

# APPENDIX M

## ONSHORE T&E SPECIES REPORT

**THREATENED AND ENDANGERED SPECIES REPORT  
FOR THE ONSHORE COMPONENTS FOR THE  
PROPOSED BLUEWATER SPM PROJECT**

San Patricio and Aransas counties, Texas

Submitted to:

Bluewater Texas Terminal LLC

April 2019

Prepared by:

Perennial Environmental Services, LLC



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## **List of Acronyms**

E2EM	Estuarine intertidal emergent
E2SS	Estuarine intertidal scrub-shrub
E2USP	Estuarine intertidal unconsolidated shore
GPS	Global positioning system
IPaC	Information, Planning, and Conservation System
PEM	Palustrine emergent
PSS	Palustrine scrub-shrub
P66	Phillips 66 Company
ROW	Right-of-way
T&E	Threatened and Endangered
TPWD	Texas Parks and Wildlife Department
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

## **INTRODUCTION**

Bluewater Texas Terminal LLC (BWTT) retained Perennial Environmental Services, LLC (Perennial) to conduct environmental surveys including threatened and endangered (T&E) species assessments, for onshore components associated with the proposed Bluewater SPM Project (Project). The onshore components associated with the Project consists of the construction of approximately 22 miles of two, 30-inch diameter crude oil pipelines designed to transport crude oil from a planned multi-use terminal, located in San Patricio County, to the Port Aransas Causeway (HWY 361), also located in San Patricio County (**Attachment 1**).

## **PURPOSE**

Perennial's purpose was to identify any T&E species, designated critical habitat, or potentially suitable habitat within a defined survey area as discussed in the Field Reconnaissance Methodology section of this report. This report summarizes the survey methodology and results of the literature review and field survey effort.

## **BACKGROUND LITERATURE REVIEW**

Prior to conducting the site visit, Perennial reviewed various sources of available data to determine the federally listed species that could potentially inhabit or traverse the Project area. The U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation (IPaC) System was utilized to determine the federally listed T&E species that could potentially inhabit or traverse the Project area within the two counties (San Patricio and Aransas counties) crossed by the Project (**Attachment 2**). The IPaC official species list identified nine species federally listed as endangered and five species federally listed as threatened with the potential to occur within the Project area. One of these species, the least tern (*Sterna antillarum*), only needs to be considered if the Project is wind related; therefore, this species is not discussed further in this evaluation. The habitat descriptions, habitat assessments, and impact results for the remaining 13 species are presented below.

Recovery plans and/or five-year species review plans prepared by the USFWS were reviewed by Perennial for each federally listed species potentially inhabiting the Project area. U.S. Geologic Service (USGS) 7.5-minute quadrangle maps and aerial imagery were also examined prior to conducting field surveys. Habitat descriptions for each federally listed species potentially occurring within the Project are identified below.

## Mammals

### Gulf Coast Jaguarundi (*Herpailurus [=Felis] yagouaroundi cacomitli*)

The jaguarundi's distribution ranges from southern Texas and Arizona to northern Argentina (Rick, 2004). This species is very elusive and little is known about the exact habitat it prefers in Texas, but the species' range consists of Aransas, Brazoria, Cameron, Dimmit, Hidalgo, Kenedy, La Salle, Live Oak, Maverick, San Patricio, Starr, and Zapata counties. Habitat primarily consists of thick brushlands (NatureServe, 2019a). The home ranges of jaguarundi vary, with records of some males having a home range up to 100 square kilometers and others only 17.6 square kilometers. Females have been recorded with smaller home ranges between 20.1 and 6.8 square kilometers (Rick, 2004). Jaguarundis are crepuscular carnivores that spend most of their time on the ground, hunting in the morning and evening for birds, reptiles, and small mammals. Mating occurs in November-December, and dens in hollow logs, treefall, or dense thicket are used for birthing and sleeping (NatureServe, 2019a).

### Ocelot (*Leopardus pardalis*)

The ocelot population is very small in Texas (80 to 120 individuals), occurring in dense thorny shrub lands of the Lower Rio Grande Valley and Rio Grande Plains. Camargo, Laredo, Olmito, and Point Isabel soil series are usually required to create suitable habitat for the ocelot. This species occurs in Cameron, Hidalgo, Jim Wells, Kenedy, and Willacy counties, Texas (USFWS, 2010). Depending on the habitat, an ocelot will have a home range from 2 to 31 square kilometers and is very territorial. This species is solitary and sleeps during the day, hunting birds, mammals, reptiles, fish, mollusks, and aquatic crustaceans at night (nocturnal and crepuscular) (Kittel, 2011). Reproduction in Texas occurs in late summer, with birthing in fall and winter in dens found in caves, hollow trees, thickets, or spaces between closed buttress roots of large trees (NatureServe, 2019b).

### West Indian manatee (*Trichechus manatus*)

West Indian manatees range from the Caribbean basin, including the southeastern United States west to eastern Mexico and south to South America. Manatees generally reside in warm, shallow coastal or riverine waters of marine, brackish, and freshwater systems. This species prefers habitats near shores with an abundant amount of underwater vegetation such as seagrass and eelgrass (USFWS, 2017b).

## **Birds**

### Attwater's Greater Prairie-chicken (*Tympanuchus cupido attwateri*)

The Attwater's prairie-chicken historically was found throughout the Gulf Coast prairie of southwestern Louisiana and Texas, south to the Rio Grande (NatureServe, 2019c; USFWS, 2019b). Currently, this species is possibly extirpated throughout the state of Louisiana and limited to a narrow band along the Texas coast and remnant inland populations. The few birds remaining in these free-ranging populations are distributed across Austin, Colorado, Fort Bend, Galveston, Goliad, Refugio, Victoria, and Wharton counties in Texas. The coastal prairie habitat preferred by this species is dominated by tall dropseed, little bluestem, sumpweed, broomweed, ragweed, and big bluestem. Shorter grasses provide an area for courtship and feeding, while taller grasses are ideal for nesting, feeding, and loafing. Breeding begins in spring when males gather for communal courtship and eggs hatch beginning in April through June. This species consumes primarily insects in the summer, and plant food consisting of fruit, leaves, flowers, shoots, seeds, and grain at other times of the year (NatureServe, 2019c).

### Northern Aplomado Falcon (*Falco femoralis septentrionalis*)

The geographic distribution of the northern aplomado falcon ranges from south Texas and Trans-Pecos regions and extends to the southern tip of South America. Historically, its range extended north to southeastern Arizona, southern New Mexico and western and southern Texas before the U.S. population declined in the 1930s. Release sites for reintroduction has occurred along the Texas Gulf Coast on the Laguna Atascosa National Wildlife Refuge and Matagorda Island. This species prefers to inhabit open areas with scattered trees including palm and oak savannahs, desert grasslands and open pine woodlands (TPWD, 2019d). The northern aplomado falcon does not build its own nest but rather occupies nests built by other birds. This species primarily consumes other birds and insects but may also feed on rodents, small snakes and lizards (USFWS, 2014).

### Piping plover (*Charadrius melodus*)

There are three geographic regions where piping plovers breed in North America, including the beaches of the Atlantic coast from North Carolina to southern Canada, the shorelines of the Great Lakes, and along rivers and wetlands of the northern Great Plains from Nebraska to the southern Prairie Provinces in Canada (Hyde, 1999). The winter ranges of these three breeding populations overlap and extend along the South Atlantic, Gulf Coast, and Caribbean beaches and barrier islands, primarily on mud flats, sand beaches, or other flat areas containing sparse or no vegetation. This species arrives in Texas in late July or early August, and remains for nine months. The piping plover consumes marine worms, beetles, spiders, crustaceans, mollusks, and other small marine animals (TPWD, 2019e).



### Red knot (*Calidris canutus rufa*)

The red knot migrates vast distances, breeding in the Canadian Arctic and wintering along the Atlantic coast and the Gulf of Mexico coast of North America, in the Caribbean, and along the north and southeast coast of South America. This species occupies wintering areas from as early as September to late May. Majority of red knots migrate along the coastline, but small numbers have been reported crossing through interior states. Habitats utilized during migration and wintering consist of coastal marine and estuarine areas with lots of exposed intertidal sediments, such as sandy, gravel, or cobble beaches, tidal mudflats, salt marshes, shallow coastal impoundments and lagoons, and peat banks. In Texas, Laguna Madre is a known wintering ground. The red knot consumes mollusks, polychaete worms, insect larvae, and crustaceans throughout its migration and wintering stay (USFWS, 2013).

### Whooping crane (*Grus americana*)

The whooping crane migrates from nesting habitat in Wood Buffalo National Park in Canada to wintering habitat in the Aransas National Wildlife Refuge in Texas. Whooping cranes arrive along the Texas coast between late October and mid-December. This species makes stops along its annual migration using croplands for feeding and large wetland areas for both roosting and feeding. They are omnivores, consuming insect larvae, frogs, rodents, small birds, minnows, and berries in the summer, and blue crabs, clams, and Carolina wolfberry in the winter. During migration, whooping cranes will feed on agricultural crops, but are not well adjusted to relying on this food source (USFWS, 2012a).

## **Reptiles**

### Atlantic hawksbill sea turtle (*Eretmochelys imbricata*)

Hawksbill sea turtles range throughout the tropical and subtropical regions of the Atlantic, Pacific, and Indian Oceans. Along the southeastern United States, hawksbill sea turtles are found within the Caribbean Sea north along the Atlantic coast, and within the Gulf of Mexico. Preferred habitat consists of water shallower than 65 feet with rocky bottoms and coral reefs, shallow coastal areas, lagoons, or oceanic islands. Nesting occurs at night along sandy beaches between the months of April and November (USFWS, 2015a). This species feeds on a variety of invertebrates including sponges, jellyfish, crustaceans, sea urchins, and mollusks (TPWD, 2019b).

### Green sea turtle (*Chelonia mydas*)

Green sea turtles range world-wide within tropical and subtropical waters of the Atlantic, Pacific and Indian Oceans (TPWD, 2019a). Preferred habitat consists of shallow waters inside reefs, bays, and inlets with abundant amounts of marine grass and/or algae for feeding. Sponges, crustaceans, sea urchins, and

mollusks also make up a small portion of the green sea turtle diet. Nesting within the southeastern United States occurs from June to September with nesting occurring at night (USFWS, 2017a).

Kemp's Ridley sea turtle (*Lepidochelys kempii*)

Kemp's Ridley sea turtles range along the Gulf coasts of Mexico and the United States north along the Atlantic coast. Preferred habitat consists of nearshore and inshore waters of the Gulf of Mexico. This habitat usually contains muddy or sandy bottoms with abundant prey. Nesting occurs from April to July with nesting occurring during the day (USFWS, 2015b). The main diet of this species consists of crustaceans, snails, clams, jellyfish, sea stars, and fishes (TPWD, 2019c).

Leatherback sea turtle (*Dermochelys coriacea*)

Leatherback sea turtles range worldwide throughout the tropical and temperate waters of the Atlantic, Pacific, and Indian Oceans. Preferred habitat consists of the open ocean where leatherback sea turtles feed on jellyfish, squid, and other invertebrates. Nesting occurs from March to July with nesting occurring at night (USFWS, 2015c).

Loggerhead sea turtle (*Caretta caretta*)

Loggerhead sea turtles range worldwide throughout the tropical and temperate waters of the Atlantic, Pacific, and Indian Oceans. Preferred habitat consists of open oceans as well as inshore, brackish water areas such as bays, lagoons, ship channels, and river mouths. Habitat usually has rocky areas, coral reefs, or ship wrecks with abundant prey. Nesting occurs from April to September with nesting occurring primarily at night (USFWS, 2015d).

## **FIELD RECONNAISSANCE METHODOLOGY**

Perennial biologists conducted pedestrian surveys from February 4-15, 2019 and February 25, 2019 to characterize and determine if T&E species and/or potential T&E species habitat was present within the 812.74-acre survey area. The survey area primarily consisted of a 300-foot wide corridor encompassing the proposed pipeline right-of-way (ROW) (**Attachment 1**). With the exception of areas not surveyed due to ongoing landowner negotiations (**Table 1**), the entire survey corridor was traversed by a team of two biologists. The biologists each walked a wandering transect that paralleled the other biologist. In areas containing potential suitable T&E species habitat, additional transects were walked to review the potential habitat. Transect width was based on each biologist's line of sight and was adjusted accordingly to provide sufficient coverage of a given area.

<b>Table 1</b>	
<b>Areas Not Surveyed Along Phillips 66 Bluewater SPM Project</b>	
<b>Location/ County</b>	<b>Approximate Milepost</b>
<b>Pipeline Facilities</b>	
San Patricio	14.40-15.00
San Patricio	18.70
Aransas	20.80
Aransas	20.80-21.00

If encountered, T&E species and/or their habitats were documented with a Trimble Ranger equipped with a wireless Bluetooth receiver or a Trimble Geo7X global positioning system (GPS) to geographically reference its location. These units typically have real-time and post-processed sub-meter accuracy.

## **RESULTS**

### **Habitat Observed within Project Area**

Six different habitat types were identified throughout the survey area and include the following: agriculture, open land, forest, developed land, wetlands, and open water. A description of each encountered habitat type is presented below.

#### Agriculture

Agricultural land in the Project area consists of actively cultivated row crop fields that had been plowed following the growing season and were fallow at the time of the surveys. The primary species observed during field surveys were corn (*Zea mays*), Bermudagrass (*Cynodon dactylon*), and common dandelion (*Taraxacum officinale*).

#### Open Land

Open land is comprised of non-forested areas that are not otherwise classified as agriculture, and includes existing utility ROWs and unimproved pastures. Unimproved pastures are typically characterized as open areas with mixed herbaceous vegetation interspersed with scrub-shrub vegetation. Open lands are typically vegetated with bermudagrass, honey mesquite (*Prosopis glandulosa*), switchgrass (*Panicum virgatum*), little false bluestem (*Schizachyrium scoparium*), live oak (*Quercus virginiana*), salt-meadow cord grass (*Spartina patens*), big bluestem (*Andropogon gerardi*), yellow bluestem (*Bothriochloa ischaemum*), spiny hackberry (*Celtis pallida*), black medick (*Medicago lupulina*), coastal salt grass (*Distichlis spicata*), common dandelion, Brazilian peppertree (*Schinus terebinthifolia*), broom-sedge bluestem (*Andropogon virginicus*), camphor-weed (*Heterotheca subaxillaris*), and hooded windmill grass (*Chloris cucullata*).

### Forest

Forested vegetation in the Project area is comprised predominantly of live oak, yaupon holly (*Ilex vomitoria*), little bluestem (*Schizachyrium scoparium*), switchgrass, and fringed greenbrier (*Smilax bonanox*).

### Developed Land

Developed land encompasses both industrial and residential areas. Industrial land crossed by the Project primarily consists of existing electric and gas utility stations, associated facilities, and transportation corridors (roads, railroad, and associated easements). Residential land includes both single and multiple family dwellings that are located in either developed subdivisions or rural areas. Residential land also includes landscaped areas associated with a residence.

Developed lands are typically either sparsely vegetated or lack vegetation due to the presence of impervious structures such as cement foundations, pavement, or gravel pads. Developed land vegetation is comprised predominantly of Bermudagrass.

### Wetland

Wetlands delineated in the Project area include estuarine intertidal emergent (E2EM), estuarine intertidal scrub-shrub (E2SS), estuarine intertidal unconsolidated shore (E2USP), palustrine emergent (PEM), and palustrine scrub-shrub (PSS) wetlands.

Dominant vegetation associated within the E2EM wetlands consists of salt-meadow cord grass, shore grass (*Monanthochloe littoralis*), and bushy seaside-tansy (*Borrchia frutescens*).

Dominant vegetation associated within the E2SS wetlands consists of five-stamen tamarisk (*Tamarix chinensis*), bushy seaside-tansy, and Brazilian peppertree.

Dominant vegetation associated within the E2USP wetlands consists of dwarf saltwort (*Salicornia bigelovii*) and woody saltwort (*Salicornia virginica*).

Dominant vegetation associated within the PEM wetlands consists of sand spike-rush (*Eleocharis montevidensis*), salt-meadow cord grass, coastal salt grass, wand panic grass, marsh seedbox (*Ludwigia palustris*), brownseed paspalum (*Paspalum plicatulum*), and bushy seaside-tansy.

Dominant vegetation associated within the PSS wetlands consists of sand spike-rush, bigpod sesbania (*Sesbania herbacea*), Brazilian peppertree, Chinese tallow (*Triadica sebifera*), and marsh seedbox.

### Open water

Open water within the Project area includes multiple manmade and natural ponds. Vegetation commonly found along the banks of the ponds in the area include Brazilian peppertree, Chinese tallow, and broadleaf cattail (*Typha latifolia*).

### **Species Within Project Area**

Based on the literature and background review conducted prior to field survey efforts, Perennial identified a total of 13 federally listed species that could potentially occur within the counties crossed by the Project footprint. The field surveys focused on determining if any of the listed species or their associated habitats are present within the Project area. The common name, scientific name, federal status, listed county, habitat description, determination of effect, and assessment for each federally listed species are presented in **Table 2** below.

**Table 2  
Potentially Federally-Listed Threatened and Endangered Species in the Project Area**

Common Name	Scientific Name	Federal Listing		Potential Impact	Assessment Result
		Status	County		
<b>Mammals</b>					
Gulf Coast Jaguarundi	<i>Herpailurus [=-Felis] yagouaroundi cacomiti</i>	E	Aransas, San Patricio	No effect	This species utilizes thick, dense shrublands or woodlands, and it prefers natural, undisturbed areas. The Project occurs mainly in agricultural areas and open land areas in the city of Aransas Pass, and the Project does not cross suitable habitat. In addition, this species' range is limited to the very southern edge of Texas. Therefore, the Project will not affect this species.
Ocelot	<i>Leopardus pardalis</i>	E	Aransas, San Patricio	No effect	This species utilizes a wide range of natural habitats but prefers undisturbed areas. The Project occurs mainly in agricultural areas and open land areas in the city of Aransas Pass, and the Project does not cross suitable habitat. In addition, this species' range is limited to the very southern edge of Texas. Therefore, the Project will not affect this species.
West Indian Manatee	<i>Trichechus manatus</i>	T	Aransas, San Patricio	No effect	This species utilizes coastal habitats such as bays and mouths of rivers. The Project is located outside of the critical habitat for this species and does not cross suitable habitat. Therefore, the Project will not affect this species.
<b>Birds</b>					
Attwater's Greater Prairie-chicken	<i>Tympanuchus cupido attwateri</i>	E	Aransas, San Patricio	No effect	This species utilizes native coastal prairies. The Project occurs mainly in agricultural areas and open land areas in the city of Aransas Pass and does not cross suitable habitat. Therefore, the Project will not affect this species.
Northern Aplomado Falcon	<i>Falco femoralis septentrionalis</i>	E	Aransas	No effect	This species inhabits desert grasslands and coastal prairies. The Project occurs mainly in agricultural areas and open land areas in the city of Aransas Pass, and does not cross suitable habitat. Additionally, this species is highly mobile and would likely avoid the area once construction commences. Therefore, the Project will not affect this species.

Table 2 Potentially Federally-Listed Threatened and Endangered Species in the Project Area				
Common Name	Scientific Name	Federal Listing		Assessment Result
		Status	County	
Piping Plover	<i>Charadrius melodus</i>	T	Aransas, San Patricio	This species primarily occurs along open sandy beaches along the Texas coastline in the winter. The Project does cross estuarine habitat, but it is heavily vegetated rather than open beach habitat. Additionally, this species is also highly mobile and would likely avoid the area once construction commences. Therefore, the Project will have no effect on this species.
Red Knot	<i>Calidris canutus rufa</i>	T	Aransas, San Patricio	During migration, this species utilizes coastal habitats such as open beaches and mudflats. The Project does cross estuarine habitat, but it is heavily vegetated rather than open beach habitat. Additionally, this species is also highly mobile and would likely avoid the Project area once construction commences. Therefore, the Project will have no effect on this species.
Whooping Crane	<i>Grus americana</i>	E	Aransas, San Patricio	The Project area is within the migratory range of the species and suitable stopover/foraging habitat is present. However, this species is highly mobile and will likely avoid the Project area during construction. The Project is not likely to adversely affect the species.
<b>Reptiles</b>				
Atlantic Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	E	Aransas, San Patricio	This species utilizes coastal habitats such as bays and mouths of rivers. The portions of the Project that occur within Aransas and San Patricio counties occur inland and will not impact bays or river mouths. Therefore, the Project will have no effect on this species.
Green Sea Turtle	<i>Chelonia mydas</i>	T	Aransas, San Patricio	This species utilizes coastal habitats such as bays and mouths of rivers. The portions of the Project that occur within Aransas and San Patricio counties occur inland and will not impact bays or river mouths. Therefore, the Project will have no effect on this species.
Kemp's Ridley Sea Turtle	<i>Lepidochelys kempii</i>	E	Aransas, San Patricio	This species utilizes coastal habitats such as bays and mouths of rivers. The portions of the Project that occur within Aransas and San Patricio counties occur inland and will not impact bays or river mouths. Therefore, the Project will have no effect on this species.

**Table 2**  
**Potentially Federally-Listed Threatened and Endangered Species in the Project Area**

Common Name	Scientific Name	Federal Listing		Potential Impact	Assessment Result
		Status	County		
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	E	Aransas, San Patricio	No effect	This species utilizes coastal habitats such as bays and mouths of rivers. The portions of the Project that occur within Aransas and San Patricio counties occur inland and will not impact bays or river mouths. Therefore, the Project will have no effect on this species.
Loggerhead Sea Turtle	<i>Caretta caretta</i>	T	Aransas, San Patricio	No effect	This species utilizes coastal habitats such as bays and mouths of rivers. The portions of the Project that occur within Aransas and San Patricio counties occur inland and will not impact bays or river mouths. Therefore, the Project will have no effect on this species.
E=Listed as endangered T=Listed as threatened					



## **Bald and Golden Eagle Protection Act Discussion**

Perennial biologists conducted surveys for active or inactive bald or golden eagle nests concurrent with T&E species and/or habitat surveys. The Bald and Golden Eagle Protection Act (BGEPA) provides protection of the bald eagle and golden eagle (as amended in 1962) by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit. “Take” includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.

In compliance with the BGEPA, it is illegal to disturb or disrupt nesting eagles and according to the USFWS National Bald Eagle Management Guidelines, construction must maintain an approximate 660-foot buffer for activities that are visible from the nest. The Project does not cross within 660 feet of any active or inactive eagle nests and no eagles were observed during the survey; therefore, the Project will not “take” any bald or golden eagles or their nests.

## **SUMMARY**

Based upon field surveys conducted to date and review of available sources, it has been determined that the Project will have *No Effect* on 12 of the 13 federally listed T&E species that could potentially occur within the Project area. The Project is *Not Likely to Adversely Affect* the federally listed whooping crane.

The migratory range of the whooping crane as well as potential stop-over and foraging habitat fall within the area of the Project and would be impacted. However, construction activities will primarily occur in heavily disturbed agriculture fields and urban areas. Additionally, this highly mobile species will likely practice avoidance during construction. No individuals were observed within the Project area during surveys; however, groups of sandhill cranes (*Antigone canadensis*) were observed. In order to minimize impacts to the greatest extent practicable, BWTT will adhere to the following conservation measures: (1) Contractors performing work should be educated on how to identify a whooping crane and be advised that if a crane appears within 1,000 feet of construction activities, all work will cease until the crane or cranes move outside that 1,000-foot buffer area; (2) If equipment over 15 feet high is to be used for Project work, the equipment should be flagged or marked to increase visibility to whooping cranes and lessen the risk of collisions; and (3) All equipment over 15 feet high should be lowered at night to lessen the risk of collisions.

If a federally listed species, bald eagle, or golden eagle is identified within the Project area during construction, BWTT will halt construction and notify the appropriate agency to identify recommended measures to avoid impacts federally listed species.

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