

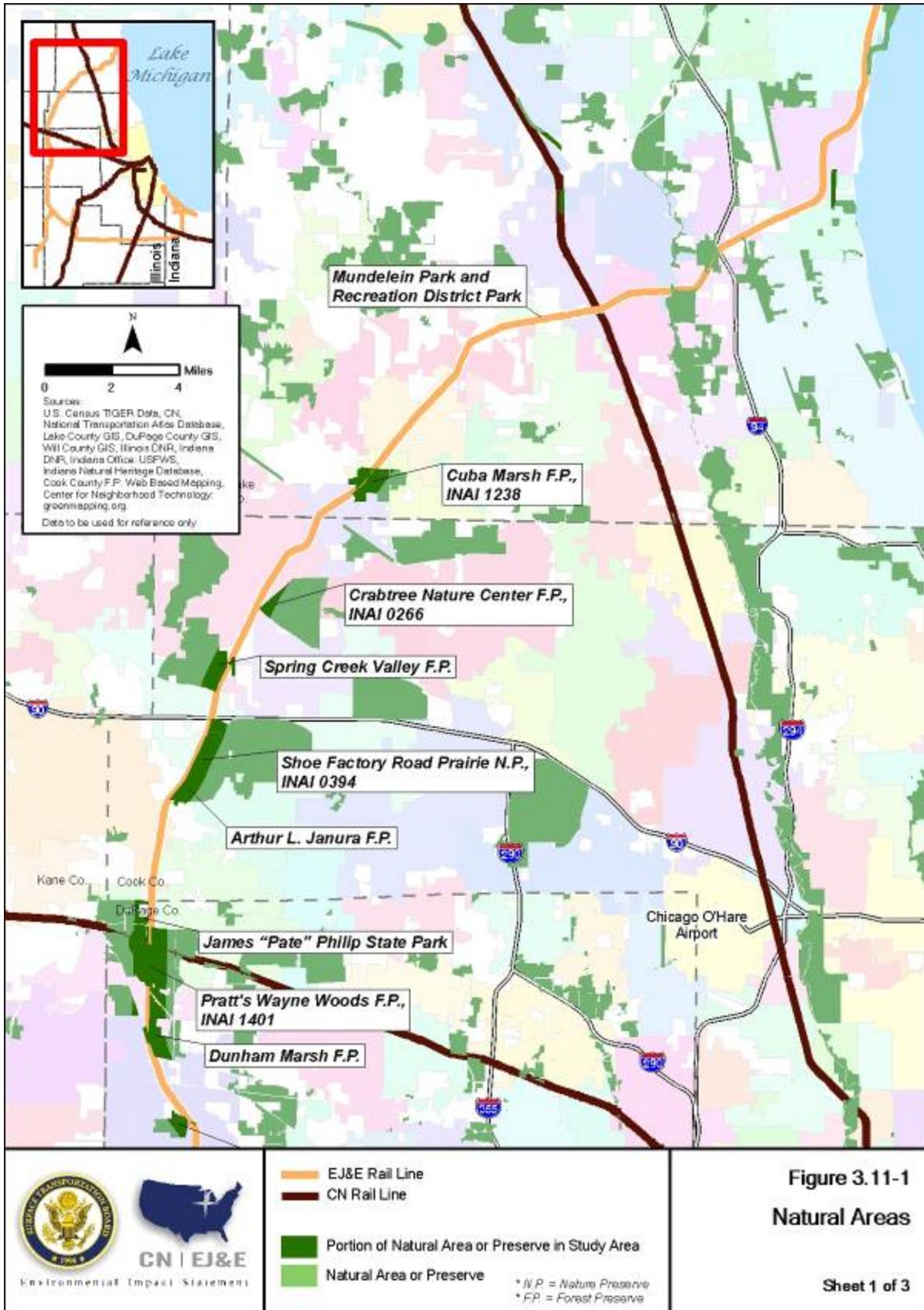
3.11 Biological Resources

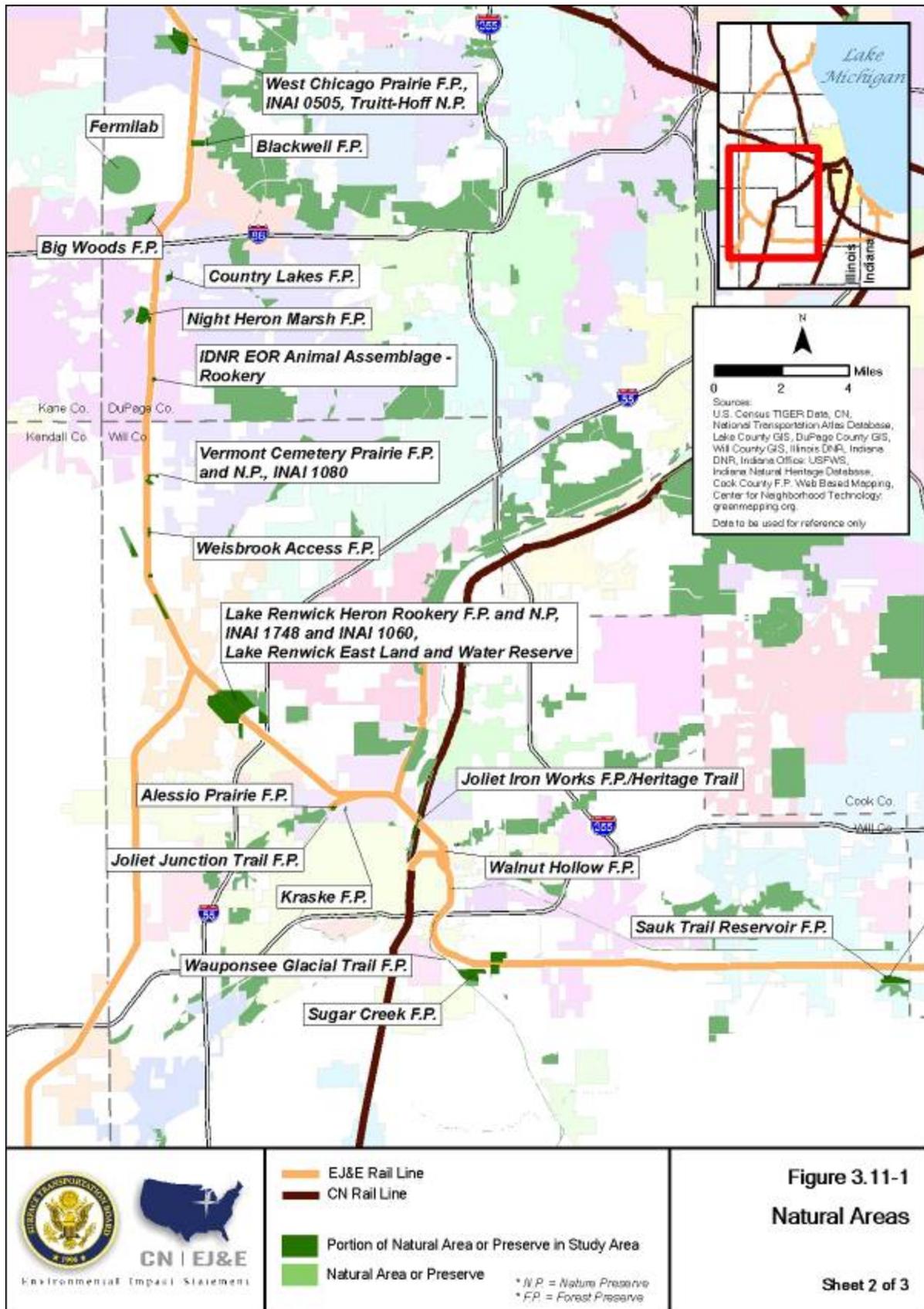
3.11.1 Background

SEA analyzed the potential effects of the Proposed Action to help ensure compliance with other Federal and state laws regarding the following natural resources:

- Federally listed threatened, endangered, and candidate plant and animal species, regulated by the Endangered Species Act of 1973 as amended (16 USC 1531-1544 et seq.).
- State-listed species regulated by the Illinois Endangered Species Protection Act (520 Illinois Compile Statutes [ICLS] 10), Illinois Natural Area Protection Act (525 ILCS 30), Indiana Non-game and Endangered Species Act of 1973 (Indiana Code [IC] 14-22-34), Indiana Nature Preserves Act (IC 14-31-1), and Indiana Department of Natural Resources (IN DNR) fish and wildlife administrative rules (312 Indiana Administrative Code [IAC] 9).
- Migratory bird or bird nest, egg, or product as regulated by the Migratory Bird Treaty Act of 1918 (16 USC 703-712 as amended).
- Resources listed under the Fish and Wildlife Coordination Act as amended (16 USC 661-667c) and Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 USC 1401 et seq.).
- Executive Order 13112, Invasive Species (FR 1999).

The Study Area for biological resources is shown in Figure 3.11-1 (Sheets 1, 2, and 3), below. The Study Area considered a 1-mile corridor centered over the EJ&E rail line and CN rail line rail segments with potential increases in rail traffic of at least one train per day and/or potential construction of rail connections or double track areas.





**Figure 3.11-1
Natural Areas**

Sheet 2 of 3



0 2 4 Miles

Sources:
 U.S. Census TIGER Data, CN, National Transportation Atlas Database, Lake County GIS, DuPage County GIS, Will County GIS, Illinois DNR, Indiana DNR, Indiana Office of USFWS, Indiana Natural Heritage Database, Cook County F.P. Web Based Mapping, Center for Neighborhood Technology, greenmapping.org.

Date to be used for reference only

Figure 3.11-1
 Natural Areas

SEA identified biological resources in the Study Area using aerial photography, U.S. Geological Survey topography maps and Geographic Information System files. SEA requested site-specific natural resources and biological inventory information from:

- Illinois Department of Natural Resources (IDNR)
- Indiana Department of Natural Resources (INDNR)
- Illinois Natural History Survey (INHS)
- United States Fish and Wildlife Service (USFWS) (Illinois and Indiana offices)
- Forest Preserve District of Cook County (FPDCC)
- Forest Preserve District of DuPage County (FPDDC)
- Forest Preserve District of Will County (FPDWC)
- Lake County (Illinois) Forest Preserves
- Chicago Metropolitan Agency for Planning (CMAP), formerly Northeastern Illinois Planning Commission (NIPC)
- The Nature Conservancy (TNC) (Illinois and Indiana offices)
- Lake County (Indiana) Parks and Recreation District
- City of Gary, Indiana Parks

SEA conducted limited field investigations in February 2008 near public roads and railroad rights-of-way, and a rail trip in April 2008.

3.11.2 Overview of Chicago Wilderness

The Study Area is within the Chicago Wilderness (CW), which is a regional nature reserve including 225,000 acres of protected natural lands from southeastern Wisconsin through northeastern Illinois and northwestern Indiana. The protected lands within the CW include forest preserves, state parks, Federal lands, county preserves, and privately owned lands. Many other unprotected natural areas exist within CW that offer refuge to native wildlife. This network of wild spaces contains globally significant natural communities (Sullivan 1997; CW 2006).

The CW consortium has studied and classified plant communities in the CW region, which many local and state government agencies recognize as authoritative (Sullivan 1997; CW 2006). Study Area descriptions are therefore based on this system.

3.11.3 Plant Communities

Large portions of the Study Area's native plant communities were displaced as land was converted to crop (corn, soybeans and wheat), industrial, commercial, and residential use. The remaining native plant communities vary from high quality to highly impacted and can include several species of invasive and non-native plants. Plant communities present in the Study Area include forests, prairies, savannas, wetlands, and dunes. They are described below. Dunes are further described in Section 3.11.3.1, below, because of their uniqueness.

Four forest types (upland, floodplain, flatland, or woodland) occur within the Study Area.

- Upland forests have a canopy, subcanopy, shrub and herbaceous layers. The dominant canopy species include white oak (*Quercus alba*), black oak (*Q. velutina*), red oak (*Q. rubra* L.), shagbark hickory (*Carya ovata*), and white ash (*Fraxinus americana*).

- Floodplain forests occur on the floodplains of rivers and streams. They are shaped by the frequency and duration of flooding, nutrient and sediment deposition, and the permeability of the soil. The understory in floodplain forests is more open because of flooding frequency. Dominant canopy species within floodplain forests include silver maple (*Acer saccharinum*), hackberry (*Celtis occidentalis*), honey locust (*Gleditsia triacanthos* L.), green ash (*F. pennsylvanica*), pin oak (*Q. palustris*), American elm (*U. american*), sycamore (*Platanus occidentalis*), and cottonwood (*Populus deltoides*).
- Flatland or flatwood forests historically occurred on level or nearly level soil with an impermeable or slowly permeable layer that caused a shallow, perched water table. There are two subclasses of these forests. Northern flatwoods are found bordering moraines with poorly drained, nearly level ground. Sand flatwoods developed on soils with a meter or more of acidic sand over silty-clay. The dominant canopy species within flatland forest communities include swamp white oak (*Q. bicolor*), white oak, Hill's oak (*Q. ellipsoidalis*), green ash, silver maple, American elm, red oak, and bur oak (*Q. macrocarpa*).
- Woodland forests possess a well-developed shrub layer that has become shade-suppressed. These communities may differ from savannas in having significantly higher populations of spring ephemerals. Woodland species include oaks (*Quercus* spp.), hickories (*Carya* spp.) and black cherry.

Savannas are characterized by sparse, open-grown trees, with or without shrubs, and a continuous ground cover dominated by graminoid species (grasses and sedges) and numerous forbs. Savanna tree species include white oak, black oak and bur oak. Occasional species include white ash and shagbark hickory.

Prairie communities are dominated by herbaceous plants, especially grasses. Trees are either absent, or widely scattered. The CW region of Illinois and Indiana contains several prairie subclasses such as: 1) fine-textured soil prairies, 2) sand prairies, 3) gravel prairies, and 4) dolomite prairies.

Wetland communities have saturated or flooded soils for all or most of the year. This condition excludes or greatly reduces oxygen availability to plant roots, soil-dwelling animals and decomposers. CW contains numerous wetland communities, including marshes, bogs, fens, sedge meadows, and seeps and springs.

3.11.3.1 The Dunes

The Dunes comprise the lakeshore communities within CW along Lake Michigan. This region includes beaches, foredunes and high dunes. Typical species include marram grass (*Ammophila breviligulata*), sand cherry (*P. besseyi*), cottonwood, black oak, jack pine (*Pinus banksiana*), and white pine (*P. strobus*) (CW 2006; IDNR 1998a, 1998b, 2000a, 2000b, 2000c, and 2005b).

The Study Area traverses the rare inland dune and swale communities in the urban and industrial core of Gary, Indiana. Located on the Chicago Lacustrine Plain, these unique communities are associated with the Toleston Strandplain complex, a dune and beach complex that began developing about 5,000 years ago. There are more than 150 remnant beach ridges that create a series of wetland "swales" and upland "dunes" running parallel to the shore of Lake Michigan (TNC and Ball State University 1999). The Toleston Beach Ridges extended through much of the landscape of presettlement Gary and surrounding communities.

Protected sites within the Study Area represent many of the best remnants of this community type. They provide habitat for numerous listed plant and animal species and contain areas of relatively undisturbed plant and land area. Soils on these sites are a mix of well-drained sands in the uplands and poorly-drained organic soils in swales. The vegetation complexes within the preserves include alkaline shoredunes, pond/marsh, Great Lakes wet prairie, and central Midwestern-type barrens (TNC 1994). Within these complexes, vegetation varies significantly based on moisture gradients between lowland and upland conditions. Natural communities include dry-mesic sand savanna with black oak overstory, big bluestem-dominated mesic sand prairie, cattail swales, open marsh, and shrub swamp. Many of the rare plants found on these sites are either at the edge of their ranges including paper birch (*Betula papyrifera*), jack pine, tall green orchid (*Habenaria hyperborean*), stiff aster (*Aster linariifolius*) and bluehearts (*Buchnera americana*) of the calcareous prairies or are coastal plain species such as spike rushes (*Eleocharis geniculata*) and (*E. pauciflora*) (Bowles 1989).

These dune communities also provide habitat for multiple listed species of vertebrate and invertebrate animals. High concentrations of listed moths and other invertebrates are located at the Clarke and Pine Nature Preserve and Pine Station Nature Preserve near the EJ&E Segment 22 spur. The rail line bisects the Karner blue butterfly (*Lycaeides melissa samuelis*) West Gary Recovery Unit as it passes between the Ivanhoe Nature Preserves and Gibson Woods (TNC and USFWS 2006). This Unit was established based on an agreement between TNC and the USFWS to provide viable “metapopulations” and “core” populations of this Federal-listed endangered species. State listed vertebrate animal species in these preserves include Franklin’s ground squirrel (*Spermophilus franklinii*) and Blanding’s turtle (*Emydoidea blandingii*) (TNC and USFWS 2006).

3.11.3.2 Invasive and Nonnative Plant Species

Various human disturbances in the Study Area have introduced invasive or non-native plant species. These activities include road construction and clearing of native vegetation for agricultural, commercial, industrial and residential land uses. Invasive species threaten almost every type of natural community in the CW region. They potentially dominate and out-compete native species communities and greatly decrease the biodiversity of the ecosystems they invade (CW 2007a). Some of the invasive or nonnative plant species in the Study Area are listed in Table 3.11-1, below.

Table 3.11-1. Invasive and Nonnative Plant Species			
Common and Scientific Names			
Garlic mustard <i>Alliaria petiolata</i>	Black locust <i>Robinia pseudoacacia</i>	Reed canary grass <i>Phalaris arundinacea</i>	Yellow sweet clover <i>M. officinalis</i>
Teasel <i>Dipsacus fullonum</i> L.	Crown vetch <i>Coronilla varia</i>	Narrow-leaved cattail <i>Typha angustifolia</i>	Giant reed grass <i>Phragmites australis</i>
Canada thistle <i>Cirsium arvense</i>	Moneywort <i>Lysimachia nummularia</i>	Autumn olive <i>Elaeagnus umbellate</i>	Glossy buckthorn <i>Rhamnus frangula</i>
Tartarian honeysuckle <i>Lonicera tatarica</i>	White sweet clover <i>Melilotus alba</i>	Leafy spurge <i>Euphorbia esula</i>	Common buckthorn <i>R. cathartica</i>
Purple loosestrife <i>Lythrum salicaria</i>	Oriental bittersweet <i>Celastrus orbiculatus</i>	Multiflora rose <i>Rosa multiflora</i>	

Source: CW, *The State of Our Chicago Wilderness: A Report Card on the Health of the Region’s Ecosystems*, Chicago, IL, available online at http://www.chicagowilderness.org/pubprod/miscpdf/CW_Report_Card_Technical.pdf, 2006.

3.11.4 Railroad Vegetation Management

Vegetation within the ROW is managed by application of herbicides and brush cutting or mowing where spraying is ineffective. Control programs and chemicals vary according to the particular species. All chemical applicators are qualified.

3.11.5 Wildlife Resources

The following sections discuss wildlife resources in the Study Area including wildlife corridors, habitat fragmentation, wildlife mortality, Federal-, state-, and local conservation areas, and T&E species.

3.11.5.1 Area Wildlife

Wildlife resources in the Study Area are typical of the region. Table 3.11-2, below, lists some of the common wildlife species. Although wildlife species occur in the Study Area, habitat within the ROW is of low suitability because of lack of diversity and limited cover due to vegetation management. The best quality habitat for these species occurs within various natural areas discussed below.

Forest, savanna, prairie, and wetland habitats associated with the Study Area provide important habitat for migrating bird species. These various habitats support critical flyways for migratory birds as part of the Mississippi River and Lake Michigan flyways. Table 3.11-3, below, lists some of the species that typically use these varying habitats as a migratory stopover.

The preserves, parks, and open space within the CW are comprised of a patchwork of important bird habitat for maintaining both migratory and breeding bird populations. The Study Area lies within the USFWS Eastern Tallgrass Prairie Bird Conservation Regions and hosts some of the largest concentrations of migrant species during the spring and fall migration. Migrants use the large preserves to find diverse food resources, such as native seeds, fruit and insects, while finding resting habitat sufficient to protect them from predation and inclement weather. Together, the collection of large natural areas is important to the survival of many migratory birds.

The CW Region also provides some of the largest and best-protected habitats in the Eastern Tallgrass Prairie Region for breeding populations of grassland birds, shrubland birds, wetland birds, and woodland birds. The region also supports large concentrations of waterfowl, raptors, wading birds, shore birds, migrant birds, and wintering birds. Important heron rookeries are contained within several of the region's preserves including the Lake Renwick Preserve, which is considered the most important rookery in Illinois. Additional heron rookeries are located in Crabtree Preserve and the Fermi National Accelerator Laboratory. The other rookery documented in the Study Area, south of Willow Creek City Park, is no longer present as development has encroached and displaced it.

Table 3.11-2. Common Wildlife Species in the Study Area

Common and Scientific Names			
Mammals			
Masked shrew <i>Sorex cinereus</i>	Eastern cottontail <i>Sylvilagus floridanus</i>	Muskrat <i>Ondatra zibethicus</i>	Beaver <i>Castor canadensis</i>
Eastern mole <i>Scalopus aquaticus</i>	Badger <i>Taxidea taxus</i>	Gray squirrel <i>Sciurus carolinensis</i>	Coyote <i>Canis latrans</i>
Little brown bat <i>Myotis lucifugus</i>	Eastern chipmunk <i>Tamias striatus</i>	Fox squirrel <i>S. niger</i>	Red fox <i>Vulpes vulpes</i>
Big brown bat <i>Eptesicus fuscus</i>	Prairie vole <i>Microtus ochrogaster</i>	White-tailed deer <i>Odocoileus virginianus</i>	Raccoon <i>Procyon lotor</i>
Mink <i>Mustela vison</i>			
Birds			
Upland sand piper <i>Bartramia longicauda</i>	Great blue heron <i>Ardea Herodias</i>	Ovenbird <i>Seiurus aurocapillus</i>	Blue-winged teal <i>Anas discors</i>
Bobolink <i>Dolichonyx oryzivorus</i>	Black terns <i>Chlidonias niger</i>	Wood thrush <i>Hylocichla mustelina</i>	Pied-billed grebe <i>Podilymbus podiceps</i>
Eastern meadowlark <i>Sturnella magna</i>	Hairy woodpecker <i>Picoides villosus</i>	Great egret <i>Ardea alba</i>	Marsh wren <i>Cistothorus palustris</i>
Dickcissel <i>Spiza americana</i>	Downy woodpecker <i>P. pubescens</i>	Red-winged black bird <i>Agelaius phoeniceus</i>	Yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>
Short-eared owl <i>Asio flammeus</i>	Eastern bluebird <i>Sialia sialis</i>	Cooper's hawk <i>Accipiter cooperii</i>	Canada goose <i>Branta canadensis</i>
Sandhill crane <i>Grus Canadensis</i>	Scarlet tanagers <i>Piranga olivacea</i>	Red-tailed hawk <i>Buteo jamaicensis</i>	Wild turkey <i>Meleagris gallopavo</i>
Reptiles			
Common garter snake <i>Thamnophis sirtalis</i>	Eastern hognose snake <i>Heterodon platirhinos</i>	Northern water snake <i>Nerodia sipedon</i>	Snapping turtle <i>Chelydra serpentina</i>
Painted turtle <i>Chrysemys picta</i>			
Amphibians			
Western chorus frog <i>Pseudacris triseriata</i>	Bullfrog <i>Rana catesbeiana</i>	Northern leopard frog <i>Rana pipiens</i>	Blue-spotted salamander <i>Ambystoma laterale</i>
Spring peeper <i>Pseudacris crucifer</i>	Gray tree frog <i>Hyla versicolor</i>	American toad <i>Bufo americanus</i>	Tiger salamander <i>Ambystoma tigrinum</i>
Fish			
Largemouth bass <i>Micropterus salmoides</i>	Walleye <i>Stizostedion vitreum</i>	Common carp <i>Cyprinus carpio</i>	Black crappie <i>Pomoxis nigromaculatus</i>
Channel catfish <i>Ictalurus punctatus</i>	White crappie <i>Pomoxis annularis</i>	Bluegill <i>Lepomis macrochirus</i>	

Source: City of Chicago, "Chicago Migrants," *A Bird's Eye View of the Migratory Bird Route*, retrieved on March 12, 2008, http://egov.cityofchicago.org/Environment/BirdMigration/sub/chicago_migrants.html, 2007.

Table 3.11-3. Common Migratory Birds in Study Area

Common and Scientific Names		
Lake and Shoreline Birds		
Common merganser <i>Mergus merganser</i>	Osprey <i>Pandion haliaetus</i>	Killdeer <i>Charadrius vociferous</i>
Bonaparte's gull <i>Larus Philadelphia</i>	Spotted sandpiper <i>Actitis macularia</i>	
Marsh, Pond, and Lagoon Birds		
Black-crowned night heron <i>Nycticorax nycticorax</i>	Belted kingfisher <i>Megaceryle alcyon</i>	Canada goose <i>Branta canadensis</i>
Common loon <i>Gavia immer</i>	Great blue heron <i>Ardea herodias</i>	Common snipe <i>Gallinago gallinago</i>
Prairie and Savanna Birds		
Eastern kingbird <i>Tyrannus tyrannus</i>	Common nighthawk <i>Chordeiles minor</i>	Red-tailed hawk <i>Buteo jamaicensis</i>
Red-winged blackbird <i>Agelaius phoeniceus</i>	Indigo bunting <i>Passerina cyanea</i>	
Forest and Woodland Birds		
Yellow-bellied sapsucker <i>Sphyrapicus varius</i>	Cedar waxwing <i>Bombycilla cedrorum</i>	Baltimore oriole <i>Icterus galbula</i>
Ruby-throated hummingbird <i>Archilochus colubris</i>	White-throated sparrow <i>Zonotrichia albicollis</i>	

Source: City of Chicago, "Chicago Migrants," *A Bird's Eye View of the Migratory Bird Route*, retrieved on March 12, 2008, http://egov.cityofchicago.org/Environment/BirdMigration/sub/chicago_migrants.html, 2007.

3.11.5.2 Fragmentation

Existing habitat in the Study Area has been fragmented by construction of highway corridors and smaller roads, and conversion of land for agricultural, residential, commercial and industrial uses. These land use changes disrupt the continuity and function of the original wildlife habitat by affecting the foraging and reproductive habits, and migratory movement of many species. For some species, these changes created barriers to movement. However, converting land to agricultural purposes does not present a significant migration barrier to many larger transient species such as birds and mammals. The EJ&E rail line ROW is not fenced, but adjacent property owners often construct fences along the ROW. Based on the condition of the fragmented wildlife habitat in the Study Area, SEA presumes that wildlife in the Study Area experiences reduced species diversity, population densities, and distributions in response to the cumulative long-term effects of these land use changes and reduction of habitat. Nevertheless, the vegetation communities and aquatic habitats in the Study Area provide beneficial habitat to a wide variety of wildlife species.

3.11.5.3 Wildlife Mortality

In addition to natural causes of death such as predation and disease, rail cars and vehicles in the Study Area strike and kill wildlife. Wildlife mortality from rail cars and vehicles is most apparent when it involves big game animals and the predators and scavengers that feed on the carcasses. CN does not keep records of animal strikes/kills on its own lines or on EJ&E rail lines. Likewise, EJ&E does not record animal strikes/kills (Applicants 2008m).

3.11.6 Conservation and Natural Areas within the Illinois Study Area

Numerous Federal, state, and local conservation areas exist within the Study Area in Illinois. These areas consist of county forest preserves, nature preserves, and Illinois Natural Area Inventory (INAI) sites (Figure 3.11-1, above).

The Forest Preserve Districts of Lake, DuPage, Cook, and Will counties manage the local forest preserves in the Study Area. These local entities protect these areas and develop various education, recreation and cultural opportunities.

The Illinois Nature Preserves Commission (INPC) (under IDNR) oversees and designates State Nature Preserves and Land and Water Reserves. INAI is a tool with which IDNR and INPC can identify significant natural resources that qualify for formal protection. The Endangered Species Consultation Program also depends on the INAI to initiate their review process and is the primary tool used for land protection.

Illinois Nature Preserves are areas of land or water in public or private ownership formally dedicated by state law to being maintained in a natural condition. They must either retain their presettlement character to a high degree or have ecological, geological, or archaeological features of scientific or educational significance.

Illinois Land and Water Reserves are registered with the Illinois Nature Preserves Commission. These are high-quality habitats or restorations, often serving as a buffer to a nearby or adjoining Illinois Nature Preserve. The Illinois Land and Water Reserve program provides protection either for a designated number of years or in perpetuity.

The INAI is a statewide inventory of outstanding examples of natural landscape features remaining in Illinois including high-quality natural communities or community restorations; specific suitable habitat of T&E species or species translocations; state-dedicated nature preserves; land and water reserves or natural heritage landmarks; outstanding geological features; and unusual concentrations of flora and/or fauna.

The INHS conducted prairie remnant surveys for the Illinois Department of Transportation between 2001 and 2003. These surveys were along railroads accessible from public roadways. The prairie remnant surveys were completed in an attempt to preserve prairie habitat and limit accidental mowing and herbicide spraying of native prairie remnants.

Table 3.11-4, below, lists the conservation and natural areas within the Illinois Study Area (see Figure 3.11-1, above). The preserves are arranged by the various entities that manage them.

Table 3.11-4. Conservation and Natural Areas within the Illinois Study Area			
Federal	County Forest Preserves	State INAI and INHS^c Sites	Nature Preserves
Lake County			
	Mundelein Park and Recreation District Park ^a		
	Cuba Marsh Forest Preserve	INAI 1238	
Cook County (Northwest)			
	Crabtree Nature Center Forest Preserve	INAI 0266	
	Spring Creek Valley Forest Preserve		
	Arthur L. Janura Forest Preserve	INAI 0394	Shoe Factory Road Prairie Nature Preserve

Table 3.11-4. Conservation and Natural Areas within the Illinois Study Area			
Federal	County Forest Preserves	State INAI and INHS^c Sites	Nature Preserves
DuPage County			
	James "Pate" Philip State Park		
	Pratt's Wayne Woods Forest Preserve	INAI 1401	
	Dunham Forest Preserve		
		INHS Railroad Prairie (Site 20) ^c	
	West Chicago Prairie Forest Preserve	INAI 0505	Truitt-Hoff Nature Preserve
	Blackwell Forest Preserve		
Fermi National Accelerator Laboratory (Fermilab)			
	Big Woods Forest Preserve		
	Country Lakes Forest Preserve		
	Night Heron Marsh Forest Preserve		
		IDNR EOR Animal Assemblage - Rookery	
Will County			
		INAI 1080	Vermont Cemetery Prairie Nature Preserve
	Weisbrook Forest Preserve		
		INHS Railroad Prairie (Site 27) ^c	
		INHS Railroad Prairie (Site 28) ^c	
		INHS Railroad Prairie (Site 29) ^c	
	Lake Renwick Forest Preserve, Lake Renwick East Land and Water Reserve ^b	INAI 1748, INAI 1060, IDNR EOR Animal Assemblage (Rookery)	Lake Renwick Heron Rookery Nature Preserve
	Alessio Prairie Forest Preserve		
	Kraske Forest Preserve		
	Joliet Iron Works Forest Preserve/Heritage Trail		
	Walnut Hollow Forest Preserve		
	Wauponsee Glacial Trail Forest Preserve		
	Sugar Creek Forest Preserve		
	Sauk Trail Reservoir Forest Preserve		
	Old Plank Trail		

Table 3.11-4. Conservation and Natural Areas within the Illinois Study Area			
Federal	County Forest Preserves	State INAI and INHS^c Sites	Nature Preserves
Cook County (Southeast)			
	Butterfield Creek Headwaters Land and Water Reserve ^b	INAI 0540	Old Plank Road Prairie, Old Plank Road Prairie Nature Preserve
	Sauk Trail Woods and Indian Hill Woods Forest Preserve		
	Sauk Village Railroad Prairie Forest Preserve	INAI 0542	
	Plum Creek Forest Preserve		

Source: IDNR (2008d), GIS data for Cook, DuPage, Kane, Lake, and Will counties: EOR [Element Occurrence Record] dataset, INAI [Illinois Natural Areas Inventory] dataset, and INPC [Illinois Nature Preserves Commission] dataset, received from Tara Kieninger, Database Administrator, ORC - Illinois Natural Heritage Database, Illinois Department of Natural Resources, January 31, 2008.

Notes:

- ^a Although Mundelein Park is not considered a County Forest Preserve, it is an important forest and recreation area as discussed below.
- ^b Although this area is not a County Forest Preserve, it is important as a land and water reserve.
- ^c Not mapped in Figure 3.11-1.

Protected natural areas also occur on federally owned public lands within the Study Area.

The following discussions provide a brief narrative of the Conservation and Natural Areas within the Illinois Study Area as listed in Table 3.11-4, above.

3.11.6.1 Lake County, Illinois

Mundelein Park and Recreation District Park

Mundelein Park is a degraded oak forest. The park contains trails and is used for snowmobiling in the winter.

Cuba Marsh Forest Preserve and INAI 1238

Cuba Marsh contains a diverse mosaic of wetlands and prairie and savanna. It also contains several large pine groves. The 130-acre wetland (ADID Sites 178-179) includes a diverse hemi-marsh (a healthy marsh that is 50 percent water and 50 percent emergent vegetation) and lies within the headwaters of the East Branch of Flint Creek. The preserve supports over 100 species of birds and provides breeding habitat for species such as least bitterns (*Ixobrychus exilis*), pied-billed grebes (*Podilymbus podiceps*), common moorhen (*Gallinula chloropus*), and yellow-headed blackbirds (*Xanthocephalus xanthocephalus*). Additionally, Cuba Marsh supports over 200 native plant species and contains numerous rare species such as marsh pennywort (*Hydrocotyle verticillata*), Kalm’s St. Johnswort (*Hypericum kalmianum*), and tamarack (*Larix laricina*) (CW 2000).

3.11.6.2 Cook County, Illinois (Northwest)

Crabtree Nature Center Forest Preserve and INAI 0266

Crabtree Preserve, located in northeast Cook County, is a patchwork of mature oak-hickory forest, woodland, wetland, open water, and approximately 500 acres of restored prairie and grassland habitat (FPDCC 2008). The preserve contains habitat for 280 species of birds and is considered a significant grassland bird reserve, including habitat for the state-endangered Henslow’s sparrow (*Ammodramus henslowii*) (CW 2000). In addition, the preserve maintains breeding populations for 89 species of birds. Crabtree Lake contains a heron rookery and provides important habitat for waterfowl during

the spring and fall migration. Rare plant species, such as the state-endangered Queen-of-the-prairie (*Filipendula rubra*), are also found in the preserve (CW 2000).

Spring Creek Valley Forest Preserve

Spring Creek Valley Preserve consists of two sections. The northern section, which includes the Spring Lake Nature Preserve, is not within the Study Area. However, the southern section is and adjoins the EJ&E rail line. FPDCC protects the Preserve. Spring Creek, a moderate-quality prairie stream, originates in the southern section of the preserve and feeds the glacial lakes, peat-filled depressions, fens, sedge meadows, and wet prairie communities in the northern section (CW 2000). The southern section also has some of the best shrubland habitat in Cook County for nesting orchard orioles (*Icterus spurius*), yellow-breasted chats (*Icteria virens*), willow flycatchers (*Empidonax traillii*), and blue-winged warblers (*Vermivora pinus*) (Paulson 2002). Open grassy areas of the preserve, not invaded by buckthorn (*Rhamnus cathartica*), provide ideal habitat for breeding bobolinks and meadowlarks. Through active management, Spring Lake Preserve has potential for restoration of open oak groves, marshes, and native grasslands.

Arthur L. Janura Forest Preserve, Shoe Factory Road Prairie Nature Preserve, and INAI 0394

The Arthur L. Janura Preserve was formerly known as the Poplar Creek Forest Preserve. This preserve contains a 9-acre, Grade A dry-to-dry mesic gravel prairie remnant known as the Shoe Factory Road Prairie Nature Preserve. FPDCC protects and manages the preserve (FPDCC 2008). Over 100 prairie species are known to occur within this remnant, including the Federally-threatened prairie bushclover (*Lespedeza leptostachya*) (CW 2000). Poplar Creek flows from east to west through the preserve and under the EJ&E rail line. This stream contains an occurrence of the state-threatened slippershell mussel (*Alasmidonta viridis*). The preserve is responding well to management efforts and is a significant grassland bird reserve with potential for considerable expansion (CW 2000). Additionally, the preserve contains a 600-acre prairie and oak savanna restoration effort sponsored jointly by FPDCC and TNC.

3.11.6.3 DuPage County, Illinois

James "Pate" Philip State Park

James "Pate" Philip State Park, located in the northwest corner of DuPage County, contains a state-of-the-art nature center, regional office and extensive trail system. The park is managed by FPDDC. Most of the site has been restored to prairie and wetland. It adjoins Pratt's Wayne Woods Forest Preserve. Remnant wetland and seep communities exist within the park. The Tri-County Wetland Land and Water Reserve lies outside of the Study Area. The north branch of Brewster Creek flows from east to west through the property but has been channelized in the park.

Pratt's Wayne Woods Forest Preserve and INAI 1401

Pratt's Wayne Woods Forest Preserve is located in northwestern DuPage County and is managed by FPDDC. This preserve ranks as the district's largest holding and contains an expansive complex of prairies, grasslands, meadows, wetlands and open water (Larson 1998a). Habitat within the preserve supports numerous species of T&E birds and remains one of the most important sites for the preservation of grassland bird populations in the area (CW 2000). In addition, diverse riparian wetlands surround two moderate-quality, low-gradient prairie streams (Brewster Creek and Norton Creek) that bisect the preserve. Forested resources within the preserve are dominated by small localized patches of cottonwood, elm and cherry, while a large savanna remnant along the western edge of the property is outside of the Study Area (Larson 1998a).

Dunham Forest Preserve

FPDDC acquired Dunham Preserve in 2006. This Preserve is planned for restoration to a natural area and will provide another educational and recreational opportunity for public enjoyment. The restoration will provide new habitat for grassland bird species, waterfowl, mammals, amphibians and reptiles. Currently, 86 percent of the preserve is agricultural and 40 percent of the property surrounding Norton Creek is classified as floodplain or wetland (FPDDC 2008c).

INHS Railroad Prairie (Site 20)

The INHS Railroad Prairie Site 20 is a wet-mesic prairie between Powis Road and Norton Creek Drive, from IL 64 to Smith Road. The prairie remnant is located along both sides of an active BNSF rail line. The INHS recorded no significant or exceptional features and did note active management by Fox Valley Management (Handel and Koontz 2004).

West Chicago Prairie Forest Preserve, INAI 0505, and Truitt-Hoff Nature Preserve

West Chicago Prairie Preserve in western DuPage County is a dedicated Nature Preserve (Truitt-Hoff Nature Preserve) and is identified as INAI 0505. The City of West Chicago and FPDDC jointly own West Chicago Prairie Preserve. The preserve contains high-quality natural communities including mesic prairie, wet-mesic prairie, wet prairie, marsh, mesic savanna, sedge meadow and flatwoods (Larson 1998b). The preserve contains the highest plant diversity in the county with 572 native species including the Federally-threatened eastern prairie fringed orchid (*Platanthera leucophaea*) (Larson 1998b). Numerous species of rare animals have also been recorded at the site including the eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*), which is on the Illinois endangered species list and approximately 170 species of birds (CW 2000).

Blackwell Forest Preserve

FPDDC manages Blackwell Preserve. It lies mostly outside of the Study Area. A small portion of the preserve west of Route 59 falls within the Study Area and contains an unnamed intermittent stream channel that drains wetlands along the EJ&E rail line and flows west into the west branch of the DuPage River. These wetlands provide habitat for the state-threatened Blanding's turtle. The most significant natural area of the preserve, McKee Marsh, is located east of the west branch of the DuPage River, outside the Study Area (CW 2000).

Fermi National Accelerator Laboratory

The Fermi National Accelerator Laboratory (Fermilab), located in western DuPage County, is owned and managed by the U.S. Department of Energy as a national research laboratory. It contains one of the largest restored prairie sites and is considered a significant grassland bird reserve (Fermilab 2008). The EJ&E rail line forms the eastern boundary of the Fermilab site. Restored land within the site is divided into ecological land management (ELM) tracts. The Study Area encompasses three ELM tracts, ELM 7, 9 and 21. ELM 7 and 21 contain newly restored prairie plots; while ELM 9 contains wetlands, grasslands, restored and remnant prairies and numerous open water bodies including Sea of Evanescence, AE Sea, Eastern Dusaf, and Nepese Pond (Fermilab 2008). ELM 9 provides habitat for many grassland birds, including the state endangered Henslow's sparrow. Additionally several remnant prairie-dependent butterflies can be found (Fermilab 2008).

Big Woods Forest Preserve

Big Woods Preserve is owned by FPDDC. The site is currently considered an undeveloped natural area and has not been fully restored. Most of the preserve is located west of the Study Area, but a small portion lies within its boundary. The preserve does not currently maintain any High Quality Natural Areas, but does contain remnant habitat suitable for rare species such as the great egret (*Ardea alba*) and pied-billed grebe (CW 2000).

Country Lakes Forest Preserve

Country Lakes Preserve in DuPage County is currently considered an undeveloped natural area and has not been fully restored. FPDDC owns this Preserve.

Night Heron Marsh Forest Preserve

Night Heron Marsh is currently considered an undeveloped natural area and has not been fully restored. FPDDC owns it. The preserve is located west of the EJ&E Segment 10A, and falls entirely within the Study Area. The preserve is east of Eola Road Marsh (INAI 1470) and does not contain any high quality natural areas. Night Heron Marsh does contain remnant wetland habitat suitable for rare birds such as the black-crowned night heron (*Nycticorax nycticorax*) and yellow-headed blackbird however it is unlikely these species breed within the preserve (CW 2000).

IDNR EOR Animal Assemblage - Rookery

The Illinois Department of Natural Resources (IDNR) has provided an elemental occurrence of a rookery animal assemblage located south of Ogden Avenue (IL 34) and east of the EJ&E Segment 10A in Aurora, IL. According to the data provided by the IDNR, the rookery was last observed June 10, 1993. Since the last observation roadway infrastructure and numerous residential developments have been constructed surrounding the wetland where the rookery was identified. Recent observations of the wetland were conducted in April 2008 indicated no active nesting activities or remnant nests.

3.11.6.4 Will County, Illinois

Vermont Cemetery Prairie Nature Preserve and INAI 1080

The Vermont Cemetery Prairie is a one-acre remnant prairie east of the EJ&E rail line in northwest Will County and is recognized as a State Nature Preserve. FPDWC manages the site. The Illinois Natural Areas Inventory (INAI 1080) identified the site as one acre of Grade A dry-mesic prairie. This represents more than 10 percent of Illinois's entire Grade A dry-mesic prairie (IDNR 1999). Among the native plant species growing in Vermont Cemetery are the Federally-threatened and state-endangered Mead's milkweed (*Asclepias meadii*) and the Hill's thistle (*Cirsium hillii*), which is listed as a state-threatened species.

Weisbrook Forest Preserve

Weisbrook Access Preserve is located in Wheatland Township adjacent to EJ&E Segment 10C and 10D. The Preserve is bisected by Wolf Creek. FPDWC manages the site. The district plans to restore the area and develop a one-mile trail on the abandoned Normantown Road.

INHS Railroad Prairie, District 1 - Site 27

The INHS Railroad Prairie Site 27 is a mesic prairie along Illinois Route 30 (Rance Road to Scotch Road). The INHS recorded no significant or exceptional features and did not note any signs of active management at Site 27 (Handel and Koontz 2004).

INHS Railroad Prairie, District 1 - Site 28

The INHS Railroad Prairie Site 28 is a mesic prairie near Normantown Road just north of Illinois Route 30. The INHS recorded no significant or exceptional features and did not note signs of active management at Site 28 (Handel and Koontz 2004).

INHS Railroad Prairie, District 1 - Site 29

The INHS Railroad Prairie Site 29 is a dry-mesic prairie near Illinois Route 30, and extends 0.1-mile from 135th Street to 127th Street. The INHS recorded no significant or exceptional features and did not note signs of active management at Site 29 (Handel and Koontz 2004).

Lake Renwick Forest Preserve, INAI 1748, INAI 1060, and IDNR EOR Animal Assemblage - Rookery, and Lake Renwick Heron Rookery Nature Preserve

Lake Renwick Preserve is a former gravel quarry containing a patchwork of shallow lakes, wetlands, gravel spoil piles and old railroad berms (Milosevich 1990). FPDWC manages the preserve. The EJ&E rail line bisects the preserve, dividing Lake Renwick. South of the railroad is known as the Lake Renwick Heron Rookery (LRHR) Nature Preserve. The LRHR is widely considered the most significant rookery in Illinois and serves as the only site in Illinois to attract five different species annually: great blue herons (*Ardea Herodias*), great egrets (*Ardea alba*), black-crowned night herons, double-crested cormorants (*Phalacrocorax auritus*) and cattle egrets (*Bubulcus ibis*) (DeMauro 1993). The LRHR nesting sites are located on narrow, linear gravel bar island complexes; know as the "A" and "B" islands. Lake Renwick East, north of the EJ&E rail line, provides much of the foraging habitat for the rookery birds, including a 200-acre lake with more than 40,000 feet of shoreline (DeMauro 1993).

Alessio Prairie Forest Preserve

Alessio Prairie Preserve is a 12-acre preserve located in Lockport Township along EJ&E Segment 23 and adjoins the Joliet Junction Trail preserve. FPDWC manages the preserve. Restoration and management activities have begun and will continue as the preserve develops.

Kraske Forest Preserve

Kraske Preserve is a 3.3-acre preserve located in Lockport Township, south of EJ&E Segment 23. FPDWC manages the preserve.

Joliet Iron Works Forest Preserve/Heritage Trail

Following the dismantling of the Joliet Iron Works in the 1930s, only the foundations of this once bustling factory remained. In the 1990s, FPDWC preserved this important link to Joliet's past. A one-mile walkway provides a self-guided tour through the site.

Walnut Hollow Forest Preserve

Walnut Hollow Preserve is located approximately 1,700 feet east of EJ&E Segment 8B. The headwaters of Spring Creek originate within the preserve and continue off-site to the northeast. FPDWC manages the site.

Wauponsee Glacial Trail Forest Preserve

Wauponsee Glacial Trail is managed by FPDWC and is still being developed. Named for an ancient glacial lake, the trail will traverse 26 miles along abandoned rail lines from Joliet to Kankakee, bisecting a portion of the Sugar Creek Preserve. Restoration and management activities have begun and will continue as the preserve develops.

Sugar Creek Forest Preserve

The Sugar Creek Preserve contains the Sugar Creek Administrative Building for FPDWC. The Administrative Building contains solar panels and provides between 14,000 to 16,500 kilowatt hours of electricity per year.

Sauk Trail Reservoir Forest Preserve

The Sauk Tail Reservoir provides 1,300 acre-feet of flood storage capacity in South Chicago Heights. FPDWC manages the Reservoir.

Old Plank Trail

The Old Plank Trail is a rail-to-trail conversion site managed by FPDWC. The asphalt hiking and biking trail is constructed on an abandoned rail line and passes through distinctive prairie remnants, wetlands and savanna (Johnson 2000). The trail runs from Western Avenue in Park Forest to Park Road in Joliet Township, a distance of approximately 21 miles. Only a small portion of the trail falls within the Study Area at its beginning and near its end.

3.11.6.5 Cook County, Illinois (Southeast)

Butterfield Creek Headwaters Land and Water Reserve, INAI 0540, Old Plank Road Prairie, and Old Plank Road Nature Preserve

Butterfield Nature Preserve is an 83.63-acre site in south Cook County. It consists of agricultural fields, open waters and remnant wetland communities. The site lies immediately south of the Old Plank Road Prairie Nature Preserve and will eventually be restored to prairie and marsh communities.

Old Plank Road Prairie Nature Preserve

Old Plank Road Prairie Preserve lies north of EJ&E Segment 7E. The Preserve spans over one mile of abandoned railroad right-of-way managed jointly by IDNR and Rich Township. Old Plank Road Prairie Preserve is one of the few remaining high-quality railroad prairie remnants in northeastern Illinois and contains INAI 540 and INAI 541 (Johnson 2000). This dedicated nature preserve contains approximately 200 plants unique to black soil mesic-prairies including rare snowy campion (*Silene nivea*), scurfy pea (*Psoralea tenuiflora*), prairie lily (*Lilium philadelphicum*), short green milkweed (*Asclepias viridiflora*), savanna blazing star (*Liatris scariosa nieuwlandii*) and silky aster (*Aster sericeus*).

Sauk Trail Woods and Indian Hill Woods Forest Preserve

Indian Hill Woods and Sauk Trail Woods are located in Park Forest and Chicago Heights, Illinois. The woods are managed by FPDCC and are part of the Thorn Creek Trail System. The preserve contains Sauk Lake and Thorn Creek plus miles of paved bike trails and off-trail dirt paths. Indian Hill Woods and Sauk Trail Woods contain numerous ravines and valleys and are mostly dense forest with some open prairie areas. Indian Hill Woods and Sauk Trail Woods host good birding in the late fall and early spring as towhees, thrashers, white-eyed vireos, yellowthroats, wood thrush and osprey

are commonly observed. Additionally, wood duck boxes are scattered throughout the site and attract a small flock.

Sauk Village Railroad Prairie Forest Preserve and INAI 0542

FPDCC manages The Sauk Village Railroad Prairie.

Plum Creek Forest Preserve

Plum Creek Preserve is located within the Study Area along EJ&E Segment 5B near the Illinois-Indiana border. A portion of the preserve, identified as the Michael O'Malley Preserve, is within the greater Plum Creek Preserve is located south of the EJ&E rail line within 500 feet of the ROW. This recently acquired, 100-acre portion of the preserve is composed of a mosaic of open water, wetlands, and forest.

3.11.7 Conservation and Natural Areas within the Indiana Study Area

Numerous Federal, state, and local conservation areas exist within the Study Area in Indiana. These areas consist of county forest preserves, nature preserves, and High Quality Natural Areas (see Figure 3.11-1, above).

Protected natural areas occur on Federally-owned public lands within the Study Area. The Study Area is located near the Federally-protected Hoosier Prairie Natural Area and Indiana Dunes National Lakeshore.

Lake County Parks and Recreation operates a variety of parks and park types for the purposes of recreation and conservation. This local government agency protects a variety of unique ecosystems and provides opportunities for a range of education, conservation and recreation activities.

Indiana Nature Preserves were established in 1967 through an act of the General Assembly of Indiana. INDNR administers these lands through the Division of Nature Preserves. Preserves do not need to be state-owned, but once designated, are protected by the state in perpetuity from development that would alter their natural character.

Nature Preserves provide permanent protection to significant natural areas. A natural feature afforded protection under the Preserves system is one that “has retained or re-established its natural character, or has unusual flora or fauna, or has biotic, geological, scenic or paleontological features of scientific or educational value” (INDNR 2008c).

INDNR provided areas recognized by the state as High Quality Natural Areas, and may or may not receive protection (Indiana Natural Heritage Data Center 2003). As a part of the inventory process, sites are ranked for quality using the Element Occurrence Ranking Guidelines contained in TNC's Heritage Ranking System. Guidelines provide a basis for ecologists to assess the relative ecological health of natural areas. INDNR High Quality Natural Areas rankings in the descriptions below are based on these guidelines (TNC 1994). Rank A, the highest, describes excellent quality areas, while B is good, C is fair, and D is poor.

Private protected natural areas also occur within the Indiana portion of the Study Area. TNC and the Heinz Land Trust each maintain remnant natural communities in the Gary area.

Table 3.11-5, below, lists the conservation and natural areas within the Indiana Study Area (see Figure 3.11-1, above). The preserves are arranged by the various entities that manage them. These sites are managed by the City of Gary, Lake County Parks and Recreation, INDNR, TNC, and the Heinz Land Trust.

Table 3.11-5. Conservation and Natural Areas within the Indiana Study Area		
Nature Areas	INDNR High Quality Natural Areas	Protected Areas
Lake County		
	High Quality Natural Community, wet-mesic sand prairie (unnamed site A) ^a	
	High Quality Natural Community, dry-mesic sand prairie (unnamed site B) ^a	
	High Quality Natural Community, Wet-mesic sand prairie, wet mesic sand prairie. (St. John Prairie) ^a	
Hoosier Prairie	High Quality Natural Communities, wet sand prairie, wet-mesic sand prairie, mesic sand prairie, shrub swamp, dry sand savanna, dry sand prairie, marsh and dry-mesic sand prairie.	National Natural Landmark, managed by INDNR Division of Nature Preserves
	High Quality Natural Community, sedge meadow (unnamed site C) ^a	
Gaylord Butterfly Tract	High Quality Natural Community, wet-mesic sand prairie, wet sand prairie and dry-mesic sand prairie	Managed by National Park Service (Indiana Dunes) but in negotiation for transfer to INDNR Nature Preserves
Oak Ridge Prairie County Park	High Quality Natural Community, unranked wet-mesic sand prairie	
Wadsworth Park		Griffith Parks and Recreation
Seberger Park		Gary Parks and Recreation
Black Oak Remnant Dune and Swale ^a		
Gibson Woods Nature Preserve	High Quality Natural Community, dry-mesic sand savanna, marsh and shrub swamp	Core Reserve in Karner Blue Butterfly Recovery Unit (FWS)
Ivanhoe South	High Quality Natural Community, mesic sand savanna and dry-mesic sand savanna	Priority Satellite Restoration Site in Karner Blue Butterfly Recovery Unit (FWS)
Ivanhoe Dune and Swale TNC Nature Preserve (West)	High Quality Natural Communities, mesic sand savanna, dry-mesic sand savanna, marsh, mesic sand savanna, wet sand prairie, dry mesic sand savanna, shrub swamp and unranked pond communities.	Core Reserve in Karner Blue Butterfly Recovery Unit (FWS)
Clarke and Pine Nature Preserve	High Quality Natural Communities, marsh, dry-mesic sand prairie, dry sand prairie, dry sand savanna, panne (wetland) and wet-mesic sand prairie	INDNR Nature Preserves
Pine Station Nature Preserve	High Quality Natural Communities, dry-mesic sand prairie	INDNR Nature Preserves
Jackson Park		
Indiana Dunes National Lakeshore		National Park Service, National Lakeshore

Source: INDNR (2004b), Indiana Natural Heritage Data Center Managed Areas Dataset, Indiana Natural Heritage Data Center, Indianapolis, Indiana.

Note:

^a Not mapped in Figure 3.11-1.

The following discussions provide brief narrative of the Conservation and Natural Areas within the Indiana Study Area as listed in Table 3.11-5, above.

3.11.7.1 *Lake County, Indiana*

High Quality Natural Community (Unnamed Site A)

Surveyed in 1996, this remnant B/C-rank wet-mesic sand prairie is located in a triangle of railroad tracks and a roadway overpass and appears to be within the EJ&E rail line ROW (Indiana Natural Heritage Data Center 2003). Based on its shape, it appears one-third of the site has been built-over since the mapping was completed, indicating a permanent loss of this remnant prairie to a bridge embankment. South of the rail corridor, residential development occurred between 2005 and 2007 with full build-out of single-family housing. Land across the railroad tracks to the north remains in tilled farming.

High Quality Natural Community (Unnamed Site B)

INDNR identified this B/C-rank wet-mesic sand prairie north of the EJ&E tracks during a 1996 survey (Indiana Natural Heritage Data Center 2003) It appears from 2005 high resolution aerial photography that the site is largely dominated by shrubs and trees with scattered openings. The site is located on the opposite side of a railroad ditch from the EJ&E tracks and does not appear to be maintained as a part of the EJ&E rail line ROW.

High Quality Natural Community (St. John Prairie Site)

This area of private land was surveyed in 1978 and identified as C-rank wet mesic sand prairie. It is contiguous with the Hoosier Prairie to the south (Indiana Natural Heritage Data Center 2003). From 2005 high-resolution aerial photography, approximately one-third of the area within the 0.5-mile analysis area has been regraded and appears to function as a holding pond. The remaining area appears to retain the character of the adjacent Hoosier Prairie (Indiana Natural Heritage Data Center 2003).

Hoosier Prairie

Hoosier Prairie is a 600-acre remnant of the prairie landscape once common in northwestern Indiana. The National Park Service (NPS) administers the site as a National Natural Landmark as part of the Indiana Dunes National Lakeshore. The INDNR Division of Nature Preserves manages the site. This tract preserves the topographic and biotic diversity of the sand plains north of the Valparaiso Moraine. Plant diversity is exceptionally high, due to a wide range of moisture conditions. Sand rises support dry black oak savannas. High Quality Natural Communities include C-rank wet sand prairie, wet-mesic sand prairie, mesic sand prairie, shrub swamp, dry sand savanna, and dry sand prairie, A/B-rank marsh and dry-mesic sand prairie. Mesic sand prairie openings can be found on slopes between the rises and swales. Wet prairies, sedge meadows and marshes are scattered throughout the preserve in depressions and flats (Indiana Natural Heritage Data Center 2003). Size and plant diversity make Hoosier Prairie an excellent place to see native birds and other animals in their natural surroundings. Many of these animals are now rare in Indiana because their native habitats have disappeared. Controlled burns help manage and suppress woody prairie invasive species (TNC 2008a, INDNR 2008d).

High Quality Natural Community (Unnamed Site C)

This small C-rank sedge meadow is located between a large storage tank complex and the EJ&E railroad tracks between Hoosier Prairie and the Gaylord Butterfly Tract (Indiana Natural Heritage Data Center 2003). It was surveyed in 1978. It appears from 2005 high resolution aerial photography to be significantly invaded by shrub and tree species.

Gaylord Butterfly Tract

U.S. National Park Service (Indiana Dunes) is currently negotiating a transfer to the INDNR Nature Preserves. The Gaylord Butterfly tract contains B-rank wet-mesic sand prairie, and C-rank wet sand prairie and dry-mesic sand prairie. This large remnant community is located south, across the tracks from the EJ&E. This area is characterized by a range of moisture conditions with marsh, meadow and wet prairie grading up to sandy uplands dominated by dry prairie and black oak savanna. INDNR surveyed it for community ranking in 1980 (Indiana Natural Heritage Data Center 2003).

Oak Ridge Prairie County Park

The 700-acre Oak Ridge Prairie County Park is located approximately 0.5-mile east of the proposed Griffith connection. It contains a mix of active recreational facilities and undeveloped natural areas. Existing CN railroad tracks bisect the site from east to west. The park is located over a somewhat acidic sandy outwash. It supports a range of plant communities including mesic upland forest, ridge-swale sand forest, dry-, mesic-, and wet-sand prairie savanna on ridges, and wetland communities that include marsh, shrub swamp, and sedge meadow. A 1996 site survey identified 610 plant species in this park, of which 15 percent (90) were non-native (Jones 1996). Within the 0.5 mile study corridor, ridge-swale sand forest is the dominant community.

Wadsworth Park

Wadsworth Park is a small community park. It contains a few remnant trees and unmowed natural area (Indiana Natural Heritage Data Center 2003). The Griffith Park Board maintains the site.

Seberger Park

Seberger Park contains remnant swale and dune south of the “J-Pit” excavation area along the EJ&E railroad tracks. It is a small Gary Parks and Recreation community park with a boardwalk built across wetland in 2005, and it has a recreational component on its south end. Arson recently destroyed the boardwalk through the wetland, and vandalism has severely damaged other park components (City of Gary Parks and Recreation 2008).

Black Oak Remnant Dune and Swale

TNC and Ball State University identified this remnant dune and swale site but no further information is available (TNC and Ball State University 1999).

Gibson Woods

Gibson Woods is a 120 acre, 1.75-mile linear site that contains the longest undissected dune ridge in Indiana outside of the Indiana Dunes National Lakeshore (INDNR 2008e). This preserve, managed by Lake County Parks and Recreation with assistance from the TNC and INDNR, contains a small disconnected area east of Highway 912 within the 0.5-mile study corridor. Plant communities in this preserve are dominated by black oak savanna and wet-mesic floodplain forest with B-rank dry-mesic sand savanna, C-rank marsh and C-rank shrub swamp (Indiana Natural Heritage Data Center 2003). A heron rookery, supporting little blue heron (*Egretta caerulea*), black crowned night heron, and

green heron (*Butorides virescens*), is located within the preserve. Railroad and residential development surround the site. Despite prescribed burning, the site is becoming overgrown with shrub species and a closing tree canopy. Disturbance includes multiple trails along the upper portions of linear dunes (Bowles 1989; Indiana Natural Heritage Data Center 2003; TNC and Ball State University 1999).

Ivanhoe South

Ivanhoe South consists of 56 acres of natural dune and swale area. The Shirley Heinz Foundation protects ten acres; the remaining 46 acres are privately owned. The site is a mix of B-rank sand savanna and B-rank black oak-lupine barrens, mesic sand tallgrass prairie in the uplands and shrub swamp, wet prairie and lakeplain wet-mesic prairie in and along the swales (Indiana Natural Heritage Data Center 2003). Fire suppression has created a canopy woodland community with dense shrubs. The site also contains abandoned roadways throughout which allow continued dumping. Barrens provide continued habitat for the Karner blue butterfly. This site is valuable as a “dune and swale” remnant, although highly degraded (TNC and USFWS 2006; TNC and Ball State University 1999).

Ivanhoe Dune and Swale Nature Preserve (West)

The Ivanhoe Dune and Swale Nature Preserve is a restricted access site with a variety of high quality ecological communities. TNC manages the Ivanhoe Dune and Swale as distinct West and East Units. They are divided by a residential road with the east tract lying beyond the 0.5-mile Study Area. TNC, the City of Gary, and seven private landowners (east tract) own lands in the Preserve. This site is approximately 0.5 mile from north to south, providing approximately 15 distinct swales across the site. This site contains 24 state-listed threatened species or species of concern. Native plant communities on the site include B-rank mesic sand savanna, dry-mesic sand savanna, marsh, mesic sand savanna, wet sand prairie, shrub swamp, and unranked pond communities (Indiana Natural Heritage Data Center 2003).

TNC has been managing this site for Karner blue butterfly habitat with prescribed burning, thereby retaining the mix of savanna, prairie and oak woodlands. Habitat has been enhanced through management efforts for this species, which is reliant on early successional oak barrens communities. Following extirpation in the 1990s, reintroductions of this Federal listed species began in 2006 in order to reestablish the site as core habitat area of the West Gary Recovery Unit. Trees and shrubs are being cut and burned in an effort to retain black oak-lupine barrens (TNC 2008b, 2008c, and 2008d; TNC and USFWS 2006; TNC and Ball State University 1999).

Clarke and Pine Nature Preserve

The Clarke and Pine Nature Preserve is a 47-acre site, managed by INDNR Nature Preserves. It is the closest of the preserves within the Study Area corridor to Lake Michigan. The water in these swales is strongly alkaline due to its proximity to the Lake. For this reason, this site has numerous rare, disjunct northern, eastern, and western US plant species not adapted to other regions of Indiana. High Quality Natural Communities on this site include B/C-rank marsh, A-rank dry-mesic sand prairie, dry sand prairie, and dry sand savanna, A/B-rank panne (wetland), and C-rank panne (wetland) and wet-mesic sand prairie. This small site has 29 Indiana state-listed threatened, endangered, extirpated and species of concern plant species records. Additionally, the site has 24 listed invertebrate animal species records and 12 listed vertebrate animal species records including Blanding’s turtle, glass lizard (*Ophisaurus attenuatus*) and Franklin’s ground squirrel (Indiana Natural Heritage Data Center 2003). According to Bowles (1989), this site has the highest combined mammalian, avian, and reptilian diversity of any Lake County, Indiana, natural area.

Clarke and Pine, like the other nearby preserves, contains the patterned topography of dune and swale. But onsite, dry and mesic sand prairies predominate in the uplands with small areas of black oak/lupine barrens. INDNR has used fire as a management tool on this site for more than 20 years, retaining prairie in the uplands. Wetland communities on this site include 18 acres of open water and shrub swamp, 17 acres of marsh, sedge meadow, panne, and lakeplain wet prairie. The site is also home to jack pine and paper birch, two species located at the far southern edge of their range (INDNR No date; Bowles 1989; Indiana Natural Heritage Data Center 2003; TNC and Ball State University 1999).

Railroad and industrial roadways surround the site and Gary International Airport lies less than 0.5-mile to the south. There are small areas of past sand mining at the eastern edge of the preserve. This site is closed to public access.

Pine Station Nature Preserve

Pine Station Nature Preserve is located north of the Grand Calumet River. This 257-acre preserve has seen extensive disturbance in the past including sand mining, wetland draining, and dumping. INDNR, Division of Nature Preserves now manages the site. It has highly varied plant communities based on landform characteristics. INDNR identifies one A-rank dry-mesic sand prairie within the 0.5-mile Study Area (Indiana Natural Heritage Data Center 2003). Upland plant communities listed for this site include mesic sand tallgrass prairie, midwest dry-mesic sand prairie, midwest dry sand prairie midwest sand barrens, dry-mesic and black oak-lupine savanna. Wetland communities include shrub swamp, marsh, lakeplain wet-prairie, lakeplain wet-mesic prairie, sedge meadow and panne.

In addition to “Dune and Swale” patterns, the site also contains riverine systems associated with the Grand Calumet River and flooded basins of former sand borrow pits. Species inventories have identified one Federally listed species and 27 state-listed species on this site (Hilty 2006; Bowles 1989; Indiana Natural Heritage Data Center 2003; TNC and Ball State University 1999).

Pine Station Nature Preserve is surrounded by a combination of industrial facilities, railroad lines, industrial roadways, and the Grand Calumet River to the south.

Jackson Park

Jackson Park is a small community park identified on the INDNR Management Areas GIS coverage (Indiana Natural Heritage Data Center 2003). The site is currently maintained as a community park, and contains no natural area remnant communities.

Indiana Dunes National Lakeshore

Indiana Dunes National Lakeshore contains more than 15,000 acres of dunes, oak savannas, swamps, bogs, marshes, prairies, rivers and forests resulting from the retreat of the Wisconsin Glacier 11,000 years ago. As many as seven successive shorelines left a highly varied topography and remnant beaches, sand dunes and interdunal wetlands. Covering 15 miles of lakeshore from Gary to Michigan City, the National Lakeshore preserves remnants of once vast expanses of the highly varied landscape. Forty-six species of mammals, 18 species of amphibians, 23 species of reptiles, 71 species of fish, 60 species of butterflies, 60 species of dragonflies and damselflies, 350 bird species, and 1,100 flowering plants and ferns have been recorded within the park boundaries (NPS 2008b).

3.11.8 Threatened, Endangered, and Sensitive Species

3.11.8.1 Federally Listed Species

The Board, in cooperation with the USFWS, must ensure that the Proposed Action would not harm or jeopardize the continued existence of any T&E or candidate species or their habitat. Table 3.11-6, below, lists the Federal-listed species that have the potential to occur in the Study Area.

SEA performed literature reviews to research the biology and habitat requirements of each of the Federal-listed species. SEA conducted site visits and windshield surveys to identify the types and quality of habitats present and to determine the presence of any Federal-listed species in the Study Area.

Table 3.11-6. Federal Listed Threatened & Endangered Species with Potential to Occur within Study Area			
Common and Scientific Names	Status	State	Preferred Habitat
Hine's emerald dragonfly <i>Somatochlora hineana</i>	E	Illinois	Slow moving, shallow waters, spring-fed marshes and sedge meadows.
Mead's milkweed <i>Asclepias meadii</i>	T	Illinois	Prairies
Prairie Bush Clover <i>Lespedeza leptostachya</i>	T	Illinois	Dry, gravel hill prairies
Eastern prairie fringed orchid (in Illinois) and Prairie white-fringed orchid (in Indiana) <i>Platanthera leucophaea</i>	T	Illinois and Indiana	Open, calcium rich wet meadows and low prairie; occasionally in sedge meadows and on floating bog mats
Karner blue butterfly <i>Lycaeides melissa samuelis</i>	E	Indiana	Always occurs in close association with larval host plant wild blue lupine (<i>Lupinus perennis</i>). Sandy barrens and oak savanna with periodic fire to retain open character.
Dune thistle <i>Cirsium pitcheri</i>	T	Indiana	Sand dunes around lakes Michigan, Huron, and eastern Lake Superior

Source: IDNR (2008e), "Threatened and Endangered Species Elemental Occurrence GIS Database" [computer file], Springfield, Illinois, IDNR Division of Realty and Planning.

Hine's Emerald Dragonfly

Critical habitat for the Hine's emerald dragonfly (HED) is located directly adjacent to the Paul Ales Branch or the Romeoville Line of the EJ&E rail line (EJ&E Segment 18). Currently, this segment is an industrial rail line that supplies coal fuel to two power plants owned by Midwest Generation. Additionally, EJ&E Segment 18 services the Material Service Corporation, one of the largest aggregate sources for both local and regional markets. USFWS has an agreement in place with EJ&E rail line for train operations on this segment. According to this agreement, trains must operate between 4 to 6 miles per hour to reduce adult HED mortality from direct train collisions. Furthermore, reduced speeds on this segment minimize impacts to larval HED from "squishing ground water out from beneath the railbed and releasing sediments into larval habitats adjacent to the railroad embankment (USFWS 2008). A small portion of HED critical habitat (Unit 1) is located about 0.3 mile north of EJ&E Segment 8A.

HED is the most endangered dragonfly in the United States. Within the Study Area, known occupied larval habitats are currently restricted to Illinois within the lower Des Plaines River valley. Larval habitat is restricted to marshes, sedge meadows and seeps fed by calcareous groundwater, underlain by dolomite bedrock. The larval stage extends from 2 to 4 years depending on local weather conditions. The flight season for HED extends from late May to early October, during which feeding

adults fly over open areas including meadows, fields and shrub lands near suitable breeding habitat. Loss of this already rare and restricted habitat to agriculture, commercial and industrial development is the primary cause of the species' decline. Loss of remaining habitat from the same pressures, combined with successional change in the existing habitats and disruption of ecological and hydrological processes, threatens surviving populations (USFWS 2001a). HED were observed in 2004 along EJ&E Segment 9B in Will County, Illinois (IDNR 2008e).

Mead's Milkweed

Mead's milkweed occurs primarily in tallgrass prairie with a late successional bunch-grass structure, but also occurs in hay meadows and in thin soil glades or barrens. This plant is restricted to sites that have never been plowed and only lightly grazed, and hay meadows cropped annually for hay. As with other native milkweeds, Mead's is either self-incompatible or subject to severe inbreeding depression (USFWS 2003a). The last record of the plant in the Study Area was in 2006 in EJ&E Segment 12 of the EJ&E rail line in DuPage County, Illinois.

Prairie Bush Clover

Prairie Bush Clover is endemic to Midwestern tallgrass prairies and is known to occur only in Illinois, Iowa, Minnesota and Wisconsin. This species is a long-lived, herbaceous perennial member of the legume family. It occurs in dry, gravelly hill prairies and typically shows a preference for north-facing slopes. Sites have been largely protected due to their unsuitability for agricultural uses (Coffin and Phannmuller 1988). In Illinois, Prairie Bush Clover is known to occupy sites with steep, well drained, usually calcareous soils (TNC 1995). Current management strategies favor light grazing over prescribed burning, as burning increases plant competition, which can be detrimental to this species (Center for Plant Conservation 2006). The species was last recorded in 2000 in the Study Area of EJ&E Segment 14D in Cook County.

Eastern Prairie Fringed Orchid/Prairie White-Fringed Orchid

The prairie fringed orchid grows in tallgrass silt-loam or sand prairies, sedge meadows, fens, and occasionally sphagnum bogs. Long-term population maintenance requires reproduction from seed, which is accomplished only with pollination by hawkmoths. Seedling establishment requires development of mycorrhizae with soil-inhabiting fungi and maintenance of graminoid habitat usually by fire. Increasing pesticide use may impact both pollinators and fungi (USWFS 1999). The orchid was last recorded in 2006 in the vicinity of EJ&E Segment 12 in DuPage County, Illinois and in 1926 in the vicinity of EJ&E Segment 5B in Lake County, Indiana.

Karner Blue Butterfly

The Karner blue butterfly is known to occur near, and along EJ&E Segment 2 in a number of preserves. Along this segment, TNC and the USFWS have designated the Karner blue butterfly West Gary Recovery Unit through a Safe Harbor Agreement. A Safe Harbor Agreement is a voluntary agreement between the USFWS and private landowners, where USFWS agrees to allow incidental taking of T&E species in the course of activities that provide a "net conservation benefit" from the agreement's management actions (USFWS 2001b). In the West Gary Recovery Unit, TNC is working on TNC-owned land, Indiana Nature Preserves, Lake County Parks, and with private landowners to restore and manage habitat for the butterfly. The purpose of this agreement is to expand and create a viable metapopulation in the West Gary area. No designated critical habitat area for the Karner blue butterfly exists in the Study Area.

The Karner blue butterfly occupies oak barrens/savanna habitat where wild blue lupine (*Lupinus perennis*) grows. The lupine serves as host for several of the insect's larval stages. Occurrence of the plant is recognized as a requirement for occurrence of the butterfly. Loss of habitat due to

suppression of wildfires and urban developments is attributed to the decline of the species (USFWS 2003b). The butterfly was recorded in 1987 near segments EJ&E 2, EJ&E 3, EJ&E 5B in Lake County, Indiana. The USFWS and TNC entered into a Safe Harbor Agreement for the West Gary Recovery Unit, allowing the TNC to collect and release Karner blue butterflies on lands managed as habitat for this species. TNC reintroduced the species on the Ivanhoe Dune and Swale Complex and the Gibson Woods Complex within the Study Area in 2001 (TNC and USFWS 2006; TNC 2008b).

Dune Thistle

The dune thistle or Pitcher’s thistle (*Cirsium pitcheri*) grows on the open sand dunes and low open beach ridges of the Great Lakes’ shores. It is most often found in near-shore plant communities but it can grow in all nonforested areas of a dune system. Residential, condominium and marina development along with associated landscaping directly eliminates Pitcher’s thistle and its habitat within the footprint of the development (USFWS 2001c). The thistle was last recorded in 1906 within the Study Area in the vicinity of EJ&E Segment 1 in Lake County, Indiana.

3.11.8.2 State-Listed Species

The Illinois and Indiana DNR also designate state-listed T&E species. Table 3.11-7, below, shows state-listed T&E species for Illinois and Indiana within the Study Area.

SEA performed literature reviews to research the biology and habitat requirements of each of the Federally and state-listed species.

Table 3.11-7. State-Listed Threatened & Endangered Species Potentially within Illinois and Indiana Study Area		
Common and Scientific Names	Status	Preferred Habitat
Illinois		
Plants		
Woolly milkweed <i>Asclepias lanuginose</i>	E	Gravelly or sandy dry prairies, hill prairies, and sand flats
Mead’s milkweed <i>Asclepias meadii</i>	E	Prairies
Little green sedge <i>Carex viridula</i>	T	Wet meadows, sandy lake margins, fens and seeps, often where calcium -rich
White lady’s slipper <i>Cypripedium candidum</i>	T	Calcium rich wet meadows, low prairie, wet shores, calcareous fens
Prairie bush clover <i>Lespedeza leptostachya</i>	E	Dry prairies
Blazing star <i>Liatris scariosa var. nieuwlandii</i>	T	Prairies and dry woods
Tube beard tongue <i>Penstemon tubaeflorus</i>	E	Prairies and moist woods
Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	T	Open, calcium rich wet meadows and low prairie; occasionally in sedge meadows and on floating bog mats
Green-fruited burreed <i>Sparganium emersum</i>	E	Quiescent water
Marsh speedwell <i>Veronica scutellata</i>	T	Marshes, swamps, pond margins, thickets, springs, stream banks, wet swales and depressions

Table 3.11-7. State-Listed Threatened & Endangered Species Potentially within Illinois and Indiana Study Area

Common and Scientific Names	Status	Preferred Habitat
Invertebrates		
Slippershell <i>Alasmidonta viridis</i>	T	Sand or fine gravel in shallow water or small streams; lakeshores on a sand bottom
Spike <i>Elliptio dilatata</i>	T	Small to large streams; occasionally lakes in mud or gravel
Hine's emerald dragonfly <i>Somatochlora hineana</i>	E	Slow moving, shallow waters, spring-fed marshes and sedge meadows.
Vertebrates		
Henslow's sparrow <i>Ammodramus henslowii</i>	T	Uncultivated grasslands, wet meadows, and overgrown fields
Short-eared owl <i>Asio flammeus</i>	E	Native grasslands, marshes, open peatlands and grainfields
Black tern <i>Chlidonias niger</i>	E	Wetlands with dense emergent vegetation with open water for breeding
Blanding's turtle <i>Emydoidea blandingii</i>	T	Calm, shallow water with rich aquatic vegetation and sandy uplands for nesting
Iowa darter <i>Etheostoma exile</i>	T	Inhabits vegetated lakes, pools of headwaters, creeks and small to medium rivers
Common moorhen <i>Gallinula chloropus</i>	T	Freshwater cattail-bulrush marshes with pates of <i>Phragmites</i> , <i>Carex</i> , and <i>Sparganium</i>
Sandhill crane <i>Grus canadensis</i>	T	Shallow wetlands, and freshwater margins
Least bittern <i>Ixobrychus exilis</i>	T	Emergent vegetation in wetlands.
Black-crowned night heron <i>Nycticorax nycticorax</i>	E	Marshes, swamps, ponds, lakes, lagoons, occasionally grasslands.
Osprey <i>Pandion haliaetus</i>	E	Forested areas in association with water, primarily near lakes, rivers, and along coastal waters
King rail <i>Rallus elegans</i>	E	Shallow, freshwater marshes; small potholes.
Yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>	E	Requires freshwater marshes for breeding. Nest over water in emergent vegetation
Indiana		
Plants		
Earleaf foxglove <i>Agalinis auriculata</i>	T	Prairies and open upland woods
Pale false foxglove <i>Agalinis skinneriana</i>	T	Sandy calcium-rich, moist prairie or drier prairie and pine barrens
Running serviceberry <i>Amelanchier humilis (sanguinea)</i>	E	Mostly open woods
Western rockjasmine <i>Androsace occidentalis</i>	T	Dry, usually sandy soil
Bristly sarsaparilla <i>Aralia hispida</i>	E	Dry woods, especially in sandy soils
Sand-heather <i>Hudsonia tomentosa</i>	T	Sandy habitats and coastal dunes
Lake cress <i>Armoracia aquatica</i>	E	In quiet water, or on muddy shores

Table 3.11-7. State-Listed Threatened & Endangered Species Potentially within Illinois and Indiana Study Area		
Common and Scientific Names	Status	Preferred Habitat
Bluehearts <i>Buchnera americana</i>	E	Sandy or gravelly soil of upland woods or prairies
Prairie gray sedge <i>Carex conoidea</i>	T	Wet Meadows and prairies
Crawe sedge <i>Carex crawei</i>	T	Wet to moist prairies, marly lakeshores, ditches
Little prickly sedge <i>Carex echinata</i>	E	Wet Meadows, swamp margins, wet sandy lakeshores and hummocks in peatland
Elk sedge <i>Carex garberi</i>	T	Sandy beaches near Lake Michigan
Richardson sedge <i>Carex richardsonii</i>	T	Rocky areas, hill prairies and sand dunes
Prairie redroot <i>Ceanothus herbaceus</i>	E	Sandy or rocky soils, prairies or plains
Hill's thistle <i>Cirsium hillii</i>	E	Prairies and other open places, often in sandy soil
Dune thistle <i>Cirsium pitcheri</i>	T	Sand dunes around lakes Michigan, Huron and eastern Lake Superior
Long-bract green Orchis <i>Coeloglossum viride</i> var. <i>virescens</i> (<i>Habenaria viridis</i>)	T	Moist woods
Bunchberry <i>Cornus canadensis</i>	E	Cedar swamps, thickets and moist conifer forests, on hummocks or rotting logs
Pale corydalis <i>Corydalis sempervirens</i>	T	Dry or rocky woods
Capitate spike-rush <i>Eleocharis geniculata</i>	T	Wet, sandy ponds and marsh margins
Variegated horsetail <i>Equisetum variegatum</i>	E	Lakeshores, streambanks, wet woods, moist meadows, fens, and ditches, moist sandy soil, often near Lake Michigan
Slender cotton-grass <i>Eriophorum gracile</i>	T	Fens and bogs
Bicknell northern crane's-bill <i>Geranium bicknellii</i>	E	Open woods and fields
Scirpus-like rush <i>Juncus scirpoides</i>	T	Wet sandy shores, wet meadows, and streambanks
Smooth veiny pea <i>Lathyrus venosus</i>	T	Woods and thickets
Globe-fruited false-loosestrife <i>Ludwigia sphaerocarpa</i>	E	Swamp margins, lakeshores, often in shallow water
Clustered broomrape <i>Orobanche fasciculata</i>	E	Dry soil, prairies and plains, particularly on sand-dunes
Leafy northern green orchis <i>Platanthera hyperborea</i>	T	Moist to wet forests and swamps, thickets, streambanks, wet meadows, wet sand along Great lakes shorelines and ditches
Prairie white-fringed orchid <i>Platanthera leucophaea</i>	E	Open, calcium rich wet meadows and low prairie; occasionally in sedge meadows and on floating bog mats
Carey's smartweed <i>Polygonum careyi</i>	T	Sandy lakeshores and streambanks, marshes, recently burned wetlands

Table 3.11-7. State-Listed Threatened & Endangered Species Potentially within Illinois and Indiana Study Area

Common and Scientific Names	Status	Preferred Habitat
Spotted pondweed <i>Potamogeton pulcher</i>	E	Muddy shores and shallow waters of lakes
Heartleaf willow <i>Salix cordata</i>	T	Sandy or alluvial soils, often on dunes
Calamint <i>Satureja glabella var. angustifolia</i>	E	Beaches of Lakes Erie, Huron and Michigan
Strict blue-eyed-grass <i>Sisyrinchium montanum</i>	E	Wet meadows, shores, thickets, ditches, swales; also in drier woods and fields
Sticky goldenrod <i>Solidago simplex var. gillmanii</i>	T	Sand dunes along Lake Michigan
Great Plains ladies'-tresses <i>Spiranthes magnicamporum</i>	E	Open calcareous prairies
Northern white cedar <i>Thuja occidentalis</i>	E	Cold, poorly drained swamps; streams, on gravelly and sandy shores of Great Lakes, and dry soils over limestone
Horned bladderwort <i>Utricularia cornuta</i>	T	Acid lakes, shores, peatlands, calcareous pools between dunes, borrow pits
Lesser bladderwort <i>Utricularia minor</i>	T	Fens, open bogs, sedge meadows and marshes; often in shallow water and where calcium rich
Northeastern bladderwort <i>Utricularia resupinata</i>	E	Shallow to deep water, wet lake and pond shores where sandy or mucky
Velvetleaf blueberry <i>Vaccinium myrtilloides</i>	E	Sphagnum bogs and swamps; also in dry woods or clearings
Invertebrates		
A noctuid moth <i>Apamea burgessi</i>	T	Sparsely Vegetated Sand and Gravel and Sandplain and other Warm Season Grasslands
Noctuid moth (unnamed) <i>Archanara laeta</i>	T	The larvae are known to feed on bur-reed.
Dusted skipper <i>Atrytonopsis hianna</i>	T	Open dry fields, open woodlands, barrens, mid grass and tall grass prairies, foothills and prairie gulches, and outcrops and glades. Typically on rock outcrops or sandy artificial sites eastward
Silver-bordered fritillary <i>Boloria selene myrina</i>	T	Marshy or boggy areas with violets
Noctuid moth (unnamed) <i>Capis curvata</i>	T	Prairie
Two-lined cosmoteitix <i>Cosmotettix bilineatus</i>	T	Wet prairie
Noctuid moth (unnamed) <i>Eucoptocnemis fimbriaris</i>	T	Sand prairies
The pine streak <i>Faronta rubripennis</i>	T	Sandy grassy situations such as prairies and dunes
Indiangrass flexamia <i>Flexamia reflexus</i>	T	Hay pastures, ROW, and savannas. Host plant Indian grass
Silvery blue <i>Glaucopsyche lygdamus couperi</i>	E	Open woodland, flowery meadows, and roadsides, sometimes in small waste areas in cities.
Ottoe skipper <i>Hesperia ottoe</i>	E	Well drained, native grasslands, dunes, sandy barrens, limestone, bluff prairie and shortgrass prairie
Grote's black-tipped quaker <i>Loxagrotis grotei</i>	T	Xeric prairie

Table 3.11-7. State-Listed Threatened & Endangered Species Potentially within Illinois and Indiana Study Area		
Common and Scientific Names	Status	Preferred Habitat
Karner blue butterfly <i>Lycaeides melissa samuelis</i>	E	Always occurs in close association with larval host plant wild blue lupine (<i>Lupinus perennis</i>). Sandy barrens and oak savanna with periodic fire to retain open character.
Great copper <i>Lycaena xanthoides</i>	E	Prairie swamps, marshes, weedy fields, and meadows.
Louisiana macrochilo moth <i>Macrochilo louisiana</i>	T	Wet meadows, fens, wetland edges
Newman's brocade <i>Meropleon ambifusum</i>	T	Prairie species that tolerates a variety of open and wooded areas.
Noctuid moth (unnamed) <i>Oligia obtusa</i>	E	Host for larvae is unknown. Active from July to September.
Beer's blazing star borer moth <i>Papaipema beeriana</i>	T	Mesic tall grass prairie
Columbine borer <i>Papaipema leucostigma</i>	T	Grassland, Prairie and Savanna habitats, though not exclusive to these. Larvae feed on columbine species.
Royal fern borer moth <i>Papaipema speciosissima</i>	T	Grassland, Prairie and Savanna habitats, though not exclusive to these. Larvae feed on Royal Fern (<i>Osmunda regalis</i>) and Cinnamon Fern (<i>Osmunda cinnamomea</i>).
Spittle bug <i>Paraphilaenus parallelus</i>	T	Bogs in mixed sugar maple-oak-hemlock forests of Ontario and Wisconsin. Adults feed on <i>Carex</i> spp.
Grasshopper (unnamed) <i>Paroxya atlantica</i>	T	Grasslands
Large-headed grasshopper <i>Phoetaliotes nebrascensis</i>	T	Occurs in a wide variety of habitats and on a variety of soil types. Feeds on a diverse mix of grasses and forbs.
Ernestine's moth <i>Phytometra ernestinana</i>	E	Native Grasslands, Prairie and Savanna.
Big broad-winged skipper <i>Poanes viator viator</i>	T	Bog/fen, herbaceous wetland, riparian, Scrub shrub wetland habitats
Kansas prairie leafhopper <i>Prairiana kansana</i>	E	Sand Prairies
Bunchgrass skipper <i>Problema byssus</i>	T	Grassland/herbaceous, Savanna, Woodland - Conifer, Woodland - Hardwood
Aureolaria seed borer <i>Rhodoecia aurantiago</i>	T	Larva feed on seedpods of gerardia (<i>Agalinis</i> sp.). Moth appears in August
Regal fritillary <i>Speyeria idalia</i>	E	Grassland areas with prairie remnants or lightly grazed pasture, where topography often includes hills and valleys
Vertebrates		
Henslow's sparrow <i>Ammodramus henslowii</i>	E	Uncultivated grasslands, wet meadows, and overgrown fields, somewhat weedy or shrubby
Upland sandpiper <i>Bartramia longicauda</i>	E	Grasslands
American bittern <i>Botaurus lentiginosus</i>	E	Bogs, wet meadows, and hayfields
Black tern <i>Chlidonias niger</i>	E	Wetlands with dense emergent vegetation
Marsh wren <i>Cistothorus palustris</i>	E	Breed in fresh and brackish water marshes with abundant reeds
Spotted turtle <i>Clemmys guttata</i>	E	Shallow waters with a soft bottom substrate and some submergent and emergent vegetation

Table 3.11-7. State-Listed Threatened & Endangered Species Potentially within Illinois and Indiana Study Area

Common and Scientific Names	Status	Preferred Habitat
Blanding's turtle <i>Emydoidea blandingii</i>	E	Calm, shallow water with rich aquatic vegetation and sandy uplands for nesting
Least bittern <i>Ixobrychus exilis</i>	E	Emergent vegetation in freshwater
King rail <i>Rallus elegans</i>	E	Shallow, freshwater marshes; small potholes.
Virginia rail <i>Rallus limicola</i>	E	Freshwater marshes
Franklin's ground squirrel <i>Spermophilus franklinii</i>	E	Tall grasslands and is often found along forest-prairie borders and marsh edges

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