

Appendix 5B - Threatened and Endangered Species by County

County	Taxon	Scientific Name	Common Name	USESA	Description
Cameron	Birds	Falco femoralis septentrionalis	northern aplomado falcon	E	Open country, especially savanna and open woodland, and sometimes in very barren areas; grassy plains and valleys with scattered mesquite, yucca, and cactus; nests in old stick nests of other bird species
Cameron	Birds	Laterallus jamaicensis	black rail	T	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia
Cameron	Birds	Charadrius melodus	piping plover	T	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.
Cameron	Birds	Calidris canutus rufa	rufa red knot	T	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes.
Cameron	Birds	Coccyzus americanus	yellow-billed cuckoo	T	In Texas, the populations of concern are found breeding in riparian areas in the Trans Pecos (know as part of the Western Distinct Population Segment). It is the Western DPS that is on the U.S. ESA threatened list and includes the Texas counties Brewster, Culberson, El Paso, Hudspeith, Jeff Davis, and Presidio. Riparian woodlands below 6,000' in elevation consisting of cottonwoods and willows are prime habitat. This species is a long-distant migrant that summers in Texas, but winters mainly in South America. Breeding birds of the Trans Pecos populations typically arrive on their breeding grounds possibly in late April but the peak arrival time is in May. Threats to preferred habitat include hydrologic changes that don't promote the regeneration of cottonwoods and willows, plus livestock browsing and trampling of sapling trees in sensitive riparian areas.
Cameron	Fish	Carcharhinus longimanus	oceanic whitetip shark	T	Habitat description is not available at this time.
Cameron	Fish	Pristis pectinata	smalltooth sawfish	E	Different life history stages have different patterns of habitat use: young of year, Age 1, and Age 2 are dependent upon shallow (<math>1\text{m}</math>), euryhaline waters with red mangrove lined shoreline (Norton et al. 2012). These age classes are often found very close to shore over muddy and sandy bottoms in sheltered bays, on shallow banks, and in estuaries or river mouths. These age classes can tolerate a wide range of salinities, but will move in and out of protected areas (estuaries) due to changes in flow and salinity (Poulakis and Seitz 2011). Larger juveniles may occupy greater depth strata in areas further from shore as they consistently occupy marine waters. Adult sawfish are encountered in various habitat types (mangrove, oyster reef, seagrass, and coral), in varying salinity regimes and temperatures, and at various water depths, feed on a variety of fish species. Adult female sawfish return to protected estuarine areas to give birth.
Cameron	Fish	Manta birostris	giant manta ray	T	Gulf of Mexico
Cameron	Mammals	Physeter macrocephalus	sperm whale	E	Inhabits tropical, subtropical, and temperate waters world wide, avoiding icy waters. Distribution is highly dependent on their food source (squids, sharks, skates, and fish), breeding, and composition of the pod. In general, this species migrates from north to south in the winter and south to north in the summer; however, individuals in tropical and temperate waters don't seem to migrate at all. Routinely dive to catch their prey (2,000-10,000 feet) and generally occupies water at least 3,300 feet deep near ocean trenches.
Cameron	Mammals	Balaenoptera physalus	finback whale	E	Inhabit tropical, subtropical, temperate, and subpolar waters worldwide, but are less common in the tropics preferring cooler water. Commonly found in deep, offshore waters and migrate in the open ocean from the poles (feeding grounds) to warmer waters in the winter to give birth. They feed on krill, squid, and small schooling fish sometimes with other baleen whale species. They are very rare in the Gulf of Mexico and reported sightings are likely vagrants (Witt et al. 2011).
Cameron	Mammals	Balaenoptera borealis	sei whale	E	Gulf of Mexico
Cameron	Mammals	Balaenoptera musculus	blue whale	E	Inhabits tropical, subtropical, temperate, and subpolar waters worldwide, but are infrequently sighted in the Gulf of Mexico. They migrate seasonally between summer feeding grounds and winter breeding grounds, but specifics vary. Commonly observed at the surface in open ocean.
Cameron	Mammals	Balaenoptera ricei	Rice's whale	E	Gulf of Mexico
Cameron	Mammals	Megaptera novaeangliae	humpback whale	E	Inhabits tropical, subtropical, temperate, and subpolar waters world wide. Migrate up to 5,000 miles between colder water (feeding grounds) and warmer water (calving grounds) each year. They will use both open ocean and coastal waters, sometimes including inshore areas such as bays, and are often found near the surface; however, this species is rare in the Gulf of Mexico. The northwest Atlantic/Gulf of Mexico distinct population segment is not considered at risk of extinction and is not listed as Endangered on the Endangered Species Act.
Cameron	Mammals	Eubalaena glacialis	North Atlantic right whale	E	Inhabits subtropical and temperate waters in the northern Atlantic. Commonly found in coastal waters or close to the continental shelf near the surface. They migrate from feeding grounds in cooler waters (Canada and New England) to warmer waters of the southeast US (South Carolina, Georgia, and Florida) to give birth in the fall/winter - both areas are identified as critical habitat by NOAA-NMFS. Nursery areas are in shallow, coastal waters. This species is very rare in the Gulf of Mexico and the few reported sightings are likely vagrants (Ward-Geiger et al 2011).
Cameron	Mammals	Leopardus pardalis	ocelot	E	Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.
Cameron	Mammals	Trichechus manatus	West Indian manatee	T	Large rivers, brackish water bays, coastal waters. Warm waters of the tropics, in rivers and brackish bays but may also survive in salt water habitats. Very sensitive to cold water temperatures. Rarely occurring as far north as Texas. Gulf and bay system; opportunistic, aquatic herbivore.
Cameron	Reptiles	Caretta caretta	loggerhead sea turtle	T	Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. They migrate from feeding grounds to nesting beaches/barrier islands and some nesting does occur in Texas (April to September). Beaches that are narrow, steeply sloped, with coarse-grain sand are preferred for nesting. Newly hatched individuals depend on floating algae/seaweed for protection and foraging, which eventually transport them offshore and into open ocean. Juveniles and young adults spend their lives in open ocean, offshore before migrating to coastal areas to breed and nest. Foraging areas for adults include shallow continental shelf waters.
Cameron	Reptiles	Chelonia mydas	green sea turtle	T	Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Adults and juveniles occupy inshore and nearshore areas, including bays and lagoons with reefs and seagrass. They migrate from feeding grounds (open ocean) to nesting grounds (beaches/barrier islands) and some nesting does occur in Texas (April to September). Adults are herbivorous feeding on sea grass and seaweed; juveniles are omnivorous feeding initially on marine invertebrates, then increasingly on sea grasses and seaweeds.
Cameron	Reptiles	Eretmochelys imbricata	Atlantic hawksbill sea turtle	E	Inhabit tropical and subtropical waters worldwide, in the Gulf of Mexico, especially Texas. Hatching and juveniles are found in open, pelagic ocean and closely associated with floating lgae/seagrass mats. Juveniles then migrate to shallower, coastal areas, mainly coral reefs and rocky areas, but also in bays and estuaries near mangroves when reefs are absent; seldom in water lmore than 65 feet deep. They feed on sponges, jellyfish, sea urchins, molluscs, and crustaceans. Nesting occurs from April to November high up on the beach where there is vegetation for cover and little or no sand. Some migrate, but others stay close to foraging areas - females are philopatric.

Appendix 5B - Threatened and Endangered Species by County

County	Taxon	Scientific Name	Common Name	USESA	Description
Cameron	Reptiles	Lepidochelys kempii	Kemp's Ridley sea turtle	E	Inhabits tropical, subtropical, and temperate waters of the northwestern Atlantic Ocean and Gulf of Mexico. Adults are found in coastal waters with muddy or sandy bottoms. Some males migrate between feeding grounds and breeding grounds, but some don't. Females migrate between feeding and nesting areas, often returning to the same destinations. Nesting in Texas occurs on a smaller scale compared to other areas (i.e. Mexico). Hatchlings are quickly swept out to open water and are rarely found nearshore. Similarly, juveniles often congregate near floating algae/seagrass mats offshore, and move into nearshore, coastal, neritic areas after 1-2 years and remain until they reach maturity. They feed primarily on crabs, but also snails, clams, other crustaceans and plants, juveniles feed on sargassum and its associated fauna; nests April through August.
Cameron	Reptiles	Dermochelys coriacea	leatherback sea turtle	E	Inhabit tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Nesting is not common in Texas (March to July). Most pelagic of the sea turtles with the longest migration (>10,000 miles) between nesting and foraging sites. Are able to dive to depths of 4,000 feet. They are omnivorous, showing a preference for jellyfish.
Cameron	Mollusks	Popenaias popeii	Texas hornshell	E	Occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. Can also occur in riffles that are clean swept of soft silt; not known from reservoirs (Carman 2007; Inoue et al. 2014; Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]
Cameron	Plants	Ambrosia cheiranthifolia	South Texas ambrosia	E	Grasslands and mesquite-dominated shrublands on various soils ranging from heavy clays to lighter textured sandy loams, mostly over the Beaumont Formation on the Coastal Plain; in modified unplowed sites such as railroad and highway right-of-ways, cemeteries, mowed fields, erosional areas along small creeks; Perennial; Flowering July-November
Cameron	Plants	Ayenia limitaris	Texas ayenia	E	Subtropical thorn woodland or tall shrubland on loamy soils of the Rio Grande Delta; known site soils include well-drained, calcareous, sandy clay loam (Hidalgo Series) and neutral to moderately alkaline, fine sandy loam (Willacy Series); also under or among taller shrubs in thorn woodland/thorn shrubland; flowering throughout the year with sufficient rainfall
Hidalgo	Birds	Charadrius melodus	pipin plover	T	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.
Hidalgo	Birds	Coccyzus americanus	yellow-billed cuckoo	T	In Texas, the populations of concern are found breeding in riparian areas in the Trans Pecos (know as part of the Western Distinct Population Segment). It is the Western DPS that is on the U.S. ESA threatened list and includes the Texas counties Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, and Presidio. Riparian woodlands below 6,000' in elevation consisting of cottonwoods and willows are prime habitat. This species is a long-distant migrant that summers in Texas, but winters mainly in South America. Breeding birds of the Trans Pecos populations typically arrive on their breeding grounds possibly in late April but the peak arrival time is in May. Threats to preferred habitat include hydrologic changes that don't promote the regeneration of cottonwoods and willows, plus livestock browsing and trampling of sapling trees in sensitive riparian areas.
Hidalgo	Birds	Glauclidium brasilianum cactorum	cactus ferruginous pygmy-owl	T	Riparian trees, brush, palm, and mesquite thickets; during day also roosts in small caves and recesses on slopes of low hills; breeding April to June
Hidalgo	Mammals	Leopardus pardalis	ocelot	E	Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.
Hidalgo	Mollusks	Popenaias popeii	Texas hornshell	E	Occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. Can also occur in riffles that are clean swept of soft silt; not known from reservoirs (Carman 2007; Inoue et al. 2014; Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]
Hidalgo	Plants	Astrophytum asterias	star cactus	E	Gravelly clays or loams, possibly of the Catarina Series (deep, droughty, saline clays), over the Catahoula and Frio formations, on gentle slopes and flats in sparsely vegetated openings between shrub thickets within mesquite grasslands or mesquite-blackbrush thorn shrublands; plants sink into or below ground during dry periods; flowering from mid March-May, may also flower in warmer months after sufficient rainfall, flowers most reliably in early April; fruiting mid April-June
Hidalgo	Plants	Manihot walkerae	Walker's manioc	E	Periphery of native brush in sandy loam; also on caliche cuestas?; flowering April-September (following rains?)
Hidalgo	Plants	Ayenia limitaris	Texas ayenia	E	Subtropical thorn woodland or tall shrubland on loamy soils of the Rio Grande Delta; known site soils include well-drained, calcareous, sandy clay loam (Hidalgo Series) and neutral to moderately alkaline, fine sandy loam (Willacy Series); also under or among taller shrubs in thorn woodland/thorn shrubland; flowering throughout the year with sufficient rainfall
Jim Hogg	Birds	Coccyzus americanus	yellow-billed cuckoo	T	In Texas, the populations of concern are found breeding in riparian areas in the Trans Pecos (know as part of the Western Distinct Population Segment). It is the Western DPS that is on the U.S. ESA threatened list and includes the Texas counties Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, and Presidio. Riparian woodlands below 6,000' in elevation consisting of cottonwoods and willows are prime habitat. This species is a long-distant migrant that summers in Texas, but winters mainly in South America. Breeding birds of the Trans Pecos populations typically arrive on their breeding grounds possibly in late April but the peak arrival time is in May. Threats to preferred habitat include hydrologic changes that don't promote the regeneration of cottonwoods and willows, plus livestock browsing and trampling of sapling trees in sensitive riparian areas.
Jim Hogg	Mammals	Leopardus pardalis	ocelot	E	Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.
Jim Hogg	Plants	Thymophylla tephroleuca	ashy dogweed	E	Grasslands with scattered shrubs; most sites on sands or sandy loams on level or very gently rolling topography over Eocene strata of the Laredo Formation; flowering March-May depending to some extent on rainfall
Maverick	Birds	Coccyzus americanus	yellow-billed cuckoo	T	In Texas, the populations of concern are found breeding in riparian areas in the Trans Pecos (know as part of the Western Distinct Population Segment). It is the Western DPS that is on the U.S. ESA threatened list and includes the Texas counties Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, and Presidio. Riparian woodlands below 6,000' in elevation consisting of cottonwoods and willows are prime habitat. This species is a long-distant migrant that summers in Texas, but winters mainly in South America. Breeding birds of the Trans Pecos populations typically arrive on their breeding grounds possibly in late April but the peak arrival time is in May. Threats to preferred habitat include hydrologic changes that don't promote the regeneration of cottonwoods and willows, plus livestock browsing and trampling of sapling trees in sensitive riparian areas.
Maverick	Mammals	Leopardus pardalis	ocelot	E	Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.
Maverick	Mollusks	Popenaias popeii	Texas hornshell	E	Occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. Can also occur in riffles that are clean swept of soft silt; not known from reservoirs (Carman 2007; Inoue et al. 2014; Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]
Starr	Birds	Coccyzus americanus	yellow-billed cuckoo	T	In Texas, the populations of concern are found breeding in riparian areas in the Trans Pecos (know as part of the Western Distinct Population Segment). It is the Western DPS that is on the U.S. ESA threatened list and includes the Texas counties Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, and Presidio. Riparian woodlands below 6,000' in elevation consisting of cottonwoods and willows are prime habitat. This species is a long-distant migrant that summers in Texas, but winters mainly in South America. Breeding birds of the Trans Pecos populations typically arrive on their breeding grounds possibly in late April but the peak arrival time is in May. Threats to preferred habitat include hydrologic changes that don't promote the regeneration of cottonwoods and willows, plus livestock browsing and trampling of sapling trees in sensitive riparian areas.
Starr	Mammals	Leopardus pardalis	ocelot	E	Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.

Appendix 5B - Threatened and Endangered Species by County

County	Taxon	Scientific Name	Common Name	USESA	Description
Starr	Mollusks	<i>Popenaias popeii</i>	Texas hornshell	E	Occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. Can also occur in riffles that are clean swept of soft silt; not known from reservoirs (Carman 2007; Inoue et al. 2014; Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]
Starr	Plants	<i>Asclepias prostrata</i>	prostrate milkweed	E	Grasslands or openings in shrublands on loamy fine sands and fine sandy loams of the Copita, Hebronville, and possibly other soil series occurring over the Laredo, Yegua, and other Eocene formations; also in Loreto caliche sand plain in Tamaulipas; flowering April-October, but may be sporadic and dependent on rainfall
Starr	Plants	<i>Thymophylla tephroleuca</i>	ashy dogweed	E	Grasslands with scattered shrubs; most sites on sands or sandy loams on level or very gently rolling topography over Eocene strata of the Laredo Formation; flowering March-May depending to some extent on rainfall
Starr	Plants	<i>Physaria thamnophila</i>	Zapata bladderpod	E	Open, thorn shrublands on shallow, well-drained sandy loams and sandstone outcrops of Eocene origin, including the Jackson Group and Yegua and Laredo formations; the known sites soils are mapped as Zapata, Maverick, Catarina, or Copita Series; flowering usually February-April, but also summer or fall depending on rainfall
Starr	Plants	<i>Astrophytum asterias</i>	star cactus	E	Gravelly clays or loams, possibly of the Catarina Series (deep, droughty, saline clays), over the Catahoula and Frio formations, on gentle slopes and flats in sparsely vegetated openings between shrub thickets within mesquite grasslands or mesquite-blackbrush thorn shrublands; plants sink into or below ground during dry periods; flowering from mid March-May, may also flower in warmer months after sufficient rainfall, flowers most reliably in early April; fruiting mid April-June
Starr	Plants	<i>Manihot walkerae</i>	Walker's manioc	E	Periphery of native brush in sandy loam; also on caliche cuestas?; flowering April-September (following rains?)
Webb	Birds	<i>Coccyzus americanus</i>	yellow-billed cuckoo	T	In Texas, the populations of concern are found breeding in riparian areas in the Trans Pecos (know as part of the Western Distinct Population Segment). It is the Western DPS that is on the U.S. ESA threatened list and includes the Texas counties Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, and Presidio. Riparian woodlands below 6,000' in elevation consisting of cottonwoods and willows are prime habitat. This species is a long-distant migrant that summers in Texas, but winters mainly in South America. Breeding birds of the Trans Pecos populations typically arrive on their breeding grounds possibly in late April but the peak arrival time is in May. Threats to preferred habitat include hydrologic changes that don't promote the regeneration of cottonwoods and willows, plus livestock browsing and trampling of sapling trees in sensitive riparian areas.
Webb	Mammals	<i>Leopardus pardalis</i>	ocelot	E	Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.
Webb	Mollusks	<i>Popenaias popeii</i>	Texas hornshell	E	Occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. Can also occur in riffles that are clean swept of soft silt; not known from reservoirs (Carman 2007; Inoue et al. 2014; Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]
Webb	Plants	<i>Thymophylla tephroleuca</i>	ashy dogweed	E	Grasslands with scattered shrubs; most sites on sands or sandy loams on level or very gently rolling topography over Eocene strata of the Laredo Formation; flowering March-May depending to some extent on rainfall
Willacy	Birds	<i>Falco femoralis septentrionalis</i>	northern aplomado falcon	E	Open country, especially savanna and open woodland, and sometimes in very barren areas; grassy plains and valleys with scattered mesquite, yucca, and cactus; nests in old stick nests of other bird species
Willacy	Birds	<i>Charadrius melodus</i>	pipin plover	T	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.
Willacy	Birds	<i>Calidris canutus rufa</i>	rufa red knot	T	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes.
Willacy	Birds	<i>Coccyzus americanus</i>	yellow-billed cuckoo	T	In Texas, the populations of concern are found breeding in riparian areas in the Trans Pecos (know as part of the Western Distinct Population Segment). It is the Western DPS that is on the U.S. ESA threatened list and includes the Texas counties Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, and Presidio. Riparian woodlands below 6,000' in elevation consisting of cottonwoods and willows are prime habitat. This species is a long-distant migrant that summers in Texas, but winters mainly in South America. Breeding birds of the Trans Pecos populations typically arrive on their breeding grounds possibly in late April but the peak arrival time is in May. Threats to preferred habitat include hydrologic changes that don't promote the regeneration of cottonwoods and willows, plus livestock browsing and trampling of sapling trees in sensitive riparian areas.
Willacy	Birds	<i>Glaucidium brasilianum cactorum</i>	cactus ferruginous pygmy-owl	T	Riparian trees, brush, palm, and mesquite thickets; during day also roosts in small caves and recesses on slopes of low hills; breeding April to June
Willacy	Fish	<i>Carcharhinus longimanus</i>	oceanic whitetip shark	T	Habitat description is not available at this time.
Willacy	Fish	<i>Manta birostris</i>	giant manta ray	T	Gulf of Mexico
Willacy	Mammals	<i>Physeter macrocephalus</i>	sperm whale	E	Inhabits tropical, subtropical, and temperate waters world wide, avoiding icy waters. Distribution is highly dependent on their food source (squids, sharks, skates, and fish), breeding, and composition of the pod. In general, this species migrates from north to south in the winter and south to north in the summer; however, individuals in tropical and temperate waters don't seem to migrate at all. Routinely dive to catch their prey (2,000-10,000 feet) and generally occupies water at least 3,300 feet deep near ocean trenches.
Willacy	Mammals	<i>Balaenoptera physalus</i>	finback whale	E	Inhabit tropical, subtropical, temperate, and subpolar waters worldwide, but are less common in the tropics preferring cooler water. Commonly found in deep, offshore waters and migrate in the open ocean from the poles (feeding grounds) to warmer waters in the winter to give birth. They feed on krill, squid, and small schooling fish sometimes with other baleen whale species. They are very rare in the Gulf of Mexico and reported sightings are likely vagrants (Witt et al. 2011).
Willacy	Mammals	<i>Balaenoptera borealis</i>	sei whale	E	Gulf of Mexico
Willacy	Mammals	<i>Balaenoptera musculus</i>	blue whale	E	Inhabits tropical, subtropical, temperate, and subpolar waters worldwide, but are infrequently sighted in the Gulf of Mexico. They migrate seasonally between summer feeding grounds and winter breeding grounds, but specifics vary. Commonly observed at the surface in open ocean.
Willacy	Mammals	<i>Balaenoptera ricei</i>	Rice's whale	E	Gulf of Mexico
Willacy	Mammals	<i>Megaptera novaeangliae</i>	humpback whale	E	Inhabits tropical, subtropical, temperate, and subpolar waters world wide. Migrate up to 5,000 miles between colder water (feeding grounds) and warmer water (calving grounds) each year. They will use both open ocean and coastal waters, sometimes including inshore areas such as bays, and are often found near the surface; however, this species is rare in the Gulf of Mexico. The northwest Atlantic/Gulf of Mexico distinct population segment is not considered at risk of extinction and is not listed as Endangered on the Endangered Species Act.
Willacy	Mammals	<i>Eubalaena glacialis</i>	North Atlantic right whale	E	Inhabits subtropical and temperate waters in the northern Atlantic. Commonly found in coastal waters or close to the continental shelf near the surface. They migrate from feeding grounds in cooler waters (Canada and New England) to warmer waters of the southeast US (South Carolina, Georgia, and Florida) to give birth in the fall/winter - both areas are identified as critical habitat by NOAA-NMFS. Nursery areas are in shallow, coastal waters. This species is very rare in the Gulf of Mexico and the few reported sightings are likely vagrants (Ward-Geiger et al 2011).
Willacy	Mammals	<i>Leopardus pardalis</i>	ocelot	E	Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.

Appendix 5B - Threatened and Endangered Species by County

County	Taxon	Scientific Name	Common Name	USESA	Description
Willacy	Mammals	Trichechus manatus	West Indian manatee	T	Large rivers, brackish water bays, coastal waters. Warm waters of the tropics, in rivers and brackish bays but may also survive in salt water habitats. Very sensitive to cold water temperatures. Rarely occurring as far north as Texas. Gulf and bay system; opportunistic, aquatic herbivore.
Willacy	Reptiles	Caretta caretta	loggerhead sea turtle	T	Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. They migrate from feeding grounds to nesting beaches/barrier islands and some nesting does occur in Texas (April to September). Beaches that are narrow, steeply sloped, with coarse-grain sand are preferred for nesting. Newly hatched individuals depend on floating algae/seaweed for protection and foraging, which eventually transport them offshore and into open ocean. Juveniles and young adults spend their lives in open ocean, offshore before migrating to coastal areas to breed and nest. Foraging areas for adults include shallow continental shelf waters.
Willacy	Reptiles	Chelonia mydas	green sea turtle	T	Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Adults and juveniles occupy inshore and nearshore areas, including bays and lagoons with reefs and seagrass. They migrate from feeding grounds (open ocean) to nesting grounds (beaches/barrier islands) and some nesting does occur in Texas (April to September). Adults are herbivorous feeding on sea grass and seaweed; juveniles are omnivorous feeding initially on marine invertebrates, then increasingly on sea grasses and seaweeds.
Willacy	Reptiles	Eretmochelys imbricata	Atlantic hawksbill sea turtle	E	Inhabit tropical and subtropical waters worldwide, in the Gulf of Mexico, especially Texas. Hatchling and juveniles are found in open, pelagic ocean and closely associated with floating lgae/seagrass mats. Juveniles then migrate to shallower, coastal areas, mainly coral reefs and rocky areas, but also in bays and estuaries near mangroves when reefs are absent; seldom in water more than 65 feet deep. They feed on sponges, jellyfish, sea urchins, molluscs, and crustaceans. Nesting occurs from April to November high up on the beach where there is vegetation for cover and little or no sand. Some migrate, but others stay close to foraging areas - females are philopatric.
Willacy	Reptiles	Lepidochelys kempii	Kemp's Ridley sea turtle	E	Inhabits tropical, subtropical, and temperate waters of the northwestern Atlantic Ocean and Gulf of Mexico. Adults are found in coastal waters with muddy or sandy bottoms. Some males migrate between feeding grounds and breeding grounds, but some don't. Females migrate between feeding and nesting areas, often returning to the same destinations. Nesting in Texas occurs on a smaller scale compared to other areas (i.e. Mexico). Hatchlings are quickly swept out to open water and are rarely found nearshore. Similarly, juveniles often congregate near floating algae/seagrass mats offshore, and move into nearshore, coastal, neritic areas after 1-2 years and remain until they reach maturity. They feed primarily on crabs, but also snails, clams, other crustaceans and plants, juveniles feed on sargassum and its associated fauna; nests April through August.
Willacy	Reptiles	Dermochelys coriacea	leatherback sea turtle	E	Inhabit tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Nesting is not common in Texas (March to July). Most pelagic of the sea turtles with the longest migration (>10,000 miles) between nesting and foraging sites. Are able to dive to depths of 4,000 feet. They are omnivorous, showing a preference for jellyfish.
Willacy	Plants	Ayenia limitaris	Texas ayenia	E	Subtropical thorn woodland or tall shrubland on loamy soils of the Rio Grande Delta; known site soils include well-drained, calcareous, sandy clay loam (Hidalgo Series) and neutral to moderately alkaline, fine sandy loam (Willacy Series); also under or among taller shrubs in thorn woodland/thorn shrubland; flowering throughout the year with sufficient rainfall.
Zapata	Birds	Coccyzus americanus	yellow-billed cuckoo	T	In Texas, the populations of concern are found breeding in riparian areas in the Trans Pecos (know as part of the Western Distinct Population Segment). It is the Western DPS that is on the U.S. ESA threatened list and includes the Texas counties Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, and Presidio. Riparian woodlands below 6,000' in elevation consisting of cottonwoods and willows are prime habitat. This species is a long-distant migrant that summers in Texas, but winters mainly in South America. Breeding birds of the Trans Pecos populations typically arrive on their breeding grounds possibly in late April but the peak arrival time is in May. Threats to preferred habitat include hydrologic changes that don't promote the regeneration of cottonwoods and willows, plus livestock browsing and trampling of sapling trees in sensitive riparian areas.
Zapata	Mammals	Leopardus pardalis	ocelot	E	Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.
Zapata	Mollusks	Popenaias popeii	Texas hornshell	E	Occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. Can also occur in riffles that are clean swept of soft silt; not known from reservoirs (Carman 2007; Inoue et al. 2014; Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]
Zapata	Plants	Asclepias prostrata	prostrate milkweed	E	Grasslands or openings in shrublands on loamy fine sands and fine sandy loams of the Copita, Hebronville, and possibly other soil series occurring over the Laredo, Yegua, and other Eocene formations; also in Loreto caliche sand plain in Tamaulipas; flowering April-October, but may be sporadic and dependent on rainfall
Zapata	Plants	Thymophylla tephroleuca	ashy dogweed	E	Grasslands with scattered shrubs; most sites on sands or sandy loams on level or very gently rolling topography over Eocene strata of the Laredo Formation; flowering March-May depending to some extent on rainfall
Zapata	Plants	Physaria thamnophila	Zapata bladderpod	E	Open, thorn shrublands on shallow, well-drained sandy loams and sandstone outcrops of Eocene origin, including the Jackson Group and Yegua and Laredo formations; the known sites soils are mapped as Zapata, Maverick, Catarina, or Copita Series; flowering usually February-April, but also summer or fall depending on rainfall
Zapata	Plants	Astrophytum asterias	star cactus	E	Gravelly clays or loams, possibly of the Catarina Series (deep, droughty, saline clays), over the Catahoula and Frio formations, on gentle slopes and flats in sparsely vegetated openings between shrub thickets within mesquite grasslands or mesquite-blackbrush thorn shrublands; plants sink into or below ground during dry periods; flowering from mid March-May, may also flower in warmer months after sufficient rainfall, flowers most reliably in early April; fruiting mid April-June
Kinney	Birds	Coccyzus americanus	yellow-billed cuckoo	T	In Texas, the populations of concern are found breeding in riparian areas in the Trans Pecos (know as part of the Western Distinct Population Segment). It is the Western DPS that is on the U.S. ESA threatened list and includes the Texas counties Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, and Presidio. Riparian woodlands below 6,000' in elevation consisting of cottonwoods and willows are prime habitat. This species is a long-distant migrant that summers in Texas, but winters mainly in South America. Breeding birds of the Trans Pecos populations typically arrive on their breeding grounds possibly in late April but the peak arrival time is in May. Threats to preferred habitat include hydrologic changes that don't promote the regeneration of cottonwoods and willows, plus livestock browsing and trampling of sapling trees in sensitive riparian areas.
Kinney	Birds	Setophaga chrysoparia	golden-cheeked warbler	E	Ashe juniper in mixed stands with various oaks (Quercus spp.). Edges of cedar brakes. Dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are placed in various trees other than Ashe juniper; only a few mature junipers or nearby cedar brakes can provide the necessary nest material; forage for insects in broad-leaved trees and shrubs; nesting late March-early summer.
Kinney	Fish	Dionda diaboli	Devils River minnow	T	Devils River, San Felipe and Sycamore creeks in Val Verde County; Las Moras (extirpated) and Pinto creeks in Kinney County. Restricted to clear, spring-fed waters having little temperature variation. Found over gravel-cobble substrate, usually associated with aquatic macrophytes.
Kinney	Mammals	Leopardus pardalis	ocelot	E	Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.
Kinney	Mollusks	Popenaias popeii	Texas hornshell	E	Occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. Can also occur in riffles that are clean swept of soft silt; not known from reservoirs (Carman 2007; Inoue et al. 2014; Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]

Appendix 5B - Threatened and Endangered Species by County

County	Taxon	Scientific Name	Common Name	USESA	Description
Kinney	Plants	<i>Sclerocactus brevipalmatus</i> ssp. <i>tobuschii</i>	Tobusch fishhook cactus	T	Shallow, moderately alkaline, stony clay and clay loams over massive fractured limestone; usually on level to slightly sloping hilltops; occasionally on relatively level areas on steeper slopes, and in rocky floodplains; usually open areas within a mosaic of oak-juniper woodlands, occasionally in pine-oak woodlands, rarely in cenizo shrublands or little bluestem grasslands; sites are usually open with only herbaceous cover, although the cactus may be somewhat protected by rocks, grasses, or spikemosses; flowering (late January-) February-March (rarely early April)
Kinney	Plants	<i>Styrax platanifolius</i> ssp. <i>texasus</i>	Texas snowbells	E	Limestone bluffs, boulder slopes, cliff faces, and gravelly streambeds, usually along perennial streams or intermittent drainages in canyon bottoms, in full sun or in partial shade of cliffs and/or Sycamore-Little walnut woodlands, oak-juniper woodlands, or mixed oak shrublands; flowering late March-April