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MEMO

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From:

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Date:

April 17, 2020

ARCADIS Project No.: 30036455

Subject:

Desktop Environmental Site Screening and Environmental Site Visit Results – Westway 20-inch Pipeline Expansion Project, El Paso County, Texas

Introduction

Arcadis was contracted by El Paso Water to conduct a desktop environmental site screening and environmental site visit for the El Paso Water Westway 20-inch pipeline expansion project in El Paso County, Texas (31.960961°, -106.561839°) (**Figure 1**). The desktop screening was conducted to determine if threatened and endangered (T&E) species, floodplains, jurisdictional wetlands, cultural resources, or public lands and special use areas occur within the project area. The desktop screening was also conducted to identify the applicability of National Pollutant Discharge Elimination System (NPDES) requirements, Texas Parks and Wildlife Department (TPWD) Marl, Sand, and Gravel Permit requirements, and U.S. Army Corps of Engineers (USACE) Section 404 permit requirements. The desktop determinations were then field verified and are reported herein.

Methods

Arcadis completed the desktop screening using ESRI's ArcMap geographic information systems (GIS) software and available federal and state digital data. Digital layers such as National Wetlands Inventory (NWI), National Hydrography Dataset (NHD) for streams and ponds, Federal Emergency Management Agency (FEMA) flood hazard areas, and federal and state listed T&E species occurrence records were overlain on U.S. Geological Survey (USGS) quadrangle maps and aerial imagery. Environmental features within the project area were mapped and a site visit was conducted to field verify the on-site conditions relative to the desktop screening (Figure 2). Site photographs are provided as Appendix A.



Wetlands and Streams

Waters of the U.S. are defined as all waters that are, were, or may be used in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide. Waters of the U.S. generally include all interstate waters as well as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds (see 40 CFR 232.3 for complete definition). Wetlands are defined by the USACE (33 CFR 328.3, 1986) and the U.S. Environmental Protection Agency (USEPA; 40 CFR 230.3, 1980) as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

The USACE regulates the discharge of dredged or fill material into Waters of the U.S. under Section 404 of the Clean Water Act. A Section 404 permit is required if a project will result in the discharge of dredged material (i.e., material excavated from waters) or fill material (i.e., material placed in waters such that dry land replaces water—or a portion thereof—or the water's bottom elevation changes) into a Waters of the U.S., and an Individual Permit (IP), or permit coverage under an existing Nationwide Permit (NWP), must be obtained prior to starting construction. Approval of permits can take approximately three months to a year or more for site-specific IPs; although NWP or regional general permit (RGP) authorizations typically take far less time, depending on whether the submittal of a pre-construction notification (PCN) is required. Per regulation, USACE has a maximum 45-day review period for all NWPs that require PCNs prior to commencement of work.

The typical permitting requirements for pipeline maintenance or construction, including mitigations of pipeline water crossings, fall under the authority of NWP 3 or 12. Nationwide Permits 3 and 12 authorize maintenance, repair, and removal of existing, or the construction of new, utility lines and associated facilities in Waters of the U.S., provided the activity does not result in the loss of greater than 1/2 acre of Waters of the U.S. for each single and complete project. The permittee must submit a PCN to USACE prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line ROW; (2) a section 10 permit is required; (3) the utility line in Waters of the U.S., excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., Waters of the U.S.), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges will result in the loss of greater than 1/10 acre of Waters of the U.S.; (6) permanent access roads are constructed above grade in Waters of the U.S. for a distance of more than 500 feet; or (7) permanent access roads are constructed in Waters of the U.S. with impervious materials.

<u>Recommendations:</u> Based on review of aerial imagery, the NHD, and NWI data during the desktop screening, the proposed project area does not contain potentially jurisdictional Waters of the U.S (**Figure 2**). Additionally, no potentially jurisdictional waterbodies were observed during the site visit. No further action is recommended at this time.



National Pollutant Discharge Elimination System

Sites that have the potential to discharge sediments into adjacent waterways and waterbodies due to storm water runoff are required to meet storm water control requirements set forth in state and federal NPDES requirements. Projects associated with pipelines that carry water or manufactured product (which are the subject of this desktop environmental site screening) must comply with Texas Pollutant Discharge Elimination System (TPDES) General Permit No. TXR150000. Per TPDES General Permit No. TXR150000, the preparation of a Stormwater Pollution Prevention Plan (SWPPP) is not required unless disturbance exceeds one acre (including access roads, parking, and equipment laydown areas). If disturbance exceeds five acres, the submittal of a Notice of Intent (NOI) will be required in addition to the preparation of the SWPPP. Sites that disturb less than one acre but have the potential to transport sediments to adjacent waterways or waterbodies, must implement necessary best management practices (BMPs) to limit potential transport of sediments.

<u>Recommendations:</u> If upland disturbance associated with the project (disturbance includes areas covered by temporary roads or gravel mats) will not exceed one acre, per TPDES General Permit No. TXR150000, a SWPPP is not required to be prepared and maintained onsite. However, per TPDES General Permit No. TXR150000, El Paso Water must:

- Install appropriate controls and measures to reduce erosion and discharge of pollutants in stormwater runoff from the construction support activity areas;
- Implement an employee training program to educate personnel responsible for implementing the BMPs; and
- Restore all construction support activity areas to 70% of the native background vegetative cover.

If upland disturbance exceeds one acre, a SWPPP must be prepared and maintained onsite.

If upland disturbance exceeds five acres, an NOI must be submitted to the TCEQ prior to mobilization.

Texas Parks and Wildlife Department Sand, Gravel, and Marl Permit

For perennial streams, or intermittent streams that are at least 30 feet wide, the state of Texas may claim ownership of the stream bed and the sand and gravel within it. The beds of navigable streams are generally owned by the State, in trust for the public, but most of the land alongside navigable streams is privately owned. The beds of non-navigable streams are usually privately owned, and public use of the stream may be forbidden by the private landowner. However, the state owns the beds of perennial streams, regardless of navigability, where the original land grant was made under the civil law prior to December 14, 1837. Thus, Texas owns the beds of all perennial streams, regardless of navigability, where grants of land adjacent were made by Spain and Mexico prior to March 2, 1836, or by the Republic of Texas prior to the Act of [December 14,] 1837, by virtue of the civil law of Mexico. The Republic of Texas also owned the beds of all streams touching grants made subsequent to that date and prior to the Act of



1840, whether perennial or not, where the beds were as wide as 30 feet, under the Mexican civil law as modified by the Act of 1837.

If a stream is determined to be a Water of the State, a Marl, Sand, and Gravel Permit is required for excavation activities that occur within the bed or banks of the stream. A Marl, Sand, and Gravel Permit requires a 30-day public notice and may also require an Aquatic Resources Relocation Plan (which assesses potential impacts the project may have on aquatic resources based on TPWD review).

<u>Recommendations:</u> Based on the desktop assessment and site visit verification, no Waters of the State occur within the proposed project area. Therefore, a Marl, Sand, and Gravel permit is not required for the completion of the project.

Floodplains

Development within floodplains is regulated under the National Flood Insurance Program of 1968, which sets national standards for regulating new development in floodplains and distributes responsibility for floodplain management to all levels of government and the private sector. As a result, many state and local government agencies have enacted regulations to manage development within floodplains. Permit or notification requirements can vary by state, county, and local municipality. Regulatory floodplain requirements must be determined on a case-by-case basis based on location and may include multiple overlapping jurisdictional agencies (i.e., a combination of state, county, and/or local municipal governments). Due to the potential for multiple agency approvals, permit acquisition timelines cannot be readily estimated and must be determined through agency communication and coordination.

<u>Recommendations:</u> Arcadis reviewed FEMA floodplain data to determine the potential for the project to intersect floodplains. The proposed project area is not located within the mapped 100-year floodplain of El Paso County. Therefore, coordination with the El Paso County Floodplain Administrator is not required.

Scenic Rivers/Special Use Areas

Arcadis reviewed lists of national and state scenic rivers in Texas to determine if the sites would occur within streams or rivers included in the Wild and Scenic Rivers Program. In addition, any special use areas, such as state or federal lands (i.e., parks, conservation or wildlife management areas, national forests), may require a special access or use permit to conduct work on their property. Also, federal and state lands may receive additional protection due to the presence of federal or state-listed T&E species and/or sensitive ecosystem.

<u>Recommendations:</u> The proposed pipeline is not located within a scenic river, special use area, or on public land. No further action is recommended at this time.



Threatened and Endangered Species

In compliance with the Endangered Species Act of 1973, Arcadis reviewed aerial photographs, T&E occurrence records, and land use maps to assess the likelihood of T&E species or T&E habitats proximal to the proposed project area. **Appendix B** provides a list of both federal and state-listed species that may potentially occur within El Paso County, Texas.

<u>Recommendations:</u> Based on the desktop assessment, no T&E species are reported to occur within the proposed project area, nor was suitable habitat observed during the site visit. No further action is recommended at this time.

Migratory Birds

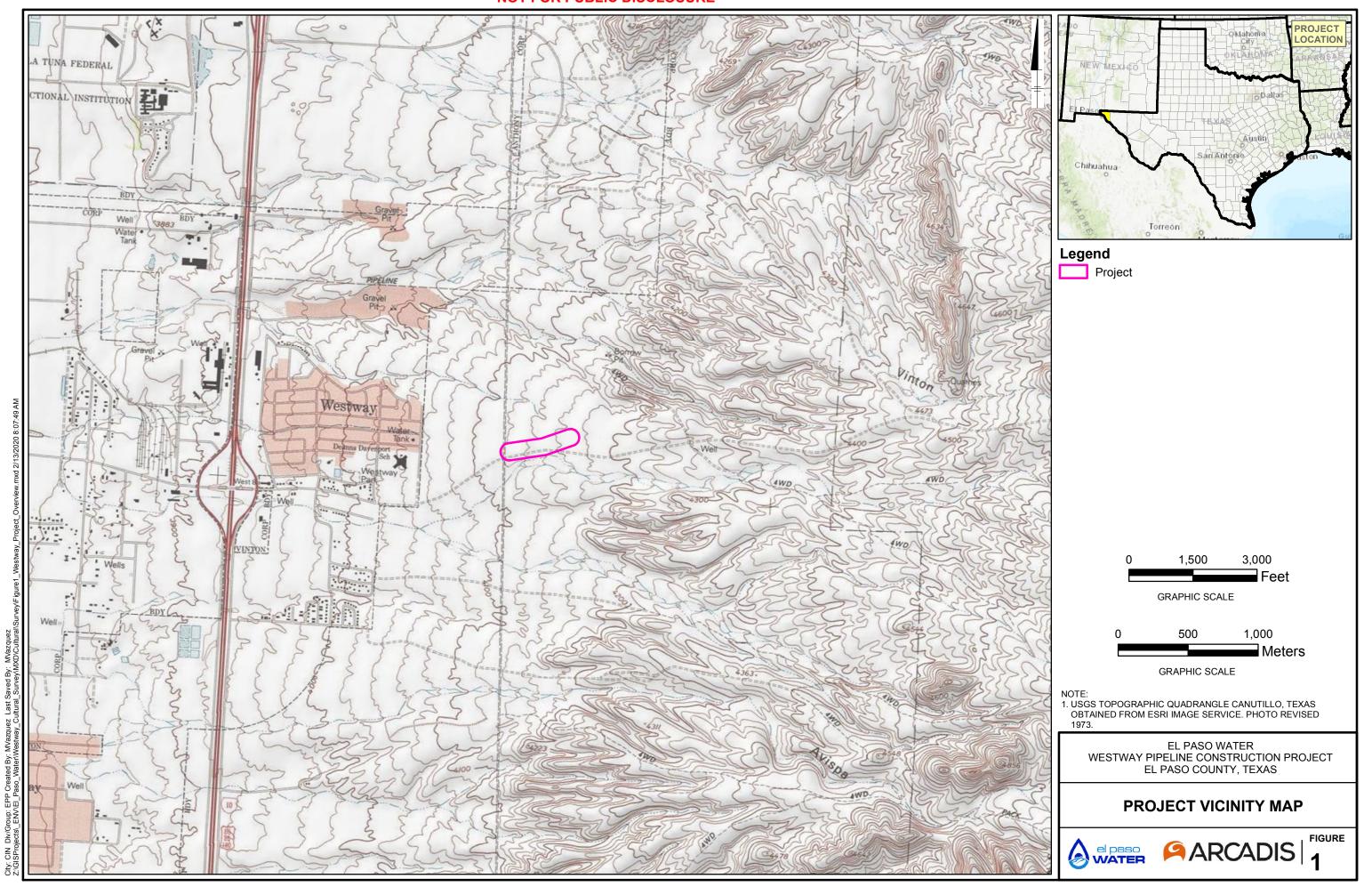
The Migratory Bird Treaty Act (MBTA) of 1918 (16 US Code [USC] 703-712) is administered by the USFWS and is the cornerstone of migratory bird conservation and protection in the U.S. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds; and provides that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird" (16 USC 703). The list of species protected by the MBTA was revised in March 2013, and includes almost all bird species (1,026 species) that are native to the U.S. In 2015 the Fifth Circuit Court of Appeals held that the MBTA's ban on bird "takings" only prohibits intentional acts that directly kill migratory birds (e.g., hunting). The USFWS subsequently published a notice of intent to prepare a programmatic environmental impact statement in support of a new incidental take permit (ITP) program under the MBTA. However, the USFWS has published several provisions of the MBTA and supplemental guidance, including an April 11, 2018 *Guidance on the recent M-Opinion affecting the Migratory Bird Treaty Act*.

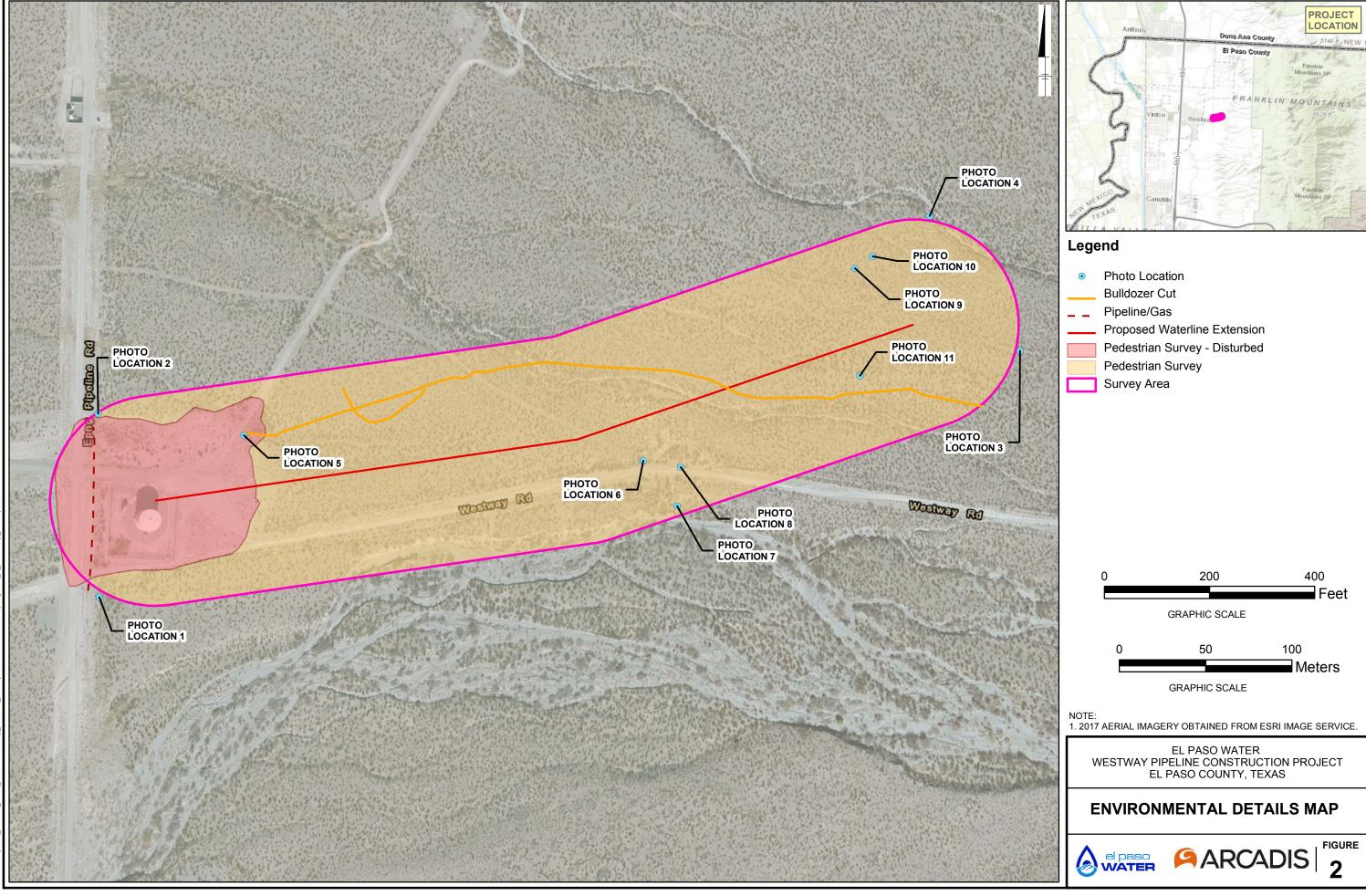
According to the guidance, the M-Opinion concludes that the take of birds resulting from an activity is not prohibited by the MBTA when the underlying purpose of that activity is not to take birds. USFWS interprets the M-Opinion to mean that the MBTA's prohibitions on take apply when the *purpose* of an action is to take migratory birds, their eggs, or their nests. Conversely, the take of birds, eggs, or nests occurring as the result of an otherwise lawful activity, the purpose of which is not to take birds, eggs or nests, is not prohibited by the MBTA.

Recommendations: In lieu of the changing federal position on the enforcement of the MBTA, Arcadis recommends a continued, consistent, and pragmatic course of action whereby pre-construction nest surveys will be conducted prior to clearing vegetation outside of existing access roads and pipeline ROW for all work conducted during the migratory bird nesting season in Texas (spring and summer months from March 1 to September 30).



Figures

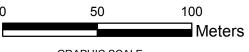




PROJECT LOCATION FRANKLIN MOUNTAINS

- Pedestrian Survey Disturbed





EL PASO WATER
WESTWAY PIPELINE CONSTRUCTION PROJECT
EL PASO COUNTY, TEXAS

ENVIRONMENTAL DETAILS MAP





Appendix A – Site Photographs



Photograph 1: Overview of Project from Southwest corner, facing northeast.



Photograph 2: Overview of Project from Northwest corner, facing southeast.



Photograph 3: Overview of Project from Southeast corner, facing west.



Photograph 4: Overview of Project from Northeast corner, facing southwest.



Photograph 5: Overview of Bull-Dozer Cuts and Ground Surface Disturbances, facing east



Photograph 6: Overview Trash Piles within the Southern Portion of APE, facing northwest



Photograph 7: Overview Trash Piles within the Southern Portion of APE, facing north



Photograph 8: Overview of massive Trash Piles within the Southern Portion of APE, facing north



Photograph 9: Overview of shovel Test, facing east.



Photograph 10: Example of Gravel on the Surface.



Photograph 11: Overview of Project, facing west.



Appendix B – Annotated County List of Rare Species In El Paso County, Texas

Last Update: 3/4/2020

EL PASO COUNTY

AMPHIBIANS

Woodhouse's toad Anaxyrus woodhousii

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes.

Aquatic habitats are equally varied.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: SU

BIRDS

American peregrine falcon Falco peregrinus anatum

Year-round resident and local breeder in west Texas, nests in tall cliff eyries; also, migrant across state from more northern breeding areas in US and Canada, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.

Federal Status: State Status: T SGCN: Y

Endemic: N Global Rank: G4T4 State Rank: S2B

Franklin's gull Leucophaeus pipixcan

This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G5 State Rank: S2N

gray hawk Buteo plagiatus

Locally and irregularly along U.S.-Mexico border; mature riparian woodlands and nearby semiarid mesquite and scrub grasslands; breeding

range formerly extended north to southernmost Rio Grande floodplain of Texas

Federal Status: State Status: T SGCN: Y

Endemic: N Global Rank: GNR State Rank: S2B

Mexican spotted owl Strix occidentalis lucida

Remote, shaded canyons of coniferous mountain woodlands (pine and fir); nocturnal predator of mostly small rodents and insects; day roosts in

densely vegetated trees, rocky areas, or caves

Federal Status: LT State Status: T SGCN: Y

Endemic: N Global Rank: G3G4T3T4 State Rank: S1B

southwestern willow flycatcher Empidonax traillii extimus

Thickets of willow, cottonwood, mesquite, and other species along desert streams

Federal Status: LE State Status: E SGCN: N

Endemic: N Global Rank: G5T2 State Rank: S1B

DISCLAIMER

BIRDS

western burrowing owl Athene cunicularia hypugaea

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and

roosts in abandoned burrows

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4T4 State Rank: S2

western yellow-billed cuckoo Coccyzus americanus occidentalis

Status applies only to western population beyond the Pecos River Drainage; breeds in riparian habitat and associated drainages; springs, developed wells, and earthen ponds supporting mesic vegetation; deciduous woodlands with cottonwoods and willows; dense understory foliage is important for nest site selection; nests in willow, mesquite, cottonwood, and hackberry; forages in similar riparian woodlands; breeding season mid-May-late Sept.

Federal Status: LT State Status: SGCN: Y

Endemic: N Global Rank: G5T2T3 State Rank: S4S5B

white-faced ibis Plegadis chihi

Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status: State Status: T SGCN: Y

Endemic: N Global Rank: G5 State Rank: S4B

FISH

Chihuahua catfish Ictalurus sp. 1

Native to the Rio Grande and Davis Mountains in west Texas; it inhabits the middle to upper parts of moderate to large rivers and also occurs in small, headwater creeks and springs over gravel, rubble, rocks, boulders and mud substrates.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G1G2 State Rank: S1

longnose dace Rhinichthys cataractae

Can only be found in the Big Bend portion of the Rio Grande. Occasionally taken in lakes and clear pools of rivers but prefers clear, flowing

water in gravelly riffles.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S2

speckled chub Macrhybopsis aestivalis

Found throughout the Rio Grande and lower Pecos River but occurs most frequently between the Rio Conchos confluence and the Pecos River.

Flowing water over coarse sand and fine gravel substrates in streams; typically found in raceways and runs.

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G3G4 State Rank: S1S2

DISCLAIMER

INSECTS

American bumblebee Bombus pensylvanicus

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Global Rank: G3G4 State Rank: SNR

grande stripetail Isoperla jewetti

Originally described from El Paso Co., Texas from specimens collected in 1939.

Federal Status: State Status: SGCN: Y
Endemic: Global Rank: G1 State Rank: S1

Samalayuca Dune grasshopper Cibolacris samalayucae

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Global Rank: G2? State Rank: S2?

MAMMALS

American badger Taxidea taxus

Generalist. Prefers areas with soft soils that sustain ground squirrels for food. When inactive, occupies underground burrow. Young are born in

underground burrows.

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G5 State Rank: S5

big brown bat Eptesicus fuscus

Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S5

big free-tailed bat Nyctinomops macrotis

Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but

may hibernate in the Trans-Pecos; opportunistic insectivore

Federal Status: State Status: SGCN: Y
Endemic: Global Rank: G5 State Rank: S3

black-tailed prairie dog Cynomys ludovicianus

Dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle; live in large family groups

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S3

DISCLAIMER

MAMMALS

cave myotis bat Myotis velifer

Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (Hirundo pyrrhonota) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4G5 State Rank: S4

desert pocket gopher Geomys arenarius

Cottonwood-willow association along the Rio Grande in El Paso and Hudspeth counties; does not tolerate clayey or gravelly soils characteristic of the other Geomys species; common along irrigation ditches in the sandy river bottom area. Lives underground, but build large and conspicuous mounds; life history not well documented, but presumed to eat mostly vegetation, be active year round, and bear more than one litter per year.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3G4 State Rank: S2

eastern red bat Lasiurus borealis

Found in a variety of habitats in Texas. Usually associated with wooded areas. Found in towns especially during migration.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3G4 State Rank: S4

hoary bat Lasiurus cinereus

Known from montane and riparian woodland in Trans-Pecos, forests and woods in east and central Texas.

Federal Status: SGCN: Y

Endemic: N Global Rank: G3G4 State Rank: S4

kit fox Vulpes macrotis

Open desert grassland; avoids rugged, rocky terrain and wooded areas.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S1S2

long-legged myotis bat Myotis volans

Found in pine-oak woodland to grassland ecotone, higher elevations of Trans-Pecos. High, open woods and mountainous terrain; nursery colonies (which may contain several hundred individuals) form in summer in buildings, crevices, and hollow trees; apparently does not use caves as day roosts, but may use such sites at night; single offspring born June-July.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4G5 State Rank: S4

long-tailed weasel Mustela frenata

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S5

DISCLAIMER

MAMMALS

Mexican free-tailed bat Tadarida brasiliensis

Roosts in buildings in east Texas. Largest maternity roosts are in limestone caves on the Edwards Plateau. Found in all habitats, forest to desert.

Federal Status: SGCN: Y

Endemic: N Global Rank: G5 State Rank: S5

Mexican long-tongued bat Choeronycteris mexicana

Only Texas record is from riparian forest; in general--neotropical nectivorous species roosting in caves, mines, and large crevices found in deep canyons along the Rio Grande; also found in buildings and often associated with big-eared bats (Plecotus spp.); single TX record from Santa

Ana NWR

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3G4 State Rank: S1

mountain lion Puma concolor

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & tip riparian zones.

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G5 State Rank: S2S3

Pecos River muskrat Ondatra zibethicus ripensis

Creeks, rivers, lakes, drainage ditches, and canals; prefer shallow, fresh water with clumps of marshy vegetation, such as cattails, bulrushes, and

sedges; live in dome-shaped lodges constructed of vegetation; diet is mainly vegetation; breed year round

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G5T3T4 State Rank: S2S3

pronghorn Antilocapra americana

Prefers hilly & Damp; plateau areas of open grassland, desert-grassland, & Damp; desert-scrub, where it frequents south-facing slopes & Damp; other

sheltered areas.

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G5 State Rank: S5

rock mouse Peromyscus nasutus

Rocky areas and talus slopes above 6000 feet. General vegetation associations include madrone, oak, maple, juniper, pinyon and ponderosa pine.

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G5 State Rank: S4

Townsend's big-eared bat Corynorhinus townsendii

In Texas, habitat ranges from desert scrub to pinyon-juniper woodland, consistently in areas with canyons or cliffs (Schmidly 1991). Roosts in

caves, crevases, trees, and buildings in the Panhandle and Trans-Pecos.

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G4 State Rank: S3?

DISCLAIMER

MAMMALS

western hog-nosed skunk Conepatus leuconotus

Habitats include woodlands, grasslands & amp; deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the

habitat of the ssp. telmalestes

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S4

western small-footed myotis bat Myotis ciliolabrum

Mountainous regions of the Trans-Pecos, usually in wooded areas, also found in grassland and desert scrub habitats; roosts beneath slabs of rock, behind loose tree bark, and in buildings; maternity colonies often small and located in abandoned houses, barns, and other similar structures;

apparently occurs in Texas only during spring and summer months; insectivorous

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

western spotted skunk Spilogale gracilis

Brushy canyons, rocky outcrops (rimrock) on hillsides and walls of canyons. In semi-arid brushlands in U.S., in wet tropical forests in Mexico.

When inactive or bearing young, occupies den in rocks, burrow, hollow log, brush pile, or under building.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S5

western yellow bat Lasiurus xanthinus

Forages over water both perennial and intermittent sources, found at low elevations (< 6,000 feet), roosts in vegetation (yucca, hackberry, sycamore, cypress, and especially palm); also hibernates in palm; locally common in residential areas landscaped with palms in Tuscon and

Phoenix, Arizona; young born in June; insectivore

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4G5 State Rank: S1

MOLLUSKS

Franklin Mountain talus snail Sonorella metcalfi

Terrestrial; bare rock, talus, scree; inhabits igneous talus most commonly of rhyolitic origin

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G2 State Rank: S1

Franklin Mountain wood snail Ashmunella pasonis

Terrestrial; bare rock, talus, scree; talus slopes, usually of limestone, but also of rhyolite, sandstone, and siltstone, in arid mountain ranges

Federal Status: State Status: SGCN: Y

Endemic: Global Rank: G2G3 State Rank: S1?

DISCLAIMER

MOLLUSKS

Huecos Mountains talus snail Sonorella huecoensis

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Y Global Rank: G1G2 State Rank: S1?

REPTILES

Big Bend slider Trachemys gaigeae

Aquatic: Rivers with permanent water; ponds, impoundments, and stock tanks along the Rio Grande; basks on shore, emergent rocks, logs,

vegetation mats, or at water surface.

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G3 State Rank: S2

Chihuahuan Desert lyre snake Trimorphodon vilkinsonii

Terrestrial: Rocky areas with plenty of crevices and fissures. Preferred habitats include rock piles, outcrops and talus slopes. Also occurs in

desert flats, succulent and scrub, and mountain canyons to about 6000 feet.

Federal Status: State Status: T SGCN: Y

Endemic: N Global Rank: G4 State Rank: S4

gray-checkered whiptail Aspidoscelis dixoni

Terrestrial: The habitat comprises rocky plains, dry washes, canyon bottoms, and desert scrub (ocotillo, creosotebush, opuntia) (Bartlett and Bartlett 1999); generally on rocky soils of desert shrublands and degraded grasslands on alluvial benches, canyon bottoms, and lower

southwestern mountain slopes (Scudday 1973, Degenhardt et al. 1996).

Federal Status: SGCN: Y

Endemic: N Global Rank: G3G4 State Rank: S2

massasauga Sistrurus tergeminus

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic

habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G3G4 State Rank: S3S4

mountain short-horned lizard Phrynosoma hernandesi

Terrestrial: Generally restricted to high elevation grasslands and forested areas with open ground; soil may vary from rocky to sandy; burrows

into soil or occupies rodent burrow when inactive.

Federal Status: State Status: T SGCN: Y

Endemic: N Global Rank: G5 State Rank: S2

DISCLAIMER

REPTILES

Texas horned lizard Phrynosoma cornutum

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G4G5 State Rank: S3

western box turtle Terrapene ornata

Terrestrial: Ornate or western box trutles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

western hognose snake Heterodon nasicus

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic

habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S4

western rattlesnake Crotalus viridis

Terrestrial: Dry desert and prairie grasslands, shrub desert rocky hillsides; edges of arid and semi-arid river breaks.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S5

PLANTS

Alamo beardtongue Penstemon alamosensis

Rocky soils derived from limestone (in Texas), usually in sheltered sites, often on north facing slopes and in mesic canyon bottoms, occasionally in rock crevices or among unbrowsed shrubs; flowering late April-June

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S1

Bigelow's desert grass Blepharidachne bigelovii

Restricted to xeric limestone or various gypsum-influenced habitats; Perennial; Flowering March-Dec; Fruiting March-Dec

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S3

DISCLAIMER

PLANTS

Comal snakewood Colubrina stricta

In El Paso County, found in a patch of thorny shrubs in colluvial deposits and sandy soils at the base of an igneous rock outcrop; the historic Comal County record does not describe the habitat; in Mexico ,found in shrublands on calcareous, gravelly, clay soils with woody associates; flowering late spring or early summer

Federal Status: State Status: SGCN: Y Endemic: N Global Rank: G2 State Rank: S1

dense cory cactus Escobaria dasyacantha var. dasyacantha

Lechuguilla-sotol or creosote bush shrublands, grasslands, and oak-juniper woodlands on gravelly, rocky, and/or loamy soils over igneous or limestone substrates at moderate elevations 750-1800 m (2450-5900 ft) in the Chihuahuan Desert; flowering March-May (-July), fruiting (May-)

June-August

SGCN: Y Federal Status: State Status: Endemic: N Global Rank: G3T3 State Rank: S3

desert night-blooming cereus Peniocereus greggii var. greggii

Chihuahuan Desert shrublands or shrub invaded grasslands in alluvial or gravelly soils at lower elevations, 1200-1500 m (3900-4900 ft), on slopes, benches, arroyos, flats, and washes; flowering synchronized over a few nights in early May to late June when almost all mature plants

bloom, flowers last only one day and open just after dark, may flower as early as April

State Status: SGCN: Y Federal Status: Endemic: N Global Rank: G3G4T3 State Rank: S2

fleshy tidestromia Tidestromia carnosa

Occurs in saline or gypseous soils in open situations; Annual; Flowering March-Nov; Fruiting April-Nov State Status: SGCN: Y Federal Status: Global Rank: G3 Endemic: N State Rank: S2

Salvia summa great sage

Limestone cliffs and slopes in the Guadalupe and Franklin Mountains; Perennial; Flowering April-June; Fruiting May-Oct

Federal Status: State Status: SGCN: Y Global Rank: G3 Endemic: N State Rank: S2

Hueco rock-daisy Perityle huecoensis

North-facing or otherwise mostly shaded limestone cliff faces within relatively mesic canyon system; flowering spring-fall

Federal Status: SGCN: Y State Status: Endemic: N Global Rank: G1 State Rank: S1

lvreleaf twistflower Streptanthus carinatus ssp. carinatus

Occurs on igneous and limestone slopes and alluvial fans (Carr 2015).

SGCN: Y Federal Status: State Status: Endemic: N Global Rank: G4T3T4 State Rank: S3

DISCLAIMER

PLANTS

Mt. Davis brickellbush Brickellia parvula

Occurs on rocky slopes and ridges in the mountains of the southwestern U.S. at elevations between 1200 and 2100 m; Perennial; Flowering Aug-

Sept; Fruiting Sept-Oct

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S1

Payson's hiddenflower Cryptantha paysonii

Rocky limestone slopes in mountains; Perennial; Flowering May; Fruiting May-June

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S1

Pima pineapple cactus Coryphantha scheeri var. robustispina

Habitat description not available at this time.

Federal Status: LE State Status: SGCN: N

Endemic: N Global Rank: G4T2Q State Rank: SNA

Plank's catchfly Silene plankii

Franklin Mountains of El Paso County, occurring in crevices on shaded igneous cliff faces above ca. 5000 ft.; Perennial; Flowering summer-

early autumn

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G2 State Rank: S1

resin-leaf brickellbush Brickellia baccharidea

Mixed desert shrublands on bajada slopes and in arroyos on sandy or gravelly soils derived from limestone, but also known from igneous

substrates; flowering September-April

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S1

sand prickly-pear Opuntia arenaria

Deep, loose or semi-stabilized sands in sparsely vegetated dune or sandhill areas, or sandy floodplains in arroyos; flowering May-June

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G2 State Rank: S2

Scheer's cory cactus Coryphantha scheeri var. uncinata

Rocky hillsides (Carr 2015).

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4TUQ State Rank: S2

DISCLAIMER

PLANTS

smooth bur-cucumber Sicyos glaber

Mesic canyons in the Chisos and Guadalupe Mountains (Carr 2015).

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S1

Sneed's pincushion cactus Escobaria sneedii var. sneedii

Xeric limestone outcrops on rocky, usually steep slopes in desert mountains, in the Chihuahuan Desert succulent shrublands or grasslands;

flowering April-September (peak usually in April, sometimes opportunistically after summer rains; fruiting August - November

Federal Status: LE State Status: E SGCN: Y
Endemic: N Global Rank: G2G3QT2Q State Rank: S2

Stebbin's desert dandelion *Malacothrix stebbinsii*

Shrubland among boulders of dark ingeous rock; sandy yucca, ephedra, grass flats; steep-walled metamorphic rock canyon (TEX-LL specimens

Carr 19661, Worthington 24704 & Carr 24701). April.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3? State Rank: S1

Texas false saltgrass Allolepis texana

Sandy to silty soils of valley bottoms and river floodplains, not generally on alkaline or saline sites; Perennial; Flowering (May-) July-October

depending on rainfall

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G2 State Rank: S1

Vasey's bitterweed Hymenoxys vaseyi

Occurs on xeric limestone cliffs and slopes at mid- to high elevations in desert shrublands.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G2 State Rank: S1

Waterfall's milkvetch Astragalus waterfallii

Rocky limestone slopes; Perennial; Flowering Feb-May; Fruiting April- May

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3? State Rank: S3

Wheeler's spurge Euphorbia geyeri var. wheeleriana

Sparingly vegetated, loose eolian quartz sand on reddish sand dunes or coppice mounds; flowering and fruiting at least August-September,

probably earlier and later, as well

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5T2 State Rank: S1

DISCLAIMER

PLANTS

Wright's fishhook cactus Mammillaria wrightii var. wrightii

Franklin Mountains (Carr 2015)

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4T3 State Rank: S1