

**Environmental Assessment
Natural Resources Technical Memorandum
Appendix C**

Federal Actions In and Adjacent to Jackson Park:
Urban Park and Recreation Recovery Amendment and Transportation
Improvements
Jackson Park, City of Chicago, Illinois

August 2020

National Park Service
Federal Highway Administration

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Attachments

Threatened and Endangered Species, Vicinity of Project Study Area Attachment C-1
CDOT Eastern Construction Limits Letter (08/01/2017)..... Attachment C-2
IDOT Natural Resources Review (2/28/2020)..... Attachment C-3
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1.0 Introduction

This technical memorandum documents the applicable regulations, existing conditions, and potential impacts associated with natural resources as part of the Environmental Assessment (EA) for the Federal Actions in and adjacent to Jackson Park (Federal Actions). The natural resources addressed in this technical memorandum include threatened and endangered species, migratory birds, and natural areas. Information regarding trees, water resources and Great Lakes Fishery and Ecosystem Restoration (GLFER) areas can be found within other technical memoranda associated with this EA:

Appendix D – Trees Technical Memorandum

Appendix F – Water Resources Technical Memorandum

Appendix J – Great Lakes Fishery and Ecosystem Restoration Technical Memorandum

2.0 Applicable Regulations

2.1 Threatened and Endangered Species

Projects involving Federal approval(s), permit(s), or use of Federal funds must evaluate any potential effects to Federally threatened or endangered species and their habitats in accordance with the Federal Endangered Species Act (ESA) of 1973 (16 USC 1531-1544). This document will also consider state-listed species under the Illinois Endangered Species Protection Act (520 ILCS 10). The U.S. Fish & Wildlife Service (USFWS) administers the Federal Act and the Illinois Department of Natural Resources (IDNR) administers the State Act.

The ESA lists species as either endangered or threatened. Identified endangered species are “in danger of extinction through all or a significant portion of its range.” Threatened species are likely to become endangered within the foreseeable future. All native species of plants and animals, except pest insects, are eligible for listing (USFWS 2017a).

2.2 Migratory Birds

Considerations of reasonably foreseeable impacts or effects to migratory birds, including bald and golden eagles, must be accounted for as part of a Federal project pursuant to National Environmental Policy Act (NEPA). Migratory birds are protected under the *Migratory Bird Treaty Act* (MBTA) (16 USC 703-712), administered by USFWS (USFWS 2017c). In August 2007, the bald eagle was removed from the federal list of threatened and endangered species and no longer is protected by the ESA. Although delisted, bald eagles continue to be a protected species under the *Bald and Golden Eagle Protection Act* (16 USC 668), the *Lacey Act* (18 USC 42-43, 16 USC 3371-3378), and the MBTA. Species protected by the MBTA are listed in 50 CFR 10.13. The MBTA makes it illegal to “take, possess, import, export, transport, sell, purchase, barter or offer for sale, purchase, or barter, any migratory bird or the parts (including feathers), nests, or eggs of such a bird except under the terms of a valid Federal permit” (USFWS 2017c). The term ‘take’ is

defined in 50 CFR 10.12 to mean to pursue, hunt, shoot, capture, collect, or kill or attempt to do the same. According to the U.S. Department of Interior/U.S. Fish and Wildlife Service, the MBTA prohibits the direct and intentional taking of birds subject to the provisions of the Act. The MBTA does not prohibit incidental take. Neither the MBTA nor BGEPA and the Lacey Act require analysis of potential impacts to birds. This analysis is undertaken pursuant to the requirements of NEPA. No authorization under the MBTA or BGEPA is required for any activities discussed herein.

2.3 Natural Areas

The *Illinois Natural Areas Preservation Act* (525 ILCS30) protects nature preserves, buffer areas, and registered areas included in or published as a candidate for inclusion on the Illinois Natural Areas Inventory (INAI). The INAI program, administered by the IDNR Division of Natural Heritage, identifies lands that have the capacity to be restored to natural area quality and occur in a context that will allow them to be viable over the long-term once restored (Illinois Natural History Survey 2020). While separate from the Illinois Nature Preserves Commission (INPC), the INAI program provides a set of information about high quality natural areas, habitats of endangered species, and other natural features to inform the selection and designation of Illinois Nature Preserves.

3.0 Existing Conditions

3.1 Threatened and Endangered Species

A table of federally and state listed threatened and endangered species is available in Attachment C-1 and described in the following sections.

3.1.1 Federally-listed Species

The USFWS Information for Planning and Conservation (IPaC) was used to identify the threatened and endangered species that may occur within the vicinity of the project study area. USFWS lists all species by county (except Rusty Patched Bumble Bee, the USFWS uses High Potential Zones for this species). The following species were identified:

- Mammals
 - Northern Long-eared Bat (*Myotis septentrionalis*) (NLEB)
- Birds
 - Piping Plover (*Charadrius melanotos*)
 - Rufa Red Knot (*Calidris canutus rufa*)
- Reptiles
 - Eastern Massasauga (*Sistrurus catenatus*; snake)
- Flowering Plants
 - Eastern Prairie Fringed Orchid (*Platanthera leucophaea*)
 - Leafy Prairie Clover (*Dalea foliosa*)

- Mead's Milkweed (*Asclepias meadii*)
- Prairie Bush Clover (*Lespedeza leptostachya*)
- Insects
 - Hine's Emerald Dragonfly (*Somatochlora hineana*)
 - Rattlesnake-master Borer Moth (*Papaipema eryngii*)
 - Rusty Patched Bumble Bee (*Bombus affinis*)

There are no USFWS critical habitats identified within the project study area.

NLEB habitat consists of a wide variety of forested or wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live or dead trees, greater than or equal to 3 inches diameter at breast height that have exfoliating bark, cracks, crevices, or hollows). Trees found in highly developed urban areas are extremely unlikely to be suitable habitat for this species. There are no records of maternity roost trees, maternity colonies or hibernacula within 0.5 miles of the project area.

Piping Plover and Rufa Red Knot habitat includes lakeshore beaches and coastal areas/large wetland complexes, respectively. These habitats are present in the project study area, east of Lake Shore Drive. In order to avoid impacts to these species, CDOT committed that all construction activities would occur to the west of Lake Shore Drive with the exception of some curb and gutter elements proposed in existing concrete areas. See Attachment C-2. This commitment will avoid effects to the Piping Plover and Rufa Red Knot.

Eastern Massasagua habitat includes fens, sedge meadows, peatlands, wet prairies, open woodlands, and shrublands. No suitable habitat exists within the project study area for the Eastern Massasagua.

The Eastern Prairie Fringed Orchid occurs in a wide variety of habitats including mesic prairie and wetland communities such as sedge meadows, marsh edges, and bogs. Leafy Prairie Clover habitat includes prairie remnants on thin soil over limestone. Mead's Milkweed habitat includes late successional tallgrass prairie converted to hay meadow, and glades or barrens with thin soil. Prairie Bush Clover habitat includes dry to mesic prairies with gravelly soil. No suitable habitat exists within the project study area for the Eastern Prairie Fringe Orchid, Leafy Prairie Clover, Mead's Milkweed, or Prairie Bush Clover.

Hine's Emerald Dragonfly habitat includes spring fed wetlands, wet meadows, and marshes. Rattlesnake-master Borer Moth habitat includes undisturbed prairie and woodland openings that contain their only food plant, rattlesnake-master. No suitable habitat exists within the project study area for Hine's Emerald Dragonfly or the Rattlesnake-master Borer Moth.

The limits of the proposed improvement were evaluated for the presence of potentially suitable Rusty Patched Bumble Bee habitat. The evaluation followed guidance issued by USFWS dated March 21, 2017 and titled "The Rusty Patched Bumble Bee (*Bombus affinis*), Interagency Cooperation under Section 7(a)(2) of the ESA, Voluntary Implementation Guidance" ("USFWS Interagency Guidance"). According to

the guidance, if a project is outside of a high potential zone, then the USFWS advises that the incidental take coverage is not necessary. USFWS shapefiles dated February 10, 2020 were reviewed to determine if the project study area fell within a USFWS High Potential Zone for the Rusty Patched Bumble Bee. Based upon this review, it was determined that there is no USFWS High Potential Zone or Rusty Patched Bumble Bee record in the vicinity of the project study area.

Of the identified Federally-listed threatened and endangered species, only the NLEB has the potential to be present or have potential habitat within areas of construction activity. A statement of no effects to the federally-listed Piping Plover, Rufa Red Knot, Eastern Massasauga, Hine's Emerald Dragonfly, Eastern Prairie Fringed Orchid, Leafy Prairie Clover, Mead's Milkweed, and Prairie Bush Clover was sent to USFWS for their review. ESA Section 7 compliance is documented in the IDOT Natural Resources Review in Attachment C-3.

Although suitable habitat is unlikely, the NLEB is evaluated for potential adverse impacts in Section 4.0 below in accordance with the USFWS Programmatic Biological Opinion on Final 4(d) Rule.

3.1.2 State-listed Species

The Illinois Natural Heritage Database shows records of the following state-listed species as possibly occurring within the vicinity of the project study area:

- Birds
 - Yellow-crowned Night Heron (*Nyctanassa violacea*)
 - Black-crowned Night Heron (*Nycticorax nycticorax*)
- Fish
 - Banded Killifish (*Fundulus diaphanus*)
- Flowering Plants
 - Seaside Spurge (*Chamaesyce polygonifolia*)
 - Sea Rocket (*Cakile edentula*)
 - Pitcher's (Dune) Thistle (*Cirsium pitcheri*)

The Yellow-crowned Night Heron and Black-Crowned Night Heron nests near or over water in trees, or lower vegetation. Where vegetation is limited, they may nest on rock ledges. They nest alone or in colonies of up to several hundred pairs, sometimes with other heron species. The Black-crowned Night Heron nests in colonies within trees or in cattails. Both species nest May through August and can be present in the area as early as March to save their place in the rookery.

The water underneath the 59th Street Inlet and Hayes Drive bridge do not have suitable habitat for the Banded Killifish because they are both artificially maintained (dredged) for boats.

The Seaside Spurge and the Pitcher's (Dune) Thistle are state-listed endangered plants that are usually found on beaches and dunes along Lake Michigan. The Sea Rocket is a state-listed threatened plant species that is also likely found on beaches and dune areas. Beach and dune habitats are present in the project study area, east of Lake Shore Drive. In order to avoid impacts to these species, CDOT committed

that all construction activities would occur to the west of Lake Shore Drive with the exception of some curb and gutter elements proposed in existing concrete areas. See Attachment C-2. This commitment will avoid adverse impacts to the Seaside Spurge, Sea Rocket, and Pitcher's (Dune) Thistle.

Information regarding state-listed species was recorded for the project study area using the State's Ecological Compliance Assessment Tool (EcoCAT) (USFWS 2017b). See Attachment C-4. The state-listed Yellow-crowned Night Heron and Black-Crowned Night Heron are evaluated for impacts in Section 4.0 below.

3.2 Migratory Birds

The entirety of the Lake Michigan shoreline, including the limits of Jackson Park, is identified as an Audubon Important Bird Area within the state of Illinois because it is a location where shorebirds, waterfowl, and wading birds may gather (Audubon 2018). The Lake Michigan shoreline serves as a resting place for migratory birds migrating along Lake Michigan which is within the Mississippi Flyway.

Additionally, the entirety of Jackson Park is highlighted as a birding location within the *Chicago Region Birding Trail Guide* (Magnificent Mile). Popular birding locations within Jackson Park include the Wooded Island and the Bobolink Meadow, which contain wooded, prairie, and meadow areas that attract a variety of bird species. Frequent birding tours take place at these locations, particularly during migration season.

From mid-April through May, and then again from late August through mid-October, the Wooded Island generally has the most migratory birds within Jackson Park. The Chicago Park District (CPD) designated the Wooded Island a Bird and Butterfly Sanctuary. 63rd Street Beach and harbors are located within Jackson Park. From November through March, the greatest waterfowl diversity in Jackson Park is found off the breakwater and in Jackson Park Inner and Outer Harbors, which straddle Coast Guard Drive from 63rd to 66th Streets.

3.3 Natural Areas

There are no records of Illinois Natural Area Inventory sites, designated Nature Preserves, or registered Land and Water Reserves in the vicinity of the project study area. See Attachment C-4.

Three natural areas are recognized by CPD and are listed in the Chicago Habitat Directory within Jackson Park: Paul H. Douglas Nature Sanctuary (which included the Wooded Island), Bobolink Meadow, and 63rd Street Beach Dune (DoPD). A map indicating the CPD identified natural areas is provided as Attachment C-5.

4.0 Impact Analysis

The following sections present the impact analysis for potential impacts on natural resources for the three alternatives considered.

Potential impacts can be direct, indirect, or cumulative. Direct impacts occur as a result of the proposed action, at the same time and place of implementation. Indirect impacts occur as a result of the proposed action, but later in time or farther in distance from the action. Cumulative impacts result from the “incremental impact of the action when added to other past, present, or reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7).

The cumulative impacts analysis will assess the synergistic effect of combining the impacts of the Federal Actions, any indirect impacts following the Federal Actions, and the impacts of the following past, present, or reasonably foreseeable actions that are unrelated to the Federal Actions. Section 5.2.1 of the EA considers certain other past, present, or reasonably foreseeable projects, unrelated to the OPC project, that potentially impact the same resources. The Lakefront Trail Separation, baseball facilities, Osaka Garden and other improvements on the Wooded Island, and Jackson Park Harbor Navigation Improvement projects have the potential to impact natural resources.

Detailed descriptions of the alternatives are provided in the EA and referenced in this technical memorandum.

4.1 Alternative A: No Action

Alternative A assumes that there is no Urban Park and Recreation Recovery (UPARR) boundary conversion, the OPC is not constructed, and no roads are closed.

4.1.1 Direct Impacts

There are no direct impacts to threatened and endangered species, migratory birds, or natural areas associated with Alternative A.

4.1.2 Indirect Impacts – City Actions

There are no indirect impacts to threatened and endangered species, migratory birds, or natural areas associated with Alternative A.

4.1.3 Cumulative Impacts

As discussed in Section 5.2.1 of the EA, the Lakefront Trail Separation, Baseball Facilities, Osaka Garden and other improvements on the Wooded Island, and the Jackson Park Harbor Navigation Improvement projects have the potential to impact threatened and endangered species, migratory birds, and natural areas. Two trees were removed as a result of the Lakefront Trail Separation project and up to five trees would be removed as part of the baseball field improvements in Jackson Park. Tree removals associated with the Lakefront Trail Separation Project and baseball facilities have the potential to indirectly impact threatened and endangered species and migratory birds that may use these trees to roost, however, any temporary impacts to wildlife habitat due to tree removal within Jackson Park would be minor, with ample habitat remaining throughout Jackson Park. The survey and waterfall improvements for the Osaka Garden

and other improvements on the Wooded Island resulted in beneficial impacts to natural resources. Potential impacts associated with the Jackson Park Harbor Navigation Improvement Project would be temporary, lasting the duration of construction. Alternative A would not contribute to any cumulative impacts, as no additional federal action occurs under this alternative.

4.2 Alternative B: NPS Action (FHWA No Build)

Alternative B includes National Park Service (NPS) approval of the partial conversion of recreation due to the construction of Obama Presidential Center (OPC) and replacement of recreation opportunities on the east end of the Midway Plaisance.

4.2.1 Direct Impacts

Threatened and Endangered Species

The UPARR conversion would not impact threatened or endangered species because the UPARR conversion itself does not have on the ground impacts. Additionally, replacement recreation on the east end of the Midway Plaisance has no potential to affect the Seaside Spurge, Sea Rocket, or Pitcher's (Dune) Thistle because suitable habitat for these state-listed species does not exist in this area. The replacement recreation does not propose removal of any trees, therefore, no impacts to suitable habitat for the NLEB, Yellow-crowned Night Heron, or Black-Crowned Night Heron would occur. Therefore, there would be no direct impacts to threatened or endangered species associated with the UPARR conversion and replacement areas.

Migratory Birds

The UPARR conversion would not impact the Wooded Island, the Bobolink Meadow, the 63rd Street Beach, or the Lake Michigan shoreline, areas frequented by migratory birds, because the UPARR conversion itself does not have on the ground impacts. Additionally, replacement recreation has no potential to affect migratory birds because the replacement recreation does not propose removal of any trees. Temporary construction impacts, such as noise or vibrations, are expected to have the potential to disrupt normal behavior in the immediate vicinity of the site, but impacts will be temporary and minimal. Therefore, there would be no permanent direct impacts to migratory birds associated with the UPARR conversion and replacement areas.

Natural Areas

There are no INAI sites present within the UPARR conversion and replacement areas. Therefore, there are no direct impacts to state-listed natural areas associated with the UPARR conversion and replacement areas.

4.2.2 Indirect Impacts – City Actions

4.2.2.1 Proposed Roadway Closures

Under Alternative B, the roadway closures would discontinue use of the roadway network by vehicular travel. This action does not involve any physical construction to remove the existing roadway network outside of the OPC site boundary. The impacts of the physical removal of Cornell Drive between 62nd Street and 59th Street (funded by the private institution developing the site) is evaluated in Section 4.2.2.2. The proposed roadway closures that remain in place do not involve any direct construction activities and no tree removals are associated with this activity that would impact threatened or endangered species, migratory birds, or natural areas. The proposed roadway closures are not anticipated to cause any permanent indirect impacts.

4.2.2.2 OPC Site Development

Threatened and Endangered Species

As mentioned in Section 3.1, the presence of the NLEB in an urban setting, like Jackson Park, is extremely unlikely. There are no records of maternity roost trees within the project area. The OPC site development proposes tree removals (See Appendix D). Impacts to NLEB were evaluated in accordance with the USFWS Programmatic Biological Opinion on Final 4(d) Rule. The evaluation determined that tree removal may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the Final 4(d) Rule. The Final 4(d) Rule evaluation was sent to USFWS for their review. A response was not received within 30 days; therefore, in accordance with ESA Section 7 guidelines, agency coordination for the NLEB is complete (see Attachment C-3 for documentation).

In order to avoid impacts to the Yellow-crowned Night Heron and Black-crowned Night Heron, the City of Chicago (City) commits to prohibit tree removal during the breeding season, between March 1 and August 31 for projects assessed in this EA. This commitment excludes tree removal that may need to occur at any time during the year due to damage, disease, pests or other unforeseen circumstances in the interest of public safety. If removal is needed, a staff expert at the CPD would inspect potentially impacted trees for signs of nesting activity prior to removal and postpone, if necessary. This commitment will avoid adverse impacts to nesting and fledging Black-crowned and Yellow-crowned Night Heron species. Habitat for the herons would be temporarily impacted by tree clearing; however, all trees removed would be replaced at a 1:1 mitigation replacement ratio (See Appendix D).

The OPC site is located east of Stony Island Avenue between 62nd Street and 59th Street. Work within the OPC site has no potential to affect the Piping Plover, Rufa Red Knot, Seaside Spurge, Sea Rocket, or Pitcher's (Dune) Thistle because suitable habitat for these species is not proximate to the OPC site vicinity.

Temporary, short-term impacts may occur as a result of construction-related activities, such as ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, a potential increase of noise and vibrations, as well fugitive dust emissions. No federal or state threatened, or

endangered species are anticipated to be adversely impacted by construction activities based on commitments put in place.

Migratory Birds

OPC site development would not impact the Wooded Island, the Bobolink Meadow, or the Lake Michigan shoreline. Additionally, migratory birds would be protected by the City commitment to restrict tree removal, between March 1 and August 31 for projects assessed in this EA. This commitment excludes tree removal that may need to occur at any time during the year due to damage, disease, pests or other unforeseen circumstances in the interest of public safety. If removal is needed, a staff expert at the CPD would inspect potentially impacted trees for signs of nesting activity prior to removal and postpone, if necessary. Habitat for migratory birds would be temporarily impacted by tree clearing; however, all trees removed would be replaced at a 1:1 mitigation replacement ratio (See Appendix D). Therefore, there are no permanent direct impacts to migratory birds as a result of the OPC site development. No migratory birds are anticipated to be adversely impacted by construction activities.

Natural Areas

OPC site development would not involve any indirect impacts to natural areas.

4.2.2.3 Track and Field Relocation

Threatened and Endangered Species Impacts

The track and field relocation involves proposed tree removals. See Appendix D for details. The USFWS Programmatic Biological Opinion on Final 4(d) Rule evaluation determined that tree removal may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the Final 4(d) Rule (see Attachment C-3 for documentation).

In order to avoid impacts to the state-listed Yellow-crowned Night Heron and Black-crowned Night Heron, the City commits to restrict tree removal during breeding season, between March 1 and August 31 for projects assessed in this EA. This commitment excludes tree removal that may need to occur at any time during the year due to damage, disease, pests or other unforeseen circumstances in the interest of public safety. If removal is needed, a staff expert at the CPD would inspect potentially impacted trees for signs of nesting activity prior to removal and postpone, if necessary. This commitment will avoid adverse impacts to nesting and fledging Black-crowned and Yellow-crowned Night Heron species. Habitat for the herons would be temporarily impacted by tree clearing; however, all trees removed would be replaced at a 1:1 mitigation replacement ratio (See Appendix D).

The track and field relocation work occurs east of Stony Island Avenue between 63rd Street and 62nd Street. Work associated with the track and field relocation has no potential to affect the Piping Plover, Rufa Red Knot, Seaside Spurge, Sea Rocket, or Pitcher's (Dune) Thistle because suitable habitat for these species is not proximate to the vicinity of work.

Temporary, short-term impacts may occur as a result of construction-related activities, such as ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, a potential increase of noise and vibrations, as well fugitive dust emissions. No threatened or endangered species are anticipated to be adversely impacted by construction activities based on commitments put in place.

Migratory Birds

The relocation of the track and field would not impact the Wooded Island, the Bobolink Meadow, the 63rd Street Beach, or the Lake Michigan shoreline. Additionally, migratory birds would be protected by the City commitment to restrict tree removal, between March 1 and August 31 for projects assessed in this EA. This commitment excludes tree removal that may need to occur at any time during the year due to damage, disease, pests or other unforeseen circumstances in the interest of public safety. If removal is needed, a staff expert at the CPD would inspect potentially impacted trees for signs of nesting activity prior to removal and postpone, if necessary. With that commitment in place, the track and field relocation would have no effect on the nesting activity of migratory bird species. Habitat for migratory birds would be temporarily impacted by tree clearing; however, all trees removed would be replaced at a 1:1 mitigation replacement ratio (See Appendix D). Therefore, there are no direct impacts to migratory birds associated with the relocation of the track and field. No migratory birds are anticipated to be adversely impacted by construction activities.

Natural Areas

The relocation of the track and field would not involve any indirect impacts to natural areas.

4.2.3 Cumulative Impacts

As evaluated in Alternative A, the reasonably foreseeable projects contribute minimal temporary impacts during the construction of the Jackson Park Harbor Navigation Improvements and some long-term, beneficial impacts that result from the Osaka Garden and other improvements on the Wooded Island. With the City commitment to restrict tree clearing in place, Alternative B would not impact threatened and endangered species, migratory birds, or natural areas. The actions in Alternative B in addition to those by reasonably foreseeable projects would collectively contribute to an overall neutral cumulative impact.

4.3 Alternative C: NPS + FHWA Action (Preferred Alternative)

This alternative incorporates impacts associated with Alternative B, in addition to those encountered by improving roadways and bicyclist/pedestrian facilities and additional changes to the UPARR boundary. The analysis of impacts in this section will only discuss the additional impacts associated with Alternative C.

4.3.1 Direct Impacts

Threatened and Endangered Species

The transportation improvements involve proposed tree removals. See Appendix D for details. Impacts to NLEB were evaluated in accordance with the USFWS Programmatic Biological Opinion on Final 4(d) Rule. The evaluation determined that tree removal may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the Final 4(d) rule (see Attachment C-3 for documentation).

The proposed improvements involved with Alternative C include widening Lake Shore Drive to provide three southbound travel lanes. The federally-listed Piping Plover and Rufa Red Knot have potential suitable habitat within and along the shoreline of Lake Michigan. In order to avoid impacts to these species, CDOT committed that all construction activities would occur to the west of Lake Shore Drive with the exception of some curb and gutter elements proposed in existing concrete areas. See Attachment C-2. Based on this commitment, a no effect determination was made for the federally-listed Piping Plover and the federally-listed Rufa Red Knot.

In order to avoid impacts to the Yellow-crowned Night Heron and Black-crowned Night Heron, the City commits to prohibit tree removal during the breeding season, between March 1 and August 31 for projects assessed in this EA. This commitment excludes tree removal that may need to occur at any time during the year due to damage, disease, pests or other unforeseen circumstances in the interest of public safety. If removal is needed, a staff expert at the CPD would inspect potentially impacted trees for signs of nesting activity prior to removal and postpone, if necessary. This commitment will avoid adverse impacts to nesting and fledging Black-crowned and Yellow-crowned Night Heron species. Habitat for the herons would be temporarily impacted by tree clearing; however, all trees removed would be replaced at a 1:1 mitigation replacement ratio (See Appendix D).

The state-listed Seaside Spurge, Sea Rocket, and Pitcher's (Dune) Thistle have potential suitable habitat within and along the shoreline of Lake Michigan. In order to avoid impacts to these species, CDOT committed that all construction activities would occur to the west of Lake Shore Drive with the exception of some curb and gutter elements proposed in existing concrete areas. See Attachment C-2. This commitment will avoid adverse impacts to these species.

To provide the third southbound lane along Lake Shore Drive, roadway widening is proposed to occur to the west. This widening involves modifications to the 59th Street Inlet Bridge and in-stream work within the waterway below. Considering the lack of suitable habitat at the construction location and that construction would occur outside of peak boating season (which runs from May through October), impacts to the state-listed Banded Killifish are unlikely. See Attachment C-3.

Temporary, short-term impacts may occur as a result of construction-related activities, such as ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, a potential increase of noise and vibrations, as well fugitive dust emissions. No threatened or endangered species are anticipated to be adversely impacted by construction activities based on commitments put in place.

Migratory Birds

The proposed transportation improvements do not impact the Wooded Island, the Bobolink Meadow, or the Lake Michigan shoreline. Additionally, migratory birds would be protected by the City commitment to restrict tree removal, between March 1 and August 31 for projects assessed in this EA. This commitment excludes tree removal that may need to occur at any time during the year due to damage, disease, pests or other unforeseen circumstances in the interest of public safety. If removal is needed, a staff expert at the CPD would inspect potentially impacted trees for signs of nesting activity prior to removal and postpone, if necessary. This commitment will avoid adverse impacts to nesting activities. Habitat for migratory birds would be temporarily impacted by tree clearing; however, all trees removed would be replaced at a 1:1 mitigation replacement ratio (See Appendix D). Therefore, there are no direct effects to migratory birds as a result of the transportation improvements. No migratory birds are anticipated to be adversely impacted by construction activities.

Natural Areas

There are no INAI sites present within the proposed transportation improvement areas; therefore, there are no direct impacts to natural areas as a result of the transportation improvements.

4.3.2 Indirect Impacts – City Actions

The indirect impacts of Alternative C are the same as those described in Alternative B. As a result of the tree removal restriction, the impacts to natural resources associated with Alternative C would be negligible and do not require further mitigation. Therefore, there are no additional indirect impacts the result from implementing Alternative C.

4.3.3 Cumulative Impacts

As evaluated in Alternative A, the reasonably foreseeable projects contribute minimal temporary impacts during the construction of the Jackson Park Harbor Navigation Improvements and some long-term, beneficial impacts that result from the Osaka Garden and other improvements on the Wooded Island. With the City commitments to restrict tree clearing and construct west of Lakeshore Drive in place, the additional actions associated with Alternative C would not impact threatened and endangered species, migratory birds, or natural areas. The actions in Alternative C in addition to those by reasonably foreseeable projects would collectively contribute to an overall neutral cumulative impact.

5.0 Summary

Table 1 indicates the direct, indirect and cumulative impacts to natural resources by alternative. The table summarizes both the incremental and total impacts associated with Alternative C.

Table 1: Summary of Natural Resource Impacts by Alternative

Alternative	Direct Impacts	Indirect Impacts	Cumulative Impacts	Total Impacts
A	None	None	Potential beneficial impacts associated Osaka Garden and other improvements on the Wooded Island; Potential temporary adverse impacts during construction associated with the Jackson Park Harbor Navigation Improvement Project.	None

Alternative	Direct Impacts	Indirect Impacts	Cumulative Impacts	Total Impacts
B	Temporary impacts during construction	<p>Temporary impacts during construction</p> <p>Temporary impacts to tree habitats by proposed tree removals</p> <p>Nesting activities protected by tree removal restriction during nesting period</p> <p>Tree removals replaced at 1:1 ratio</p>	<p>Potential beneficial impacts associated Osaka Garden and other improvements on the Wooded Island; Potential temporary adverse impacts during construction associated with the Jackson Park Harbor Navigation Improvement Project.</p>	<p>Temporary impacts during construction</p> <p>Temporary impacts to tree habitats by proposed tree removals</p> <p>Nesting activities protected by tree removal restriction during nesting period</p> <p>Tree removals replaced at 1:1 ratio</p> <p>Potential beneficial impacts associated Osaka Garden and other improvements on the Wooded Island; Potential temporary adverse impacts during construction associated with the Jackson Park Harbor Navigation Improvement Project.</p>

Alternative	Direct Impacts	Indirect Impacts	Cumulative Impacts	Total Impacts
C (Incremental)	<p>Temporary impacts during construction</p> <p>Temporary impacts to tree habitats by proposed tree removals</p> <p>Nesting activities protected by tree removal restriction during nesting period</p> <p>Tree removals replaced at 1:1 ratio</p>	None	<p>Potential beneficial impacts associated Osaka Garden and other improvements on the Wooded Island; Potential temporary adverse impacts during construction associated with the Jackson Park Harbor Navigation Improvement Project.</p>	<p>Temporary impacts during construction</p> <p>Temporary impacts to tree habitats by proposed tree removals</p> <p>Nesting activities protected by tree removal restriction during nesting period</p> <p>Tree removals replaced at 1:1 ratio</p> <p>Potential beneficial impacts associated Osaka Garden and other improvements on the Wooded Island; Potential temporary adverse impacts during construction associated with the Jackson Park Harbor Navigation Improvement Project.</p>

Alternative	Direct Impacts	Indirect Impacts	Cumulative Impacts	Total Impacts
B + C (Total)	<p>Temporary impacts during construction</p> <p>Temporary impacts to tree habitats by proposed tree removals</p> <p>Nesting activities protected by tree removal restriction during nesting period</p> <p>Tree removals replaced at 1:1 ratio</p>	None	<p>Potential beneficial impacts associated Osaka Garden and other improvements on the Wooded Island; Potential temporary adverse impacts during construction associated with the Jackson Park Harbor Navigation Improvement Project.</p>	<p>Temporary impacts during construction</p> <p>Temporary impacts to tree habitats by proposed tree removals</p> <p>Nesting activities protected by tree removal restriction during nesting period</p> <p>Tree removals replaced at 1:1 ratio</p> <p>Potential beneficial impacts associated Osaka Garden and other improvements on the Wooded Island; Potential temporary adverse impacts during construction associated with the Jackson Park Harbor Navigation Improvement Project.</p>

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