

WILDLIFE SURVEY REPORT: 23-26 JULY 2007

PROPOSED EXELON NUCLEAR POWER PLANT SITE MATAGORDA COUNTY, TEXAS



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INTRODUCTION

Terrestrial wildlife surveys of the Exelon site were conducted 23-26 July 2007, concurrent with the wetlands delineation project. Areas surveyed for wildlife included the proposed main facility site, heavy haul road, Tres Palacios Bay discharge corridor, Gulf Intracoastal Waterway (GIWW) intake corridor, and Gulf of Mexico (GOM) intake/discharge corridor (to and including Matagorda Peninsula) (Figure 1). Wildlife was also noted in other areas of Matagorda County, including GIWW, Matagorda Bay, Oyster Lake, and Matagorda County road-side habitats. An earlier site visit in June by project personnel resulted in some additional wildlife sightings.

To quantify avian observations, on 26 July timed point counts were conducted on the main site (n=3), the site to GIWW/heavy haul road corridor (n=5), and one marsh location near the site (Oyster Lake). At each point, all birds observed or heard within a 10-minute period were recorded. This method allows a more quantifiable comparison to any future survey periods, but does not necessarily provide a total count of species.

Weather conditions Monday through Wednesday (July 23-25) were warm and humid, but good for wildlife observations, whereas conditions on Thursday (26th) included heavy rain showers which limited wildlife observations. Generally the site conditions were relatively wet due to recent heavy rains.

HABITAT DESCRIPTION

Wetlands were delineated and vegetation characteristics were described during this visit. A general description of the vegetation is provided below. A more detailed discussion of the wetland delineation and vegetation characterization is provided in TetraTech (2007).

Most of the area for the proposed main facility and associated roads and corridors on the mainland contained similar habitats: flooded rice fields, pasture/drained rice fields, and irrigation canals and ditches, all interspersed with a few strips of low trees, shrubs and other natural vegetation along the margins of these features. The flooded rice fields were relatively weed free, containing only rice crops. Pastures/fallow rice fields contained only herbaceous vegetation such as bluestem (*Schizachyrium scoparium*) and Bermuda grasses (*Cynodon dactylon*). Trees/shrubs found along the margins included Chinese tallow tree (*Sapium sebiferum*), cottonwood (*Populus deltoides*), sea myrtle (*Baccharis halimifolia*) and dewberries (*Rubus* spp.). Herbaceous vegetation observed along the drier margins included common sunflower (*Helianthus annuus*), Bermuda grass, Johnsongrass (*Sorghum halapense*), and foxtail (*Setaria* spp.). Hydrophytic species like willow (*Salix* spp.), cattail (*Typha* spp.), and arrow arum (*Peltandra virginica*) were observed along the margins of the irrigation ditches and canals.

The discharge corridor into Tres Palacios Bay traversed habitat types similar to the main site facility prior to encountering the edge of Tres Palacios Bay.

The heavy haul road, GIWW intake, and GOM intake/discharge corridors exit the east side of the site before turning south to the GIWW (Figure 1). The last 1.5 miles of these corridors occur on an upland strip of land (rice fields and pasture) bordered by brackish marsh. The mainland shore of the GIWW is stabilized by rip-rap, with no transitional wetland areas between the upland and the GIWW. Vegetation on the upland edge of the shore is characterized by Bermuda grass and honey mesquite (*Prosopis glandulosa*).

If the GOM option is selected, the intake discharge corridor will extend through the GIWW, the dredge spoil areas and bayside marsh, West Matagorda Bay, the bayside marsh and Matagorda Peninsula, and extend 2-3 miles into the Gulf. The dredge spoil areas were covered with phragmites (*Phragmites australis*) and salt cedar (*Tamarix ramoisissima*) and the associated areas leading to the bayside marsh contained phragmites and wax myrtle (*Myrica cerifera*). The Matagorda Peninsula is characterized by open beach, dunes, and bayside marshes. The beaches were un-vegetated and the fore dunes were sparsely vegetated with sea oats (*Uniola paniculata*). The back dune areas were dominated by partridge pea (*Chamaechrista fasciculata*) and the bayside marsh was dominated by salt grass (*Distichlis spicata*) and cordgrass (*Spartina* spp.).

Although the exact route of the transmission line corridor is not known, the habitat types to be traversed would likely be similar to those of the main plant site, with the possible inclusion of other agricultural fields (primarily sorghum and cotton) and sparsely distributed aquaculture facilities.

Concerning wetlands, the footprint of the main facility and the heavy haul road would probably not impact any natural wetlands (see detailed discussion in TetraTech 2007), impacting only the irrigation canals and ditches associated with rice culture. The intake/discharge corridor options would impact wetlands. The Tres Palacios Bay discharge line would traverse the shoreline and the bay. The GIWW intake corridor would impact the GIWW, and the GOM intake/discharge corridors would traverse the GIWW, bayside marshes on the dredge spoil and Matagorda Peninsula shores of Matagorda Bay, Matagorda Bay, and then extend approximately three miles into the Gulf of Mexico.

WILDLIFE SURVEYS

Most of the wildlife species observed during the surveys were birds (Table 1). The majority of the species were birds associated with aquatic habitats, not surprising considering the presence of the flooded rice fields and irrigation canals/ditches and the proximity of the bays and GIWW. The most abundant species observed on the facility site was the red-winged blackbird (*Agelaius phoeniceus*), which was occasionally observed in flocks of 50-100 individuals. This species is generally considered a pest of rice farming due to its consumption of seed and young plants (Cummings and Avery 2003). Cattle egrets (*Bubulcus ibis*) were also abundant, generally in pastures with livestock, and common nighthawks (*Chordeilles minor*) were often observed on fences. Other common, but less abundant, species on site included scissor-tailed flycatchers (*Tyrannus forficatus*) and mourning doves (*Zenaida macroura*) which were often seen on fences and power lines. Common water birds found on the facility site included glossy ibises (*Plegadis falcinellus*) and black-necked stilts (*Himantopus mexicanus*), both occurred in small flocks (5-20) in rice fields, and the ibises were also seen in flooded pastures. It is possible that some of the distant sightings of glossy ibis were actually State-threatened white-faced ibis (*Plegadis chihi*),

in that they are nearly identical and difficult to distinguish when seen at long distances. Birds observed along the GOM corridor (between and including the GIWW and Matagorda Peninsula) included brown pelicans (*Pelicanus occidentalis*), least terns (*Sterna atricilla*), willets (*Catantropus semipalmatus*) and sanderlings (*Caladris alba*), the latter two observed on the beach of the peninsula.

Fixed Point Avian Counts

Four to nine avian species were documented among the observation points (Table 2), with the maximums occurring at the two wetter locations: central rice field (9 species - flooded area near wells) and Oyster Lake (10 species – brackish lake and marsh, off-site). Similar to our general survey, the most common species observed were red-winged blackbirds (present at 7 of 9 observation points) and cattle egrets (present at 6 of 9 observation points).

Other Wildlife

Other wildlife (or their sign) observed on the proposed main site and associated corridors included bobcat (*Lynx rufus*), wild hog (*Sus scrofa*), and raccoon (*Procyon lotor*). During the June site visit, well-drilling contractors reported seeing a coyote (*Canis latrans*) on-site. The only reptile observed was the American alligator (*Alligator mississippiensis*), a delisted species that is still protected in some parts of the U.S. due to similarity of appearance to the endangered crocodile (*Crocodylus acutus*). During the June visit, the landowner reported occasionally seeing the following snakes on-site: western diamondback rattlesnake (*Crotalus atrox*), cottonmouth water moccasin (*Agkistrodon piscivorus leucostoma*), coral snake (*Micrurus fulvius tener*), coachwhip (*Masticophis flagellum*) and kingsnake (*Lampropeltis* spp.).

Threatened & Endangered Species

No confirmed threatened or endangered species were observed on the site of the proposed main facility. It is possible that some of the distant sightings of glossy ibises were actually State-threatened white-faced ibises in that they are nearly identical. Federally endangered brown pelicans were observed roosting on structures along the intake/discharge corridor between the GIWW and Matagorda Peninsula and feeding in Matagorda Bay.

Off-site, but in Matagorda County, state-listed (threatened) wood storks (*Mycteria americana*) were observed along marsh edges and at an aquaculture facility. A state-listed (threatened) white-tailed hawk (*Buteo albicaudatus*) was observed along the road-side edge of an open pasture several miles inland from the site.

References

- Cummings, J.L., and M.L. Avery. 2003. An overview of current blackbird research in the southern rice growing region of the United States. Pages 237-243 *in* Proceedings of the 10th Wildlife Damage Management Conference (Fagerstone, K.A., and G.W. Witmer, eds.).
- TetraTech (TetraTech NUS, Inc). 2007. Wetland Delineation Report: Proposed Exelon Texas Nuclear Power Plant Site, Matagorda County, Texas. Tetra Tech NUS, Germantown, Maryland.

Table 1

Avian Species Observed During Wildlife/Wetland Surveys of the Proposed Exelon Site in Matagorda County, Texas: July 23 – 26, 2007

Avian Group	Locations Observed¹	
Species	Site	Region
Wading Birds		
Cattle egret (<i>Bubulcus ibis</i>)	Yes	Yes
Great blue heron (<i>Ardea herodias</i>)	Yes	Yes
Great egret (<i>Ardea alba</i>)	Yes	Yes
Green heron (<i>Butorides virescens</i>)	Yes	-
Little blue heron (<i>Egretta caerulea</i>)	Yes	Yes
Roseate spoonbill (<i>Ajaia ajaja</i>)	-	Yes
Snowy egret (<i>Egretta thula</i>)	Yes	Yes
Tricolored heron (<i>Egretta tricolor</i>)	Yes	Yes
White ibis (<i>Eudocimus albus</i>)	Yes	Yes
Glossy ibis (<i>Plegadis falcinellus</i>)	Yes	Yes
Wood stork (<i>Mycteria americana</i>)	-	Yes
Yellow-crowned night-heron (<i>Nyctanassa violacea</i>)	Yes	Yes
Shorebirds		
Black-necked stilt (<i>Himantopus mexicanus</i>)	Yes	Yes
Killdeer (<i>Charadrius vociferus</i>)	Yes	Yes
Long-billed curlew (<i>Numenius americanus</i>)	-	Yes
Sanderling (<i>Caladris alba</i>)	-	Yes
Short-billed dowitcher (<i>Limnodromus griseus</i>)	-	Yes
Willet (<i>Catantrophorus semipalmatus</i>)	Yes	Yes
Other Waterbirds		
American oystercatcher (<i>Haematopus palliatus</i>)	-	Yes
Anhinga (<i>Anhinga anhinga</i>)	Yes	Yes
Black-bellied whistling duck (<i>Dendrocygna autumnalis</i>)	Yes	-
Brown pelican (<i>Pelecanus occidentalis</i>)	Yes	Yes
Clapper rail (<i>Rallus longirostris</i>)	Yes	-
Double-crested cormorant (<i>Phalacrocorax auritus</i>)	-	Yes
Laughing gull (<i>Larus atricilla</i>)	Yes	Yes
Least tern (<i>Sterna antillarum</i>)	-	Yes
Mottled duck (<i>Anas fulvigula</i>)	-	Yes
Unknown term (<i>Sterna</i> spp.)	-	Yes

Table 1 (continued)

Avian Species Observed During Wildlife/Wetland Surveys of the Proposed Exelon Site in Matagorda County, Texas: July 23 – 26, 2007

Avian Group	Locations Observed ¹	
	Species	Site Region
Passerines		
	Brown-headed cowbird (<i>Molothrus ater</i>)	Yes -
	Common grackle (<i>Quiscalus quiscula</i>) ²	Yes -
	Common nighthawk (<i>Chordeilles minor</i>)	Yes Yes
	Barn swallow (<i>Hirundo rustica</i>)	Yes Yes
	Eastern meadowlark (<i>Sturnella magna</i>)	Yes -
	Great-tailed grackle (<i>Quiscalus mexicanus</i>)	Yes Yes
	House sparrow (<i>Passer domesticus</i>) ²	Yes -
	Loggerhead shrike (<i>Lanius ludovicianus</i>)	Yes -
	Mockingbird (<i>Mimus polyglottos</i>)	Yes -
	Northern cardinal (<i>Cardinalis cardinalis</i>)	Yes Yes
	Red-winged blackbird (<i>Aeglais phoeniceus</i>)	Yes Yes
	Scissor-tailed flycatcher (<i>Tyrannus forficatus</i>)	Yes -
Upland game Birds		
	Mourning dove (<i>Zenaida macroura</i>)	Yes Yes
	Northern bobwhite quail (<i>Colinus virginianus</i>)	Yes -
	White-winged dove (<i>Zenaida asiatica</i>)	Yes -
Soaring birds/raptors		
	Black vulture (<i>Coragyps atratus</i>)	Yes Yes
	Crested caracara (<i>Caracara plancus</i>)	- Yes
	Turkey vulture (<i>Cathartes aura</i>)	Yes Yes
	White-tailed hawk (<i>Buteo albicaudatus</i>)	- Yes

¹ The Site includes the facility area, heavy haul road and intake/discharge corridor options. The Region includes other locations in Matagorda County.

² Observed during site visit on 18-19 June 2007.

Table 2

Birds Observed During 10-minute point counts in the Exelon Field Site Area, July 26, 2007

	GOM I/D, HH Road Corridor ¹					Main Site ²			O. Lake ³	Obs. at Number Points ⁴
	1	2	3	4	5	6	7	8	9	
Red-winged blackbird	X	X	X	X	-	X	X	X	-	7
Cattle egret	X	X	X	X	X	-	X	-	-	6
Barn swallow	-	-	X	X	X	-	X	-	-	4
Killdeer	X	-	-	-	-	-	X	X	-	3
Tricolored heron	-	X	X	-	-	-	-	-	X	3
Common nighthawk	-	-	X	-	-	X	-	X	-	3
Great egret	-	-	X	-	X	-	-	-	X	3
Eastern meadowlark	-	-	-	X	X	X	-	-	-	3
Little blue heron	-	-	-	-	X	-	-	X	X	3
Glossy ibis	-	-	-	X	X	-	X	-	-	3
Bobwhite quail	X	X	-	-	-	-	-	-	-	2
Northern cardinal	-	X	-	-	-	-	-	-	X	2
Great-tailed grackle	-	X	-	-	-	-	X	-	-	2
Roseate spoonbill	-	-	-	-	X	-	-	-	X	2
White ibis	-	-	-	-	-	-	X	-	X	2
Unknown tern	-	X	-	-	-	-	-	-	-	1
Mourning dove	-	X	-	-	-	-	-	-	-	1
Brown-headed cowbird	-	X	-	-	-	-	-	-	-	1
Mockingbird	-	-	-	X	-	-	-	-	-	1
Green heron	-	-	-	-	-	X	-	-	-	1
Black-necked stilt	-	-	-	-	-	-	X	-	-	1
Willet	-	-	-	-	-	-	X	-	-	1
Yellow-crowned night-heron	-	-	-	-	-	-	-	-	X	1
Brown pelican	-	-	-	-	-	-	-	-	X	1
Laughing gull	-	-	-	-	-	-	-	-	X	1

¹Gulf of Mexico (GOM) intake/discharge and heavy haul (HH) road corridor (see Figure 1)

²Main facility site

³Oyster Lake (nearby, but off-site)

⁴The total number of observation points at which each species was seen ("X" = observed)

Figure 1. Map of the Exelon Site in Matagorda County, Texas, and Associated Intake/Discharge Corridors and Heavy Haul Road.



Figure 1. Site Layout