

Western New York STAMP

Offsite Aquatic Resource and Ecology Preliminary Investigation Report

Genesee and Orleans Counties, New York

PREPARED FOR:

Genesee County Economic Development Center

BY:

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1.0 Introduction

The Genesee County Economic Development Center (EDC) has retained the services of CC Environment & Planning (CC) to complete a preliminary investigation of aquatic resources and ecological features including potential habitat for state and federal listed species within the potential disturbance area of proposed offsite utility lines associated with the Western New York Science & Technology Advanced Manufacturing Park (STAMP) project. The area of investigation (AOI) is along approximately 167,545 linear feet of proposed water and sanitary sewer line in the Towns of Alabama, Oakfield, and Shelby, Counties of Genesee and Orleans, State of New York. The proposed water line extends approximately seven miles east from the STAMP project site to Oakfield. The sewer line runs along Route 63 north approximately 10 miles to Medina (Figure 1).

The AOI is located within 40 feet of the centerline of both sides of multiple roadways (80-foot path including paved roads and adjacent right of way). The roads traverse mainly open space and rural land cover including farmland, forests, wetlands, single-family residences, and small hamlets. A significant portion of the sewer line and a smaller portion of the water line runs along roadways adjacent to federal and state lands managed for natural resource protection and wildlife conservation. These include Iroquois National Wildlife Refuge (Iroquois NWR) and Tonawanda and John White State Wildlife Management Areas (WMA) (Figure 1).

The purpose of this preliminary investigation is to document the presence and location of aquatic and ecological resources along the proposed utility routes, most specifically those resources that extend within 40 feet of the centerline of roadways where potential impacts could occur.

The results of this investigation will help guide utility design including location and placement methods to avoid or minimize potential ecological impacts. Results will also help identify if/where additional surveys are required including wetland delineations to allow the U.S. Army Corps of Engineers (USACE) and New York State Department of Environmental Conservation (NYSDEC) to determine jurisdictional authority pursuant to §404 of the Clean Water Act and Article 24 (Freshwater Wetlands) of the New York State Environmental Conservation Law.

This report provides a summary of investigation methods, results, and conclusions with respect to aquatic and ecological resources in the AOI.

2.0 Methods

Data collection, investigation area assessment, and report preparation were completed by Sheila Hess, Principal Ecologist for CC Environment & Planning. Input and information for completion of this report were provided by the Genesee County Economic Development Center and STAMP project engineer, Clark Patterson Lee. The objectives of the investigation were to:

1. Conduct a desktop review of aquatic resources, significant natural communities and threatened and endangered species associated with the AOI using existing data and information.
2. Complete a preliminary field review of the AOI to identify, characterize, and record locations of aquatic resources (wetlands and streams).
3. Complete a preliminary field review of the AOI to identify any potential habitat for listed species.

2.1 Desktop Review

The review of wetland, stream, and significant natural community (SNC) data was conducted in ArcGIS 10.2. Review of threatened and endangered species data was conducted using the results of queries of the US Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System website (<http://ecos.fws.gov/ipac/>), New York State Department of Environmental Conservation (NYSDEC) Nature Explorer (<http://www.dec.ny.gov/animals/57844.html>), and consultation with the New York Natural Heritage Program (NYNHP), USFWS staff at Iroquois NWR and NYSDEC staff in Region 8.

Desktop review was also used to identify priority sites for further investigation. These sites were targeted based on mapped intersections of the AOI and state-designated wetlands, SNCs, state and federally-designated threatened and endangered species, stream crossings, and protected areas.

2.2 Field Review

The AOI was visited in November 2015 to document the presence of mapped ecological attributes and to collect additional baseline information including: identification of unmapped wetlands; the presence or likelihood of occurrence of rare, threatened, and endangered species; and an assessment of site quality and vulnerabilities. Data collection included: general observations and photos; assessment of vegetation communities, land use activities, and disturbance levels; species observations; and the location of wetland and stream crossings. Because the AOI is primarily comprised of existing roadways (pavement) and the adjacent right of way, much of the natural habitat, vegetation, and soil conditions have been altered. In these disturbed areas, present hydrology, remaining undisturbed vegetation communities, and

adjacent habitats were used to determine the approximate location of aquatic resources. Potential habitat for listed species was assessed by examining conditions within the AOI including structure and composition of vegetation communities and consideration of adjacent natural resources, land use, and disturbance.

3.0 Results

In November 2015, CC investigated the AOI by conducting a desktop review of existing available information and conducting general aquatic resource and habitat field assessments throughout. A specific review of habitat for listed species presented in section 3.4 below and Appendix A was conducted as well. Observations were made primarily within the project disturbance area (40 feet from the centerline of the road and at wetland/stream crossings). Additional observations were made beyond the project disturbance area where well-established, intact wetland habitats occurred.

3.1 Desktop Review

3.1.1 USGS Quadrangle Map

The U.S. Geological Survey (USGS) maps are useful in wetland investigation for the purpose of identifying areas of interest. In addition to civil works and boundaries, indicators of marshes, swamps, perennial and intermittent streams, and contours are depicted. USGS topographic maps of the investigation area show 12 stream crossings along the sewer route and 13 stream crossings along the water route (Figure 2). These streams include several unnamed Class C streams,¹ Whitney Creek, Brinningstool Creek, and Oak Orchard Creek (Class C) and its tributaries.

3.1.2 Federal and State Wetland Maps

The U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) and NYSDEC wetland maps show numerous mapped wetlands adjacent to and within the investigation area. The proposed sewer route intersects with approximately 10,800 linear feet of mapped federal and state wetland areas (Figure 3). The proposed water route intersects with approximately 7,850 linear feet of mapped federal and state wetland (Figure 3).

The majority of federal mapped wetlands are palustrine forested (PFO), palustrine emergent (PEM), and palustrine scrub shrub (PSS). State-mapped wetlands are primarily Class 1 and 2 wetlands.² State wetlands and associated details regarding wetland size, class, and location of intersection with AOI are presented in Table 1 and illustrated on Figure 3.

¹ All waters of the state are provided a class and standard designation based on existing or expected best usage of each water or waterway segment. The classification AA or A is assigned to waters used as a source of drinking water. Classification B indicates a best usage for swimming and other contact recreation, but not for drinking water. Classification C is for waters supporting fisheries and suitable for non - contact activities. The lowest classification and standard is D.

² Different wetlands provide different functions and benefits and in varying degrees. The NYS Freshwater Wetland Act requires DEC to rank wetlands in classes based on the benefits and values provided by each wetland. The wetland

Wetland ID	Class	Size (acres)	AOI Intersection
A-5	1	1,362	Route 63 – wetland intersected by sewer route
AK-5	1	1,632	Route 63 – wetland intersected by sewer route
AK-6	2	23	Route 63 - check zone ³ intersected by water and sewer routes
AX-8	3	48	Route 77 – check zone near water route
AK-4	2	193	Route 77 – check zone intersected by water route
OK-1	1	5,247	Knowlesville Rd – check zone intersected by water route
OK-3	2	45	Knowlesville Rd – check zone intersected by water route
OK-5	2	18	Knowlesville Rd – check zone intersected by water route
OK-6	2	64	Lewiston Rd – wetland intersected by water route

3.1.3 Significant Natural Communities

The New York State Natural Heritage Program (NYNHP) maps the locations of significant natural communities across the state. Significant natural communities are defined by NYNHP as “rare or high-quality wetlands, forests, grasslands, ponds, streams, and other types of habitats, ecosystems, and ecological areas.” These communities are generally uncommon and difficult, if not impossible, to replace. NYNHP-mapped resources include a 0.5-mile check zone.⁴ A small portion of the proposed water line along Knowlesville Road in The Towns of Alabama and Oakfield may intersect with the check zone of two significant natural communities: a Deep Emergent Marsh and a Rich Hemlock-Hardwood Peat Swamp (Figure 3, check zone not shown). Both of these are associated with a large state-mapped wetland (OK-1, Table 1).

class helps to determine the best uses for each wetland. Higher class wetlands (Class 1 and 2) provide the greatest level of benefits and are afforded a higher level of protection. Lower class wetlands (Class 3 and 4) still provide important functions and benefits, but typically require less protection to continue to provide these functions.

³ New York's freshwater wetlands maps only show the approximate location of the actual wetland boundary. They are not precise, regardless of how closely you zoom in on the map. The "check zone" is an area around the mapped wetland in which the actual wetland may occur. If you are proposing a project that may encroach into this area, you should check with your regional DEC office to make sure where the actual wetland boundary is. If necessary, they may have a biologist come out and perform a field delineation for you to help you avoid impacts in the wetland or the regulated 100-foot buffer zone.

⁴ This data layer shows areas within 1/2 mile of the significant natural communities shown in the layer above. If natural resources or potential project impacts are being assessed at a location within this vicinity layer, the nearby significant natural communities should be considered in the assessment. Also, as some of the natural communities themselves are very small (such as vernal pools), the vicinity layer will alert the user as to the presence of a nearby significant natural community that might otherwise be overlooked.

3.1.4 Threatened and Endangered Species

Threatened and endangered species information for the AOI was obtained from the NYSDEC Nature Explorer, USFWS, and NYNHP. Query results are presented in Appendix A. Based on consultation with USFWS and NYSDEC online resources, lists from recent projects in the vicinity, and the types of habitat and conditions present in the AOI, a preliminary review was conducted for the following species:

- bog turtle (*Clemmys muhlenbergii*)
- eastern massasauga (rattlesnake) (*Sistrurus catenatus catenatus*)
- Houghton's goldenrod (*Solidago houghtonii*)
- northern long-eared bat (*Myotis septentrionalis*)
- bald eagle (*Haliaeetus leucocephalus*), protected under the Bald and Golden Eagle Protection Act
- northern harrier (*Circus cyaneus*)

Other state-listed species that have been recorded in the general vicinity include pied-billed grebe (*podilymbus podiceps*), sedge wren (*Cistothorus platensis*), and Henslow's sparrow (*Ammodramus henslowii*). The necessary habitats and conditions that support these three species are not present within the limits of the AOI.

No "Critical habitats" as designated by natural resource agencies are identified within the AOI.

3.2 Field Review

The majority of the AOI is upland consisting of previously disturbed areas including road shoulders, mowed lawn and mowed lawn with trees, cropland, excavated ditches, culverts, and brushy cleared land. A smaller portion of the project area, primarily at stream and wetland crossings and adjacent to state and federal-owned lands, consists of intermittent and perennial streams and wetlands (shallow emergent marsh, common reed marsh, shrub swamp, and red maple hardwood swamp). Ecological communities referenced above are designated in accordance with community descriptions in Edinger et al. 2014 *Ecological Communities of New York State* (http://www.dec.ny.gov/docs/wildlife_pdf/ecocomm2014.pdf).

Commonly observed plant species observed during the investigation are listed in Table 2.

Table 2. Plant species observed during field investigations within the AOI.	
Scientific Name	Common Name
<i>Acer negundo</i>	Box elder
<i>Acer spp.</i>	Maple
<i>Ageratina altissima</i>	White snakeroot

Table 2. Plant species observed during field investigations within the AOI.	
Scientific Name	Common Name
<i>Ambrosia artemisiifolia</i>	Annual ragweed
<i>Arctium lappa</i>	Common burdock
<i>Artemisia vulgaris</i>	Common wormwood
<i>Asclepias syriaca</i>	Common milkweed
<i>Calystegia sepium</i>	Hedge bindweed
<i>Cichorium intybus</i>	Chicory
<i>Cornus spp.</i>	Dogwood
<i>Dactylis glomerata</i>	Orchard grass
<i>Dipsacus fullonum</i>	Teasel
<i>Echinocystis lobata</i>	Wild Cucumber Vine
<i>Eupatorium perfoliatum</i>	Boneset
<i>Eutrochium maculatum</i>	Spotted joe pye weed
<i>Fraxinus pennsylvanica</i>	Green ash
<i>Impatiens capensis</i>	Jewelweed
<i>Juglans nigra</i>	Black walnut
<i>Malus domestica</i>	Apple tree
<i>Mentha arvensis</i>	Wild mint
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Phalaris arundinacea</i>	Reed canarygrass
<i>Phleum pratensis</i>	Timothy
<i>Phragmites australis</i>	Common reed
<i>Polygonum spp.</i>	Smartweeds
<i>Populus deltoides</i>	Eastern cottonwood
<i>Prunus virginiana</i>	Choke cherry
<i>Rhamnus cathartica</i>	Common buckthorn
<i>Rhus typhina</i>	Staghorn sumac
<i>Rosa multiflora</i>	Multiflora rose
<i>Salix spp.</i>	Willow
<i>Solidago spp.</i>	Goldenrod
<i>Symphotrichum spp.</i>	Aster species
<i>Tilia americana</i>	Basswood
<i>Toxicodendron raicans</i>	Poison ivy
<i>Typha spp.</i>	Cattail
<i>Vitis aestivalis</i>	Summer grape

3.2.1 Aquatic Resources

Wetland and stream resources within the AOI were documented during field visits. Mapped stream crossings were visited primarily to determine if wetlands were present. GPS points were

recorded for some, but not all stream crossings. GPS points were recorded for all observed wetland locations. Many of these wetlands were mapped. Some were not. Field observation locations were documented by importing GPS points into ArcGIS 10.2. Figure 4 illustrates locations of all observation points. Observation points are labeled and include wetlands (indicated by a 'W' and which side of the road the wetland occurred on), stream crossings (indicated by an 'X'), trees greater than 3" DBH within the AOI (indicated by the word 'Trees'). Unmapped wetlands identified within or immediately adjacent to the AOI during field review were observed at points 760, 761, 762, 757, 758, 808, 809, and 812. Appendix B provides representative photos.

A simple visual rapid assessment was conducted for observed wetlands within or immediately adjacent to the AOI. The function of the wetlands and streams is generally impaired; fragmentation, lack of a vegetated buffer and an abundance of loose soil around drainages introduces sediment and increased water turbidity in wetlands and associated streams. Historic alterations, ongoing disturbance, and proximity to roadways have had significant negative impacts on the condition and composition of wetland plant communities. Disturbance and impacts include evidence of historic wetland drainage, fill, conversion of wetland types, fragmentation, and widespread dominance by invasive species. Investigation area wetlands are characteristic of highly disturbed systems. Many functions and services provided by less disturbed wetland systems have been degraded or lost within the AOI.

One notable exception to this general characterization of aquatic resources within the AOI is Oak Orchard Creek and the associated wetlands to the south of Oak Orchard Creek's intersection with Route 63 (Figure 4 observation points 756-759 and 764). This wetland area is owned by USFWS (Iroquois NWR) and is part of a large complex system that includes riparian, emergent, and forested wetlands. While evidence of disturbance exists, the system as a whole is high quality, federally protected, and linked to mapped significant natural communities and potential occurrence of rare, threatened, and endangered species. Wetlands within the AOI are fragmented edges of the larger system. The right of way of Route 63 is narrow in this section with little opportunity for restricting potential impacts to existing fill. Appendix B provides photo documentation of this area.

3.2.2 Significant Natural Communities

With the possible exception of the crossing of the proposed sewer line at Oak Orchard Creek and associated deep emergent marsh outside of the AOI, no NYNHP significant natural communities were observed. No significant natural communities were observed within the AOI.

3.2.3 Threatened and Endangered Species

A northern harrier was observed during field review of the AOI. No other listed species were observed. Potential habitat was observed for northern long-eared bat, bald eagle, and northern harrier within or immediately adjacent to the AOI. There are bald eagle nests within the vicinity. A discussion about specific listed species and habitat observations is provided below.

Bog Turtle

Bog turtles require relatively specific hydrology, soils, and vegetation. On the Lake Ontario Coastal Plain bog turtle habitat characteristics include open-canopy, sedge-dominated, medium to rich fens often with an open water component and within larger forested wetlands. No evidence of bog turtles, nor the habitat characteristics described above, were observed in association with the wetland habitats specifically within the AOI. Most wetlands associated with the project outside of INWR appear to be predominately surface water fed and it is likely that many of them do not remain saturated year round. Though bog turtles will use habitat that is not saturated year round, they require year round access to shallow standing water and saturated soils, which the areas to be disturbed and those immediately adjacent are not likely to provide. Bog turtle habitat includes a mucky substrate at least 3" deep. The majority of the project site is within road right-of-ways or associated with the prior disturbance of existing culverts. These areas generally lack a layer of mucky soil. Calciphiles were not observed within adjacent wetlands. In several cases the project disturbance area intersects or is adjacent to a small portion of a wetland of significant size. Based on desk top analysis and field review of these wetlands within or immediately adjacent to the project area, these wetlands, with the possible exception of the Iroquois NWR wetlands along Route 63, are unlikely to support bog turtles based on the observations presented above and the documented rarity of the species. In the case of Iroquois NWR wetlands, past surveys and investigations have not revealed the presence of bog turtles in this area.

Eastern Massasauga

The eastern massasauga rattlesnake may use open shallow wetlands or shrub swamps as well as open grassy fields, grassy meadows or farmed sites. There was no evidence of this species observed. Though these habitats exist adjacent to the project area, it is unlikely based on the level of roadside disturbance and the rarity of the eastern massasauga, that they occur or will be affected by the proposed project activities.

Houghton's Goldenrod

Houghton's goldenrod occurs in wetlands over calcareous parent material and in association with several specific plant species. While wetland habitat was present, no evidence of this species was observed. Based on the predominance of vegetation species commonly associated with

disturbed areas, lack of plant species commonly associated with Houghton's goldenrod, and rarity of the species itself, the possibility of Houghton's goldenrod inhabiting the project area is unlikely.

Northern Long-eared Bat

During the summer northern long-eared bats may roost underneath bark and in cavities and crevices of live and dead trees (typically greater than 3" DBH) and forage along forested hillsides. In several locations, potentially suitable trees were observed within the AOI (Figure 4). To reduce the potential to impact northern long-eared bats, tree removal within potential disturbance areas may be scheduled after November 1 and before April 1.

Bald Eagle

Active bald eagle nests are located within a mile of some portions of the AOI on Iroquois NWR and Tonawanda and Oak Orchard State WMAs. While bald eagles may utilize habitat within the vicinity of the project area for foraging, there is no evidence of nesting or sensitive foraging habitats within the AOI itself. No bald eagles were observed during field observations. Due to the proximity of nesting eagles to some portions of the proposed utility lines (farthest west point of water line on Route 77 near Feeder Road), there may be a requirement to restrict construction activity outside of the nesting period to avoid disturbance.

Northern Harrier

The northern harrier utilizes a range of open habitats for foraging and breeding. These habitats are common in the vicinity of the project area, particularly north towards the state and federal protected areas mentioned above. Specific breeding/foraging habitat for the northern harrier was not observed within the AOI. One harrier was recorded during field observations at the John White WMA.

4.0 Recommendations

The following recommendations are based on the investigation and analysis presented above.

Utilize field results presented above to maximize avoidance of wetlands and streams. In particular, develop an avoidance plan for Oak Orchard Creek and associated wetlands to the south along Route 63. Field delineate any areas where avoidance is not feasible. This information will help minimize temporary and permanent impacts, identify jurisdiction, and provide details for required permit applications. Clearly identify and evaluate all unavoidable temporary, permanent, direct, and indirect impacts, including those within state wetland adjacent areas that may require review under Article 24. Develop integrated, landscape-level compensation strategies for impacts that trigger mitigation requirements.

Both the proposed water line and the sewer line are likely to fall within impact thresholds for Nationwide Permit 12 - Utility Line Activities (Appendix C). Utility activities permitted under Nationwide 12 include construction of utility lines and associated facilities in waters of the U.S. that results in less than 0.5 acre of waters for each single and complete project. Nationwide 12 includes thresholds and conditions that may trigger a pre-construction notice (PCN) requirement.⁵ Due to the length and location of the STAMP offsite AOI, applicable thresholds may include mechanized clearing in a forested wetland and greater than 500 feet of impact in waters of the U.S. where Route 63 passes through Iroquois NWR.

Consult with regional NYSDEC wildlife staff to determine if other species of interest other than those presented in Section 3.2.3 above are present in the project area and if Article 11 review is required. Develop designs, construction plans, and schedules that consider bald eagle and northern long-eared bat habitat. Avoid disturbance in close proximity (within 660 feet) to active bald eagle nests during the breeding season (January through August). This may be relevant for the water line proposed on Route 77 near Feeder Road in the Town of Alabama (Figure 4). Remove potential roost trees for northern long-eared bats (trees > 3" DBH) after October 31 and before April 1, if possible. Locations where such trees may exist within the AOI are indicated on

⁵ The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 31.) (Sections 10 and 404)

Figure 4. Note that activities authorized under Nationwide permits which may affect a listed species requires Section 7 consultation to address potential effects. The potential occurrence of a federal listed species triggers a PCN for nationwide permits.⁶

Determine if special permits and approvals are required for work within or adjacent to state and federal-owned lands. The corridor along Route 63 through Iroquois NWR may require a Compatibility Determination and/or a Rights-of-Way review if construction activity is required outside existing right-of-ways.

For more information, see: <http://www.ecfr.gov/cgi-bin/text-idx?SID=33ad370d33755a175687f9ece630104c&mc=true&node=sp50.9.29.b&rgn=div6>

⁶ Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized.

5.0 References

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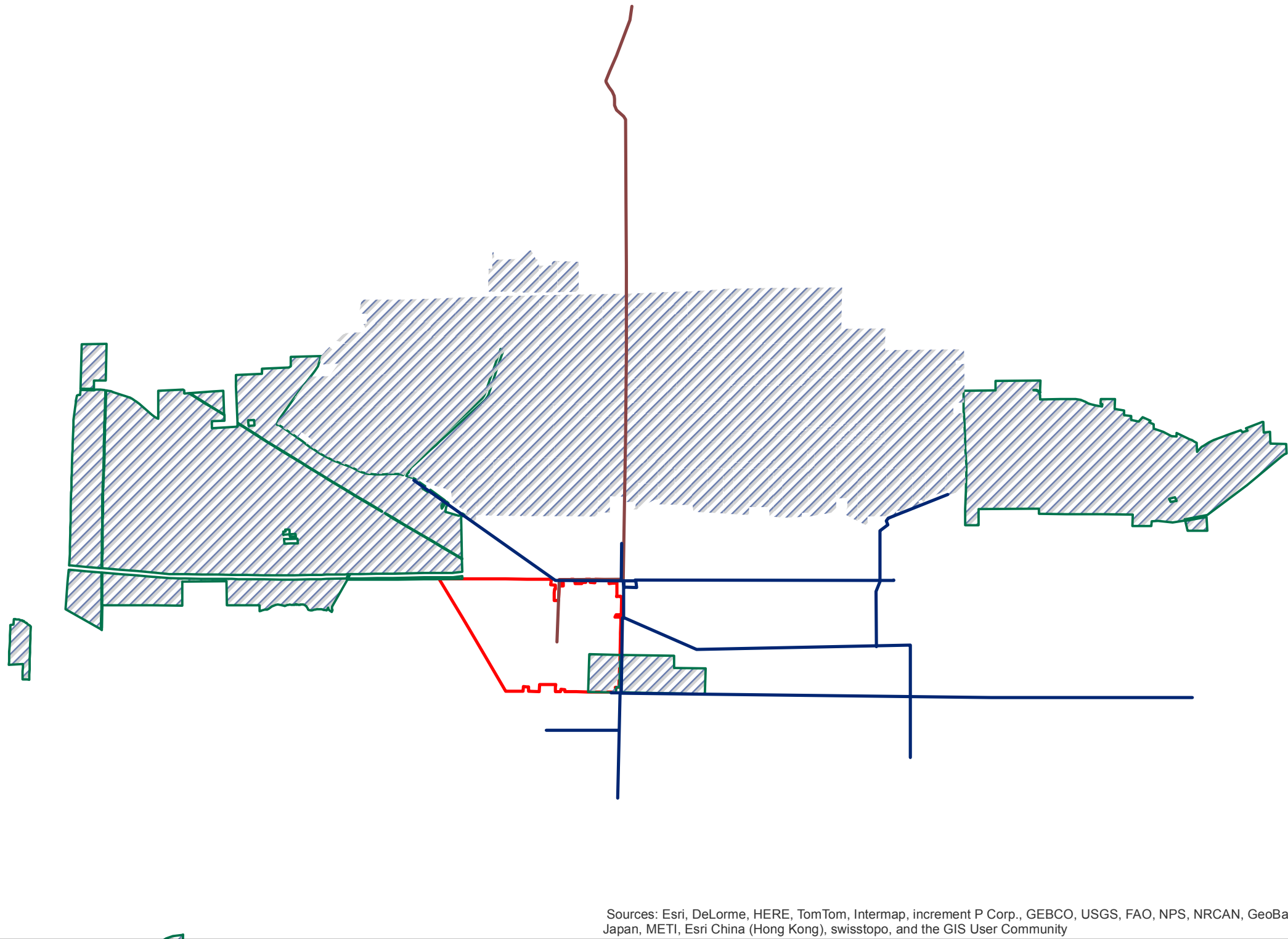
Listed Species Fact Sheets:

- Bald Eagle: <http://www.dec.ny.gov/animals/74052.html>
- Bog Turtle: <http://www.fws.gov/northeast/ecologicalservices/turtle/pdf/Bogturtle.pdf>
- Houghton's Goldenrod:
<http://www.fws.gov/midwest/Endangered/plants/houghton.html>

- Massasauga Rattlesnake:
<http://www.fws.gov/midwest/endangered/reptiles/eama/eama-fct-sht.html>
- Northern Harrier: <http://www.dec.ny.gov/animals/7090.html>
- Northern Long-Eared Bat:
<http://www.fws.gov/midwest/endangered/mammals/nleb/nlebFactSheet.html>

Figures





Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

Data Sources: USFWS NWI, USGS, NYSDEC, Clark, Patterson, Lee, CC Environment & Planning

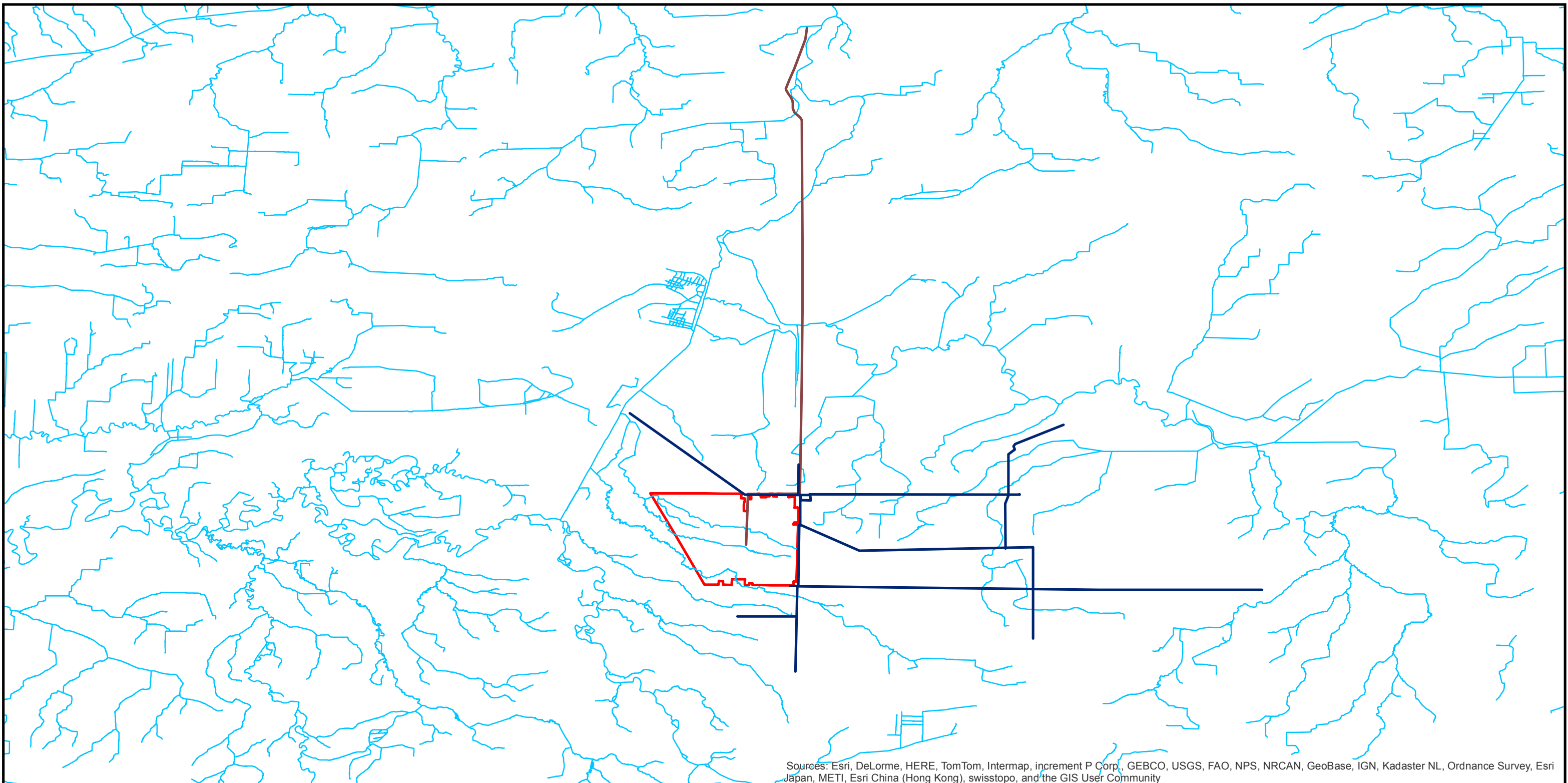


**STAMP Water/Wastewater
Location Map**
Genesee/Orleans County



- Offsite_Water
- Offsite_Wastewater
- Iroquois National Wildlife Refuge
- State Wildlife Management Areas
- STAMP_boundary

Figure
[1]



Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

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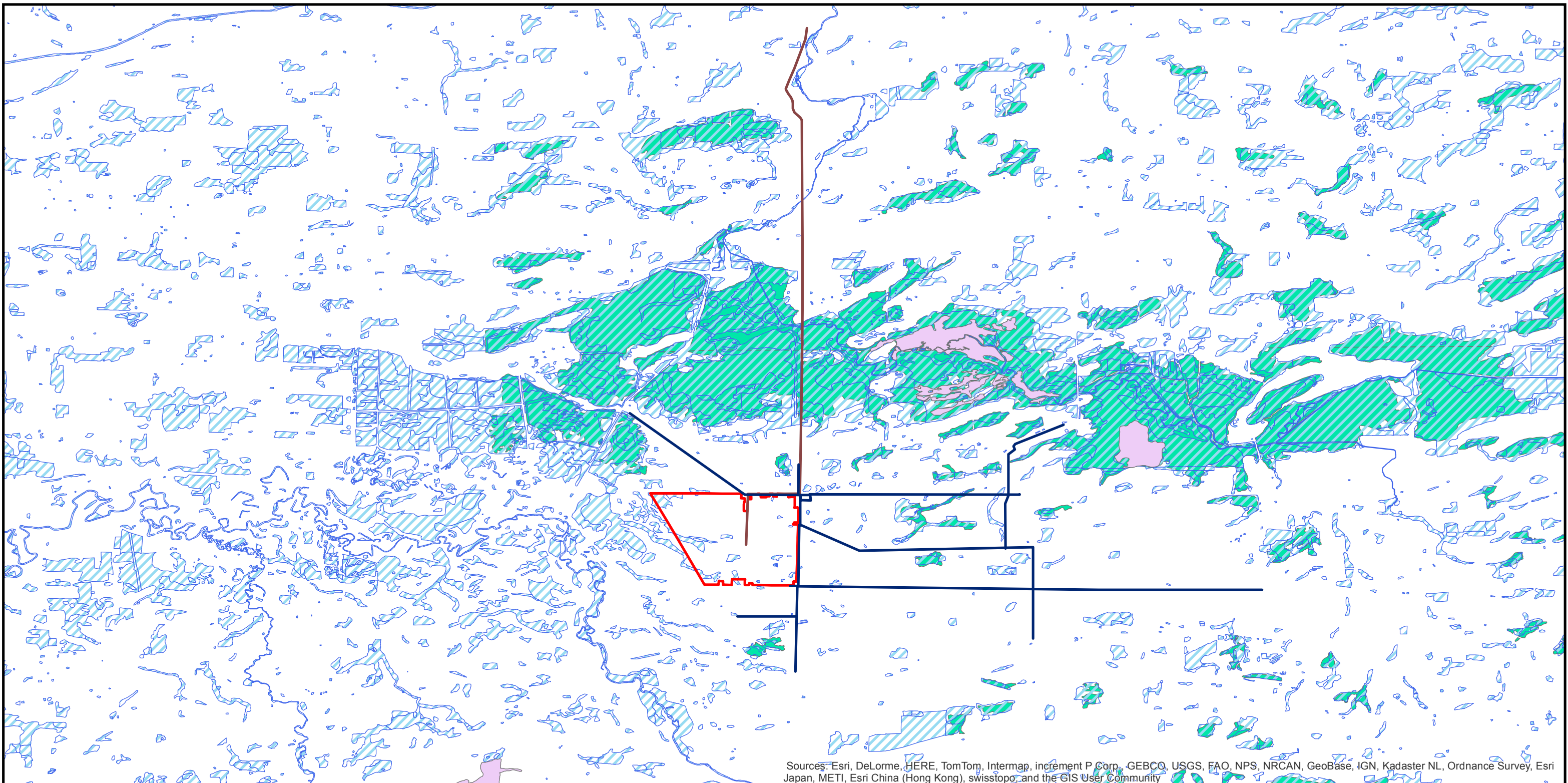
STAMP Water/Wastewater
USGS Stream Crossings
 Genesee/Orleans County

CC Environment & Planning

- Offsite_Water
- Offsite_Wastewater
- Streams and Rivers
- STAMP_boundary

Figure [2]

Prepared by: CC Environment & Planning, 12/15/2015



Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

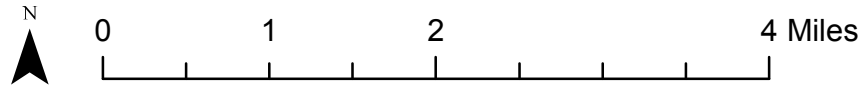
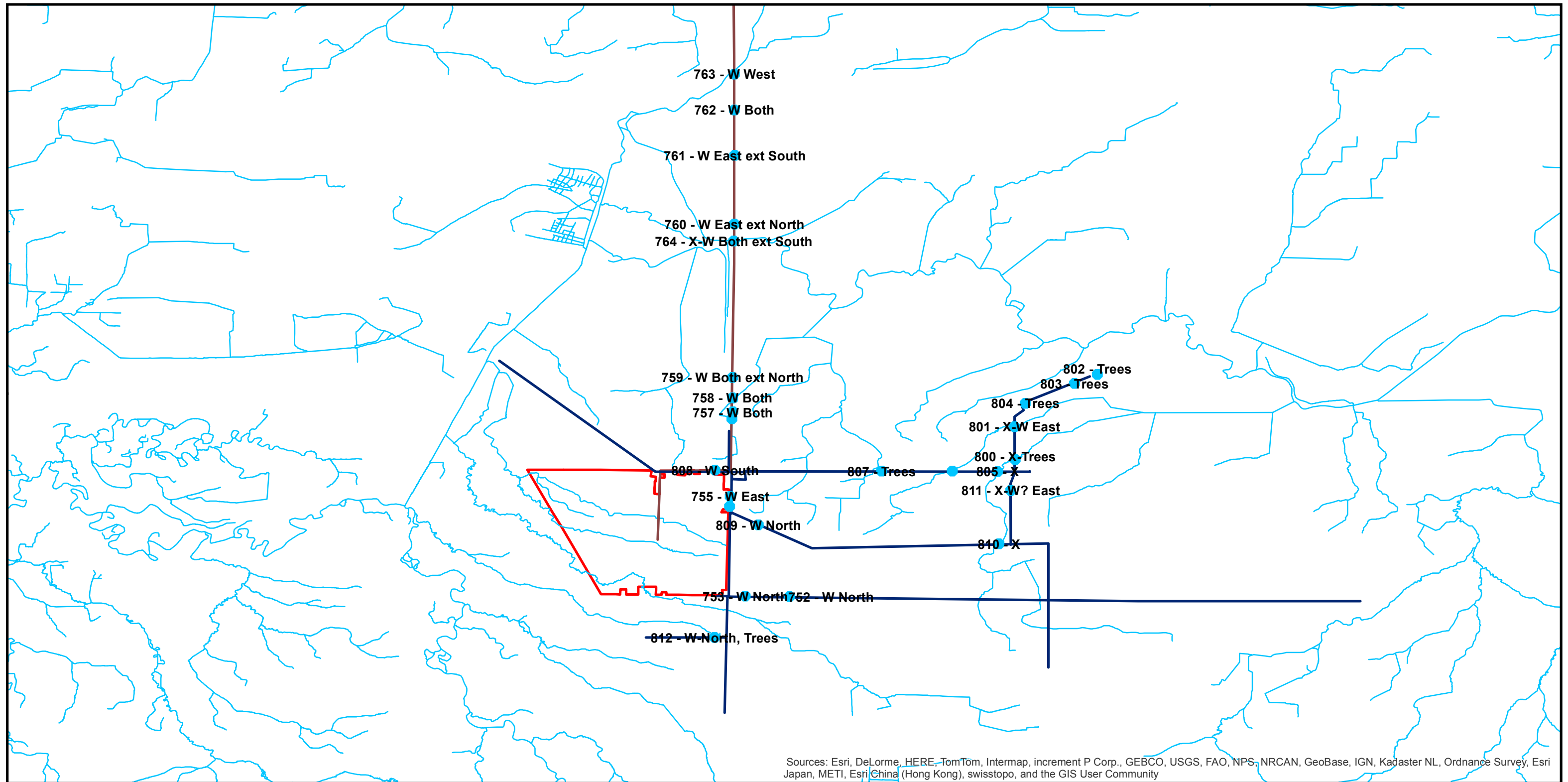
Data Sources: USFWS NWI, USGS, NYSDEC, Clark, Patterson, Lee, CC Environment & Planning

STAMP Water/Wastewater Mapped Wetlands/Ecological Features Genesee/Orleans County

**CC Environment
& Planning**

- Offsite_Water
- Offsite_Wastewater
- Significant Natural Communities
- STAMP_boundary
- NWI Wetlands
- NYSDEC Wetlands

Figure
[3]



Data Sources: USFWS NWI, USGS, NYSDEC, Clark, Patterson, Lee, CC Environment & Planning

STAMP Water/Wastewater
 Field Observations
 Genesee/Orleans County



- Field Observation Points
- Offsite_Water
- Offsite_Wastewater
- Streams and Rivers
- STAMP_boundary

Figure [4]

Appendix A – Listed Species





United States Department of the Interior



FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 LUKER ROAD
CORTLAND, NY 13045
PHONE: (607)753-9334 FAX: (607)753-9699
URL: www.fws.gov/northeast/nyfo/es/section7.htm

Consultation Code: 05E1NY00-2016-SLI-0360

December 01, 2015

Event Code: 05E1NY00-2016-E-00862

Project Name: STAMP Offsite Proposed Water Line

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (

http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: STAMP Offsite Proposed Water Line

Official Species List

Provided by:

New York Ecological Services Field Office

3817 LUKER ROAD

CORTLAND, NY 13045

(607) 753-9334

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

Consultation Code: 05E1NY00-2016-SLI-0360

Event Code: 05E1NY00-2016-E-00862

Project Type: WATER SUPPLY / DELIVERY

Project Name: STAMP Offsite Proposed Water Line

Project Description: Proposed water line route in Genesee County to service Town of Alabama and WNY STAMP project.

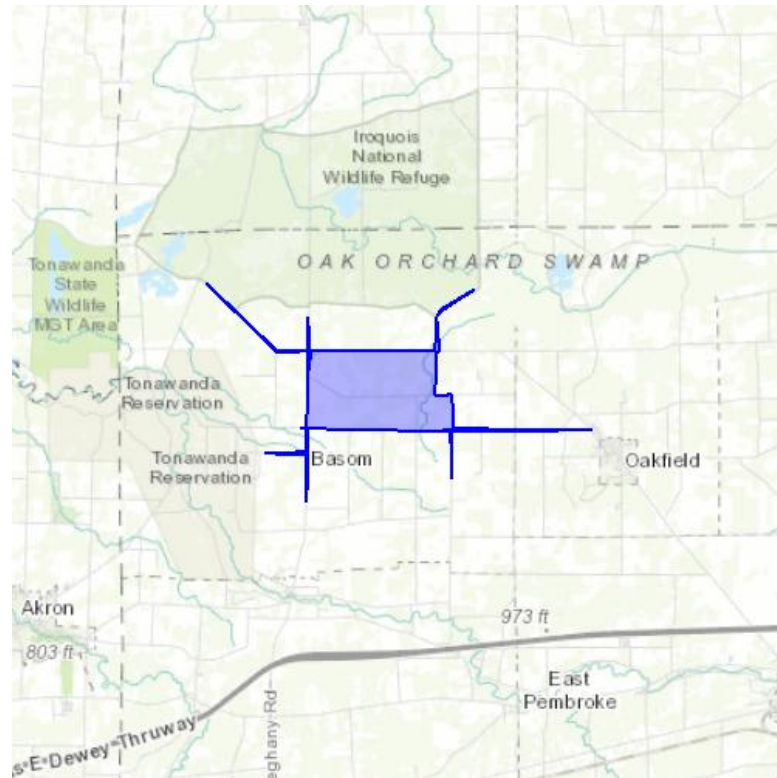
Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: STAMP Offsite Proposed Water Line

Project Location Map:



Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Genesee, NY



United States Department of Interior
Fish and Wildlife Service

Project name: STAMP Offsite Proposed Water Line

Endangered Species Act Species List

There are a total of 2 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Flowering Plants	Status	Has Critical Habitat	Condition(s)
Houghton's goldenrod (<i>Solidago houghtonii</i>)	Threatened		
Mammals			
Northern long-eared Bat (<i>Myotis septentrionalis</i>)	Threatened		



United States Department of Interior
Fish and Wildlife Service

Project name: STAMP Offsite Proposed Water Line

Critical habitats that lie within your project area

There are no critical habitats within your project area.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 LUKER ROAD
CORTLAND, NY 13045
PHONE: (607)753-9334 FAX: (607)753-9699
URL: www.fws.gov/northeast/nyfo/es/section7.htm

Consultation Code: 05E1NY00-2016-SLI-0359

December 01, 2015

Event Code: 05E1NY00-2016-E-00861

Project Name: STAMP Offsite Proposed Wastewater Line

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

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http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: STAMP Offsite Proposed Wastewater Line

Official Species List

Provided by:

New York Ecological Services Field Office

3817 LUKER ROAD

CORTLAND, NY 13045

(607) 753-9334

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

Consultation Code: 05E1NY00-2016-SLI-0359

Event Code: 05E1NY00-2016-E-00861

Project Type: WASTEWATER PIPELINE

Project Name: STAMP Offsite Proposed Wastewater Line

Project Description: Proposed sanitary sewer route in Genesee and Orleans Counties to service WNY STAMP project in the Town of Alabama, Genesee County, NY.

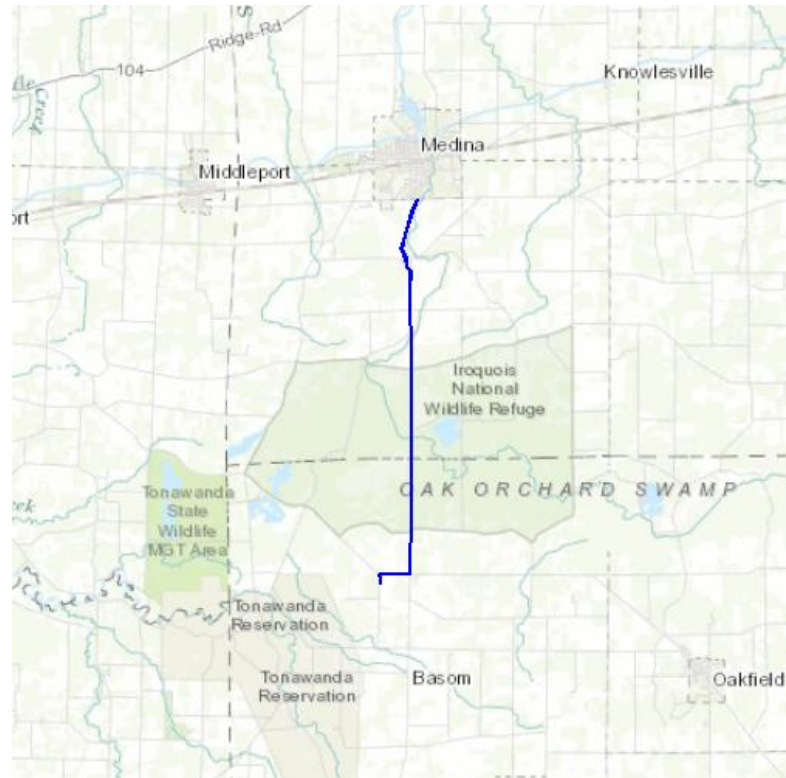
Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: STAMP Offsite Proposed Wastewater Line

Project Location Map:



Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Genesee, NY | Orleans, NY



United States Department of Interior
Fish and Wildlife Service

Project name: STAMP Offsite Proposed Wastewater Line

Endangered Species Act Species List

There are a total of 2 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Flowering Plants	Status	Has Critical Habitat	Condition(s)
Houghton's goldenrod (<i>Solidago houghtonii</i>)	Threatened		
Mammals			
Northern long-eared Bat (<i>Myotis septentrionalis</i>)	Threatened		



United States Department of Interior
Fish and Wildlife Service

Project name: STAMP Offsite Proposed Wastewater Line

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Appendix B – Area of Interest Photos

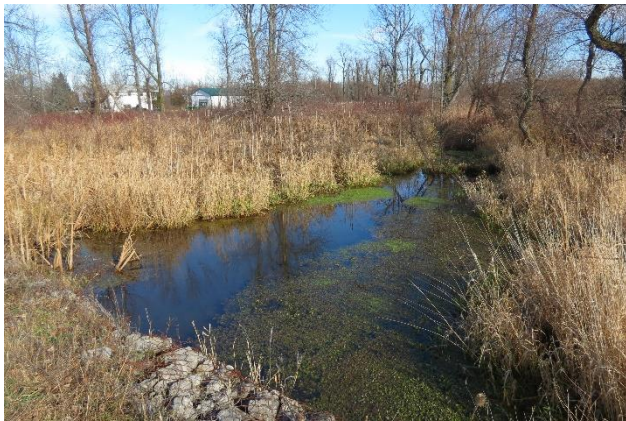




Lewiston-Knowlesville Rd Intersection: Trees in AOI



Point 800 – Knowlesville Rd Stream Crossing



Point 801 – Knowlesville Rd stream crossing, wetland in AOI, east side



Point 801 – Knowlesville Rd stream crossing



Point 802 – Knowlesville Rd, trees in AOI



Point 803 – Knowlesville Rd, tree in AOI





Point 804 – Knowlesville Rd, trees in AOI



Point 805 – Lewiston Rd stream crossing



Point 805 – Lewiston Rd stream crossing



Point 806 – Lewiston Rd stream crossing, wetland in AOI, both sides



Point 806 – Lewiston Rd stream crossing, wetland in AOI, both sides



Point 806 – Lewiston Rd stream crossing, wetland, both sides





Point 807 – Lewiston Rd, trees in AOI



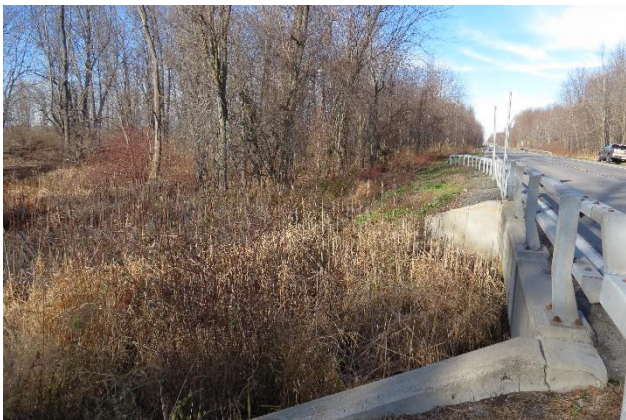
Point 759 – Rte 63, Iroquois NWR, wetland both sides, trees in AOI



Rte 63, Iroquois NWR, wetland both sides, trees in AOI



Rte 63, Iroquois NWR, wetland both sides, trees in AOI



Rte 63, Iroquois NWR, wetland both sides, trees in AOI



Rte 63, Iroquois NWR, wetland both sides, trees in AOI

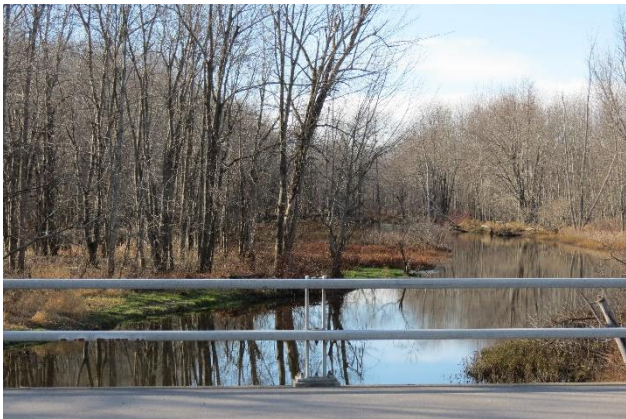




Point 764 - Rte 63, Iroquois NWR, Oak Orchard Creek crossing, wetland both sides



Point 764 - Rte 63, Iroquois NWR, Oak Orchard Creek crossing, wetland both sides



Point 764 - Rte 63, Iroquois NWR, Oak Orchard Creek crossing, wetland both sides



Point 760 – Rte 63, Iroquois NWR, wetland east side



IMG_8727



Point 808 – Lewiston Rd, wetland west side





Point 809 – Ham Rd, stream crossing, wetland north side



Point 809 – Ham Rd, stream crossing, wetland north side



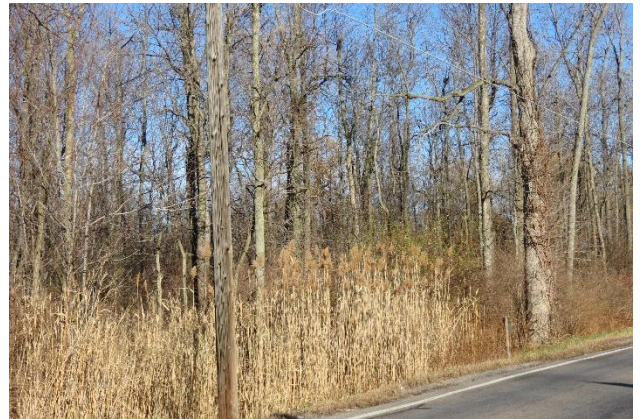
Point 810 – Ham Rd, stream crossing



Point 810 – Ham Rd, stream crossing



Point 753 – Judge Rd, John White WMA, wetland north side



Point 812 – Bloomingdale Rd, wetland, north side, trees in AOI



Appendix C – Nationwide 12 Utility Line Guidance



DECISION DOCUMENT NATIONWIDE PERMIT 12

This document discusses the factors considered by the Corps of Engineers (Corps) during the issuance process for this Nationwide Permit (NWP). This document contains: (1) the public interest review required by Corps regulations at 33 CFR 320.4(a)(1) and (2); (2) a discussion of the environmental considerations necessary to comply with the National Environmental Policy Act; and (3) the impact analysis specified in Subparts C through F of the 404(b)(1) Guidelines (40 CFR Part 230). This evaluation of the NWP includes a discussion of compliance with applicable laws, consideration of public comments, an alternatives analysis, and a general assessment of individual and cumulative impacts, including the general potential effects on each of the public interest factors specified at 33 CFR 320.4(a).

1.0 Text of the Nationwide Permit

Utility Line Activities. Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.

Utility lines: This NWP authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of

the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead utility line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR Part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above

grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 31.) (Sections 10 and 404)

Note 1: Where the proposed utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, copies of the pre-construction notification and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

Note 3: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to Section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

Note 4: For overhead utility lines authorized by this NWP, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

1.1 Requirements

General conditions of the NWPs are in the Federal Register notice announcing the issuance of this NWP. Pre-construction notification requirements, additional conditions, limitations, and restrictions are in 33 CFR part 330.

1.2 Statutory Authority

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)
- Section 404 of the Clean Water Act (33 U.S.C. 1344)

1.3 Compliance with Related Laws (33 CFR 320.3)

1.3.1 General

NWPs are a type of general permit designed to authorize certain activities that have minimal individual and cumulative adverse effects on the aquatic environment and generally comply with the related laws cited in 33 CFR 320.3. Activities that result in more than minimal individual and cumulative adverse effects on the aquatic environment cannot be authorized

by NWP. Individual review of each activity authorized by an NWP will not normally be performed, except when pre-construction notification to the Corps is required or when an applicant requests verification that an activity complies with an NWP. Potential adverse impacts and compliance with the laws cited in 33 CFR 320.3 are controlled by the terms and conditions of each NWP, regional and case-specific conditions, and the review process that is undertaken prior to the issuance of NWPs.

The evaluation of this NWP, and related documentation, considers compliance with each of the following laws, where applicable: Sections 401, 402, and 404 of the Clean Water Act; Section 307(c) of the Coastal Zone Management Act of 1972, as amended; Section 302 of the Marine Protection, Research and Sanctuaries Act of 1972, as amended; the National Environmental Policy Act of 1969; the Fish and Wildlife Act of 1956; the Migratory Marine Game-Fish Act; the Fish and Wildlife Coordination Act, the Federal Power Act of 1920, as amended; the National Historic Preservation Act of 1966; the Interstate Land Sales Full Disclosure Act; the Endangered Species Act; the Deepwater Port Act of 1974; the Marine Mammal Protection Act of 1972; Section 7(a) of the Wild and Scenic Rivers Act; the Ocean Thermal Energy Act of 1980; the National Fishing Enhancement Act of 1984; the Magnuson-Stevens Fishery and Conservation and Management Act, the Bald and Golden Eagle Protection Act; and the Migratory Bird Treaty Act. In addition, compliance of the NWP with other Federal requirements, such as Executive Orders and Federal regulations addressing issues such as floodplains, essential fish habitat, and critical resource waters is considered.

1.3.2 Terms and Conditions

Many NWPs have pre-construction notification requirements that trigger case-by-case review of certain activities. Two NWP general conditions require case-by-case review of all activities that may adversely affect Federally-listed endangered or threatened species or historic properties (i.e., general conditions 18 and 20). General condition 16 restricts the use of NWPs for activities that are located in Federally-designated wild and scenic rivers. None of the NWPs authorize the construction of artificial reefs. General condition 28 prohibits the use of an NWP with other NWPs, except when the acreage loss of waters of the United States does not exceed the highest specified acreage limit of the NWPs used to authorize the single and complete project.

In some cases, activities authorized by an NWP may require other federal, state, or local authorizations. Examples of such cases include, but are not limited to: activities that are in marine sanctuaries or affect marine sanctuaries or marine mammals; the ownership, construction, location, and operation of ocean thermal conversion facilities or deep water ports beyond the territorial seas; activities that result in discharges of dredged or fill material into waters of the United States and require Clean Water Act Section 401 water quality certification; or activities in a state operating under a coastal zone management program approved by the Secretary of Commerce under the Coastal Zone Management Act. In such cases, a provision of the NWPs states that an NWP does not obviate the need to obtain other authorizations required by law. [33 CFR 330.4(b)(2)]

Additional safeguards include provisions that allow the Chief of Engineers, division engineers, and/or district engineers to: assert discretionary authority and require an individual permit for a specific activity; modify NWP for specific activities by adding special conditions on a case-by-case basis; add conditions on a regional or nationwide basis to certain NWPs; or take action to suspend or revoke an NWP or NWP authorization for activities within a region or state. Regional conditions are imposed to protect important regional concerns and resources. [33 CFR 330.4(e) and 330.5]

1.3.3 Review Process

The analyses in this document and the coordination that was undertaken prior to the issuance of the NWP fulfill the requirements of the National Environmental Policy Act (NEPA), the Fish and Wildlife Coordination Act, and other acts promulgated to protect the quality of the environment.

All NWPs that authorize activities that may result in discharges into waters of the United States require water quality certification. NWPs that authorize activities within, or affecting land or water uses within a state that has a Federally-approved coastal zone management program, must also be certified as consistent with the state's program. The procedures to ensure that the NWPs comply with these laws are described in 33 CFR 330.4(c) and (d), respectively.

1.4 Public Comment and Response

For a summary of the public comments received in response to the February 16, 2011, Federal Register notice, refer to the preamble in the Federal Register notice announcing the reissuance of this NWP. The substantive comments received in response to the February 16, 2011, Federal Register notice were used to improve the NWP by changing NWP terms and limits, pre-construction notification requirements, and/or NWP general conditions, as necessary.

The Corps proposed to modify this NWP to clarify how to calculate the loss of waters of the United States for a single and complete project that involves an access road. This proposed change was intended as a clarification of long-standing practice, not a substantive revision.

Several commenters supported the proposed change to this NWP. Another commenter stated the proposed clarification would severely restrict the use of NWP 12, because it changes the definition of single and complete project. One commenter requested further clarification of the intent and applicability of the term "single and complete" and suggested we replace it with "single and complete linear projects" wherever the former phrase is found in NWP 12 since the NWP applies to linear projects and their associated facilities and activities. Two commenters requested confirmation that the calculation of impacts for purposes of satisfying the NWP 12 threshold is done separately for each crossing. Another commenter objected to the definition of "single and complete project" at 33 CFR 330.2(i) and the NWP definitions

section and stated mitigation should be required for utility lines that result in the loss of greater than 1/2-acre.

This modification of the NWP does not change the definition of single and complete project and does not affect its implementation, except to clarify that only losses of waters of the United States associated with a single and complete project would be considered when determining whether the acreage limit or pre-construction notification threshold is exceeded. However, it is correct that the Corps long-standing practice (which we are not changing) has been to generally calculate impacts for purposes of satisfying the 1/2-acre threshold separately for each separate and distant crossing, and we have clarified this in the definitions section by adding separate definitions that explain how single and complete projects are determined for linear and non-linear projects. We do not agree that in the text of this NWP the term "single and complete project" should be replaced with "single and complete linear project." Although the vast majority of utility lines are linear projects where the crossings are at separate and distant locations, and thus considered separate single and complete projects, there may be circumstances where the separate crossings of a waterbody are too close together to be considered separate single and complete projects, and one NWP authorization would be evaluated for those closely-spaced crossings. Therefore, we have retained the more generic term "single and complete project" in the text of this NWP. Other supporting components of a utility line, such as substations, may not be considered linear projects in some circumstances. District engineers may exercise discretionary authority and require compensatory mitigation for utility line activities that require pre-construction notification and result in the loss of aquatic resources.

One commenter stated the Corps should clarify that the only relevant activity for purposes of NWP 12 is a discharge of dredged or fill material into waters of the United States. One commenter said that no discharges should be authorized in waters below the ordinary high water mark or in areas that provide fish habitat functions. This commenter also said that utility lines should be buried at least six feet below the authorized federal channel depth. One commenter stated that mechanized land clearing of forested wetlands for installation of utility lines should not be authorized by NWP 12.

The activities authorized by this NWP are not limited to discharges of dredged or fill material. This NWP also authorizes structures or work in navigable waters of the United States that require authorization under Section 10 of the Rivers and Harbors Act of 1899. We do not agree that discharges should be prohibited in open waters, below the ordinary high water mark. Such activities often result in minimal adverse effects on the aquatic environment and qualify for general permit authorization. Division engineers can restrict or prohibit use of this NWP in certain waters, through the approval of regional conditions. The appropriate depth a utility line should be buried below a federal channel should be determined on a case-by-case basis. Mechanized landclearing of a forested wetland in a utility line right-of-way may only result in a conversion of wetland type, and not result in permanent loss of waters of the United States. District engineers may require compensatory mitigation to offset permanent losses of wetland functions when such mechanized landclearing occurs in forested wetlands.

One commenter stated that authorizing the loss of 1/2-acre of waters of the United States for each crossing results in more than minimal adverse environmental effects. Another commenter said that the 1/2-acre limit should apply to the entire utility line project, because the cumulative effects of the utility line must be considered. One commenter stated that this NWP should also limit stream impacts to 300 linear feet. Several commenters asked whether the conversion of a forested wetland to a scrub-shrub wetland counts toward the 1/2-acre limit.

The 1/2-acre limit applies to each crossing that is considered to be a separate single and complete project, because they are sited at distant locations from other crossings that constitute the linear project. Each separate and distant crossing should be evaluated to determine if it meets the terms and conditions of the NWP, and cumulative effects of the overall utility line should be evaluated to determine if the adverse cumulative effects on the aquatic environment are more than minimal and therefore do not qualify for NWP authorization. Separate utility line crossings are usually on different water bodies, and may also be in widely separated watersheds. Such factors should be considered when assessing cumulative impacts. The "Definitions" section provides further clarification on single and complete projects. The conversion of a forested wetland to a scrub shrub wetland does not constitute a permanent loss of waters of the United States, and thus does not count towards the acreage limit, even though it may result in the permanent loss of certain functions, which may require compensatory mitigation.

One commenter said that some utility lines and associated renewable energy projects may have unintended negative impacts on the Department of Defense mission. For example, high voltage transmission lines could potentially interfere with long-range radar surveillance, homeland defense, testing, and training missions. This commenter requested that pre-construction notifications for NWP 12 activities involving the construction of overhead utility lines in waters of the United States be coordinated with the Department of Defense, by sending a copy of the pre-construction notification to the Department of Defense Siting Clearinghouse. Department of Defense Siting Clearinghouse staff will review the pre-construction notification and contact the project proponent if they identify potential negative impacts to Department of Defense operations, testing, and training missions.

We have added Note 4 to this NWP, which states that a copy of the pre-construction notification will be provided to the Department of Defense Siting Clearinghouse if the proposed activity involves an overhead utility line constructed in waters of the United States. This coordination process will not interfere or delay the district engineer's decision on the pre-construction notification, which must be made within the time frames specified in the NWP general conditions. The coordination process will consist of districts sending the Department of Defense Siting Clearinghouse copies of pre-construction notifications and NWP verifications, and Clearinghouse staff will work with project proponents to address effects to military operations.

One commenter stated that the definition of a utility line in the NWP is too expansive and should not include liqescent or slurry substances. This commenter asked if utility lines could also be used to transport waste products. One commenter stated that terms and conditions of the NWP should require projects to use existing trenches or cables whenever possible, and require that sidecast material be put back in place within 24 hours. One commenter requested that temporary fill be defined and that compensatory mitigation should be required for temporary fills left in place for two years. One commenter said that enforcing the time periods for temporary side casting is too difficult. One commenter requested more detail regarding the circumstances under which a district engineer would extend the period of temporary side casting up to a total of 180 days. One commenter stated the side casting in areas with known or probable sediment contamination should be prohibited. One commenter stated the placement of excavated materials into any waterway should be prohibited.

Water or sewer lines are generally recognized to be utility lines, and are used to transport liquid or slurry substances. They may also be used to transport waste products, such as sewage or industrial byproducts. We do not agree that existing trenches or cable should be a requirement of this NWP, since many new utility lines constructed in waters of the United States result in minimal adverse effects on the aquatic environment. However, project sponsors should consider the use of existing trenches and cables where practicable as one way of avoiding or minimizing adverse impacts to the aquatic environment, which is required by general condition 23, mitigation. It is not practicable to require side cast material to be put back into the original trench or pit within 24 hours, and we have retained the current language concerning temporary side casting. It is the district engineer's discretion on whether to extend the period of temporary side casting. That discretion would be based on the site-specific environmental conditions, the activity, practicability considerations, and other factors. District engineers can restrict or prohibit side casting in areas where sediment contamination may be a concern. Excavated materials are generally not placed in flowing waters, and should be retained in areas outside of flowing waters with proper sediment and erosion controls.

One commenter objected to authorizing the expansion of utility line substations, stating that those activities should require individual permits and a finding of compliance with the Clean Water Act Section 404(b)(1) Guidelines and public interest review.

The expansion of utility line substations does not generally warrant a full public interest review and activity-specific Section 404(b)(1) Guidelines analysis since it is an expansion of an existing facility. In response to a pre-construction notification, the district engineer will review the proposed expansion of a substation and exercise discretionary authority if it would result in more than minimal individual and cumulative adverse effects on the aquatic environment.

Two commenters stated the construction of temporary access roads will require a submerged lands authorization and would require a submerged land lease for long-term use.

The use of NWP 12 does not obviate the need for the project proponent to obtain any other federal, state, or local permits that may be required, including permits from states that hold title to submerged lands.

One commenter said that this NWP should have fewer pre-construction notification thresholds to expedite pipeline safety repairs and infrastructure projects. One commenter supported retaining the 1/10-acre threshold pre-construction notification.

We believe all of the current pre-construction notification thresholds are necessary because of the variety of utility line activities authorized by NWP 12 (i.e., utility line construction, maintenance, repair, and removal, the construction, maintenance, or expansion of utility line substations, the construction or maintenance of foundations for overhead transmission lines, and the construction of access roads) and to allow district engineers the opportunity to review those activities to determine whether they will result in minimal adverse effects on the aquatic environment. Pipeline maintenance may be authorized by NWP 3 or NWP 12, and use of NWP 3 would not usually trigger a pre-construction notification requirement. Many pipeline maintenance activities may also be authorized by NWP 12, without pre-construction notification. The 1/10-acre pre-construction notification threshold remains in this NWP.

One commenter recommended that this NWP require the use of specific equipment such as low ground pressure equipment and wide tires to minimize adverse effects to wetlands. Another commenter said that this NWP should be conditioned to require the use of best management practices to reduce sediment loads into waters. One commenter stated that this NWP does not require sufficient avoidance and minimization of waters of the United States. One commenter suggested requiring the installation of barriers next to utility line trenches to prevent amphibians and reptiles from falling into the trench and to reduce sediment transport into waters of the United States during precipitation events. One commenter said that pipes installed over rivers and streams should have shut-off valves to minimize the potential for discharges to occur if the pipe is breached.

The use of equipment that minimizes adverse effects to waters of the United States is addressed by general condition 11, equipment, which requires permittees to take measures to minimize soil disturbance, such as placing heavy equipment on mats when working in wetlands, mudflats, or other waters. Division or district engineers may condition this NWP, either through the regional conditioning process or through activity-specific conditions added to an NWP 12 authorization, to require the use of best management practices. General condition 23, mitigation, requires permittees to design and construct their activities to avoid and minimize adverse effects to waters of the United States. A requirement to install barriers next to utility line trenches, or the use of shut-off valves in pipes constructed over waters, is more appropriately addressed through the regional conditioning process or through activity-specific conditions added to an NWP 12 authorization during the review of a pre-construction notification or NWP verification request.

One commenter stated that this NWP could streamline the authorization of offshore wind energy generation facilities, but two of the terms and conditions may be problematic. The first is the prohibition against side casting when sediments would be dispersed by currents or other forces. The second is the 1/2-acre limit, which may prohibit use of this NWP to authorize the installation of cables that transfer the energy generated by wind turbines.

The transmission cable that runs from an offshore wind energy generation facility to a land-based facility or distribution system may be constructed so that the trench for the cable is backfilled immediately after the cable is laid into the trench. That immediate backfilling would minimize dispersion by currents or other forces in those waters. The placing of a power transmission cable on the sea bed is considered a structure under our regulations for implementing Section 10 of the Rivers and Harbors Act of 1899 (see 33 CFR 322.2(b)), and not a loss of waters of the United States subject to the 1/2-acre limit in NWP 12.

One commenter recommended requiring coordination with Tribes to avoid impacts to Tribal treaty natural resources and cultural resources. Another commenter said that coordination with State Historic Preservation Officers should be required to protect historic properties.

Division engineers can regionally condition this NWP to require coordination with Tribes, to ensure that this NWP does not adversely affect Tribal treaty natural resources and cultural resources. General condition 20, historic properties, addresses compliance with the National Historic Preservation Act, which requires consultation for activities that have the potential to cause effects to historic properties, including tribal resources that meet the definition of "historic property." General condition 17, tribal rights, requires that no NWP activity or its operation may impair reserved treaty rights, such as reserved water rights and treaty fishing and hunting rights.

One commenter requested clarification that individual permits are not automatically required for NWP 12 activities when a Corps district participates as a cooperating agency for an environmental impact statement.

Even though an environmental impact statement may be prepared for a particular utility line, the National Environmental Policy Act process does not prohibit the Corps from using NWP 12 to authorize the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, as long as the activity complies with all applicable terms and conditions and results in minimal individual and cumulative adverse effects on the aquatic environment. NEPA requires consideration of all environmental impacts, not only those to aquatic resources, so there may well be situations where aquatic impacts are minimal even though environmental impacts more generally are not. These other environmental impacts would be addressed by the lead agency preparing the environmental impact statement. The district engineer will exercise discretionary authority to require an individual permit for any utility line activity that he or she determines does not meet the terms and conditions of NWP 12.

One commenter suggested modifying Note 1 to limit submission of NWP 12 pre-construction notifications and verifications to the National Oceanic and Atmospheric Administration's National Ocean Service (NOS), since NOS only produces charts for waters in the coastal United States, Great Lakes, and United States territories.

We have modified Note 1 to require district engineers to send copies of NWP 12 pre-construction notifications and verifications to NOS in those regions of the country.

2.0 Alternatives

This evaluation includes an analysis of alternatives based on the requirements of NEPA, which requires a more expansive review than the Clean Water Act Section 404(b)(1) Guidelines. The alternatives discussed below are based on an analysis of the potential environmental impacts and impacts to the Corps, Federal, Tribal, and state resource agencies, general public, and prospective permittees. Since the consideration of off-site alternatives under the 404(b)(1) Guidelines does not apply to specific projects authorized by general permits, the alternatives analysis discussed below consists of a general NEPA alternatives analysis for the NWP.

2.1 No Action Alternative (No Nationwide Permit)

The no action alternative would not achieve one of the goals of the Corps Nationwide Permit Program, which is to reduce the regulatory burden on applicants for activities that result in minimal individual and cumulative adverse effects on the aquatic environment. The no action alternative would also reduce the Corps ability to pursue the current level of review for other activities that have greater adverse effects on the aquatic environment, including activities that require individual permits as a result of the Corps exercising its discretionary authority under the NWP program. The no action alternative would also reduce the Corps ability to conduct compliance actions.

If this NWP is not available, substantial additional resources would be required for the Corps to evaluate these minor activities through the individual permit process, and for the public and Federal, Tribal, and state resource agencies to review and comment on the large number of public notices for these activities. In a considerable majority of cases, when the Corps publishes public notices for proposed activities that result in minimal adverse effects on the aquatic environment, the Corps typically does not receive responses to these public notices from either the public or Federal, Tribal, and state resource agencies. Another important benefit of the NWP program that would not be achieved through the no action alternative is the incentive for project proponents to design their projects so that those activities meet the terms and conditions of an NWP. The Corps believes the NWPs have significantly reduced adverse effects to the aquatic environment because most applicants modify their projects to comply with the NWPs and avoid the delays and costs typically associated with the individual permit process.

In the absence of this NWP, Department of the Army (DA) authorization in the form of another general permit (i.e., regional or programmatic general permits, where available) or individual permits would be required. Corps district offices may develop regional general permits if an NWP is not available, but this is an impractical and inefficient method for activities with minimal individual and cumulative adverse effects on the aquatic environment that are conducted across the Nation. Not all districts would develop these regional general permits for a variety of reasons. The regulated public, especially those companies that conduct activities in more than one Corps district, would be adversely affected by the widespread use of regional general permits because of the greater potential for lack of consistency and predictability in the authorization of similar activities with minimal individual and cumulative adverse effects on the aquatic environment. These companies would incur greater costs in their efforts to comply with different regional general permit requirements between Corps districts. Nevertheless, in some states Corps districts have issued programmatic general permits to take the place of this and other NWPs. However, this approach only works in states with regulatory programs comparable to the Corps Regulatory Program.

2.2 National Modification Alternatives

Since the Corps Nationwide Permit program began in 1977, the Corps has continuously strived to develop NWPs that authorize activities that result only in minimal individual and cumulative adverse effects on the aquatic environment. Every five years the Corps reevaluates the NWPs during the reissuance process, and may modify an NWP to address concerns for the aquatic environment. Utilizing collected data and institutional knowledge concerning activities authorized by the Corps regulatory program, the Corps reevaluates the potential impacts of activities authorized by NWPs. The Corps also uses substantive public comments on proposed NWPs to assess the expected impacts. This NWP was developed to authorize the construction, maintenance, repair, and removal of utility lines and associated facilities, provided those activities and facilities have minimal individual and cumulative adverse effects on the aquatic environment. The Corps has considered suggested changes to the terms and conditions of this NWP, as well as modifying or adding NWP general conditions, as discussed in the preamble of the Federal Register notice announcing the reissuance of this NWP.

In the February 16, 2011, Federal Register notice, the Corps requested comments on the proposed reissuance of this NWP. The Corps proposed to change this NWP to clarify that losses of waters of the United States resulting from the construction of access roads are to be included towards the 1/2 acre limit for a single and complete project.

2.3 Regional Modification Alternatives

An important aspect for the NWPs is the emphasis on regional conditions to address differences in aquatic resource functions, services, and values across the nation. All Corps divisions and districts are expected to add regional conditions to the NWPs to enhance protection of the aquatic environment and address local concerns. Division engineers can

also revoke an NWP if the use of that NWP results in more than minimal individual and cumulative adverse effects on the aquatic environment, especially in high value or unique wetlands and other waters.

Corps divisions and districts also monitor and analyze the cumulative adverse effects of the NWPs, and if warranted, further restrict or prohibit the use of the NWPs to ensure that the NWPs do not authorize activities that result in more than minimal individual and cumulative adverse effects on the aquatic environment. To the extent practicable, division and district engineers will use regulatory automated information systems and institutional knowledge about the typical adverse effects of activities authorized by NWPs, as well as substantive public comments, to assess the individual and cumulative adverse effects on the aquatic environment resulting from regulated activities.

2.4 Case-specific On-site Alternatives

Although the terms and conditions for this NWP have been established at the national level to authorize most activities that have minimal individual and cumulative adverse effects on the aquatic environment, division and district engineers have the authority to impose case-specific special conditions on an NWP authorization to ensure that the authorized activities will result in minimal individual and cumulative adverse effects.

General condition 23 requires the permittee to minimize and avoid impacts to waters of the United States to the maximum extent practicable on the project site. Off-site alternatives cannot be considered for activities authorized by NWPs. During the evaluation of a pre-construction notification, the district engineer may determine that additional avoidance and minimization is practicable. The district engineer may also condition the NWP authorization to require compensatory mitigation to offset losses of waters of the United States and ensure that the net adverse effects on the aquatic environment are minimal. As another example, the NWP authorization can be conditioned to prohibit the permittee from conducting the activity during specific times of the year to protect spawning fish and shellfish. If the proposed activity will result in more than minimal adverse effects on the aquatic environment, then the district engineer will exercise discretionary authority and require an individual permit. Discretionary authority can be asserted where there are concerns for the aquatic environment, including high value aquatic habitats. The individual permit review process requires a project-specific alternatives analysis, including the consideration of off-site alternatives, and a public interest review.

3.0 Affected Environment

The affected environment consists of terrestrial and aquatic ecosystems. The total land area in the United States is approximately 2,300,000,000 acres, and the total land area in the contiguous United States is approximately 1,894,000,000 acres (Lubowski et al. 2006). Land uses in 48 states of the contiguous United States as of 2002 is provided in Table 3.1 (Lubowski et al. 2006). In the contiguous United States, approximately 67 percent of the

land is privately owned, 31 percent is held by the United States government, and two percent is owned by state or local governments (Dale et al. 2000). Developed non-federal lands comprise 4.4 percent of the total land area of the contiguous United States (Dale et al. 2000).

Table 3.1. Agricultural and non-agricultural land uses in the 48 states (Lubowski et al. 2006).

Land Use	Acres	Percent of Total
Agriculture	1,171,000,000	61.8
Forest land	425,000,000	22.4
Transportation use	27,000,000	1.4
Recreation and wildlife areas	100,000,000	5.3
National defense areas	15,000,000	0.8
Urban land	59,000,000	3.1
Miscellaneous use	97,000,000	5.1
Total land area	1,894,000,000	100.0

The Federal Geographic Data Committee has established the Cowardin system developed by the U.S. Fish and Wildlife Service (USFWS) (Cowardin et al. 1979) as the national standard for wetland mapping, monitoring, and data reporting (Dahl 2011) (see also <http://www.fgdc.gov/standards/projects/FGDC-standards-projects/wetlands/fgdc-announce>, accessed December 12, 2011). The Cowardin system is a hierarchical system which describes various wetland and deepwater habitats, using structural characteristics such as vegetation, substrate, and water regime as defining characteristics. Wetlands are defined by plant communities, soils, or inundation or flooding frequency. Deepwater habitats are permanently flooded areas located below the wetland boundary. In rivers and lakes, deepwater habitats are usually more than two meters deep.

There are five major systems in the Cowardin classification scheme: marine, estuarine, riverine, lacustrine, and palustrine (Cowardin et al. 1979). The marine system consists of open ocean on the continental shelf and its high energy coastline. The estuarine system consists of tidal deepwater habitats and adjacent tidal wetlands that are usually partially enclosed by land, but may have open connections to open ocean waters. The riverine system generally consists of all wetland and deepwater habitats located within a river channel. The lacustrine system generally consists of wetland and deepwater habitats located within a topographic depression or dammed river channel, with a total area greater than 20 acres. The palustrine system generally includes all non-tidal wetlands and wetlands located in tidal areas with salinities less than 0.5 parts per thousand; it also includes ponds less than 20 acres in size. Approximately 95 percent of wetlands in the conterminous United States are freshwater wetlands, and the remaining 5 percent are estuarine or marine wetlands (Dahl 2011).

The Emergency Wetlands Resources Act of 1986 (Public Law 99-645) requires the USFWS to submit wetland status and trends reports to Congress (Dahl 2011). The latest status and trends report, which covers the period of 2004 to 2009, is summarized in Table 3.2.

Table 3.2. Estimated aquatic resource acreages in the conterminous United States in 2009 (Dahl 2011).

Aquatic Habitat Category	Estimated Area in 2009 (acres)
Marine intertidal	227,800
Estuarine intertidal non-vegetated	1,017,700
Estuarine intertidal vegetated	4,539,700
All intertidal waters and wetlands	5,785,200
Freshwater ponds	6,709,300
Freshwater vegetated	97,565,300
• Freshwater emergent wetlands	27,430,500
• Freshwater shrub wetlands	18,511,500
• Freshwater forested wetlands	51,623,300
All freshwater wetlands	104,274,600
Lacustrine deepwater habitats	16,859,600
Riverine deepwater habitats	7,510,500
Estuarine subtidal habitats	18,776,500
All wetlands and deepwater habitats	153,206,400

The acreage of lacustrine deepwater habitats does not include the open waters of Great Lakes (Dahl 2011).

According to Hall et al. (1994), there are more than 204 million acres of wetlands and deepwater habitats in the State of Alaska, including approximately 174.7 million acres of wetlands. Wetlands and deepwater habitats comprise approximately 50.7 percent of the surface area in Alaska (Hall et al. 1994).

The National Resources Inventory (NRI) is a statistical survey conducted by the Natural Resources Conservation Service (NRCS) (USDA 2009) of natural resources on non-federal land in the United States. The NRCS defines non-federal land as privately owned lands, tribal and trust lands, and lands under the control of local and State governments. The land use determined by 2007 NRI is summarized in Table 3.3. The 2007 NRI estimates that there are 110,671,500 acres of palustrine and estuarine wetlands on non-Federal land and water areas in the United States (USDA 2009). The 2007 NRI estimates that there are 48,471,100 acres of open waters on non-Federal land in the United States, including lacustrine, riverine, and marine habitats, as well as estuarine deepwater habitats.

Table 3.3. The 2007 National Resources Inventory acreages for palustrine and estuarine wetlands on non-federal land, by land cover/use category (USDA 2009).

National Resources Inventory Land Cover/Use Category	Area of Palustrine and Estuarine Wetlands (acres)
cropland, pastureland, and Conservation Reserve Program land	16,790,300
forest land	66,043,100
rangeland	7,940,300
other rural land	14,744,800
developed land	1,571,900
water area	3,581,100
Total	110,671,500

The land cover/use categories used by the 2007 NRI are defined below (USDA 2009). Croplands are areas used to produce crops adapted for harvest. Pastureland is land managed for livestock grazing, through the production of introduced forage plants. Conservation Reserve Program land is under a Conservation Reserve Program contract. Forest land is comprised of at least 10 percent single stem woody plant species that will be at least 13 feet tall at maturity. Rangeland is land on which plant cover consists mostly of native grasses, herbaceous plants, or shrubs suitable for grazing or browsing, and introduced forage plant species. Other rural land consists of farmsteads and other farm structures, field windbreaks, marshland, and barren land. Developed land is comprised of large urban and built-up areas (i.e., urban and built-up areas 10 acres or more in size), small built-up areas (i.e., developed lands 0.25 to 10 acres in size), and rural transportation land (e.g., roads, railroads, and associated rights-of-way outside urban and built-up areas). Water areas are comprised of waterbodies and streams that are permanent open waters.

The wetlands data from the Fish and Wildlife Service's Status and Trends study and the Natural Resources Conservation Service's National Resources Inventory should not be compared, because they use different methods and analyses to produce their results (Dahl 2011).

Leopold, Wolman, and Miller (1964) estimated that there are approximately 3,250,000 miles of river and stream channels in the United States. This estimate is based on an analysis of 1:24,000 scale topographic maps, by stream order. This estimate does not include many small streams. Many small streams are not mapped on 1:24,000 scale U.S. Geological Survey topographic maps (Leopold 1994) or included in other analyses (Meyer and Wallace 2001). In a study of stream mapping in the southeastern United States, only 20% of the stream network was mapped on 1:24,000 scale topographic maps, and nearly none of the observed intermittent or ephemeral streams were indicated on those maps (Hansen 2001). For a 1:24,000 scale topographic map, the smallest tributary found by using 10-foot contour

interval has drainage area of 0.7 square mile and length of 1,500 feet, and smaller channels are common throughout the United States (Leopold 1994). Due to the difficulty in mapping small streams, there are no accurate estimates of the total number of river or stream miles in the conterminous United States that may be classified as “waters of the United States.”

The USFWS status and trends study does not assess the condition or quality of wetlands and deepwater habitats (Dahl 2011). The Nation’s aquatic resource base is underestimated by the USFWS status and trends study, the National Wetland Inventory (NWI), and studies that estimate the length or number of stream channels within watersheds (see above). The status and trends study does not include Alaska and Hawaii. The underestimate by the status and trends study and the NWI results from the minimum size of wetlands detected through remote sensing techniques and the difficulty of identifying certain wetland types through those remote sensing techniques. The NWI maps do not show small or linear wetlands (Tiner 1997) that may be directly impacted by activities authorized by NWP. For the latest USFWS status and trends study, most of the wetlands identified are larger than 1 acre, but the minimum size of detectable wetlands varies by wetland type (Dahl 2011). Some wetland types less than one acre in size can be identified; the smallest wetland detected for the most recent status and trends report was 0.1 acre (Dahl 2011). Because of the limitations of remote sensing techniques, certain wetland types are not included in the USFWS status and trends study: seagrass beds, submerged aquatic vegetation, submerged reefs, and certain types of forested wetlands (Dahl 2011). Therefore, activities authorized by NWP will adversely affect a smaller proportion of the Nation’s wetland base than indicated by the wetlands acreage estimates provided in the most recent status and trends report, or the NWI maps for a particular region.

Information on water quality in waters and wetlands, as well as the causes of water quality impairment, is collected by the U.S. Environmental Protection Agency (U.S.EPA) under sections 305(b) and 303(d) of the Clean Water Act. Table 3.4 provides U.S. EPA’s most recent national summary of water quality in the Nation’s waters and wetlands.

Table 3.4. The 2010 national summary of water quality data (U.S. EPA 2012).

Category of water	Total waters	Total waters assessed	Percent of waters assessed	Good waters	Threatened waters	Impaired waters
Rivers and streams	3,533,205 miles	965,693 miles	27.3	445,079 miles	6,369 miles	514,246 miles
Lakes, reservoirs and ponds	41,666,049 acres	18,796,765 acres	45.1	5,833,964 acres	38,681 acres	12,924,120 acres
Bays and estuaries	87,791 square miles	32,830 square miles	37.4	11,045 square miles	17 square miles	21,768 square miles
Coastal shoreline	58,618 miles	9,143 miles	15.6	1,746 miles	0 miles	7,396 miles
Ocean and near coastal waters	54,120 square miles	1,275 square miles	2.4	968 square miles	0 square miles	307 square miles
Wetlands	107,700,000 acres	1,311,645 acres	1.2	208,944 acres	805 acres	1,101,895 acres
Great Lakes shoreline	5,202 miles	4,431 miles	85.2	78 miles	0 miles	4,353 miles
Great Lakes open waters	60,546 square miles	53,332 square miles	88.1	62 square miles	0 square miles	53,270 square miles

According to the 2010 national summary (U.S. EPA 2012), 53% of assessed rivers and streams, 66% of assessed bays and estuaries, 81% of assessed coastal shoreline, 24% of assessed ocean and near coastal waters, and 84% of assessed wetlands are impaired.

For rivers and streams, 34 causes of impairment were identified, and the top 10 causes were pathogens, sediment, nutrients, organic enrichment/oxygen depletion, polychlorinated biphenyls, habitat alterations, metals (excluding mercury), mercury, flow alterations, and temperature. The primary sources of impairment for the assessed rivers and streams were agriculture, atmospheric deposition, unknown sources, hydrology modification, urban-related runoff/stormwater, wildlife, municipal discharges/sewage, unspecified non-point sources, habitat alterations, and resource extraction.

For bays and estuaries, 28 causes of impairment were identified, and the top 10 causes of impairment were mercury, pathogens, polychlorinated biphenyls, organic enrichment/oxygen depletion, dioxins, metals (excluding mercury), noxious aquatic plants, pesticides, algal growth, and unknown causes of impaired biota. The primary sources of impairment of bays and estuaries were atmospheric deposition, "unknown," municipal discharges/sewage, wildlife, industrial, other sources, agriculture, unspecified non-point sources, hydrologic modifications, and habitat alterations.

For coastal shorelines, 17 causes of impairment were listed, led by mercury, pathogens,

organic enrichment/oxygen depletion, metals (excluding mercury), pesticides, polychlorinated biphenyls, turbidity, nutrients, algal growth, and unknown causes of impaired biota. The top 10 sources of impairment for coastal shorelines were “unknown,” atmospheric deposition, urban-related runoff/stormwater, municipal discharges/sewage, agriculture, hydrologic modifications, industrial, unspecified non-point sources, wildlife, and recreational boating and marinas.

For ocean and near coastal waters, 16 causes of impairment were identified, and the top 10 causes of impairment were mercury, pathogens, organic enrichment/oxygen depletion, nuisance exotic species, toxics, polychlorinated biphenyls, turbidity, pesticides, metals, and toxic organics. Habitat alterations were ranked eleventh. The primary sources of impairment of ocean and near coastal waters were “unknown,” atmospheric deposition, recreational boating and marinas, municipal discharges/sewage, unspecified non-point sources, urban-related runoff/stormwater, recreation and tourism (non-boating), industrial, hydrologic modifications, and construction.

For wetlands, 27 causes of impairment were identified, and the top 10 causes were organic enrichment/oxygen depletion, pathogens, mercury, metals (excluding mercury), habitat alterations, nutrients, flow alterations, toxic inorganics, total toxics, and sediment. The primary sources for wetland impairment were “unknown,” wildlife, municipal discharges/sewage, agriculture, atmospheric deposition, industrial, hydrology modifications, resource extraction, other, and unspecified non-point sources.

Most causes and sources of impairment are not due to activities regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Habitat alterations as a cause or source of impairment may be the result of activities regulated under section 404 and section 10 because they involve discharges of dredged or fill material or structures or work in navigable waters, but habitat alterations may also occur as a result of activities not regulated under those two statutes, such as the removal of vegetation from upland riparian areas. Hydrologic modifications may or may not be regulated under section 404 or section 10.

Not all of the Nation’s aquatic resources are subject to regulatory jurisdiction under Section 404 of the Clean Water Act. Waters of the United States subject to Section 404 of the Clean Water Act are defined at 33 CFR part 328. Some wetlands are not subject to Clean Water Act jurisdiction because they do not meet the criteria at Part 328. In its decision in *Solid Waste County of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001), the U.S. Supreme Court ruled that Clean Water Act jurisdiction does not apply to isolated, intrastate, non-navigable waters based on their use as habitat for migratory birds. Tiner (2003) estimated that in some areas of the country, the proportion of wetlands that are geographically isolated, and may not be subject to Clean Water Act jurisdiction is approximately 20 to 50 percent of the wetland area, and there are other areas where more than 50 percent of the wetlands are geographically isolated. Geographically isolated wetlands comprise a substantial proportion of the wetlands found in regions with arid, semi-arid, and semi-humid climates, as well as areas with karst topography (Tiner 2003).

However, it is difficult to determine from maps or aerial photographs whether wetlands are hydrologically isolated from other waters, because there may be small surface hydrologic connections that are not included on those maps or detected by those photographs (Tiner 2003). The scope of waters subject to Clean Water Act jurisdiction has also been affected by the U.S. Supreme Court decision in the consolidated cases of *Rapanos v. U.S.* and *Carabell v. U.S.*, but there have been no formal studies to estimate the proportion of wetlands, streams, and other aquatic resources that may have been affected by that decision.

This NWP authorizes activities in all waters of the United States, including navigable waters. These waters are included in the marine, estuarine, palustrine, lacustrine, and riverine systems of the Cowardin classification system.

Wetland functions are the biophysical processes that occur within a wetland (King et al. 2000). Wetlands provide many functions, such as habitat for fish and shellfish, habitat for waterfowl and other wildlife, habitat for rare and endangered species, food production, plant production, flood conveyance, flood-peak reduction, flood storage, shoreline stabilization, water supply, ground water recharge, pollutant removal, sediment accretion, and nutrient uptake (NRC 1992).

Functions provided by streams include sediment transport, water transport, transport of nutrients and detritus, habitat for many species of plants and animals (including endangered or threatened species), and maintenance of biodiversity (NRC 1992). Streams also provide hydrologic functions, nutrient cycling functions, food web support, and corridors for movement of aquatic organisms (Allan and Castillo 2007).

Freshwater ecosystems provide services such as water for drinking, household uses, manufacturing, thermoelectric power generation, irrigation, and aquaculture; production of finfish, waterfowl, and shellfish; and non-extractive services, such as flood control, transportation, recreation (e.g., swimming and boating), pollution dilution, hydroelectric generation, wildlife habitat, soil fertilization, and enhancement of property values (Postel and Carpenter 1997).

Marine ecosystems provide a number of ecosystem services, including fish production; materials cycling (e.g., nitrogen, carbon, oxygen, phosphorous, and sulfur); transformation, detoxification, and sequestration of pollutants and wastes produced by humans; support of ocean-based recreation, tourism, and retirement industries; and coastal land development and valuation, including aesthetics related to living near the ocean (Peterson and Lubchenco 1997).

Activities authorized by this NWP will provide a wide variety of goods and services that are valued by society. For example, utility lines are important components of urban and rural infrastructure. They convey a variety of substances or products to people, such as water, fuel, and electricity. Utility lines are also essential for communication, including telephone lines, internet connections, and cable television. Utility lines are also important for the removal of wastes from residences, as well as commercial and institutional facilities.

4.0 Environmental Consequences

4.1 General Evaluation Criteria

This document contains a general assessment of the foreseeable effects of the individual activities authorized by this NWP and the anticipated cumulative effects of those activities. In the assessment of these individual and cumulative effects, the terms and limits of the NWP, pre-construction notification requirements, and the standard NWP general conditions are considered. The supplemental documentation provided by division engineers will address how regional conditions affect the individual and cumulative effects of the NWP.

The following evaluation comprises the NEPA analysis, the public interest review specified in 33 CFR 320.4(a)(1) and (2), and the impact analysis specified in Subparts C through F of the 404(b)(1) Guidelines (40 CFR Part 230).

The issuance of an NWP is based on a general assessment of the effects on public interest and environmental factors that are likely to occur as a result of using this NWP to authorize activities in waters of the United States. As such, this assessment must be speculative or predictive in general terms. Since NWPs authorize activities across the nation, projects eligible for NWP authorization may be constructed in a wide variety of environmental settings. Therefore, it is difficult to predict all of the indirect impacts that may be associated with each activity authorized by an NWP. For example, the NWP that authorizes 25 cubic yard discharges of dredged or fill material into waters of the United States may be used to fulfill a variety of project purposes. Indication that a factor is not relevant to a particular NWP does not necessarily mean that the NWP would never have an effect on that factor, but that it is a factor not readily identified with the authorized activity. Factors may be relevant, but the adverse effects on the aquatic environment are negligible, such as the impacts of a boat ramp on water level fluctuations or flood hazards. Only the reasonably foreseeable direct or indirect effects are included in the environmental assessment for this NWP. Division and district engineers will impose, as necessary, additional conditions on the NWP authorization or exercise discretionary authority to address locally important factors or to ensure that the authorized activity results in no more than minimal individual and cumulative adverse effects on the aquatic environment. In any case, adverse effects will be controlled by the terms, conditions, and additional provisions of the NWP. For example, Section 7 Endangered Species Act consultation will be required for activities that may affect endangered or threatened species or critical habitat.

4.2 Impact Analysis

This NWP authorizes the construction, maintenance, repair, or removal of utility lines and associated facilities in waters of the United States. The acreage limit for this NWP is 1/2 acre.

Pre-construction notification is required if: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. The pre-construction notification requirement allows district engineers to review proposed activities on a case-by-case basis to ensure that the individual and cumulative adverse effects of those activities on the aquatic environment are minimal. If the district engineer determines that the adverse effects of a particular project are more than minimal after considering mitigation, then discretionary authority will be asserted and the applicant will be notified that another form of DA authorization, such as a regional general permit or individual permit, is required (see 33 CFR 330.4(e) and 330.5).

Additional conditions can be placed on proposed activities on a regional or case-by-case basis to ensure that the activities have minimal individual and cumulative adverse effects on the aquatic environment. Regional conditioning of this NWP will be used to account for differences in aquatic resource functions, services, and values across the country, ensure that the NWP authorizes only those activities with minimal individual and cumulative adverse effects on the aquatic environment, and allow each Corps district to prioritize its workload based on where its efforts will best serve to protect the aquatic environment. Regional conditions can prohibit the use of an NWP in certain waters (e.g., high value waters or specific types of wetlands or waters), lower pre-construction notification thresholds, or require pre-construction notification for some or all NWP activities in certain watersheds or types of waters. Specific NWPs can also be revoked on a geographic or watershed basis where the individual and cumulative adverse effects resulting from the use of those NWPs are more than minimal.

In high value waters, division and district engineers can: 1) prohibit the use of the NWP in those waters and require an individual permit or regional general permit; 2) decrease the acreage limit for the NWP; 3) lower the pre-construction notification threshold of the NWP to require pre-construction notification for NWP activities with smaller impacts in those waters; 4) require pre-construction notification for some or all NWP activities in those waters; 5) add regional conditions to the NWP to ensure that the individual and cumulative adverse environmental effects are minimal; or 6) for those NWP activities that require pre-construction notification, add special conditions to NWP authorizations, such as compensatory mitigation requirements, to ensure that the adverse effects on the aquatic environment are minimal. NWPs can authorize activities in high value waters as long as the individual and cumulative adverse effects on the aquatic environment are minimal.

The construction and use of fills for temporary access for construction may be authorized by NWP 33 or regional general permits issued by division or district engineers. The related activity must meet the terms and conditions of the specified permit(s). If the discharge is

dependent on portions of a larger project that require an individual permit, this NWP will not apply. [See 33 CFR 330.6(c) and (d)]

4.3 Cumulative Effects

The Council on Environmental Quality's NEPA regulations define cumulative effects as: "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." [40 CFR 1508.7.] Therefore, the NEPA cumulative effects analysis for an NWP is not limited to activities authorized by the NWP or other DA permits and includes Federal and non-Federal activities that affect the Nation's wetlands, streams, and other aquatic resources. The cumulative effects analysis should focus on specific categories of resources instead of the environmental effects caused by a particular action, and it requires identification of the stressors that cause degradation of those resources, including those caused by actions unrelated to the proposed action (CEQ 1997). The geographic scope of the cumulative impacts analysis is the United States and its territories, where the NWP may be used to authorize specific activities that require DA authorization. The temporal scope of the cumulative effects analysis includes past actions that have affected the Nation's wetlands, streams, and other aquatic resources, as well as present actions and reasonably foreseeable future actions that are affecting, or will affect, wetlands, streams, and other aquatic resources. The present effects of past federal, non-federal, and private actions are included in the affected environment, which is described in Section 3.0. The affected environment includes current aggregate effects of past actions, which are captured in recent national information on the quantity and quality of wetlands, streams, and other aquatic resources that is summarized in Section 3.0.

In addition to the activities authorized by this NWP, there are many activities that contribute to cumulative effects on wetlands, streams, and other aquatic resources in the United States, and alter the quantity of those resources and the functions they provide. Activities authorized by past versions of NWP 12, as well as other NWPs, individual permits, letters of permission, and regional general permits have resulted in direct and indirect impacts to wetlands, streams, and other aquatic resources. Those activities may have legacy effects that have added to the cumulative effects and affected the quantity of those resources and the functions they provide. Discharges of dredged or fill material that do not require DA permits because they are exempt from section 404 permit requirements can also adversely affect the quantity of the Nation's wetlands, streams, and other aquatic resources and the functions they provide. Discharges of dredged or fill material that convert wetlands, streams, and other aquatic resources to upland areas result in permanent losses of aquatic resource functions. Temporary fills and fills that do not convert waters or wetlands to dry land may cause short-term or partial losses of aquatic resource functions.

Cumulative effects to wetlands, streams, and other aquatic resources in the United States are not limited to the effects caused by activities regulated and authorized by the Corps under

Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Other federal, non-federal, and private activities also contribute to the cumulative effects to wetlands, streams, and other aquatic resources, by changing the quantity of those resources and the functions they provide. Cumulative effects to wetlands, streams, and other aquatic resources are the result of landscape-level processes (Gosselink and Lee 1989). As discussed in more detail below, cumulative effects to aquatic resources are caused by a variety of activities (including activities that occur entirely in uplands) that take place within a landscape unit, such as the watershed for a river or stream (e.g., Allan 2004, Paul and Meyer 2001, Leopold 1968) or the contributing drainage area for a wetland (e.g., Wright et al. 2006, Brinson and Malvárez 2002, Zedler and Kercher 2005).

The ecological condition of rivers and streams is dependent on the state of their watersheds (NRC 1992), because they are affected by activities that occur in those watersheds, including agriculture, urban development, deforestation, mining, water removal, flow alteration, and invasive species (Palmer et al. 2010). Land use changes affect rivers and streams through increased sedimentation, larger inputs of nutrients (e.g., nitrogen, phosphorous) and pollutants (e.g., heavy metals, synthetic chemicals, toxic organics), altered stream hydrology, the alteration or removal of riparian vegetation, and the reduction or elimination of inputs of large woody debris (Allen 2004). Agriculture is the primary cause of stream impairment, followed by urbanization (Paul and Meyer 2001). Agricultural land use adversely affects stream water quality, habitat, and biological communities (Allan 2004). Urbanization causes changes to stream hydrology (e.g., higher flood peaks, lower base flows), sediment supply and transport, water chemistry, and aquatic organisms (Paul and Meyer 2001). Leopold (1968) found that land use changes affect the hydrology of an area by altering stream flow patterns, total runoff, water quality, and stream structure. Changes in peak flow patterns and runoff affect stream channel stability. Stream water quality is adversely affected by increased inputs of sediments, nutrients, and pollutants, many of which come from non-point sources (Paul and Meyer 2001, Allan and Castillo 2007).

The construction and operation of water-powered mills in the 17th to 19th centuries substantially altered the structure and function of streams in the eastern United States (Walter and Merritts 2008) and those effects have persisted to the present time. In urbanized and agricultural watersheds, the number of small streams has been substantially reduced, in part by activities that occurred between the 19th and mid-20th centuries (Meyer and Wallace 2001). Activities that affect the quantity and quality of small streams include residential, commercial, and industrial development, mining, agricultural activities, forestry activities, and road construction (Meyer and Wallace 2001), even if those activities are located entirely in uplands.

Activities that affect wetland quantity and quality include: land use changes that alter local hydrology (including water withdrawal), clearing and draining wetlands, constructing levees that sever hydrologic connections between rivers and floodplain wetlands, constructing other obstructions to water flow (e.g., dams, locks), constructing water diversions, inputs of nutrients and contaminants, and fire suppression (Brinson and Malvárez 2002). Upland development adversely affects wetlands and reduces wetland functionality because those

activities change surface water flows and alter wetland hydrology, contribute stormwater and associated sediments, nutrients, and pollutants, cause increases in invasive plant species abundance, and decrease the diversity of native plants and animals (Wright et al. 2006). Many of the remaining wetlands in the United States are degraded (Zedler and Kercher 2005). Wetland degradation and losses are caused by changes in water movement and volume within a watershed or contributing drainage area, altered sediment transport, drainage, inputs of nutrients from non-point sources, water diversions, fill activities, excavation activities, invasion by non-native species, land subsidence, and pollutants (Zedler and Kercher 2005).

Coastal waters are also affected by a wide variety of activities. Most inland waters in the United States drain to coastal areas, and therefore activities that occur in inland watersheds affect coastal waters (NRC 1994). Adverse effects to coastal waters are caused by habitat modifications, point source pollution, non-point source pollution, changes to hydrology and hydrodynamics, exploitation of coastal resources, introduction of non-native species, global climate change, shoreline erosion, and pathogens and toxins (NRC 1994). Eutrophication of coastal waters is caused by nutrients contributed by waste treatment systems, non-point sources, and the atmosphere, and may cause hypoxia or anoxia in coastal waters (NRC 1994). Inland land uses, such as agriculture, urban development, and forestry, adversely affect coastal waters by diverting fresh water from estuaries and by acting as sources of nutrients and pollutants to coastal waters (Millennium Ecosystem Assessment 2005). Habitat modifications are the result of dredging or filling coastal waters, inputs of sediment via non-point sources, changes in water quality, or alteration of coastal hydrodynamics (NRC 1994). Coastal development activities, including those that occur in uplands, affect marine and estuarine habitats (Millennium Ecosystem Assessment 2005). The introduction of non-native species may change the functions and structure of coastal wetlands and other habitats (Millennium Ecosystem Assessment 2005). Substantial alterations of coastal hydrology and hydrodynamics are caused by land use changes in watersheds draining to coastal waters, the channelization or damming of streams and rivers, water consumption, and water diversions (NRC 1994). Changes in water movement through watersheds may also alter sediment delivery to coastal areas, which affects the sustainability of wetlands and intertidal habitats and the functions they provide (NRC 1994). Fishing activities may also modify coastal habitats by changing habitat structure and the biological communities that inhabit those areas (NRC 1994).

There is also little information on the ecological condition or the Nation's wetlands, streams, and other aquatic resources, or the amounts of functions they provide, although reviews have acknowledged that most of these resources are degraded (Zedler and Kercher 2005, Allan 2004) or impaired (U.S. EPA 2012) because of various activities and other stressors. These data deficiencies make it more difficult to characterize the affected environment to assess cumulative effects.

As discussed in Section 3.0 of this document there is a wide variety of causes and sources of impairment of the Nation's rivers, streams, wetlands, lakes, estuarine waters, and marine waters (U.S. EPA 2012), which also contribute to cumulative effects to aquatic resources.

Many of those causes of impairment are point and non-point sources of pollutants that are not regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Two common causes of impairment for rivers and streams, habitat alterations and flow alterations, may be due in part to activities regulated by the Corps under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899. Habitat and flow alterations may also be caused by activities that do not involve discharges of dredged or fill material or structures or work in navigable waters. For wetlands, impairment due to habitat alterations, flow alterations, and hydrology modifications may involve activities regulated under section 404, but these causes of impairment may also be due to unregulated activities, such as changes in upland land use that affects the movement of water through a watershed or contributing drainage area or the removal of vegetation.

Many of the activities discussed in this cumulative effects section that affect wetlands, streams, and other aquatic resources are not subject to regulation under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899.

Dahl (1990) estimates that approximately 53 percent of the wetlands in the conterminous United States were lost in the 200-year period covering the 1780s to 1980s. The annual rate of wetland loss has decreased substantially since the 1970s (Dahl 2011), when wetland regulation became more prevalent (Brinson and Malvárez 2002). Between 2004 and 2009, there was no statistically significant difference in wetland acreage in the conterminous United States (Dahl 2011). According to the 2011 wetland status and trends report, during the period of 2004 to 2009 urban development accounted for 11% of wetland losses (61,630 acres), rural development resulted in 12% of wetland losses (66,940 acres), silviculture accounted for 56% of wetland losses (307,340 acres), and wetland conversion to deepwater habitats caused 21% of the loss in wetland area (115,960 acres) (Dahl 2011). Some of the losses occurred to wetlands that are not subject to Clean Water Act jurisdiction and some losses are due to activities not regulated under Section 404 of the Clean Water Act, such as unregulated drainage activities, exempt forestry activities, or water withdrawals. From 2004 to 2009, approximately 100,020 acres of wetlands were gained as a result of wetland restoration and conservation programs on agricultural land (Dahl 2011). Another source of wetland gain is conversion of other uplands to wetlands (389,600 acres during 2004 to 2009) (Dahl 2011). Inventories of wetlands, streams, and other aquatic resources are incomplete because the techniques used cannot identify some of those resources (e.g., Dahl (2011) for wetlands; Meyer and Wallace (2001) for streams).

Compensatory mitigation required by district engineers for specific activities authorized by this NWP will help reduce the contribution of those activities to the cumulative effects on the Nation's wetlands, streams, and other aquatic resources, by providing ecological functions to partially or fully replace some or all of the aquatic resource functions lost as a result of those activities. Compensatory mitigation requirements for the NWPs are described in general condition 23 and compensatory mitigation projects must also comply with the applicable provisions of 33 CFR part 332. District engineers will establish compensatory mitigation requirements on a case-by-case basis, after evaluating pre-construction

notifications. Compensatory mitigation requirements for individual NWP activities will be specified through permit conditions added to NWP authorizations. When compensatory mitigation is required, the permittee is required to submit a mitigation plan prepared in accordance with the requirements of 33 CFR 332.4(c). Credits from approved mitigation banks or in-lieu fee programs may also be used to satisfy compensatory mitigation requirements for NWP authorizations. Monitoring is required to demonstrate whether the permittee-responsible mitigation project, mitigation bank, or in-lieu fee project is meeting its objectives and providing the intended aquatic resource structure and functions. If the compensatory mitigation project is not meeting its objectives, adaptive management will be required. Adaptive management may involve taking actions, such as site modifications, remediation, or design changes, to ensure the compensatory mitigation project meets its objectives (see 33 CFR 332.7(c)).

The estimated contribution of this NWP to the cumulative effects to aquatic resources in the United States during the five year period that the NWP would be in effect, in terms of the estimated number of times this NWP would be used until it expires and the projected impacts and compensatory mitigation, is provided in Section 6.2.2. The activities authorized by this NWP will result in minor contributions to the cumulative effects that have occurred to wetlands, streams, and other aquatic resources in the United States because, as discussed in this section, they are one of many activities that affect those resources. The causes of cumulative effects discussed in this section include past, present, and reasonably foreseeable future federal, non-federal, and private activities. For the national-scale cumulative effects analysis presented in this section, it is not possible to quantify the relative contributions of the various activities that affect the quantity of wetlands, streams, and other aquatic resources and the functions they provide, because such data are not available at the national scale.

In a specific watershed, division or district engineers may determine that the cumulative adverse effects of activities authorized by this NWP are more than minimal. Division and district engineers will conduct more detailed assessments for geographic areas that are determined to be potentially subject to more than minimal cumulative adverse effects. Division and district engineers have the authority to require individual permits in watersheds or other geographic areas where the cumulative adverse effects are determined to be more than minimal, or add conditions to the NWP either on a case-by-case or regional basis to require mitigation measures to ensure that the cumulative adverse effects are minimal. When a division or district engineer determines, using local or regional information, that a watershed or other geographic area is subject to more than minimal cumulative adverse effects due to the use of this NWP, he or she will use the revocation and modification procedure at 33 CFR 330.5. In reaching the final decision, the division or district engineer will compile information on the cumulative adverse effects and supplement this document.

The Corps expects that the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP rather than request individual permits for projects which could result in greater adverse impacts to the aquatic environment. The minimization encouraged by the issuance of this NWP, as well

as compensatory mitigation that may be required for specific activities authorized by this NWP, will help reduce cumulative effects to the Nation's wetlands, streams, and other aquatic resources.

5.0 Public Interest Review

5.1 Public Interest Review Factors (33 CFR 320.4(a)(1))

For each of the 20 public interest review factors, the extent of the Corps consideration of expected impacts resulting from the use of this NWP is discussed, as well as the reasonably foreseeable cumulative adverse effects that are expected to occur. The Corps decision-making process involves consideration of the benefits and detriments that may result from the activities authorized by this NWP.

(a) Conservation: The activities authorized by this NWP may modify the natural resource characteristics of the project area. Compensatory mitigation, if required for activities authorized by this NWP, will result in the restoration, enhancement, establishment, or preservation of aquatic habitats that will offset losses to conservation values. The adverse effects of activities authorized by this NWP on conservation will be minor.

(b) Economics: Utility line activities will have positive impacts on the local economy. During construction, these activities will generate jobs and revenue for local contractors as well as revenue to building supply companies that sell construction materials. Utility lines provide energy, potable water, telecommunications, and other services to residences and schools, as well as factories, offices, stores, and other places of business, to allow those facilities to operate.

(c) Aesthetics: Utility line activities will alter the visual character of some waters of the United States. The extent and perception of these changes will vary, depending on the size and configuration of the activity, the nature of the surrounding area, and the public uses of the area. Utility line activities authorized by this NWP can also modify other aesthetic characteristics, such as air quality and the amount of noise. The increased human use of the project area and surrounding land will also alter local aesthetic values.

(d) General environmental concerns: Activities authorized by this NWP will affect general environmental concerns, such as water, air, noise, and land pollution. The authorized activities will also affect the physical, chemical, and biological characteristics of the environment. The adverse effects of the activities authorized by this NWP on general environmental concerns will be minor. Adverse effects to the chemical composition of the aquatic environment will be controlled by general condition 6, which states that the material used for construction must be free from toxic pollutants in toxic amounts. General condition 23 requires mitigation to minimize adverse effects to the aquatic environment through avoidance and minimization at the project site. Compensatory mitigation may be required by district engineers to ensure that the net adverse effects on the aquatic environment are

minimal. Specific environmental concerns are addressed in other sections of this document.

(e) Wetlands: The construction, maintenance, repair, or removal of utility lines and associated facilities may result in the loss or alteration of wetlands. For the construction or maintenance of utility lines impacts to wetlands will be temporary, unless the site contains forested wetlands. The construction of utility line substations will result in the permanent loss of wetlands. Wetlands may also be converted to other uses and habitat types. Forested wetlands will not be allowed to grow back in the utility line right-of-way so that the utility line will not be damaged and can be easily maintained. Only shrubs and herbaceous plants will be allowed to grow in the right-of-way. Some wetlands may be temporarily impacted by the activity when used as temporary staging areas. These wetlands will be restored, unless the district engineer authorizes another use for the area, but the plant community may be different, especially if the site was originally forested.

Wetlands provide habitat, including foraging, nesting, spawning, rearing, and resting sites for aquatic and terrestrial species. The loss or alteration of wetlands may alter natural drainage patterns. Wetlands reduce erosion by stabilizing the substrate. Wetlands also act as storage areas for stormwater and flood waters. Wetlands may act as groundwater discharge or recharge areas. The loss of wetland vegetation will adversely affect water quality because these plants trap sediments, pollutants, and nutrients and transform chemical compounds. Wetland vegetation also provides habitat for microorganisms that remove nutrients and pollutants from water. Wetlands, through the accumulation of organic matter, act as sinks for some nutrients and other chemical compounds, reducing the amounts of these substances in the water.

General condition 23 requires avoidance and minimization of impacts to waters of the United States, including wetlands, at the project site. Compensatory mitigation may be required to offset losses of waters of the United States so that the net adverse effects on the aquatic environment are minimal. General condition 22 prohibits the use of this NWP to discharge dredged or fill material in designated critical resource waters and adjacent wetlands, which may include high value wetlands. Division engineers can regionally condition this NWP to restrict or prohibit its use in high value wetlands. District engineers will also exercise discretionary authority to require an individual permit if high value wetlands will be affected by the activity and the activity will result in more than minimal adverse effects on the aquatic environment. District engineers may also add case-specific special conditions to the NWP authorization to reduce impacts to wetlands or require compensatory mitigation to offset losses of wetlands.

(f) Historic properties: General condition 20 states that in cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act have been satisfied.

(g) Fish and wildlife values: This NWP authorizes certain utility line activities in all waters of the United States. Discharges of dredged or fill material into waters of the United States

for the construction of utility line substations is limited to non-tidal waters, excluding non-tidal waters adjacent to tidal waters. Waters of the United States provide habitat to many species of fish and wildlife. Activities authorized by this NWP may alter the habitat characteristics of streams, wetlands, and other waters of the United States, decreasing the quantity and quality of fish and wildlife habitat. The construction of utility line right-of-ways may fragment existing habitat and increase the amount of edge habitat in the area, causing changes in local species composition. Wetland, riparian, and estuarine vegetation provides food and habitat for many species, including foraging areas, resting areas, corridors for wildlife movement, and nesting and breeding grounds. Open waters provide habitat for fish and other aquatic organisms. Fish and other motile animals will avoid the project site during construction and maintenance. Woody riparian vegetation shades streams, which reduces water temperature fluctuations and provides habitat for fish and other aquatic animals. Riparian and estuarine vegetation provides organic matter that is consumed by fish and aquatic invertebrates. Woody riparian vegetation creates habitat diversity in streams when trees and large shrubs fall into the channel, forming snags that provide habitat and shade for fish. The morphology of a stream channel may be altered by activities authorized by this NWP, which can affect fish populations. However, pre-construction notification is required for certain activities authorized by this NWP, which provides district engineers with opportunities to review those activities, assess potential impacts on fish and wildlife values, and ensure that the authorized activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation may be required by district engineers to restore, enhance, establish, and/or preserve wetlands to offset losses of waters of the United States. Stream rehabilitation, enhancement, and preservation activities may be required as compensatory mitigation for impacts to streams. The establishment and maintenance of riparian areas next to open and flowing waters may also be required as compensatory mitigation. These methods of compensatory mitigation will provide fish and wildlife habitat values.

General condition 2 will reduce adverse effects to fish and other aquatic species by prohibiting activities that substantially disrupt the necessary life cycle movements of indigenous aquatic species, unless the primary purpose of the activity is to impound water. Compliance with general conditions 3 and 5 will ensure that the authorized activity has minimal adverse effects on spawning areas and shellfish beds, respectively. The authorized activity cannot have more than minimal adverse effects on breeding areas for migratory birds, due to the requirements of general condition 4.

Compliance with the Bald and Golden Eagle Protection Act (16 U.S.C. 668(a)-(d)), the Migratory Bird Treaty Act (16 U.S.C. 703; 16 U.S.C. 712), and the Marine Mammal Protection Act (16 U.S.C. 1361 et seq.), including any requirements to obtain take permits, is the responsibility of the project proponent for a particular NWP activity. General condition 19 states that the permittee is responsible for obtaining any “take” permits required under the U.S. Fish and Wildlife Service’s regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act.

Consultation pursuant to the essential fish habitat provisions of the Magnuson-Stevens

Fishery Conservation and Management Act will occur as necessary for proposed NWP activities that may adversely affect essential fish habitat. Consultation may occur on a case-by-case or programmatic basis. Division and district engineers can impose regional and special conditions to ensure that activities authorized by this NWP will result in minimal adverse effects on essential fish habitat.

(h) Flood hazards: The activities authorized by this NWP may affect the flood-holding capacity of the 100-year floodplain, including surface water flow velocities. Changes in the flood-holding capacity of the 100-year floodplain may impact human health, safety, and welfare. Compliance with general condition 9 will reduce flood hazards. This general condition requires the permittee to maintain, to the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters, except under certain circumstances. General condition 10 requires the activity to comply with applicable FEMA-approved state or local floodplain management requirements. Much of the land area within 100-year floodplains is upland, and outside of the Corps scope of review.

(i) Floodplain values: Activities authorized by this NWP may adversely affect the flood-holding capacity of the floodplain, as well as other floodplain values. The fish and wildlife habitat values of floodplains will be adversely affected by activities authorized by this NWP, by modifying or eliminating areas used for nesting, foraging, resting, and reproduction. The water quality functions of floodplains may also be adversely affected by these activities. Modification of the floodplain may also adversely affect other hydrological processes, such as groundwater recharge.

Compensatory mitigation may be required for activities authorized by this NWP, which will offset losses of waters of the United States and provide water quality functions and wildlife habitat. General condition 23 requires avoidance and minimization of impacts to waters of the United States to the maximum extent practicable at the project site, which will reduce losses of floodplain values. The requirements of general condition 23 will minimize adverse effects to floodplain values, such as flood storage capacity, wildlife habitat, fish spawning areas, and nutrient cycling for aquatic ecosystems. Compliance with general condition 10 will ensure that activities in 100-year floodplains will not cause more than minimal adverse effects on flood storage and conveyance.

(j) Land use: Activities authorized by this NWP will often change the land use from natural to developed. The installation of utility lines may induce more development in the vicinity of the project. Since the primary responsibility for land use decisions is held by state, local, and Tribal governments, the Corps scope of review is limited to significant issues of overriding national importance, such as navigation and water quality (see 33 CFR 320.4(j)(2)).

(k) Navigation: Activities authorized by this NWP must comply with general condition 1, which states that no activity may cause more than minimal adverse effects on navigation. This NWP requires pre-construction notification for all activities in section 10 waters, which will allow the district engineer to review the pre-construction notification and determine if

the proposed activity will adversely affect navigation.

(l) Shore erosion and accretion: The activities authorized by this NWP will have minor direct effects on shore erosion and accretion processes, since the NWP does not authorize the construction of utility line substations in tidal waters. The construction of utility lines and foundations for overhead utility line towers, poles, and anchors, will have minimal adverse effects on shore erosion and accretion. However, NWP 13, regional general permits, or individual permits may be used to authorize bank stabilization projects associated with utility line activities, which may affect shore erosion and accretion.

(m) Recreation: Activities authorized by this NWP may change the recreational uses of the area. Certain recreational activities, such as bird watching, hunting, and fishing may no longer be available in the area. Some utility line activities may eliminate certain recreational uses of the area.

(n) Water supply and conservation: Activities authorized by this NWP may adversely affect both surface water and groundwater supplies. Activities authorized by this NWP can also affect the quality of water supplies by adding pollutants to surface waters and groundwater, but many causes of water pollution, such as discharges regulated under Section 402 of the Clean Water Act, are outside the Corps scope of review. Some water pollution concerns can be addressed through the water quality management measures that may be required for activities authorized by this NWP. The quantity and quality of local water supplies may be enhanced through the construction of water treatment facilities. Division and district engineers can prohibit the use of this NWP in watersheds for public water supplies, if it is in the public interest to do so. General condition 7 prohibits discharges in the vicinity of public water supply intakes. Compensatory mitigation may be required for activities authorized by this NWP, which may help improve the quality of surface waters.

(o) Water quality: Utility line activities in wetlands and open waters may have adverse effects on water quality. These activities can result in increases in sediments and pollutants in the water. The loss of wetland and riparian vegetation will adversely affect water quality because these plants trap sediments, pollutants, and nutrients and transform chemical compounds. Wetland and riparian vegetation also provides habitat for microorganisms that remove nutrients and pollutants from water. Wetlands, through the accumulation of organic matter, act as sinks for some nutrients and other chemical compounds, reducing the amounts of these substances in the water column. Wetlands and riparian areas also decrease the velocity of flood waters, removing suspended sediments from the water column and reducing turbidity. Riparian vegetation also serves an important role in the water quality of streams by shading the water from the intense heat of the sun. Compensatory mitigation may be required for activities authorized by this NWP, to ensure that the activity does not have more than minimal adverse effects on the aquatic environment, including water quality. Wetlands and riparian areas restored, established, enhanced, or preserved as compensatory mitigation may provide local water quality benefits.

During the construction, maintenance, and repair of utility lines and related activities, small

amounts of oil and grease from construction equipment may be discharged into the waterway. Because most of the construction will occur during a relatively short period of time, the frequency and concentration of these discharges are not expected to have more than minimal adverse effects on overall water quality.

This NWP may require Section 401 water quality certification, since it authorizes discharges of dredged or fill material into waters of the United States. Most water quality concerns are addressed by the State or Tribal Section 401 agency. In accordance with general condition 23, the permittee may be required to implement water quality management measures to minimize the degradation of water quality. Water quality management measures may involve the installation of stormwater management facilities to trap pollutants and the establishment and maintenance of riparian areas next to waters of the United States. Riparian areas help protect downstream water quality and enhance aquatic habitat.

(p) Energy needs: The utility line activities authorized by this NWP may induce higher rates of energy consumption in the area by making electricity, natural gas, and petroleum products more readily available to consumers. Additional power plants or oil refineries may be needed to meet increases in energy demand, but these issues are beyond the Corps scope of review. This NWP may be used to authorize the expansion of existing infrastructure to provide energy to new developments.

(q) Safety: The utility line activities authorized by this NWP will be subject to Federal, state, and local safety laws and regulations. Therefore, this NWP will not adversely affect the safety of the project area.

(r) Food and fiber production: Activities authorized by this NWP may adversely affect food and fiber production, especially when utility line activities are constructed on agricultural land. Utility line activities usually require easements, which may take some agricultural land out of production. These activities may reduce the amount of available farmland in the nation, unless that land is replaced by converting other land, such as forest, to agricultural land. The loss of farmland is more appropriately addressed through the land use planning and zoning authority held by state and local governments. Food production may be increased by activities authorized by this NWP. For example, this NWP can authorize the construction or expansion of utility lines that provide energy, water, and other services to commercial food production facilities, such as bakeries, canneries, and meat processing plants.

(s) Mineral needs: Activities authorized by this NWP may increase demand for aggregates and stone, which may be used to construct utility lines, substations, and foundations for overhead utility line towers. Utility lines authorized by this NWP may increase the demand for other building materials, such as steel, aluminum, and copper, which are made from mineral ores.

(t) Considerations of property ownership: The NWP complies with 33 CFR 320.4(g), which states that an inherent aspect of property ownership is a right to reasonable private use. The

NWP provides expedited DA authorization for utility line activities, provided those activities comply with the terms and conditions of the NWP and result in minimal adverse effects on the aquatic environment.

5.2 Additional Public Interest Review Factors (33 CFR 320.4(a)(2))

5.2.1 Relative extent of the public and private need for the proposed structure or work

This NWP authorizes the construction, maintenance, repair, and removal of utility lines and associated facilities, provided those activities have minimal individual and cumulative adverse effects on the aquatic environment. These activities satisfy public and private needs for the conveyance of a variety of substances, as well as communications and information transfer. The need for this NWP is based upon the number of these activities that occur annually with minimal individual and cumulative adverse effects on the aquatic environment.

5.2.2 Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work

Most situations in which there are unresolved conflicts concerning resource use arise when environmentally sensitive areas are involved (e.g., special aquatic sites, including wetlands) or where there are competing uses of a resource. The nature and scope of the activity, when planned and constructed in accordance with the terms and conditions of this NWP, reduce the likelihood of such conflict. In the event that there is a conflict, the NWP contains provisions that are capable of resolving the matter (see Section 1.2 of this document).

General condition 23 requires permittees to avoid and minimize adverse effects to waters of the United States to the maximum extent practicable on the project site. Consideration of off-site alternative locations is not required for activities that are authorized by general permits. General permits authorize activities that have minimal individual and cumulative adverse effects on the aquatic environment and overall public interest. District engineers will exercise discretionary authority and require an individual permit if the proposed activity will result in more than minimal adverse environmental effects on the project site. The consideration of off-site alternatives can be required during the individual permit process.

5.2.3 The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited

The nature and scope of the activities authorized by the NWP will most likely restrict the extent of the beneficial and detrimental effects to the area immediately surrounding the utility line activity. Activities authorized by this NWP will have minimal individual and cumulative adverse effects on the aquatic environment.

The terms, conditions, and provisions of the NWP were developed to ensure that individual and cumulative adverse environmental effects are minimal. Specifically, NWPs do not obviate the need for the permittee to obtain other Federal, state, or local authorizations required by law. The NWPs do not grant any property rights or exclusive privileges (see 33 CFR 330.4(b) for further information). Additional conditions, limitations, restrictions, and provisions for discretionary authority, as well as the ability to add activity-specific or regional conditions to this NWP, will provide further safeguards to the aquatic environment and the overall public interest. There are also provisions to allow suspension, modification, or revocation of the NWP.

6.0 Clean Water Act Section 404(b)(1) Guidelines Analysis

The 404(b)(1) compliance criteria for general permits are provided at 40 CFR 230.7.

6.1 Evaluation Process (40 CFR 230.7(b))

6.1.1 Alternatives (40 CFR 230.10(a))

General condition 23 requires permittees to avoid and minimize discharges of dredged or fill material into waters of the United States to the maximum extent practicable on the project site. The consideration of off-site alternatives is not directly applicable to general permits.

6.1.2 Prohibitions (40 CFR 230.10(b))

This NWP authorizes discharges of dredged or fill material into waters of the United States, which require water quality certification. Water quality certification requirements will be met in accordance with the procedures at 33 CFR 330.4(c).

No toxic discharges will be authorized by this NWP. General condition 6 states that the material must be free from toxic pollutants in toxic amounts.

This NWP does not authorize activities that jeopardize the continued existence of any listed threatened or endangered species or result in the destruction or adverse modification of critical habitat. Reviews of pre-construction notifications, regional conditions, and local operating procedures for endangered species will ensure compliance with the Endangered Species Act. Refer to general condition 18 and to 33 CFR 330.4(f) for information and procedures.

This NWP will not authorize the violation of any requirement to protect any marine sanctuary. Refer to section 6.2.3(j)(1) of this document for further information.

6.1.3 Findings of Significant Degradation (40 CFR 230.10(c))

Potential impact analysis (Subparts C through F): The potential impact analysis specified in

Subparts C through F is discussed in section 6.2.3 of this document. Mitigation required by the district engineer will ensure that the adverse effects on the aquatic environment are minimal.

Evaluation and testing (Subpart G): Because the terms and conditions of the NWP specify the types of discharges that are authorized, as well as those that are prohibited, individual evaluation and testing for the presence of contaminants will normally not be required. If a situation warrants, provisions of the NWP allow division or district engineers to further specify authorized or prohibited discharges and/or require testing.

Based upon Subparts B and G, after consideration of Subparts C through F, the discharges authorized by this NWP will not cause or contribute to significant degradation of waters of the United States.

6.1.4 Factual determinations (40 CFR 230.11)

The factual determinations required in 40 CFR 230.11 are discussed in section 6.2.3 of this document.

6.1.5 Appropriate and practicable steps to minimize potential adverse impacts (40 CFR 230.10(d))

As demonstrated by the information in this document, as well as the terms, conditions, and provisions of this NWP, actions to minimize adverse effects (Subpart H) have been thoroughly considered and incorporated into the NWP. General condition 23 requires permittees to avoid and minimize discharges of dredged or fill material into waters of the United States to the maximum extent practicable on the project site. Compensatory mitigation may be required by the district engineer to ensure that the net adverse effects on the aquatic environment are minimal.

6.2 Evaluation Process (40 CFR 230.7(b))

6.2.1 Description of permitted activities (40 CFR 230.7(b)(2))

As indicated by the text of this NWP in section 1.0 of this document, and the discussion of potential impacts in section 4.0, the activities authorized by this NWP are sufficiently similar in nature and environmental impact to warrant authorization under a single general permit. Specifically, the purpose of the NWP is to authorize discharges of dredged or fill material into waters of the United States for the construction, maintenance, repair, or removal of utility lines and associated facilities. The nature and scope of the impacts are controlled by the terms and conditions of the NWP.

The activities authorized by this NWP are sufficiently similar in nature and environmental impact to warrant authorization by a general permit. The terms of the NWP authorize a specific category of activity (i.e., discharges of dredged or fill material for the construction,

maintenance, repair, or removal of utility lines and associated facilities) in a specific category of waters (i.e., waters of the United States). The terms of the NWP do not authorize the construction of utility line substations in tidal waters or in non-tidal wetlands adjacent to tidal waters. The restrictions imposed by the terms and conditions of this NWP will result in the authorization of activities that have similar impacts on the aquatic environment, namely the replacement of aquatic habitats, such as certain categories of non-tidal wetlands, with utility line facilities. Most of the impacts relating to the construction, maintenance, repair, or removal of utility lines will be temporary.

If a situation arises in which the activity requires further review, or is more appropriately reviewed under the individual permit process, provisions of the NWPs allow division and/or district engineers to take such action.

6.2.2 Cumulative effects (40 CFR 230.7(b)(3))

The 404(b)(1) Guidelines at 40 CFR 230.11(a) define cumulative effects as "...the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material." For the issuance of general permits, such as this NWP, the 404(b)(1) Guidelines require the permitting authority to "set forth in writing an evaluation of the potential individual and cumulative impacts of the categories of activities to be regulated under the general permit." [40 CFR 230.7(b)] If a situation arises in which cumulative effects are likely to be more than minimal and the proposed activity requires further review, or is more appropriately reviewed under the individual permit process, provisions of the NWPs allow division and/or district engineers to take such action.

Based on reported use of this NWP during the period of August 1, 2009, to July 31, 2010, the Corps estimates that this NWP will be used approximately 7,900 times per year on a national basis, resulting in impacts to approximately 400 acres of waters of the United States, including jurisdictional wetlands. The Corps estimates that approximately 480 acres of compensatory mitigation will be required to offset these impacts. The demand for these types of activities could increase or decrease over the five-year duration of this NWP. Using the current trend, approximately 39,500 activities could be authorized over a five year period until this NWP expires, resulting in impacts to approximately 2,000 acres of waters of the United States, including jurisdictional wetlands. Approximately 2,400 acres of compensatory mitigation would be required to offset those impacts. Compensatory mitigation is the restoration (re-establishment or rehabilitation), establishment, enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved. [33 CFR 332.2]

Wetland restoration, enhancement, and establishment projects can provide wetland functions, as long as the wetland compensatory mitigation project is placed in an appropriate landscape position, has appropriate hydrology for the desired wetland type, and the watershed condition will support the desired wetland type (NRC 2001). The success of wetland restoration, enhancement, and establishment is dependent on the technical expertise

of the mitigation provider, allowing sufficient time for wetland structure and functions to develop, and recognizing the ability for ecosystems to undergo self-design during their development (Mitsch and Gosselink 2007). Most studies of compensatory mitigation success have focused solely on the ecological attributes of the compensatory mitigation projects, and few studies have also evaluated the aquatic resources impacted by permitted activities (Kettlewell et al. 2008), so it is difficult to assess whether compensatory mitigation has fully or partially offset the lost functions provided by the aquatic resources that are impacted by permitted activities. In its review, the NRC (2001) concluded that some wetland types can be successfully restored or established (e.g., non-tidal emergent wetlands, some forested and scrub-shrub wetlands, sea grasses, and coastal marshes), while other wetland types (e.g., vernal pools, bogs, and fens) are difficult to restore and should be avoided where possible. Because of its greater potential to successfully provide wetland functions, restoration is the preferred compensatory mitigation mechanism (33 CFR 332.3(a)(2)). Bogs, fens, and springs are considered to be difficult-to-replace resources and compensatory mitigation should be provided through in-kind rehabilitation, enhancement, or preservation of these wetlands types (33 CFR 332.3(e)(3)).

In its review of outcomes of wetland compensatory mitigation activities, the NRC (2001) stated that wetland functions can be replaced by wetland restoration and establishment activities. They discussed five categories of wetland functions: hydrology, water quality, maintenance of plant communities, maintenance of animal communities, and soil functions. Wetland functions develop at different rates in wetland restoration and establishment projects (NRC 2001). It is difficult to restore or establish natural wetland hydrology, and water quality functions are likely to be different than the functions provided at wetland impact sites (NRC 2001). Reestablishing or establishing the desired plant community may be difficult because of invasive species colonizing the mitigation project site (NRC 2001). The committee also found that establishing and maintaining animal communities depends on the surrounding landscape. Soil functions can take a substantial amount of time to develop, because they are dependent on soil organic matter and other soil properties (NRC 2001). The NRC (2001) concluded that the success of replacing wetland functions depends on the particular function of interest, the restoration or establishment techniques used, and the extent of degradation of the compensatory mitigation project site and its watershed.

The ecological success of wetland restoration and enhancement activities is affected by the amount of changes to hydrology and inputs of pollutants, nutrients, and sediments within the watershed or contributing drainage area (Wright et al. 2006). Wetland restoration is becoming more successful, especially in cases where monitoring and adaptive management are used to correct deficiencies in these efforts (Zedler and Kercher 2005). Irreversible changes to landscapes, especially those that affect hydrology within contributing drainage areas or watersheds, cause wetland degradation and impede the success of wetland restoration efforts (Zedler and Kercher 2005).

Streams are difficult-to-replace resources and compensatory mitigation should be provided through stream rehabilitation, enhancement, and preservation since those techniques are most likely to be successful (see 33 CFR 332.3(e)(3)). Stream rehabilitation is usually the

most effective compensatory mitigation mechanism since restoring a stream to a historic state is not possible because of changes in land use and other activities in a watershed (Roni et al. 2008). Stream rehabilitation and enhancement projects, including the restoration and preservation of riparian areas, provide riverine functions (e.g., Allan and Castillo (2007) for rivers and streams, NRC (2002) for riparian areas). Non-structural and structural techniques can be used to rehabilitate and enhance streams, and restore riparian areas (NRC 1992). Non-structural practices include removing disturbances to allow passive recovery of streams and riparian areas, reducing or eliminating activities that have altered stream flows to restore natural flows, preserving or restoring floodplains, and restoring and protecting riparian areas, including fencing those areas to exclude livestock and people (NRC 1992). Structural rehabilitation and enhancement techniques include channel, bank, and/or riparian area modifications to improve habitat and dam removal (NRC 1992). Road improvements, riparian rehabilitation, reconnecting floodplains to their rivers, and installing in-stream habitat structures have had varying degrees of success in stream rehabilitation activities (Roni et al. 2008). Success of these rehabilitation activities is strongly dependent on addressing impaired water quality and insufficient water quantity, since those factors usually limit the biological response to stream rehabilitation efforts (Roni et al. 2008). Ecologically successful stream rehabilitation and enhancement activities depend on addressing the factors that most strongly affect stream functions, especially water quality, water flow, and riparian quality, and not focusing solely on rehabilitating or enhancing the physical habitat of streams (Palmer et al. 2010).

The compensatory mitigation required by district engineers in accordance with general condition 23 and activity-specific conditions will provide aquatic resource functions and services to offset some or all of the losses of aquatic resource functions caused by the activities authorized by this NWP, and reduce the contribution of those activities to the cumulative effects on the Nation's wetlands, streams, and other aquatic resources. The required compensatory mitigation must be conducted in accordance with the applicable provisions of 33 CFR part 332, which requires development and implementation of approved mitigation plans, as well as monitoring to assess success in accordance with ecological performance standards established for the compensatory mitigation project. The district engineer will evaluate monitoring reports to determine if the compensatory mitigation project has fulfilled its objectives and is ecological successful. [33 CFR 332.6] If the monitoring efforts indicate that the compensatory mitigation project is failing to meet its objectives, the district engineer may require additional measures, such as adaptive management or alternative compensatory mitigation, to address the compensatory mitigation project's deficiencies. [33 CFR 332.7(c)]

According to Dahl (2011), during the period of 2004 to 2009 approximately 489,620 acres of former upland were converted to wetlands as a result of wetland reestablishment and establishment activities. Efforts to reestablish or establish wetlands have been successful in increasing wetland acreage in the United States.

The individual and cumulative adverse effects on the aquatic environment resulting from the activities authorized by this NWP will be minimal. The Corps expects that the convenience

and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP, including its limits, rather than request individual permits for projects that could result in greater adverse impacts to the aquatic environment. Division and district engineers will restrict or prohibit this NWP on a regional or case-specific basis if they determine that these activities will result in more than minimal individual and cumulative adverse effects on the aquatic environment.

6.2.3 Section 404(b)(1) Guidelines Impact Analysis, Subparts C through F

(a) Substrate: Discharges of dredged or fill material into waters of the United States will alter the substrate of those waters, usually replacing the aquatic area with dry land, and changing the physical, chemical, and biological characteristics of the substrate. The original substrate will be removed or covered by other material, such as concrete, asphalt, soil, gravel, etc. Temporary fills may be placed upon the substrate, but must be removed upon completion of the activity (see general condition 13). Higher rates of erosion may result during construction, but general condition 12 requires the use of appropriate measures to control soil erosion and sediment.

(b) Suspended particulates/turbidity: Depending on the method of construction, soil erosion and sediment control measures, equipment, composition of the bottom substrate, and wind and current conditions during construction, fill material placed in open waters will temporarily increase water turbidity. Pre-construction notification is required for certain activities authorized by this NWP, which allows the district engineer to review those activities and ensure that the individual and cumulative adverse effects on the aquatic environment are minimal. Particulates will be resuspended in the water column during removal of temporary fills. The turbidity plume will normally be limited to the immediate vicinity of the disturbance and should dissipate shortly after each phase of the construction activity. General condition 12 requires the permittee to stabilize exposed soils and other fills, which will reduce turbidity. In many localities, sediment and erosion control plans are required to minimize the entry of soil into the aquatic environment. NWP activities cannot create turbidity plumes that smother important spawning areas downstream (see general condition 3).

(c) Water: Utility line activities can affect some characteristics of water, such as water clarity, chemical content, dissolved gas concentrations, pH, and temperature. The construction of utility lines, and utility line substations can change the chemical and physical characteristics of the waterbody by introducing suspended or dissolved chemical compounds or sediments into the water. Changes in water quality can affect the species and quantities of organisms inhabiting the aquatic area. Water quality certification is required for most activities authorized by this NWP, which will ensure that the activity does not violate applicable water quality standards. Permittees may be required to implement water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality. Stormwater management facilities may be required to prevent or reduce the input of harmful chemical compounds into the waterbody. The district engineer may require the establishment and maintenance of riparian areas next to open

waters, such as streams. Riparian areas help improve or maintain water quality, by removing nutrients, moderating water temperature changes, and trapping sediments.

(d) Current patterns and water circulation: Activities authorized by this NWP may adversely affect the movement of water in the aquatic environment. Certain utility line activities authorized by this NWP require pre-construction notification to the district engineer, to ensure that adverse effects to current patterns and water circulation are minimal. General condition 9 requires the authorized activity to be designed to withstand expected high flows and to maintain the course, condition, capacity, and location of open waters to the maximum extent practicable. General condition 10 requires activities to comply with applicable FEMA-approved state or local floodplain management requirements, which will reduce adverse effects to surface water flows.

(e) Normal water level fluctuations: The activities authorized by this NWP will have negligible adverse effects on normal patterns of water level fluctuations due to tides and flooding. Most utility lines will have little effect on normal water level fluctuations because they occupy a small proportion of the land surface or are installed under the surface of the substrate. General condition 9 requires the permittee to maintain the pre-construction course, condition, capacity, and location of open waters, to the maximum extent practicable. To ensure that the NWP does not authorize activities that adversely affect normal flooding patterns, general condition 10 requires NWP activities to comply with applicable FEMA-approved state or local floodplain management requirements.

(f) Salinity gradients: The activities authorized by this NWP are unlikely to adversely affect salinity gradients, unless the utility line activity is associated with an outfall structure that will release freshwater into marine or estuarine waters, thereby reducing the salinity of those waters in the vicinity of the outfall structure. These adverse effects are likely to be minimal.

(g) Threatened and endangered species: The Corps believes that the procedures currently in place result in proper coordination under Section 7 of the Endangered Species Act (ESA) and ensure that activities authorized by this NWP will not jeopardize the continued existence of any listed threatened and endangered species or result in the destruction or adverse modification of critical habitat. The Corps also believes that current local procedures in Corps districts are effective in ensuring compliance with ESA.

Under general condition 18, no activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

Each activity authorized by an NWP is subject to general condition 18, which states that "[n]o activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species." In addition, general condition 18 explicitly states that the NWP does not

authorize the taking of threatened or endangered species, which will ensure that permittees do not mistake the NWP authorization as a Federal authorization to take threatened or endangered species. General condition 18 also requires a non-federal permittee to submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat. This general condition also states that, in such cases, non-federal permittees shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized.

Under the current Corps regulations (33 CFR 325.2(b)(5)), the district engineer must review all permit applications for potential impacts on threatened and endangered species or critical habitat. For the NWP program, this review occurs when the district engineer evaluates the pre-construction notification or request for verification. Based on the evaluation of all available information, the district engineer will initiate consultation with the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), as appropriate, if he or she determines that the proposed activity may affect any threatened and endangered species or critical habitat. Consultation may occur during the NWP authorization process or the district engineer may exercise discretionary authority to require an individual permit for the proposed activity and initiate consultation through the individual permit process. If ESA consultation is conducted during the NWP authorization process without the district engineer exercising discretionary authority, then the applicant will be notified that he or she cannot proceed with the proposed activity until ESA consultation is complete. If the district engineer determines that the activity will have no effect on any threatened and endangered species or critical habitat, then the district engineer will notify the applicant that he or she may proceed under the NWP authorization.

Corps districts have, in most cases, established informal or formal procedures with local offices of the USFWS and NMFS, through which the agencies share information regarding threatened and endangered species and their critical habitat. This information helps district engineers determine if a proposed activity may affect listed species or their critical habitat and, if necessary, initiate ESA consultation. Corps districts may utilize maps or databases that identify locations of populations of threatened and endangered species and their critical habitat. Where necessary, regional conditions are added to NWPs to require pre-construction notification for NWP activities that occur in known locations of threatened and endangered species or critical habitat. For activities that require agency coordination during the pre-construction notification process, the USFWS and NMFS will review the proposed activities for potential impacts to threatened and endangered species and their critical habitat. Any information provided by local maps and databases and any comments received during the pre-construction notification review process will be used by the district engineer to make a “no effect” or “may affect” decision.

Based on the safeguards discussed above, especially general condition 18 and the NWP regulations at 33 CFR 330.4(f), the Corps has determined that the activities authorized by this NWP will not jeopardize the continued existence of any listed threatened or endangered species or result in the destruction or adverse modification of designated critical habitat.

Although the Corps continues to believe that these procedures ensure compliance with the ESA, the Corps has taken some steps to provide further assurance. Corps district offices meet with local representatives of the USFWS and NMFS to establish or modify existing procedures, where necessary, to ensure that the Corps has the latest information regarding the existence and location of any threatened or endangered species or their critical habitat. Corps districts can also establish, through local procedures or other means, additional safeguards that ensure compliance with the ESA. Through formal consultation under Section 7 of the Endangered Species Act, or through other coordination with the USFWS and/or the NMFS, as appropriate, the Corps will establish procedures to ensure that the NWP will not jeopardize any threatened and endangered species or result in the destruction or adverse modification of designated critical habitat. Such procedures may result in the development of regional conditions added to the NWP by the division engineer, or in special conditions to be added to an NWP authorization by the district engineer.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web. Certain activities authorized by this NWP require pre-construction notification to the district engineer, which will allow review of those projects to ensure that adverse effects to fish and other aquatic organisms in the food web are minimal. Fish and other motile animals will avoid the project site during construction. Sessile or slow-moving animals in the path of discharges, equipment, and building materials will be destroyed. Some aquatic animals may be smothered by the placement of fill material. Motile animals will return to those areas that are temporarily impacted by the activity and restored or allowed to revert back to preconstruction conditions. Aquatic animals will not return to sites of permanent fills. Benthic and sessile animals are expected to recolonize sites temporarily impacted by the activity, after those areas are restored. Activities that alter the riparian zone, especially floodplains, may adversely affect populations of fish and other aquatic animals, by altering stream flow, flooding patterns, and surface and groundwater hydrology.

Division and district engineers can place conditions on this NWP to prohibit discharges during important stages of the life cycles of certain aquatic organisms. Such time of year restrictions can prevent adverse effects to these aquatic organisms during reproduction and development periods. General conditions 3 and 5 address protection of spawning areas and shellfish beds, respectively. General condition 3 states that activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. In addition, general condition 3 also prohibits activities that result in the physical destruction of important spawning areas. General condition 5 prohibits activities in areas of concentrated shellfish populations. General condition 9 requires the maintenance of pre-construction course, condition, capacity, and location of open waters to the maximum extent practicable, which will help minimize adverse impacts to fish, shellfish, and other aquatic organisms in the food web.

(i) Other wildlife: Activities authorized by this NWP will result in adverse effects to other wildlife associated with aquatic ecosystems, such as resident and transient mammals, birds, reptiles, and amphibians, through the destruction of aquatic habitat, including breeding and nesting areas, escape cover, travel corridors, and preferred food sources. This NWP does not

authorize activities that jeopardize the continued existence of Federally-listed endangered and threatened species or result in the destruction or adverse modification of critical habitat. Compensatory mitigation, including the establishment and maintenance of riparian areas next to open waters, may be required for activities authorized by this NWP, which will help offset losses of aquatic habitat for wildlife. General condition 4 states that activities in breeding areas for migratory birds must be avoided to the maximum extent practicable.

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed below:

(1) Sanctuaries and refuges: The activities authorized by this NWP will have minimal adverse effects on waters of the United States within sanctuaries or refuges designated by Federal or state laws or local ordinances. General condition 22 prohibits the use of this NWP to discharge dredged or fill material in NOAA-managed marine sanctuaries and marine monuments and National Estuarine Research Reserves. District engineers will exercise discretionary authority and require individual permits for specific projects in waters of the United States in sanctuaries and refuges if those activities will result in more than minimal adverse effects on the aquatic environment.

(2) Wetlands: The activities authorized by this NWP will have minimal adverse effects on wetlands. District engineers will review pre-construction notifications for certain activities authorized by this NWP to ensure that the adverse effects on the aquatic environment are minimal. Division engineers can regionally condition this NWP to restrict or prohibit its use in certain high value wetlands. See paragraph (e) of section 5.1 for a more detailed discussion of impacts to wetlands.

(3) Mud flats: The activities authorized by this NWP will have minor adverse effects on mud flats. Small portions of mud flats may be destroyed by the installation of utility lines, but these adverse effects will be minimal. Pre-construction notification is required for certain activities authorized by this NWP and the pre-construction notification must include a delineation of special aquatic sites, including mud flats.

(4) Vegetated shallows: The activities authorized by this NWP will have minimal adverse effects on vegetated shallows in tidal waters, since only utility lines and foundations for overhead utility line towers, poles, and anchors can be constructed in tidal waters that may be inhabited by submerged aquatic vegetation. District engineers will receive pre-construction notifications for all utility line activities in section 10 waters to determine if those activities will result in minimal adverse effects on the aquatic environment. Division engineers can regionally condition this NWP to restrict or prohibit its use in non-tidal vegetated shallows. For those NWP activities that require pre-construction notification, the district engineer will review the proposed activity and may exercise discretionary authority to require the project proponent to obtain an individual permit if the activity will result in more than minimal adverse effects on the aquatic environment.

(5) Coral reefs: The activities authorized by this NWP may affect coral reefs. The

activities authorized by this NWP will have minimal adverse effects on coral reefs. Pre-construction notification is required for all section 10 activities authorized by this NWP, so that the district engineer can review the proposed activity and ensure that it results in minimal adverse effects. If the proposed activity will result in more than minimal adverse effects on the aquatic environment, the district engineer will exercise discretionary authority to require the project proponent to obtain an individual permit.

(6) Riffle and pool complexes: The activities authorized by this NWP will have minimal adverse effects on riffle and pool complexes. Division engineers can regionally condition this NWP to restrict or prohibit its use in riffle and pool complexes. Pre-construction notification is required for certain utility line activities authorized by this NWP, which will allow district engineers to review the proposed activity, and if the adverse effects are more than minimal, exercise discretionary authority to require the project proponent to obtain an individual permit.

(k) Municipal and private water supplies: See paragraph (n) of section 5.1 for a discussion of potential impacts to water supplies.

(l) Recreational and commercial fisheries, including essential fish habitat: The activities authorized by this NWP may adversely affect waters of the United States that act as habitat for populations of economically important fish and shellfish species. Division and district engineers can condition this NWP to prohibit discharges during important life cycle stages, such as spawning or development periods, of economically valuable fish and shellfish. All utility lines requiring section 10 authorization require submission of pre-construction notifications to the district engineer, which will allow review of each activity in navigable waters to ensure that adverse effects to economically important fish and shellfish are minimal. Compliance with general conditions 3 and 5 will ensure that the authorized activity does not adversely affect important spawning areas or concentrated shellfish populations. As discussed in paragraph (g) of section 5.1, there are procedures to help ensure that individual and cumulative impacts to essential fish habitat are minimal. For example, division and district engineers can impose regional and special conditions to ensure that activities authorized by this NWP will result in minimal adverse effects on essential fish habitat.

(m) Water-related recreation: See paragraph (m) of section 5.1 above.

(n) Aesthetics: See paragraph (c) of section 5.1 above.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: General condition 22 prohibits the use of this NWP to authorize discharges of dredged or fill material in designated critical resource waters and adjacent wetlands, which may be located in parks, national and historical monuments, national seashores, wilderness areas, and research sites. This NWP can be used to authorize activities in parks, national and historical monuments, national seashores, wilderness areas, and research sites if the manager or caretaker wants to conduct activities in waters of the United

States and those activities result in minimal adverse effects on the aquatic environment. Division engineers can regionally condition the NWP to prohibit its use in designated areas, such as national wildlife refuges or wilderness areas.

7.0 Determinations

7.1 Finding of No Significant Impact

Based on the information in this document, the Corps has determined that the issuance of this NWP will not have a significant impact on the quality of the human environment. Therefore, the preparation of an Environmental Impact Statement is not required.

7.2 Public Interest Determination

In accordance with the requirements of 33 CFR 320.4, the Corps has determined, based on the information in this document, that the issuance of this NWP is not contrary to the public interest.

7.3 Section 404(b)(1) Guidelines Compliance

This NWP has been evaluated for compliance with the 404(b)(1) Guidelines, including Subparts C through G. Based on the information in this document, the Corps has determined that the discharges authorized by this NWP comply with the 404(b)(1) Guidelines, with the inclusion of appropriate and practicable conditions, including mitigation, necessary to minimize adverse effects on affected aquatic ecosystems. The activities authorized by this NWP will result in minimal individual and cumulative adverse effects on the aquatic environment.

7.4 Section 176(c) of the Clean Air Act General Conformity Rule Review

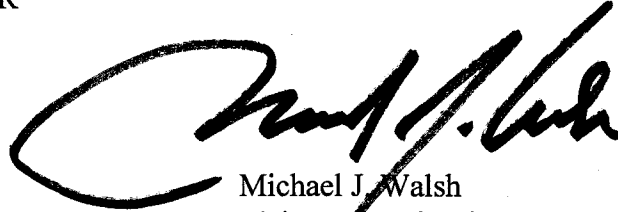
This NWP has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities authorized by this permit will not exceed de minimis levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be

practicably controlled by the Corps. For these reasons, a conformity determination is not required for this NWP.

FOR THE COMMANDER

Dated:

13 Feb 2012

A large, stylized handwritten signature in black ink, appearing to read "Michael J. Walsh".

Michael J. Walsh
Major General, US Army
Deputy Commanding General
for Civil and Emergency Operations

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