

Appendix J-1
General Ecology and Wildlife Resources Supplemental
Methodology and Regulatory Framework

General Ecology and Wildlife Resources Supplemental Methodology and Regulatory Framework

This appendix describes the supplemental methodology and regulatory framework used in the general ecology and wildlife resources assessment as described in Section 6.4.8 of the DEIS.

METHODOLOGY

STUDY AREA

A number of study areas are considered in this appendix to account for the greatest distance of potential effects to general ecology and wildlife resources. The study areas are as follows:

- The study area for the evaluation of impacts to terrestrial resources and wetlands generally comprises up to 100-foot (ft) around the limits of disturbance of each of the four study areas.
- The study area for state and federally-listed threatened, endangered, special concern species and significant ecological communities follows the guidance outlined in the TEM Endangered and Threatened Species section 4.9.3. Unless otherwise specified in the list below, the screening area for state- and federally-listed species and significant ecological communities is a 1.5 mile radius around each of the four study areas. The TEM guidance also provides species-specific study areas for the following species/habitats:
 - Indiana bat (*Myotis sodalis*) (2.5 mile radius);
 - Bog turtle (*Glyptemys mublenbergii*) (1 mile radius);
 - Blanding’s turtle (*Emydoidea blandingii*) (0.6 mile radius);
 - Timber rattlesnake (*Crotalus horridus*) (1.5 mile radius);
 - Aquatic species (up to 2 miles downstream); and
 - Indiana bat hibernacula (40 mile radius).
- In addition, Appendix G to the Endangered and Threatened Species TEM chapter is the FHWA New York Division: “*Environmental Procedures Endangered Species Act, Section 7: Process for Compliance and Consultation*” Guidance. This Guidance lists USFWS/FHWA’s procedures for listed species and includes the following areas of concern for listed species:
 - Federal radius: Northern long-eared bat (*Myotis septentrionalis*) and Indiana bat (within 0.5 miles of a hibernaculum or 150 feet from a roost tree).
 - State radius: Northern long-eared bat (5 miles from a hibernaculum or 1.5 miles from a roost tree).
 - State radius: Indiana bat (2.5 miles from a hibernaculum or 2.5 miles from a roost tree).

DRAFT FOR AGENCY REVIEW

- The study areas for each species/habitat listed above were established around each of the four study areas.

DATA SOURCES

Existing conditions for ecological resources within the Project Area are summarized from a number of data sources, including:

- Existing information identified in literature and obtained from governmental and nongovernmental sources, including the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps; NYSDEC freshwater wetlands maps; New York Natural Heritage Program (NYNHP) Environmental Resource Mapper; 2000-2005 New York State Breeding Bird Atlas; NYSDEC Herp Atlas Project; and National Audubon Society 2010 Christmas Bird Count.
- Terrestrial ecological communities within the Project Area are described in the context of “Ecological Communities of New York State (Edinger et al. 2014).”
- Response to a request (dated June 1, 2016) from the NYNHP for information on rare, threatened, or endangered, candidate, or proposed species in the vicinity of the project site..
- Project specific information provided through USFWS’s on-line platform, Information Planning and Conservation (IPaC) using the four study areas, as shown in the Trust Resource Report(s) in Appendix J-5.

SITE RECONNAISSANCE

Site reconnaissance investigations were conducted on June 29, 30, and August 1, 2016 for ecological communities and vegetation. Wildlife was documented during site reconnaissance investigations conducted on July 29, 2016. Additional photographic documentation was collected on September 16 and 20, 2016.

REGULATORY FRAMEWORK

The following federal regulations pertain to the general ecology and wildlife resources of the Project Area.

- **Clean Water Act.** The objective of the Clean Water Act, also known as the Federal Water Pollution Control Act, is to restore and maintain the chemical, physical, and biological integrity of waters of the United States. Waters of the United States include streams, rivers, and wetlands that meet the specified requirements defined in 33 CFR 328.3. The Clean Water Act regulates point sources of water pollution (such as discharges of dredged or fill material into navigable waters and other waters of the United States) and non-point source pollution.
- Under Section 401 of the Act, any applicant for a federal permit or license for an activity that may result in a discharge to navigable waters must provide to the federal agency issuing a permit a certificate that the discharge would comply with Sections 301,

DRAFT FOR AGENCY REVIEW

302, 303, 306, 307, and 316 (b) of the Clean Water Act. In New York, this certificate is issued by the NYSDEC.

Section 404 of the Act requires authorization from the Secretary of the Army, acting through the USACE, for the discharge of dredged or fill material into waters of the United States. Activities authorized under Section 404 must also comply with Section 401 of the Act. For this action, any authorization required would be issued from the USACE Buffalo District Office.

- **Executive Order 11990, “Protection of Wetlands.”** In accordance with Executive Order (EO) 11990, “Protection of Wetlands,” and USDOT Order 5660.1a, “Preservation of the Nation’s Wetlands,” federal agencies must avoid undertaking or providing assistance for new construction in wetlands unless there is no practical alternative to such construction and the proposed action includes all practicable measures to minimize harm to the wetland. For this action, the FHWA issues a “Finding” regarding the compliance of the action with EO 11990.
- **Executive Order 13112, “Invasive Species.”** In accordance with EO 13112, “Invasive Species,” federal agencies must prevent, to the extent practicable and permitted by law, the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause.
- **Migratory Bird Treaty Act.** The Migratory Bird Treaty Act (MBTA) of 1918 was implemented for the protection of birds migrating between the U.S. and Canada. Subsequent amendments implemented treaties between the U.S. and Mexico, the U.S. and Japan, and the U.S. and the former Soviet Union. The MBTA makes it unlawful to pursue, hunt, take, capture, kill, or sell birds listed therein. The statute applies equally to both live and dead birds, and grants full protection to any bird parts, including feathers, eggs and nests. The USFWS implements the MBTA.
- **Endangered Species Act of 1973 (16 USC §§ 1531 to 1544).** The Endangered Species Act of 1973 (ESA) recognizes that endangered species of wildlife and plants are of aesthetic, ecological, educational, historical, recreational, and scientific value to the nation and its people. The ESA prohibits the importation, exportation, taking, possession, and other activities involving illegally taken species covered under the Act, and interstate or foreign commercial activities. The ESA also provides for the protection of critical habitats on which endangered or threatened species depend for survival. Section 7 of the ESA requires Federal agencies to insure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat.

The following state regulations pertain to the general ecology and wildlife resources of the Project Area.

- **Critical Environmental Areas (CEAs), Environmental Conservation Law (ECL).** CEAs are areas in the state which have been designated by a local or state agency to recognize a specific geographical area. Under 6 NYCRR 617.14(g) of the SEQRA regulations, CEAs have one or more of the following characteristics: (1) is a benefit or threat to human health; (2) contains an exceptional or unique natural setting; (3) has

DRAFT FOR AGENCY REVIEW

- exceptional or unique social, historic, archaeological, recreational or educational values; or (4) has an inherent ecological, geological or hydrological sensitivity to change that may be adversely affected by any physical disturbance.
- **Freshwater Wetlands Act, ECL Article 24.** The NYSDEC is responsible for implementing New York State's Freshwater Wetland Regulatory program, which is intended to prevent despoliation and destruction of freshwater wetlands in accordance with the environmental protection regulations of the state. Adjacent areas within 100 feet of mapped NYSDEC freshwater wetlands are also regulated. NYSDEC and NYSDOT signed a Memorandum of Understanding (MOU) regarding ECL Articles 15 and 24. The MOU streamlines the use of existing Freshwater Wetlands Programmatic Permits and allows for in-field authorization and issuance for two of the Programmatic Permits.
 - **Removal of Trees and Protect Plants.** NYSDEC, through the New York Natural Heritage Program, maintains a list of plant species that are listed as endangered, threatened, rare, or exploitably vulnerable. Section 9-1503 of the ECL states, "[n]o person shall, in any area designated by such list or lists, knowingly pick, pluck, sever, remove, damage by the application of herbicides or defoliants or carry away, without the consent of the owner thereof, any protected plant."
 - **Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern** (ECL, Sections 11-0535[1]-[2], 11-0536[2], [4], Implementing Regulations 6 NYCRR PART 182). The Endangered and Threatened Species of Fish and Wildlife, Species of Special Concern Regulations prohibit the taking, import, transport, possession, or selling of any endangered or threatened species of fish or wildlife, or any hide, or other part of these species as listed in 6 NYCRR §182.6.

Attachment J-1-1

Wetlands Assessment Methodology (dated December 9, 2015)

WETLAND ASSESSMENT METHODOLOGY

This document describes the methodology that will guide analysis of potential effects on wetlands from project alternatives under consideration for the I-81 Viaduct Project.

1. Project Overview and Background

This memorandum outlines the proposed methodology for wetland mapping and an alternatives impact assessment that will be conducted as part of the Environmental Impact Statement (EIS). Due to the large size of the study area and its location within an urban environment, the proposed methodology will involve the use of mapping and limited field investigations to identify wetlands in lieu of the "Preliminary Wetland Delineation" methodology outlined in NYSDOT's Transportation Environmental Manual (TEM) Attachment 4.A.E., "Comparison of Preliminary Wetland Delineation and Formal Wetland Delineation". The mapping and limited field investigation effort will be used to confirm the presence/absence and general extent of wetlands and surface waters within the project limits and to describe the plant community present within wetlands. Approximate wetland and surface water acreages will be calculated and used to assess the approximate wetland impacts of each alternative in the EIS. This level of analysis will satisfy the requirements of the National Environmental Policy Act (NEPA) and State Environmental Quality Review Act (SEQRA) to assess wetland and surface water impacts under each alternative. A "Formal Wetland Delineation" as per the TEM will be conducted as part of the potential future permitting process once a preferred alternative has been identified and the Record of Decision has been issued.

2. Purpose of the Study

The purpose of this study is to remotely identify the approximate location and extent of mapped and unmapped wetlands and surface waters within the project limits and to subsequently assess approximate wetland and surface water impacts under each alternative for NEPA/SEQRA purposes. Existing conditions and the impact assessment will be described in the EIS.

3. Analysis Methodology

For the wetland/surface waters mapping effort, ArcGIS 10.3 desktop software will be used to identify potential wetland/surface water areas for subsequent field verification. Best-available high-resolution digital aerial photography from the New York State Statewide Digital Orthoimagery Program will be compiled and loaded into the software for use as a base map. This imagery is 4-band and includes not only natural color (red, green and blue bands) but also infrared, which can provide additional information regarding vegetation coverage and type. For Onondaga County, best-available imagery will include 0.5-foot resolution imagery captured in 2012 for some areas of the County. For areas outside that coverage area, the

February 2015 Annual Lot has been flown and its 1-foot resolution imagery product will be used once it is made available (expected by early 2016). Alternatively, the 2-foot 2012 imagery that is currently available may also be used.

This imagery will be supplemented with other GIS data overlays, including best-available topographic data from the U.S. Geological Survey; hydric soils data from the Natural Resources Conservation Service's (NRCS) (U.S. Department of Agriculture) Web Soil Survey¹ and NRCS National Hydric Soils list²; U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) (see attached example [Figure 1]) which shows the NWI wetland boundary and an existing stream channel) and the NYS Department of Environmental Conservation (NYSDEC) Article 24 freshwater wetland maps. Topographic data in particular, in conjunction with the high-resolution natural color and infrared imagery, will enable the project team to more accurately approximate potential wetland areas, identify unmapped potential wetlands, and identify areas of disturbance that may have eliminated or modified wetlands subsequent to Federal/State wetland mapping efforts. Specifically, topographic data and high resolution natural color imagery will be used to differentiate developed areas, including areas converted to lawn/pavement subsequent to NWI/NYSDEC mapping, from forested/undeveloped areas that may contain hydrophytic vegetation and wetland hydrology. In this way, some areas of mapped NWI/NYSDEC wetlands may be excluded from further review. NRCS soil mapping units with the potential to include hydric soils will also be incorporated. Specifically, soil mapping units given a hydric component rating of 33% or greater, as is provided in the NRCS Web Soil Survey, will be highlighted and considered in combination with the other wetland/surface water data sources. Infrared imagery will also be used to identify watercourses/wetland hydrology.

Prior to field inspection, the wetlands maps for the project limits will be developed with the mapping data and GIS overlays described above. As per the USACE Wetland Delineation Manual,³ three wetland indicators, hydrophytic vegetation, hydric soils, and hydrology, must be present for an area to be classified as a wetland. Any area shown on the maps and/or on the GIS overlays that exhibit signs of wetland conditions (e.g., surface waters, hydric soils,

¹ Available: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.

² Available: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>.

³ Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss; U.S. Army Corps of Engineers. 2011. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (version 2.0), ed. J.S. Wakeley, R.W. Lichvar, C.V. Noble, and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

and/or wetland vegetation) will be mapped and further investigated through limited field inspection to determine if all three USACE wetland indicators (i.e., hydrophytic vegetation, hydric soils, and hydrology) are present. Areas that do not have all three USACE wetland indicators (i.e., hydrophytic vegetation, hydric soils, and hydrology) as per field inspection will be excluded from further review. The product of the field inspection will be a presence-absence technical letter report indicating which publicly mapped wetlands (NWI/NYSDEC) and unmapped wetlands (if present) exhibit positive indicators of all three USACE wetland indicators (i.e., hydrophytic vegetation, hydric soils, and hydrology). Where the approximate locations of wetlands are confirmed in the field or where mapped wetlands are found to be absent, this information will be used to update the wetland maps for the project limits and create a final set of wetland maps to be used for the EIS.¹ Subsequently, approximate wetland impacts under each alternative will be assessed for NEPA/SEQRA purposes by overlaying the footprints of disturbance of the alternatives on these wetland maps.

I-81

¹ A formal wetland delineation would not be conducted under this methodology (i.e., no flags would be placed in the field). These wetlands maps would show the approximate locations of wetlands within the project limits and would not replace formal wetland jurisdictional mapping (i.e., field delineated wetland boundaries and acreage calculations)