.5 miles of the I-481 South Study Area.

As discussed above, northern long-eared bats are sensitive to urbanization and fragmentation, and prefer large tracts of interior forest for roosting and foraging. The woodland fragments bordering the east and west sides of the Central Study Area may be too small and have too high of an edge to area ratio to be preferred habitat of northern long-eared bats, but there remains a marginal possibility that this species could occur within these sections of the Central Study Area.

BALD EAGLE

The bald eagle is a State-listed Threatened bird of prey that was removed from the Federal Endangered Species List in 2007 because of a strong recovery from population declines that had occurred throughout the mid- and late-1900s. Bald eagle populations in New York State in particular have grown dramatically over the past few decades (Nye 2008). There were a state record-breaking 323 breeding pairs estimated to be in New York as of the most recently released census information from 2016 (NYSDEC 2017). The recovery of bald eagles throughout their range is largely attributable to their consistently increasing, generational habituation to human activity and development (Johnson 2010, Guinn 2013). As a result of this recovery, the State status of the bald eagle has been proposed to be changed to “special concern” as per the *NYSDEC Draft List Under Part 182.5 Pre-proposal—October 2019* (NYSDEC 2019). According to the NYNHP database, non-breeding¹ bald eagles have been observed perching and foraging along the southeastern shoreline of Onondaga Lake. This area is on the periphery of the Central Study Area and I-481 North Study Area, and therefore non-breeding bald eagles have the potential to occur there. There are no other lakes or rivers that would provide suitable habitat for breeding or non-breeding bald eagles in the I-481 South and I-481 East Study Areas and the NYNHP has no records of bald eagles occurring in their vicinity.

PEREGRINE FALCON

The peregrine falcon is a State-listed Endangered bird of prey. Populations have grown dramatically since the 1980s, however, as peregrine falcons have become increasingly common in urban areas and demonstrated a tolerance of human disturbance and an ability to exploit resources in human-modified environments (Cade et al. 1996, White et al. 2002). As a result of this recovery, the State status of the peregrine falcon has been proposed to be changed to “special concern” as per the *NYSDEC Draft List Under Part 182.5 Pre-proposal—October 2019* (NYSDEC 2019). It has been suggested that peregrine falcons will tolerate almost any level of human activity taking place below their nest provided that the nest is inaccessible (Ratcliffe 1972) to humans and predators. Urban peregrine falcons appear to have particularly high tolerance thresholds compared with those in more remote areas (White et al. 2002). In several cities within New York State, peregrine falcons nest on bridges and high-rise buildings among high levels of noise and human activity associated with the urban environment (Frank 1994, Cade et al. 1996, Loucks and Nadaraski 2005).

The NYNHP database indicated that there is a peregrine falcon nest adjacent to the Central Study Area. Therefore, peregrine falcons have the potential to occur within the Central Study Area.

LAKE STURGEON

The lake sturgeon is a State-listed Threatened freshwater fish that occurs in several lakes, rivers, and canals in northern New York State. The NYNHP has records of lake sturgeon

¹ Non-breeding refers to birds that may exist at any time of year, including birds that do not breed during the nesting season (e.g., juveniles). USFWS considers the breeding season in NY to be between January 1 and October 1.

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occurring in Onondaga Lake. Onondaga Creek and Ley Creek, which are both tributaries to Onondaga Lake, are within the Central Study Area. Thus, lake sturgeon has the potential to occur in the Central Study Area.

MONARCH BUTTERFLY

The monarch butterfly is listed as a candidate species, and it currently does not have any protection under Section 7 of the Endangered Species Act (ESA). Consultation or conference (formal or informal) with USFWS is not required at this time. The project takes place in previously disturbed and currently maintained right-of-way and does not anticipate the removal of any pollinator habitat.

B. I-481 SOUTH STUDY AREA

BIRDS

The 2000–2005 New York State Breeding Bird Atlas documented 100 species as confirmed or probable/possible breeders within the two 9-square mile census blocks in which the I-481 South Study Area is located (Block 4076C and 4076D) (**Table J-3-3**).

Table J-3-3

**Birds Documented by the 2000–2005 New York State Breeding Bird
Atlas in Census Blocks 4076C and 4076D**

Common Name	Scientific Name
American Crow	<i>Corvus brachyrhynchos</i>
American Goldfinch	<i>Spinus tristis</i>
American Kestrel	<i>Falco sparverius</i>
American Redstart	<i>Setophaga ruticilla</i>
American Robin	<i>Turdus migratorius</i>
Baltimore Oriole	<i>Icterus galbula</i>
Bank Swallow	<i>Riparia riparia</i>
Barn Swallow	<i>Hirundo rustica</i>
Barred Owl	<i>Strix varia</i>
Belted Kingfisher	<i>Megasceryle alcyon</i>
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>
Black-capped Chickadee	<i>Poecile atricapillus</i>
Black-throated Green Warbler	<i>Dendroica virens</i>
Blue Jay	<i>Cyanocitta cristata</i>
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>
Blue-winged Warbler	<i>Vermivora pinus</i>
Brown Thrasher	<i>Toxostoma rufum</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Canada Goose	<i>Branta canadensis</i>
Carolina Wren	<i>Thryothorus ludovicianus</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>
Chimney Swift	<i>Chaetura pelagica</i>
Chipping Sparrow	<i>Spizella passerina</i>
Clay-colored Sparrow	<i>Spizella pallida</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
Common Grackle	<i>Quiscalus quiscula</i>
Common Raven	<i>Corvus corax</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Dark-eyed Junco	<i>Junco hyemalis</i>

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Table J-3-3 (cont'd)
Birds Documented by the 2000–2005 New York State Breeding Bird Atlas
in Census Blocks 4076C and 4076D

Common Name	Scientific Name
Downy Woodpecker	<i>Picoides pubescens</i>
Eastern Bluebird	<i>Sialia sialis</i>
Eastern Kingbird	<i>Tyrannus tyrannus</i>
Eastern Meadowlark	<i>Sturnella magna</i>
Eastern Phoebe	<i>Sayornis phoebe</i>
Eastern Screech-Owl	<i>Megascops asio</i>
Eastern Towhee	<i>Pipilo erythrophthalmus</i>
Eastern Wood-Pewee	<i>Contopus virens</i>
European Starling	<i>Sturnus vulgaris</i>
Field Sparrow	<i>Spizella pusilla</i>
Fish Crow	<i>Corvus ossifragus</i>
Golden-crowned Kinglet	<i>Regulus satrapa</i>
Gray Catbird	<i>Dumetella carolinensis</i>
Great Blue Heron	<i>Ardea herodias</i>
Great Crested Flycatcher	<i>Myiarchus crinitus</i>
Great Horned Owl	<i>Bubo virginianus</i>
Green Heron	<i>Butorides virescens</i>
Hairy Woodpecker	<i>Picoides villosus</i>
Hooded Warbler	<i>Wilsonia citrina</i>
House Finch	<i>Carpodacus mexicanus</i>
House Sparrow	<i>Passer domesticus</i>
House Wren	<i>Troglodytes aedon</i>
Indigo Bunting	<i>Passerina cyanea</i>
Killdeer	<i>Charadrius vociferus</i>
Least Flycatcher	<i>Empidonax minimus</i>
Louisiana Waterthrush	<i>Seiurus motacilla</i>
Mallard	<i>Anas platyrhynchos</i>
Marsh Wren	<i>Cistothorus palustris</i>
Mourning Dove	<i>Zenaidura macroura</i>
Mute Swan	<i>Cygnus olor</i>
Northern Cardinal	<i>Cardinalis cardinalis</i>
Northern Flicker	<i>sColaptes auratus</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Northern Saw-whet Owl	<i>Aegolius acadicus</i>
Osprey	<i>Pandion haliaetus</i>
Ovenbird	<i>Seiurus aurocapilla</i>
Pileated Woodpecker	<i>Dryocopus pileatus</i>
Pine Warbler	<i>Dendroica pinus</i>
Prairie Warbler	<i>Dendroica discolor</i>
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>
Red-breasted Nuthatch	<i>Sitta canadensis</i>
Red-eyed Vireo	<i>Vireo olivaceus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Rock Pigeon	<i>Columba livia</i>
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>
Ruby-throated Hummingbird	<i>Archilochus colubris</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>
Scarlet Tanager	<i>Piranga olivacea</i>

Table J-3-3 (cont'd)
Birds Documented by the 2000–2005 New York State Breeding Bird Atlas
in Census Blocks 4076C and 4076D

Common Name	Scientific Name
Sharp-shinned Hawk	<i>Accipiter striatus</i>
Song Sparrow	<i>Melospiza melodia</i>
Spotted Sandpiper	<i>Actitis macularius</i>
Swamp Sparrow	<i>Melospiza georgiana</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Tufted Titmouse	<i>Baeolophus bicolor</i>
Turkey Vulture	<i>Cathartes aura</i>
Vesper Sparrow	<i>Poocetes gramineus</i>
Virginia Rail	<i>Rallus limicola</i>
Warbling Vireo	<i>Vireo gilvus</i>
White-breasted Nuthatch	<i>Sitta carolinensis</i>
Wild Turkey	<i>Meleagris gallopavo</i>
Willow Flycatcher	<i>Empidonax traillii</i>
Winter Wren	<i>Troglodytes troglodytes</i>
Wood Duck	<i>Aix sponsa</i>
Wood Thrush	<i>Hylocichla mustelina</i>
Yellow Warbler	<i>Dendroica petechia</i>
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>
Yellow-throated Vireo	<i>Vireo flavifrons</i>
Note: Boldface indicates the subset of species that is considered to have the potential to nest within the study area on the basis of their habitat associations and sensitivity to human disturbance (Rodewald 2015).	

The I-481 South Study Area is heavily developed, and dominated by roads and other impervious surfaces, and mowed lawn with trees. Open space available for breeding birds is primarily limited to long, linear woodland fragments bordering the east and west sides of I-81 south of East Seneca Turnpike, successional shrubland and southern successional hardwood forest to the south of Rock Cut Road, a narrow fragment of shrubland between Rock Cut Road and I-481, and a narrow fragment of old field to the north of I-481, between the highway and a rail corridor. These areas of habitat within the Study Area are limited to roadside edges, which are fragmented and isolated, and subjected to extreme levels of motor vehicle disturbance. Of the 100 species documented in the two atlas blocks in which the I-481 South Study Area is located, only 35 are considered to have the potential to nest in these roadside habitats based on their habitat associations and sensitivity to human disturbance (see **Table J-3-3**). Birds observed within the I-481 South Study Area during the July 29, 2016 and/or July 13, 2017 wildlife survey, which coincided with the breeding period of most bird species in the region, included: American goldfinch, American crow (*Corvus brachyrhynchos*), black-capped chickadee (*Parus atricapillus*), European starling (*Sternus vulgaris*), scarlet tanager (*Piranga olivacea*), eastern phoebe, northern flicker, eastern wood peewee (*Contopus virens*), blue jay, American robin, Carolina wren (*Thryothorus ludovicianus*), house wren (*Troglodytes aedon*), red-tailed hawk (*Buteo jamaicensis*), chipping sparrow (*Spizella passerina*), northern cardinal, red-bellied woodpecker (*Melanerpes carolinus*), downy woodpecker, and pileated woodpecker (*Dryocopus pileatus*). The I-481 South Study Area was not visited during the July 13, 2017, September 13, 2019, June 24 and 25, 2020, or May 11, 2021 site investigations.

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Birds that are expected to occur in the I-481 South Study Area during the winter, primarily in Heath Park and in the vicinity of the utility corridor to the south of Rock Cut Road, include northern cardinal, blue jay, white-throated sparrow, American goldfinch, house finch, downy woodpecker, hairy woodpecker, and white-breasted nuthatch. Examples of migrating birds that likely occur within the I-481 South Study Area during spring and fall include ovenbird, Swainson's thrush, hermit thrush, yellow-rumped warbler, American redstart, magnolia warbler, black and white warbler, chestnut-sided warbler (*Setophaga pennsylvanica*), prairie warbler (*Setophaga discolor*), indigo bunting (*Passerina cyanea*), and white-throated sparrow.

MAMMALS

The majority of the I-481 South Study Area is developed with residential and commercial buildings and transportation infrastructure. Eastern gray squirrel, Norway rat, raccoon, house mouse, and feral cat are the only mammals that likely occur in the portions of the I-481 South Study Area that have minimal or no vegetation cover. In the woodland fragments bordering I-81, south of East Seneca Turnpike, and/or in the successional shrubland/successional southern hardwoods forest along the southern edge of Rock Cut Road, additional mammals have the potential to occur, including red fox, eastern coyote, white-footed mouse, groundhog, striped skunk, Virginia opossum, white-tailed deer, big brown bat, eastern red bat, hoary bat, and silver-haired bat. Eastern gray squirrel was the only mammal species observed in the I-481 South Study Area during the July 29, 2016 and July 13, 2017 surveys. The I-481 South Study Area was not visited during the July 13, 2017, September 13, 2019, June 24 and 25, 2020, or May 11, 2021 site investigations.

As discussed in **Appendix J-7**, the Federally- and State-listed Endangered Indiana bat and the Federally- and State-listed Threatened northern long-eared bat have been documented as having the potential to occur in the vicinity of the I-481 South Study Area.

REPTILES AND AMPHIBIANS

The NYSDEC Herp Atlas Project, a survey conducted from 1990 to 1999 to document the geographic distribution of New York's reptile and amphibian species, recorded 25 species in the census blocks in which the I-481 South Study Area is located (Syracuse West, Syracuse East, and South Onondaga Quadrangles) (**Tables J-3-4 through J-3-6**).

Table J-3-4

**Reptiles and Amphibians Documented by the NYSDEC Herp
Atlas Project in the Syracuse West Quadrangle**

Common Name	Scientific Name
Spotted salamander	<i>Ambystoma maculatum</i>
Eastern American toad	<i>Bufo a. americanus</i>
Common snapping turtle	<i>Chelydra s. serpentina</i>
Painted turtle	<i>Chrysemys picta</i>
Wood turtle †	<i>Clemmys insculpta</i> †
Northern dusky salamander	<i>Desmognathus fuscus</i>
Northern ringneck snake	<i>Diadophis punctatus edwardsii</i>
Northern two-lined salamander	<i>Eurycea bislineata</i>
Gray treefrog	<i>Hyla versicolor</i>

Table J-3-4 (cont'd)
Reptiles and Amphibians Documented by the NYSDEC Herp
Atlas Project in the Syracuse West Quadrangle

Common Name	Scientific Name
Eastern milk snake	<i>Lampropeltis t. triangulum</i>
Northern water snake	<i>Nerodia s. sipedon</i>
Red-spotted newt	<i>Notophthalmus v. viridescens</i>
Northern redback salamander	<i>Plethodon c. cinereus</i>
Northern slimy salamander	<i>Plethodon glutinosus</i>
Northern spring peeper	<i>Pseudacris c. crucifer</i>
Green frog	<i>Rana clamitans melanota</i>
Northern leopard frog	<i>Rana pipiens</i>
Common musk turtle	<i>Sternotherus odoratus</i>
Northern brown snake	<i>Storeria d. dekayi</i>
Northern redbelly snake	<i>Storeria o. occipitamaculata</i>
Common garter snake	<i>Thamnophis sirtalis</i>
Notes: Boldface indicates the subset of species that is considered to have the potential to nest within the study area on the basis of their habitat associations and sensitivity to human disturbance (Rodewald 2015). † denotes State-listed species of special concern.	

Table J-3-5
Reptiles and Amphibians Documented by the NYSDEC
Herp Atlas Project in the Syracuse East Quadrangle

Common Name	Scientific Name
Spotted salamander	<i>Ambystoma maculatum</i>
Eastern American toad	<i>Bufo a. americanus</i>
Common snapping turtle	<i>Chelydra s. serpentina</i>
Painted turtle	<i>Chrysemys picta</i>
Northern ringneck snake	<i>Diadophis punctatus edwardsii</i>
Northern two-lined salamander	<i>Eurycea bislineata</i>
Gray treefrog	<i>Hyla versicolor</i>
Eastern milk snake	<i>Lampropeltis t. triangulum</i>
Northern water snake	<i>Nerodia s. sipedon</i>
Red-spotted newt	<i>Notophthalmus v. viridescens</i>
Northern redback salamander	<i>Plethodon c. cinereus</i>
Northern slimy salamander	<i>Plethodon glutinosus</i>
Northern spring peeper	<i>Pseudacris c. crucifer</i>
Bullfrog	<i>Rana catesbeiana</i>
Green frog	<i>Rana clamitans melanota</i>
Pickerel frog	<i>Rana palustris</i>
Northern leopard frog	<i>Rana pipiens</i>
Northern brown snake	<i>Storeria d. dekayi</i>
Common garter snake	<i>Thamnophis sirtalis</i>
Note: Boldface indicates the subset of species that is considered to have the potential to nest within the study area on the basis of their habitat associations and sensitivity to human disturbance (Rodewald 2015).	

Table J-3-6

**Reptiles and Amphibians Documented by the NYSDEC Herp
Atlas Project in the South Onondaga Quadrangle**

Common Name	Scientific Name
Spotted salamander	<i>Ambystoma maculatum</i>
Eastern American toad	<i>Bufo a. americanus</i>
Common snapping turtle	<i>Chelydra s. serpentina</i>
Painted turtle	<i>Chrysemys picta</i>
Northern dusky salamander	<i>Desmognathus fuscus</i>
Allegheny dusky salamander	<i>Desmognathus ochrophaeus</i>
Northern ringneck snake	<i>Diadophis punctatus edwardsii</i>
Northern two-lined salamander	<i>Eurycea bislineata</i>
Eastern milk snake	<i>Lampropeltis t. triangulum</i>
Red-spotted newt	<i>Notophthalmus v. viridescens</i>
Northern redback salamander	<i>Plethodon c. cinereus</i>
Northern slimy salamander	<i>Plethodon glutinosus</i>
Northern spring peeper	<i>Pseudacris c. crucifer</i>
Green frog	<i>Rana clamitans melanota</i>
Pickerel frog	<i>Rana palustris</i>
Northern leopard frog	<i>Rana pipiens</i>
Wood frog	<i>Rana sylvatica</i>
Common garter snake	<i>Thamnophis sirtalis</i>
Note: Boldface indicates the subset of species that is considered to have the potential to nest within the study area on the basis of their habitat associations and sensitivity to human disturbance (Rodewald 2015).	

The I-481 South Study Area lacks the freshwater habitats needed to support most of the reptile and amphibian species of New York State (Gibbs et al. 2007). In addition, most of the area is heavily developed and is unsuitable habitat for reptiles and amphibians. Of the 25 species identified in the census blocks of the Herp Atlas Project, only the northern red-backed salamander, common garter snake, eastern American toad, northern brown snake, and ring-necked snake (*Diadophis punctatus*) are expected to occur within the area on the basis of their habitat associations and sensitivity to disturbance. The woodland fragments bordering I-81, south of East Seneca Turnpike, and the successional shrubland/successional southern hardwoods forest along the southern edge of Rock Cut Road are the only places within the I-481 South Study Area in which any of these species would be expected to occur. No reptiles or amphibians were observed within the I-481 South Study Area during the July 29, 2016 and July 13, 2017 wildlife surveys. The I-481 South Study Area was not visited during the July 13, 2017, September 13, 2019, June 24 and 25, 2020, or May 11, 2021 site investigations.

Furthermore, as described below and in **Appendix J-7**, the Federally-listed Threatened and State-listed Endangered eastern massasauga has been documented as having the potential to occur in the vicinity of the I-481 South Study Area.

THREATENED AND ENDANGERED SPECIES

Three Federally- and State-listed wildlife species have been documented by NYNHP (February 3, 2022) and by USFWS IPaC (February 2, 2022) as occurring in the vicinity of the I-481 South Study Area. These include Indiana bat, northern long-eared bat, and eastern

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massasauga. The monarch butterfly, a candidate species, is listed in the USFWS IPaC System for the I-481 South Study Area.

INDIANA BAT

The Indiana bat is a Federally- and State-listed Endangered bat. The Indiana bat is listed by the USFWS IPaC System as having the potential to occur within the I-481 South Study Area. The NYNHP has records of Indiana bat hibernaculum and roost trees adjacent to the I-481 South Study Area. The woodland fragments bordering the east and west sides of the I-481 South Study Area may represent suitable roosting and foraging habitat for Indiana bats. Therefore, Indiana bats are considered to have the potential to occur within the I-481 South Study Area.

NORTHERN LONG-EARED BAT

The northern long-eared bat is Federally- and State-listed Threatened bat. The northern long-eared bat is listed by the USFWS IPaC System as having the potential to occur within the I-481 South Study Area. The NYNHP has no records of this species roosting within 1.5 miles of the I-481 South Study Area, although a northern long-eared bat hibernaculum is located adjacent to the I-481 South Study Area.

As discussed above, northern long-eared bats are sensitive to urbanization and fragmentation, and prefer large tracts of interior forest for roosting and foraging. The woodland fragments bordering the east and west sides of the I-481 South Study Area may be too small and have too high of an edge to area ratio to be preferred habitat of northern long-eared bats, but there remains a marginal possibility that this species could occur within these sections of the I-481 South Study Area.

EASTERN MASSASAUGA

The eastern massasauga is a Federally-listed Threatened and State-listed Endangered rare and declining rattlesnake. The USFWS IPaC System lists the eastern massasauga as having the potential to occur in the I-481 South Study Area. There are no NYNHP records of the eastern massasauga occurring within or adjacent to the I-481 South Study Area. Eastern massasaugas are not expected to occur within the I-481 South Study Area because there is no appropriate habitat and it is fully disconnected and distant from the area in which eastern massasaugas are known to occur.

MONARCH BUTTERFLY

The monarch butterfly is listed as a candidate species, and it currently does not have any protection under Section 7 of the ESA. Consultation or conference (formal or informal) with USFWS is not required at this time. The project takes place in previously disturbed and currently maintained right-of-way and does not anticipate the removal of any pollinator habitat.

C. I-481 EAST STUDY AREA

BIRDS

The 2000–2005 New York State Breeding Bird Atlas documented 107 species as confirmed or probable/possible breeders within the census blocks in which the I-481 East Study Area is located (Blocks 4076B, 4076D, 4077D, and 4176C) (Table J-3-7).

Table J-3-7
Birds Documented by the 2000–2005 New York State Breeding
Bird Atlas in Census Blocks 4076B, 4076D, 4077D, and 4176C

Common Name	Scientific Name
Alder Flycatcher	<i>Empidonax alnorum</i>
American Crow	<i>Corvus brachyrhynchos</i>
American Goldfinch	<i>Spinus tristis</i>
American Kestrel	<i>Falco sparverius</i>
American Redstart	<i>Setophaga ruticilla</i>
American Robin	<i>Turdus migratorius</i>
American Woodcock	<i>Scolopax minor</i>
Baltimore Oriole	<i>Icterus galbula</i>
Bank Swallow	<i>Riparia riparia</i>
Barn Swallow	<i>Hirundo rustica</i>
Barred Owl	<i>Strix varia</i>
Belted Kingfisher	<i>Megasceryle alcyon</i>
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>
Black-capped Chickadee	<i>Poecile atricapillus</i>
Black-throated Green Warbler	<i>Dendroica virens</i>
Blue Jay	<i>Cyanocitta cristata</i>
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>
Blue-headed Vireo	<i>Vireo solitarius</i>
Blue-winged Warbler	<i>Vermivora pinus</i>
Bobolink	<i>Dolichonyx oryzivorus</i>
Brown Creeper	<i>Certhia americana</i>
Brown Thrasher	<i>Toxostoma rufum</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Canada Goose	<i>Branta canadensis</i>
Carolina Wren	<i>Thryothorus ludovicianus</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>
Chimney Swift	<i>Chaetura pelagica</i>
Chipping Sparrow	<i>Spizella passerina</i>
Clay-colored Sparrow	<i>Spizella pallida</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
Common Grackle	<i>Quiscalus quiscula</i>
Common Merganser	<i>Mergus merganser</i>
Common Raven	<i>Corvus corax</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Dark-eyed Junco	<i>Junco hyemalis</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Eastern Bluebird	<i>Sialia sialis</i>
Eastern Kingbird	<i>Tyrannus tyrannus</i>
Eastern Meadowlark	<i>Sturnella magna</i>
Eastern Phoebe	<i>Sayornis phoebe</i>

Table J-3-7 (cont'd)
Birds Documented by the 2000–2005 New York State Breeding
Bird Atlas in Census Blocks 4076B, 4076D, 4077D, and 4176C

Common Name	Scientific Name
Eastern Screech-Owl	<i>Megascops asio</i>
Eastern Towhee	<i>Pipilo erythrophthalmus</i>
Eastern Wood-Pewee	<i>Contopus virens</i>
European Starling	<i>Sturnus vulgaris</i>
Field Sparrow	<i>Spizella pusilla</i>
Fish Crow	<i>Corvus ossifragus</i>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>
Gray Catbird	<i>Dumetella carolinensis</i>
Great Blue Heron	<i>Ardea herodias</i>
Great Crested Flycatcher	<i>Myiarchus crinitus</i>
Great Horned Owl	<i>Bubo virginianus</i>
Green Heron	<i>Butorides virescens</i>
Hairy Woodpecker	<i>Picoides villosus</i>
House Finch	<i>Carpodacus mexicanus</i>
House Sparrow	<i>Passer domesticus</i>
House Wren	<i>Troglodytes aedon</i>
Indigo Bunting	<i>Passerina cyanea</i>
Killdeer	<i>Charadrius vociferus</i>
Least Flycatcher	<i>Empidonax minimus</i>
Mallard	<i>Anas platyrhynchos</i>
Mourning Dove	<i>Zenaida macroura</i>
Northern Cardinal	<i>Cardinalis cardinalis</i>
Northern Flicker	<i>Colaptes auratus</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Northern Saw-whet Owl	<i>Aegolius acadicus</i>
Northern Waterthrush	<i>Seiurus noveboracensis</i>
Osprey	<i>Pandion haliaetus</i>
Ovenbird	<i>Seiurus aurocapilla</i>
Pileated Woodpecker	<i>Dryocopus pileatus</i>
Prairie Warbler	<i>Dendroica discolor</i>
Purple Finch	<i>Carpodacus purpureus</i>
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>
Red-breasted Nuthatch	<i>Sitta canadensis</i>
Red-eyed Vireo	<i>Vireo olivaceus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Ring-necked Pheasant	<i>Phasianus colchicus</i>
Ring-billed Gull	<i>Larus delawarensis</i>
Rock Pigeon	<i>Columba livia</i>
Rose-breasted Grosbeak	<i>Phenictus ludovicianus</i>
Ruby-throated Hummingbird	<i>Archilochus colubris</i>
Ruffed Grouse	<i>Bonasa umbellus</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>
Scarlet Tanager	<i>Piranga olivacea</i>
Sharp-shinned Hawk	<i>Accipiter striatus</i>
Song Sparrow	<i>Melospiza melodia</i>
Spotted Sandpiper	<i>Actitis macularius</i>
Swamp Sparrow	<i>Melospiza georgiana</i>

Table J-3-7 (cont'd)
Birds Documented by the 2000–2005 New York State Breeding
Bird Atlas in Census Blocks 4076B, 4076D, 4077D, and 4176C

Common Name	Scientific Name
Tree Swallow	<i>Tachycineta bicolor</i>
Tufted Titmouse	<i>Baeolophus bicolor</i>
Turkey Vulture	<i>Cathartes aura</i>
Vesper Sparrow	<i>Pooecetes gramineus</i>
Virginia Rail	<i>Rallus limicola</i>
Warbling Vireo	<i>Vireo gilvus</i>
White-breasted Nuthatch	<i>Sitta carolinensis</i>
Wild Turkey	<i>Meleagris gallopavo</i>
Willow Flycatcher	<i>Empidonax traillii</i>
Winter Wren	<i>Troglodytes troglodytes</i>
Wood Duck	<i>Aix sponsa</i>
Wood Thrush	<i>Hylocichla mustelina</i>
Yellow Warbler	<i>Dendroica petechia</i>
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
Yellow-throated Vireo	<i>Vireo flavifrons</i>
Notes: Boldface indicates the subset of species that is considered to have the potential to nest within the study area on the basis of their habitat associations and sensitivity to human disturbance (Rodewald 2015).	

South of the I-481 interchange with Kirkville Road, the I-481 East Study Area is bordered by mature woodland and a large freshwater wetland (Wetland 6 as shown in **Chapter 6-4-7, Water Resources**) that is fed by Buttermilk Creek (located outside and to the east of the I-481 East Study Area). This freshwater wetland is capable of supporting numerous wetland and forest bird species, although noise and visual disturbances from the elevated roadway of I-481, which passes through the area, diminish its suitability for more sensitive species. The northern segment of the I-481 East Study Area is bordered to the west by development and to the east by a narrow linear woodland fragment that is closely bounded by I-481 on one side and Pheasant Road on the other. This area represents suitable nesting habitat for few species of birds other than disturbance-tolerant generalists. Habitat within the southern end of the I-481 East Study Area is limited to mowed lawn with trees, woodland fragments, and common reed (*Phragmites australis*)-dominated marsh, all within and immediately adjacent to the clover leaves and roads at the interchange with Route 5. These roadside habitats are subjected to extreme levels of human disturbance and therefore support few native bird species. Of the 107 species documented by the Breeding Bird Atlas in the four 9-square mile census blocks in which the I-481 East Study Area is located, only 68 are considered to have the potential to nest within these roadside habitats in each section of the study area on the basis of their habitat associations and sensitivity to human disturbance (see **Table J-3-7**). Birds observed within the I-481 East Study Area during the July 29, 2016 and/or July 13, 2017 wildlife surveys, which coincided with the breeding period of most bird species in the region, included: eastern wood peewee, scarlet tanager, song sparrow, swamp sparrow, American goldfinch, mourning dove (*Zenaidura macroura*), killdeer (*Charadrius vociferus*), solitary sandpiper (*Tringa solitaria*), barn swallow (*Hirundo rustica*), mallard (*Anas platyrhynchos*), Canada goose (*Branta canadensis*), wood duck (*Aix sponsa*), red-tailed hawk, swamp sparrow, red-winged blackbird (*Agelaius phoeniceus*), American

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woodcock (*Scolopax minor*), gray catbird (*Dumetella carolinensis*), American robin, cedar waxwing, ruby-throated hummingbird (*Archilochus colubris*), common yellowthroat (*Geothlypis trichas*), northern waterthrush (*Parkesia noveboracensis*), and an unidentified *Calidris* sandpiper species. An osprey (*Pandion haliaetus*) was seen flying overhead at the wetland at the southern end of the Project Area during the July 29, 2016 and July 13, 2017 surveys. Canadian goose, black-capped chickadee, red-winged blackbird, American goldfinch, mourning dove, American robin, and gray catbird were observed during the ecological communities and vegetation site investigations in the I-481/I-690 interchange on June 24 and 25, 2020. The I-481 East Study Area was not visited during the May 11, 2021 site investigation.

Birds that may occur in the I-481 East Study Area during the winter include common backyard birds, such as downy woodpecker, hairy woodpecker, and white-breasted nuthatch. Examples of migrating birds that likely occur within the I-481 East Study Area during spring and fall include ovenbird, Swainson's thrush, hermit thrush, yellow-rumped warbler, American redstart, magnolia warbler, black and white warbler, and white-throated sparrow. Some migratory waterfowl, such as northern shoveler (*Anas chrypeata*), blue-winged teal (*Anas discors*), and redhead (*Aythya americana*), may also occur during fall migration in the open waters of the freshwater wetland in the center portion of the I-481 East Study Area.

MAMMALS

Mammals that are considered to have the potential to occur in the I-481 East Study Area include eastern gray squirrel, Norway rat, raccoon, house mouse, white-tailed deer, muskrat, groundhog, striped skunk, Virginia opossum, feral cat, red fox, eastern coyote, white-footed mouse, big brown bat, Indiana bat, northern long-eared bat, eastern red bat, hoary bat, and silver-haired bat. American beaver (*Castor canadensis*) and mink (*Neovison vison*) are also considered to have the potential to occur within the open wetlands fed by Buttermilk Creek. Muskrat was the only mammal observed during the July 29, 2016 survey and no mammals were observed during the July 13, 2017 survey. White-tailed deer, ground hog, and eastern gray squirrel were observed during the ecological communities and vegetation site investigations in the I-481/I-690 interchange on June 24 and 25, 2020. The I-481 East Study Area was not visited during the May 11, 2021 site investigation.

As discussed in **Appendix J-7**, the Federally- and State-listed Endangered Indiana bat and the Federally- and State-listed Threatened northern long-eared bat have been documented as having the potential to occur in the vicinity of the I-481 East Study Area.

REPTILES AND AMPHIBIANS

The NYSDEC Herp Atlas Project, a survey conducted from 1990 to 1999 to document the geographic distribution of New York's reptile and amphibian species, recorded 19 species in the census blocks in which the I-481 East Study Area is located (Syracuse East Quadrangle) (**Table J-3-8**).

Of the 19 species identified in the census blocks of the Herp Atlas Project, only red-spotted newt (*Notophthalmus viridescens*), northern red-backed salamander, northern two-lined salamander (*Eurycea bislineata*), eastern American toad, gray tree frog (*Hyla versicolor*), spring peeper, bullfrog (*Rana catesbeiana*), green frog, northern leopard frog (*Rana pipiens*), common

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snapping turtle, painted turtle (*Chrysemys picta*), northern water snake (*Nerodia sipedon*), and common garter snake are considered to have the potential to occur within the area on the basis of their habitat associations and tolerance of disturbance. Most of these species would likely occur in the wetland associated with Buttermilk Creek (Wetland 6 as shown in **Chapter 6-4-7, Water Resources**). During the July 29, 2016 survey, green frog, northern leopard frog, bullfrog, painted turtle, and common snapping turtle were observed. Bullfrog, red-eared slider, and northern watersnake were observed during the July 13, 2017 wildlife survey. No reptile or amphibians were observed during the ecological communities and vegetation site investigations in the I-481/I-690 interchange on June 24 and 25, 2020. The I-481 South Study Area was not visited during the May 11, 2021 site investigation.

Table J-3-8
Reptiles and Amphibians Documented by the NYSDEC
Herp Atlas Project in the Syracuse East Quadrangle

Common Name	Scientific Name
Spotted salamander	<i>Ambystoma maculatum</i>
Eastern American toad	<i>Bufo a. americanus</i>
Common snapping turtle	<i>Chelydra s. serpentina</i>
Painted turtle	<i>Chrysemys picta</i>
Northern ringneck snake	<i>Diadophis punctatus edwardsii</i>
Northern two-lined salamander	<i>Eurycea bislineata</i>
Gray treefrog	<i>Hyla versicolor</i>
Eastern milk snake	<i>Lampropeltis t. triangulum</i>
Northern water snake	<i>Nerodia s. sipedon</i>
Red-spotted newt	<i>Notophthalmus v. viridescens</i>
Northern redback salamander	<i>Plethodon c. cinereus</i>
Northern slimy salamander	<i>Plethodon glutinosus</i>
Northern spring peeper	<i>Pseudacris c. crucifer</i>
Bullfrog	<i>Rana catesbeiana</i>
Green frog	<i>Rana clamitans melanota</i>
Pickerel frog	<i>Rana palustris</i>
Northern leopard frog	<i>Rana pipiens</i>
Northern brown snake	<i>Storeria d. dekayi</i>
Common garter snake	<i>Thamnophis sirtalis</i>
Note: Boldface indicates the subset of species that is considered to have the potential to nest within the study area on the basis of their habitat associations and sensitivity to human disturbance (Rodewald 2015).	

Furthermore, as described below and in **Appendix J-7**, the Federally-listed Threatened and State-listed Endangered eastern massasauga has been documented as having the potential to occur in the vicinity of the I-481 East Study Area.

THREATENED AND ENDANGERED SPECIES

Three Federally- and State-listed wildlife species have been documented by NYNHP (February 3, 2022) and by USFWS IPaC (February 2, 2022) as occurring in the vicinity of the I-481 East Study Area. These include Indiana bat, northern long-eared bat, and eastern massasauga. The monarch butterfly, a candidate species, is listed in the USFWS IPaC System for the I-481 East Study Area.

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INDIANA BAT

The Indiana bat is a Federally- and State-listed Endangered bat. The Indiana bat is listed by the USFWS IPaC System as having the potential to occur within the I-481 East Study Area. The NYNHP has records of Indiana bat hibernaculum and roost trees adjacent to the I-481 East Study Area. The closest summer roosting habitat to the I-481 East Study Area that is suitable for Indiana bats is a woodland area (i.e., floodplain forest) east of I-481 and south of I-90 (New York State Thruway). Suitable roost trees are likely abundant in this area and two utility rights-of-way intersecting the woodland may provide foraging corridors and commuting routes for Indiana bats. The wooded area around Butternut Creek northeast of the CSX rail line in the I-481 East Study Area may also support Indiana bats.

NORTHERN LONG-EARED BAT

The northern long-eared bat is a Federally- and State-listed Threatened bat. The northern long-eared bat is listed by the USFWS IPaC System as having the potential to occur within the I-481 East Study Area. The NYNHP has no records of this species roosting within 1.5 miles of the I-481 East Study Area, although a northern long-eared bat hibernaculum is located adjacent to the I-481 East Study Area. The closest summer habitat to the I-481 East Study Area that is most suitable for northern long-eared bats is the woodland area east of I-481 and south of I-90 (New York State Thruway). This approximately one-mile wide and 0.7-mile long woodland is bisected by two utility ROWs, but may be large enough to support northern long-eared bats. Suitable roost trees are likely abundant in this area. The wooded area around Butternut Creek northeast of the CSX rail line in the I-481 East Study Area may also represent suitable habitat for the northern long-eared bat.

EASTERN MASSASAUGA

The eastern massasauga is a Federally-listed Threatened and State-listed Endangered rare and declining rattlesnake. The USFWS IPaC System lists the eastern massasauga as having the potential to occur in the I-481 East Study Area. There are no NYNHP records of the eastern massasauga occurring within or adjacent to the I-481 East Study Area. Eastern massasaugas are not expected to occur within the I-481 East Study Area because there is no appropriate habitat and it is fully disconnected and distant from the area in which eastern massasaugas are known to occur.

MONARCH BUTTERFLY

The monarch butterfly is listed as a candidate species, and it currently does not have any protection under Section 7 of the ESA. Consultation or conference (formal or informal) with USFWS is not required at this time. The project takes place in previously disturbed and currently maintained right-of-way and does not anticipate the removal of any pollinator habitat.

D. I-481 NORTH STUDY AREA

BIRDS

The 2000–2005 New York State Breeding Bird Atlas documented 111 species as confirmed or probable/possible breeders within the census blocks in which the I-481 North Study Area is located (Blocks 4077A, 4077B, and 4077C) (Table J-3-9).

Habitat available to birds within the I-481 North Study Area is limited to isolated and highly disturbed patches of woodland and freshwater wetlands associated with NYSDEC-mapped creeks, within the I-81 and I-481 interchange, and drainage ditches along I-481 and Hamilton Road. Of the 111 species documented by the Breeding Bird Atlas, only 53 would be expected to nest within the area given the high levels of disturbance and degraded habitat conditions (Table J-3-9). Birds observed within the I-481 North Study Area during the July 29, 2016 and/or July 13, 2017 wildlife surveys included American crow, American goldfinch, song sparrow, black-capped chickadee, common grackle (*Quiscalus quiscula*), red-winged blackbird, American robin, hairy woodpecker, gray catbird, and red-tailed hawk. Red-winged blackbird, American goldfinch, and gray catbird were observed during the ecological communities and vegetation site investigations in the northern portion of the I-481 North Study Area on June 25, 2020. The area in the vicinity of Noise Barrier 16A&B was investigated on May 11, 2021. Rock pigeon, turkey vulture, American robin, northern cardinal, red winged blackbird, Canada goose, and little green heron were observed in the vicinity of the proposed Noise Barrier 16A&B in the I-481 North Study Area.

Table J-3-9

Birds Documented by the 2000–2005 New York State Breeding Bird Atlas in Census Blocks 4077A, 4077B, and 4077C

Common Name	Scientific Name
American Bittern	<i>Botaurus lentiginosus</i>
American Black Duck	<i>Anas rubripes</i>
American Crow	<i>Corvus brachyrhynchos</i>
American Goldfinch	<i>Spinus tristis</i>
American Kestrel	<i>Falco sparverius</i>
American Redstart	<i>Setophaga ruticilla</i>
American Robin	<i>Turdus migratorius</i>
American Woodcock	<i>Scolopax minor</i>
Baltimore Oriole	<i>Icterus galbula</i>
Bank Swallow	<i>Riparia riparia</i>
Barn Swallow	<i>Hirundo rustica</i>
Barred Owl	<i>Strix varia</i>
Belted Kingfisher	<i>Megasceryle alcyon</i>
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>
Black-capped Chickadee	<i>Poecile atricapillus</i>
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>
Black-throated Green Warbler	<i>Dendroica virens</i>
Blue Jay	<i>Cyanocitta cristata</i>
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>
Blue-headed Vireo	<i>Vireo solitarius</i>
Blue-winged Warbler	<i>Vermivora pinus</i>
Bobolink	<i>Dolichonyx oryzivorus</i>

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Table J-3-9 (cont'd)

Birds Documented by the 2000–2005 New York State Breeding Bird Atlas in Census
Blocks 4077A, 4077B, and 4077C

Common Name	Scientific Name
Brown Creeper	<i>Certhia americana</i>
Brown Thrasher	<i>Toxostoma rufum</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Canada Goose	<i>Branta canadensis</i>
Canada Warbler	<i>Wilsonia canadensis</i>
Carolina Wren	<i>Thryothorus ludovicianus</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>
Cerulean Warbler	<i>Dendroica cerulea</i>
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>
Chimney Swift	<i>Chaetura pelagica</i>
Chipping Sparrow	<i>Spizella passerina</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
Common Grackle	<i>Quiscalus quiscula</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Dark-eyed Junco	<i>Junco hyemalis</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Eastern Kingbird	<i>Tyrannus tyrannus</i>
Eastern Meadowlark	<i>Sturnella magna</i>
Eastern Phoebe	<i>Sayornis phoebe</i>
Eastern Screech-Owl	<i>Megascops asio</i>
Eastern Towhee	<i>Pipilo erythrophthalmus</i>
Eastern Wood-Pewee	<i>Contopus virens</i>
European Starling	<i>Sturnus vulgaris</i>
Field Sparrow	<i>Spizella pusilla</i>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>
Gray Catbird	<i>Dumetella carolinensis</i>
Great Blue Heron	<i>Ardea herodias</i>
Great Crested Flycatcher	<i>Myiarchus crinitus</i>
Great Horned Owl	<i>Bubo virginianus</i>
Green Heron	<i>Butorides virescens</i>
Hairy Woodpecker	<i>Picoides villosus</i>
Hermit Thrush	<i>Catharus guttatus</i>
Horned Lark	<i>Eremophila alpestris</i>
House Finch	<i>Carpodacus mexicanus</i>
House Sparrow	<i>Passer domesticus</i>
House Wren	<i>Troglodytes aedon</i>
Indigo Bunting	<i>Passerina cyanea</i>
Killdeer	<i>Charadrius vociferus</i>
Least Bittern	<i>Ixobrychus exilis</i>
Least Flycatcher	<i>Empidonax minimus</i>
Magnolia Warbler	<i>Dendroica magnolia</i>
Mallard	<i>Anas platyrhynchos</i>
Marsh Wren	<i>Cistothorus palustris</i>
Mourning Dove	<i>Zenaida macroura</i>
Mourning Warbler	<i>Oporornis philadelphia</i>
Northern Cardinal	<i>Cardinalis cardinalis</i>
Northern Flicker	<i>Colaptes auratus</i>
Northern Harrier	<i>Circus cyaneus</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>

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Table J-3-9 (cont'd)

Birds Documented by the 2000–2005 New York State Breeding Bird Atlas in Census
Blocks 4077A, 4077B, and 4077C

Common Name	Scientific Name
Northern Waterthrush	<i>Seiurus noveboracensis</i>
Osprey	<i>Pandion haliaetus</i>
Ovenbird	<i>Seiurus aurocapilla</i>
Pied-billed Grebe	<i>Podilymbus podiceps</i>
Pileated Woodpecker	<i>Dryocopus pileatus</i>
Purple Finch	<i>Carpodacus purpureus</i>
Purple Martin	<i>Progne subis</i>
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>
Red-eyed Vireo	<i>Vireo olivaceus</i>
Red-shouldered Hawk	<i>Buteo lineatus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Rock Pigeon	<i>Columba livia</i>
Rose-breasted Grosbeak	<i>Phenicticus ludovicianus</i>
Ruby-throated Hummingbird	<i>Archilochus colubris</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>
Scarlet Tanager	<i>Piranga olivacea</i>
Sharp-shinned Hawk	<i>Accipiter striatus</i>
Song Sparrow	<i>Melospiza melodia</i>
Spotted Sandpiper	<i>Actitis macularius</i>
Swamp Sparrow	<i>Melospiza georgiana</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Tufted Titmouse	<i>Baeolophus bicolor</i>
Turkey Vulture	<i>Cathartes aura</i>
Upland Sandpiper	<i>Bartramia longicauda</i>
Veery	<i>Catharus fuscescens</i>
Warbling Vireo	<i>Vireo gilvus</i>
White-breasted Nuthatch	<i>Sitta carolinensis</i>
Wild Turkey	<i>Meleagris gallopavo</i>
Willow Flycatcher	<i>Empidonax traillii</i>
Wilson's Snipe	<i>Gallinago delicata</i>
Winter Wren	<i>Troglodytes troglodytes</i>
Wood Duck	<i>Aix sponsa</i>
Wood Thrush	<i>Hylocichla mustelina</i>
Yellow Warbler	<i>Dendroica petechia</i>
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
Yellow-throated Vireo	<i>Vireo flavifrons</i>
Notes: Boldface indicates the subset of species that is considered to have the potential to nest within the study area on the basis of their habitat associations and sensitivity to human disturbance (Rodewald 2015).	

Birds that are expected to occur in the I-481 North Study Area during the winter include common backyard birds, such as downy woodpecker, hairy woodpecker, and white-breasted nuthatch. Examples of migrating birds that likely occur within the I-481 North Study Area during spring and fall include ovenbird, Swainson's thrush, hermit thrush, yellow-rumped warbler, American redstart, magnolia warbler, black and white warbler, and white-throated sparrow.

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Furthermore, as described below and in **Appendix J-7**, the State-listed Threatened least bittern (*Ixobrychus exilis*) and northern harrier (*Circus cyaneus*) have been documented as having the potential to occur in the vicinity of the I-481 North Study Area.

MAMMALS

The mammal community within the I-481 North Study Area is likely composed of disturbance-tolerant generalists due to the fragmented and highly degraded habitat conditions in the area. There is frequent vehicular noise on I-81, I-481, and the interchanges, and substantial potential for vehicle collision mortality. The species of mammals that are expected to occur in the area include common, urban-adapted species, such as eastern gray squirrel, Norway rat, raccoon, house mouse, feral cat, eastern coyote, white-footed mouse, groundhog, striped skunk, Virginia opossum, and white-tailed deer. No mammals were observed in the I-481 North Study Area during the July 29, 2016 or July 13, 2017 surveys.

As discussed in **Appendix J-7**, the Federally- and State-listed Endangered Indiana bat and the Federally- and State-listed Threatened northern long-eared bat have been documented as having the potential to occur in the vicinity of the I-481 North Study Area. Eastern gray squirrel and white-tailed deer were observed during the ecological communities and vegetation site investigations in the northern portion of the I-481 North Study Area on June 25, 2020. The area in the vicinity of proposed Noise Barrier 16A&B was investigated on May 11, 2021. Muskrat and white-tailed deer were observed in the vicinity of the proposed Noise Barrier 16A&B in the I-481 North Study Area.

REPTILES AND AMPHIBIANS

The NYSDEC Herp Atlas Project, a survey conducted from 1990 to 1999 to document the geographic distribution of New York's reptile and amphibian species, recorded 29 species in the census blocks in which the I-481 North Study Area is located (Cicero and Syracuse West Quadrangles) (**Table J-3-10** and **Table J-3-11**).

Table J-3-10

**Reptiles and Amphibians Documented by the NYSDEC Herp
Atlas Project in the Cicero Census Quadrants**

Common Name	Scientific Name
Jefferson salamander †	<i>Ambystoma jeffersonianum</i> †
Blue-spotted salamander †	<i>Ambystoma laterale</i> †
Eastern American toad	<i>Bufo a. americanus</i>
Common snapping turtle	<i>Chelydra s. serpentina</i>
Painted turtle	<i>Chrysemys picta</i>
Spotted turtle †	<i>Clemmys guttata</i> †
Wood turtle †	<i>Clemmys insculpta</i> †
Gray treefrog	<i>Hyla versicolor</i>
Common mudpuppy	<i>Necturus maculosus</i>
Northern water snake	<i>Nerodia s. sipedon</i>
Red-spotted newt	<i>Notophthalmus v. viridescens</i>
Northern redback salamander	<i>Plethodon c. cinereus</i>
Northern spring peeper	<i>Pseudacris c. crucifer</i>
Bullfrog	<i>Rana catesbeiana</i>

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Table J-3-10 (cont'd)
Reptiles and Amphibians Documented by the NYSDEC Herp
Atlas Project in the Cicero Census Quadrants

Common Name	Scientific Name
Green frog	<i>Rana clamitans melanota</i>
Pickereel frog	<i>Rana palustris</i>
Northern leopard frog	<i>Rana pipiens</i>
Wood frog	<i>Rana sylvatica</i>
Eastern massasauga *	<i>Sistrurus c. catenatus</i> *
Northern brown snake	<i>Storeria d. dekayi</i>
Northern redbelly snake	<i>Storeria o. occipitamaculata</i>
Common garter snake	<i>Thamnophis sirtalis</i>
Notes: Boldface indicates the subset of species that is considered to have the potential to nest within the study area on the basis of their habitat associations and sensitivity to human disturbance (Rodewald 2015). * Indicates State-listed Endangered species. † Indicates State-listed species of special concern.	

Table J-3-11
Reptiles and Amphibians Documented by the NYSDEC Herp
Atlas Project in the Syracuse West Quadrangle

Common Name	Scientific Name
Spotted salamander	<i>Ambystoma maculatum</i>
Eastern American toad	<i>Bufo a. americanus</i>
Common snapping turtle	<i>Chelydra s. serpentina</i>
Painted turtle	<i>Chrysemys picta</i>
Wood turtle †	<i>Clemmys insculpta</i> †
Northern dusky salamander	<i>Desmognathus fuscus</i>
Northern ringneck snake	<i>Diadophis punctatus edwardsii</i>
Northern two-lined salamander	<i>Eurycea bislineata</i>
Gray treefrog	<i>Hyla versicolor</i>
Eastern milk snake	<i>Lampropeltis t. triangulum</i>
Northern water snake	<i>Nerodia s. sipedon</i>
Red-spotted newt	<i>Notophthalmus v. viridescens</i>
Northern redback salamander	<i>Plethodon c. cinereus</i>
Northern slimy salamander	<i>Plethodon glutinosus</i>
Northern spring peeper	<i>Pseudacris c. crucifer</i>
Green frog	<i>Rana clamitans melanota</i>
Northern leopard frog	<i>Rana pipiens</i>
Common musk turtle	<i>Sternotherus odoratus</i>
Northern brown snake	<i>Storeria d. dekayi</i>
Northern redbelly snake	<i>Storeria o. occipitamaculata</i>
Common garter snake	<i>Thamnophis sirtalis</i>
Notes: Boldface indicates the subset of species that is considered to have the potential to nest within the study area on the basis of their habitat associations and sensitivity to human disturbance (Rodewald 2015). † denotes State-listed species of special concern.	

Freshwater habitat that is needed to support most of the reptile and amphibian species of New York State (Gibbs et al. 2007) is limited to NYSDEC-mapped creeks and stormwater infrastructure ditches in the I-481 North Study Area. These small, disturbed wetlands are

dominated by non-native common reed. The isolated and degraded habitat within the I-81 and I-481 interchange (e.g., clover leaf) is also likely to support only the most disturbance-tolerant and urban-adapted species of reptiles and amphibians. Of the 29 species identified in the census blocks of the Herp Atlas Project, only northern red-backed salamander, eastern American toad, spring peeper, bullfrog, green frog, northern brown snake, and common garter snake are considered to have the potential to occur within the area on the basis of their habitat associations and sensitivity to disturbance. Common garter snake and an unidentified *Rana* (frog) species were the only reptiles and amphibians observed during the July 29, 2016 survey. No reptiles or amphibians were observed during the July 13, 2017 survey. No reptiles or amphibians were observed during the ecological communities and vegetation site investigations in the northern portion of the I-481 North Study Area on June 25, 2020. No reptiles in the area in the vicinity of proposed Noise Barrier 16A&B were observed on May 11, 2021.

As discussed in **Appendix J-7**, the Federally-listed Threatened and State-listed Endangered eastern massasauga is known to occur adjacent to the I-481 North Study Area. Mud Creek, which runs through the I-481 North Study Area has a hydrological connection to this area, resulting in the potential for eastern massasaugas to occur within the study area. However, as discussed in more detail in **Appendix J-7**, no eastern massasaugas have been documented outside of their known area and they are not expected to occur within the study area.

THREATENED AND ENDANGERED SPECIES

Four Federally- and State-listed wildlife species have been documented by NYNHP (February 3, 2022 and by USFWS IPaC (February 2, 2022) as occurring in the vicinity of the I-481 North Study Area. These include Indiana bat, northern long-eared bat, eastern massasauga, and lake sturgeon. Five State-listed wildlife species, including bald eagle, least bittern, northern harrier, upland sandpiper, and black tern have been documented as occurring in the vicinity of the I-481 North Study Area. The monarch butterfly, a candidate species, is listed in the USFWS IPaC System for the I-481 North Study Area.

INDIANA BAT

The Indiana bat is listed by the USFWS IPaC System as having the potential to occur within the I-481 North Study Area. The NYNHP has no records of Indiana bat hibernating or roosting within 2.5 miles of the I-481 North Study Area. Indiana bats are not likely to occupy habitats within the I-481 North Study Area due to the high density of urban development. However, Indiana bats may still have the potential to occur in this area on rare occasions.

NORTHERN LONG-EARED BAT

The northern long-eared bat is Federally- and State-listed Threatened bat. The northern long-eared bat is not listed by the USFWS IPaC System as having the potential to occur within the I-481 North Study Area. However, NYNHP has records of this species roosting within 1.5 miles of the I-481 North Study Area. Because of the well-documented avoidance of urban areas and sharp edges by northern long-eared bats (Owen et al. 2003, Patriquin and Barclay 2003, Carter and Feldhamer 2005, Morris et al. 2010, Segers and Broders 2014), habitats within

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the I-481 North Study Area are not considered suitable, and northern long-eared bats are not expected to occur in this area.

EASTERN MASSASAUGA

The eastern massasauga is a Federally-listed Threatened and State-listed Endangered rare and declining rattlesnake. The USFWS IPaC System lists the eastern massasauga as having the potential to occur in the I-481 North Study Area. The NYNHP has a record of the eastern massasauga occurring adjacent to the I-481 North Study Area.

Mud Creek, on the eastern edge of the I-481 North Study Area, has a hydrological connection to an area containing one of the known populations of eastern massasaugas in New York via small and potentially ephemeral, unnamed NYSDEC Class C streams that wind under roads and through other heavily developed areas. Eastern massasaugas have extremely small activity ranges and restricted movements within overlapping territories, and have not been found to disperse or migrate outside of their known core habitat area that is east of the I-481 North Study Area (Johnson 2000).

Wetlands within the I-481 North Study Area are limited to drainage ditches and highly disturbed roadside segments of Mud Creek, and disturbed common reed-dominated and forested wetlands along I-481 and within the quadrants at the northern I-81/I-481 interchange. As such, no habitat that is appropriate for the eastern massasauga is present in the I-481 North Area, and eastern massasaugas are therefore not expected to occur in the area. Roads, residential neighborhoods, and other human-altered landscapes are major barriers to eastern massasauga movements (Moore and Gillingham 2006), and movement of eastern massasaugas out of their current location to the east along Mud Creek and its tributaries within the I-481 North Study Area is considered extremely unlikely. These streams extend through heavily developed areas and are culverted under major roads in several locations, and therefore would not be expected to be used by eastern massasaugas to disperse outside of their current location. Additionally, as previously noted, telemetry studies of eastern massasaugas have not observed any movements of individuals outside of their current location via these streams or otherwise (Johnson and Breisch 1993; Johnson 1995, 2000). For each of these reasons, eastern massasaugas would not be expected to occur within the I-481 North Study Area.

BALD EAGLE

The bald eagle is a State-listed Threatened bird of prey that was removed from the Federal Endangered Species List in 2007 because of a strong recovery from population declines that had occurred throughout the mid- and late-1900s. Bald eagle populations in New York State in particular have grown dramatically over the past few decades (Nye 2008). There were a state record-breaking 323 breeding pairs estimated to be in New York as of the most recently released census information from 2016 (NYSDEC 2017). The recovery of bald eagles throughout their range is largely attributable to their consistently increasing, generational habituation to human activity and development (Johnson 2010, Guinn 2013). As a result of this recovery, the State status of the bald eagle has been proposed to be changed to “special concern” as per the *NYSDEC Draft List Under Part 182.5 Pre-proposal—October 2019* (NYSDEC

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2019). According to the NYNHP database, non-breeding² bald eagles have been observed perching and foraging along the southeastern shoreline of Onondaga Lake. This area is on the periphery of the Central and I-481 North Study Area, and therefore non-breeding bald eagles have the potential to occur there. There are no other lakes or rivers that would provide suitable habitat for breeding or non-breeding bald eagles in the I-481 South and I-481 East Study Areas and the NYNHP has no records of bald eagles occurring in their vicinity.

LAKE STURGEON

The lake sturgeon is a State-listed Threatened freshwater fish that occurs in several lakes, rivers, and canals in northern New York State. The NYNHP has records of lake sturgeon occurring in Onondaga Lake. Onondaga Lake is associated with the I-481 North Study Area.³ Thus, lake sturgeon has the potential to occur in the I-481 North Study Area.

LEAST BITTERN

The least bittern is a State-listed Threatened waterbird that inhabits freshwater and brackish marshes with tall, dense vegetation including cattails, sedges, reeds, bulrushes, sawgrass, smartweed, arrowhead, buttonbush, and other emergent wetland vegetation. It can also be found at the edges of lakes and rivers with emergent and tall vegetation, but prefers marshes with scattered bushes or other woody growth. The least bittern is tolerant of moderate levels of human disturbance and can sometimes be found in urban settings (Poole et al. 2009).

The NYNHP has a record of least bitterns nesting within 600 feet of the I-481 North Study Area. Wetland habitat within and around the I-481 North Study Area is limited to drainage ditches along I-481 and within the quadrants of the I-81 and I-481 highway interchange, and is not suitable for least bitterns. The closest potentially suitable habitat is to the west, west of South Bay Road and south of Frontage Road. Least bitterns are not considered to have the potential to occur within the I-481 North Study Area.

NORTHERN HARRIER

The northern harrier is a bird of prey that is listed as Threatened in New York State. Local populations have gradually declined in recent decades likely in response to habitat development and reversion of much of the state's former farmland into forest. Northern harriers primarily occupy open areas such as grasslands, old fields, pastures, croplands, and salt marshes during both the breeding and non-breeding periods (Smith et al. 2011). They are present in New York year-round (Post 2008). The State status of the northern harrier has been proposed to be changed to "special concern" as per the *NYSDEC Draft List Under Part 182.5 Pre-proposal—October 2019* (NYSDEC 2019).

² Non-breeding refers to birds that may exist at any time of year, including birds that do not breed during the nesting season (e.g., juveniles). USFWS considers the breeding season in NY to be between January 1 and October 1.

³ This species is only associated with the Noise Barrier 16 portion of the I-481 North Study Area.

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The NYNHP has a record of northern harriers breeding within 1.5 miles of the I-481 North Study Area. There is potentially suitable breeding and non-breeding habitat for northern harriers in this vicinity of the I-481 North Study Area, in the marshes of the Cicero Swamp Wildlife Management Area and agricultural fields approximately 1.2 to 1.5 miles to the east, and the marshes of a large wetland complex approximately 1.2 miles to the west, along State Route 481. Non-breeding northern harriers might also be expected to occur in the open fields of the Syracuse Hancock International Airport. There is no suitable breeding or non-breeding habitat for northern harriers within the I-481 North Study Area, which is primarily limited to roadside grass, small and degraded common reed-dominated wetlands bordering drainage ditches and within clover leaves of the I-481 and I-81 interchange, and small fragments of woodland. None of these habitat types would support breeding or non-breeding northern harriers, and therefore, northern harriers are not considered to have the potential to occur within the I-481 North Study Area. *UPLAND SANDPIPER*

Upland sandpiper is a State-listed Threatened obligate grassland species. Preferred habitat includes large areas of short grass for feeding and courtship with interspersed or adjacent taller grasses for nesting and brood cover. Confirmed ecological communities associated with upland sandpiper include, cropland/field crops, Hempstead Plains grassland, pastureland, and successional old field (NYNHP). The NYNHP has a record of upland sandpiper within 1.5 miles of the I-481 North Study Area. Given its habitat requirements, upland sandpiper has low potential to occur within the I-481 North Study Area. Upland sandpiper is not documented (within 1.5 miles) or expected to occur in the Central Study Area.

BLACK TERN

Black tern is a State-listed Endangered bird species that has been declining since the mid-1960's (NYNHP). Black terns breed in productive freshwater marshes, typically in sites with mixtures of emergent vegetation and open water. In western New York Hickey and Malecki (1997) found that black terns nest primarily in sparse to moderately dense bur-reed about 3 to 7 inches (in) in tall in areas with a 50:50 open water/vegetation ratio, and water depths of about 20 in. These findings were consistent with other general habitat descriptions throughout the range including in northern New York. Exposed perches such as floating logs, fallen trees, and standing dead trees and shrubs are used as stations for resting, copulation and feeding recently fledged young (Novak 1992).

Black terns are an area dependent species and in addition to marsh size, proximity to other wetlands is a critical factor in habitat selection. Black terns favor marshes greater than 49 acres, but they will nest in marshes between 12 to 27 acres only if they are part of a larger wetland complex (Brown and Dinsmore 1984; Novak 1992). Characteristics of entire landscapes must be considered in habitat assessments because wetlands that do not correspond to landscape-scale habitat requirements may not be suitable despite favorable local conditions. Suitable nest sites occur within regenerating or degenerating wetlands where vegetation structure, rather than species of vegetation, dictates suitability (Naugle et al. 2000). Confirmed ecological communities associated with black tern include deep emergent marsh, impounded marsh, and shallow emergent marsh (NYNHP). The NYNHP indicates that there is a historic record of

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a black tern colony within 1.5 miles of the I-481 North Study Area (1956); however, the black tern colony was not observed during thorough surveys or by NYNHP local birders between 1989 and 2007 (NYNHP). Based on this information and its habitat requirements, black tern has low potential to occur within the I-481 North Study Area. However, survey work⁴ for this species would be conducted in suitable habitats within the limits of disturbance in the I-481 North Study Area during final design of the Project.

MONARCH BUTTERFLY

The monarch butterfly is listed as a candidate species, and it currently does not have any protection under Section 7 of the ESA. Consultation or conference (formal or informal) with USFWS is not required at this time. The project takes place in previously disturbed and currently maintained right-of-way and does not anticipate the removal of any pollinator habitat.

⁴ A site visit to record incidental observations would be conducted at a time of year (May through mid-September [NYNHP]) when black tern would be expected to be present. Any incidental observations would be coordinated with NYSDEC.

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