

E. DESKTOP ASSESSMENT LETTERS

- Desktop Threatened & Endangered Species Assessment prepared by PSI.
- Desktop Edwards Aquifer Transition Zone Requirements Assessment prepared by PSI.
- Desktop Cultural Resources Assessment prepared by PSI.



Professional Service Industries, Inc.
3 Burwood Ln., San Antonio, TX 78216
Phone: (210) 342-9377
Fax: (210) 342-9401

Mr. Robert Morse
APSI Construction Management
12902 Elmington Drive
Cypress, Texas 77429

**Re: Desktop Threatened & Endangered Species Assessment,
Desktop Edwards Aquifer Transition Zone Requirements Assessment, &
Desktop Cultural Resources Assessment**
Proposed San Antonio Water System Northeast Operation Center
Ackerman Site / Approximate 36-Acre Tract
Judson Road, Approximately 500 ft North of Loop 1604
San Antonio, Bexar County, Texas 78247
PSI Project # 0435-4076

Dear Mr. Morse:

These desktop assessments relate to the approximately 36-acre SAWS property (hereinafter referred to as the Subject Property) that is located on the east side of Judson Road, and is approximately 500 feet north of Loop 1604 within the City of San Antonio, Bexar County, Texas. A Site Location Map is attached as Figure 1.

Desktop Threatened & Endangered Species Assessment

The Endangered Species Act provides protection for threatened and endangered (T&E) species, including plants and animals, and critical habitat. The Endangered Species Act is administered by the USFWS for non-marine species. Because the presence of T&E species or critical habitat on a property may impact development plans on the property, the client has requested that PSI perform a review of available information related to T&E species that are known to inhabit the area.

USFWS develops T&E Species lists on a county by county basis for the U.S. PSI has obtained and reviewed the T&E Species list for Bexar County. The list is attached. Where possible, we have screened out species that would not likely inhabit the property and/or where it is obvious that the on-site habitat is not suitable (e.g. aquatic species on a property with no surface water). It should be noted that this desktop screening did not include a site inspection for T&E species or suitable habitat by a qualified biologist that is trained in their identification. Therefore, the desktop review should be considered preliminary in nature. However, our assessor did view the subject property.





The USFWS Threatened and Endangered Species List for indicates that the following T&E species are known to inhabit areas within the county on at least a transitory basis:

- Golden-cheeked Warbler
- Karst invertebrates (several species)

Given that the specific vegetation requirements or suitable karst features for the listed species were not found on the subject site, it is unlikely that the subject site offers suitable habitat for this species and thus not likely to be found on the subject property. Additional review by a qualified biologist may result in screening out of a number, or all these species from consideration. A site reconnaissance by a qualified wildlife biologist may be required to eliminate remaining species from consideration.

Desktop Edwards Aquifer Transition Zone Requirements Assessment

PSI reviewed requirements for regulated developments on the Edwards Aquifer Recharge Zone (EARZ) and Transition Zone (TZ), and Contributing Zone (CT), regarding sites with aboveground storage tanks (ASTs). Since the subject site is located on the TZ and will have ASTs, an Edwards Aquifer Protection Plan (EAPP) and a Geologic Assessment (GA) will be required prior to site development activities.

Desktop Cultural Resources Assessment

PSI conducted a desktop search of the Texas Historical Commission (THC) Atlas Map to identify historic properties listed in the National Register of Historic Places and/or designated State Antiquities Landmarks within one mile of the Project Area. While no sites are mapped in the vicinity of the subject site, coordination with the THC via the eTRAC system or with a licensed archaeologist would be needed to verify information on previously recorded and/or unlisted archaeological sites in the vicinity.

We appreciate the opportunity to provide our services to you on this project and would be pleased to continue our role as your consultant. If we can be of further assistance to you, or if you have any questions regarding this report, please feel free to contact us at (210) 342-9377.

For Professional Service Industries, Inc.

A handwritten signature in black ink, appearing to read 'John Langan'.

John Langan, P.G.
Department Manager
Environmental Services

Attachments: Figure 1 – Site Location Map
 Figure 2 – USFWS Critical Habitat Map for Threatened & Endangered Species
 Figure 3 – GCWA Habitat Bexar County 2008
 Figure 4 – Edwards Aquifer Transition Zone

E. NEOC DESKTOP ASSESSMENTS LETTER

Desktop Assessments Letter prepared by PSI.

- Desktop Threatened & Endangered Species Assessment
- Desktop Edwards Aquifer Transition Zone Requirements Assessment
- Desktop Cultural Resources Assessment



Professional Service Industries, Inc.
3 Burwood Ln., San Antonio, TX 78216
Phone: (210) 342-9377
Fax: (210) 342-9401

Mr. Robert Morse
APSI Construction Management
12902 Elmington Drive
Cypress, Texas 77429

**Re: Desktop Threatened & Endangered Species Assessment,
Desktop Edwards Aquifer Transition Zone Requirements Assessment, &
Desktop Cultural Resources Assessment**
Proposed San Antonio Water System Northeast Operation Center
Ackerman Site / Approximate 36-Acre Tract
Judson Road, Approximately 500 ft North of Loop 1604
San Antonio, Bexar County, Texas 78247
PSI Project # 0435-4076

Dear Mr. Morse:

These desktop assessments relate to the approximately 36-acre SAWS property (hereinafter referred to as the Subject Property) that is located on the east side of Judson Road, and is approximately 500 feet north of Loop 1604 within the City of San Antonio, Bexar County, Texas. A Site Location Map is attached as Figure 1.

Desktop Threatened & Endangered Species Assessment

The Endangered Species Act provides protection for threatened and endangered (T&E) species, including plants and animals, and critical habitat. The Endangered Species Act is administered by the USFWS for non-marine species. Because the presence of T&E species or critical habitat on a property may impact development plans on the property, the client has requested that PSI perform a review of available information related to T&E species that are known to inhabit the area.

USFWS develops T&E Species lists on a county by county basis for the U.S. PSI has obtained and reviewed the T&E Species list for Bexar County. The list is attached. Where possible, we have screened out species that would not likely inhabit the property and/or where it is obvious that the on-site habitat is not suitable (e.g. aquatic species on a property with no surface water). It should be noted that this desktop screening did not include a site inspection for T&E species or suitable habitat by a qualified biologist that is trained in their identification. Therefore, the desktop review should be considered preliminary in nature. However, our assessor did view the subject property.





The USFWS Threatened and Endangered Species List for indicates that the following T&E species are known to inhabit areas within the county on at least a transitory basis:

- Golden-cheeked Warbler
- Karst invertebrates (several species)

Given that the specific vegetation requirements or suitable karst features for the listed species were not found on the subject site, it is unlikely that the subject site offers suitable habitat for this species and thus not likely to be found on the subject property. Additional review by a qualified biologist may result in screening out of a number, or all these species from consideration. A site reconnaissance by a qualified wildlife biologist may be required to eliminate remaining species from consideration.

Desktop Edwards Aquifer Transition Zone Requirements Assessment

PSI reviewed requirements for regulated developments on the Edwards Aquifer Recharge Zone (EARZ) and Transition Zone (TZ), and Contributing Zone (CT), regarding sites with aboveground storage tanks (ASTs). Since the subject site is located on the TZ and will have ASTs, an Edwards Aquifer Protection Plan (EAPP) and a Geologic Assessment (GA) will be required prior to site development activities.

Desktop Cultural Resources Assessment

PSI conducted a desktop search of the Texas Historical Commission (THC) Atlas Map to identify historic properties listed in the National Register of Historic Places and/or designated State Antiquities Landmarks within one mile of the Project Area. While no sites are mapped in the vicinity of the subject site, coordination with the THC via the eTRAC system or with a licensed archaeologist would be needed to verify information on previously recorded and/or unlisted archaeological sites in the vicinity.

We appreciate the opportunity to provide our services to you on this project and would be pleased to continue our role as your consultant. If we can be of further assistance to you, or if you have any questions regarding this report, please feel free to contact us at (210) 342-9377.

For Professional Service Industries, Inc.

A handwritten signature in black ink, appearing to read 'John Langan'.

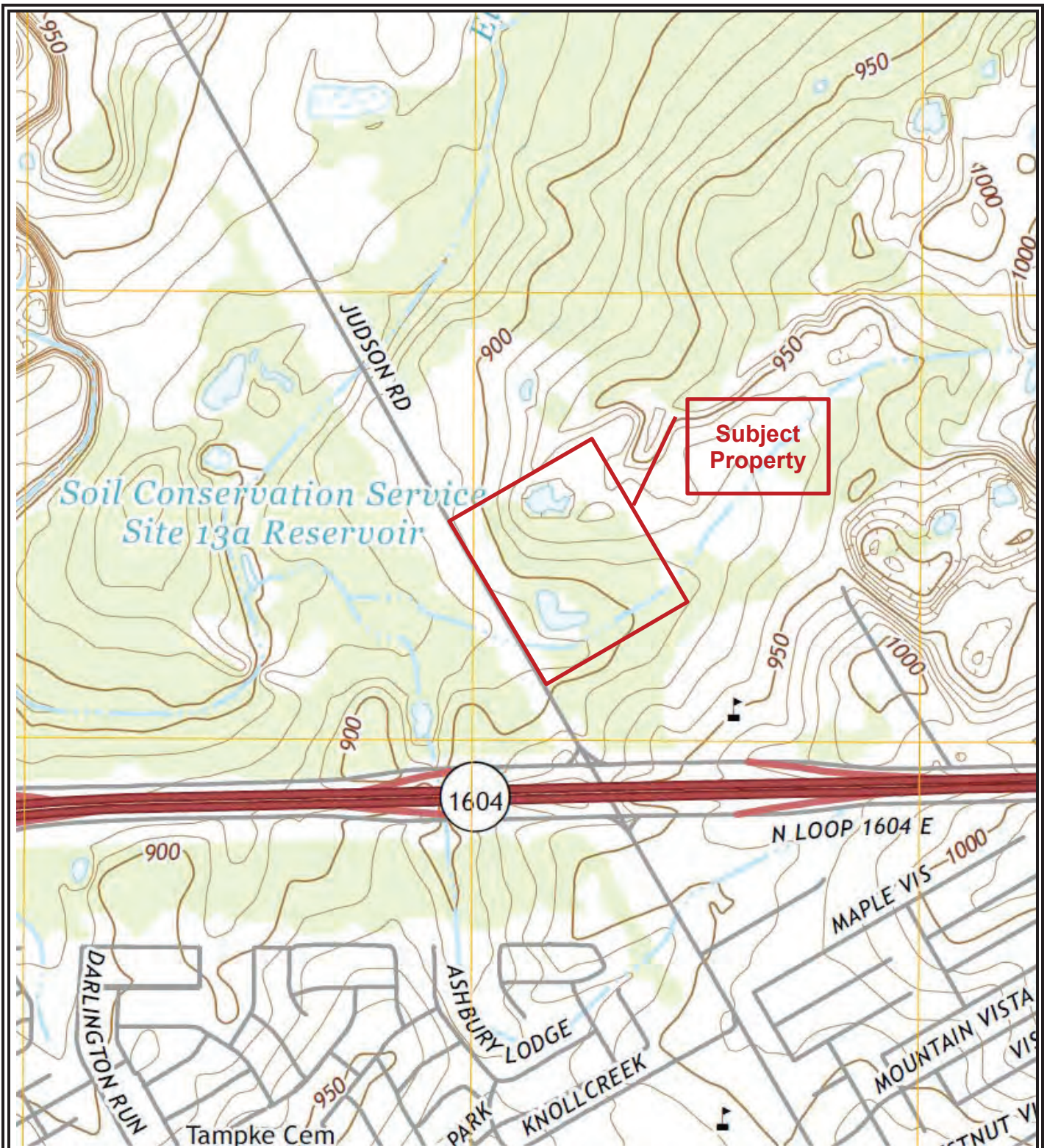
John Langan, P.G.
Department Manager
Environmental Services

Attachments: Figure 1 – Site Location Map
 Figure 2 – USFWS Critical Habitat Map for Threatened & Endangered Species
 Figure 3 – GCWA Habitat Bexar County 2008
 Figure 4 – Edwards Aquifer Transition Zone



TPWD Endangered Species Report 2019 for Bexar County
TPWD TEAM Ecosystems Report
TCEQ AST Facility Plan Checklist

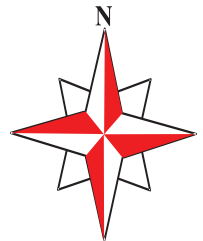
ATTACHMENTS



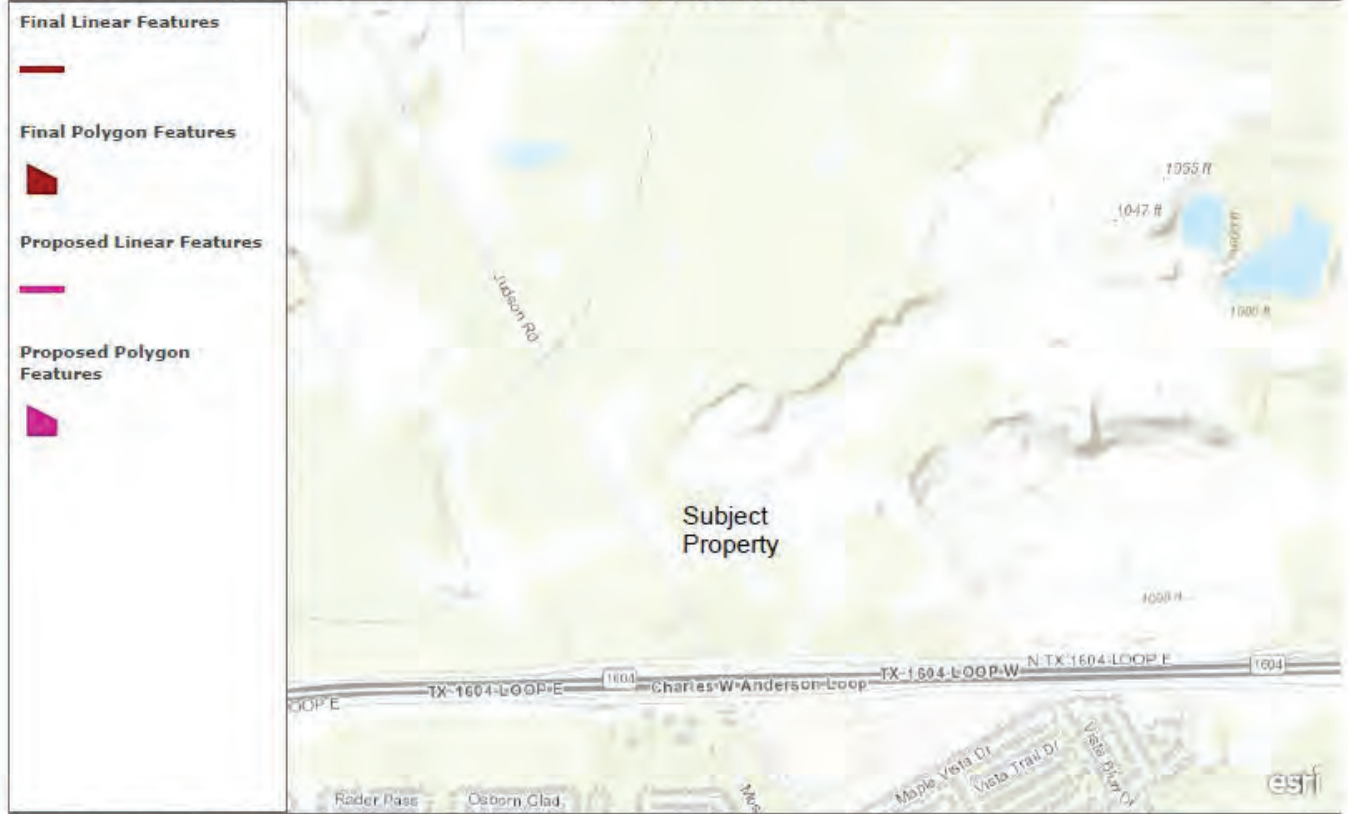
PSI, Inc.
3 Burwood Lane
San Antonio, Texas 78216

PROJECT NAME:
SAWS Ackerman Site
Judson Road
San Antonio, Texas 78247
PSI Project No.: 0435-4076

Figure 1
Site Location & USGS
“Longhorn, TX”
7.5 Min Topo Map
(Revised 2019)



Critical Habitat for Threatened & Endangered Species [USFWS]



A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

0.3mi

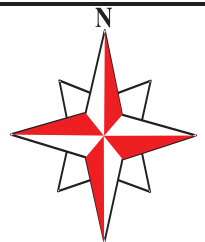
U.S. Fish and Wildlife Service | BCAD, Comal County, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

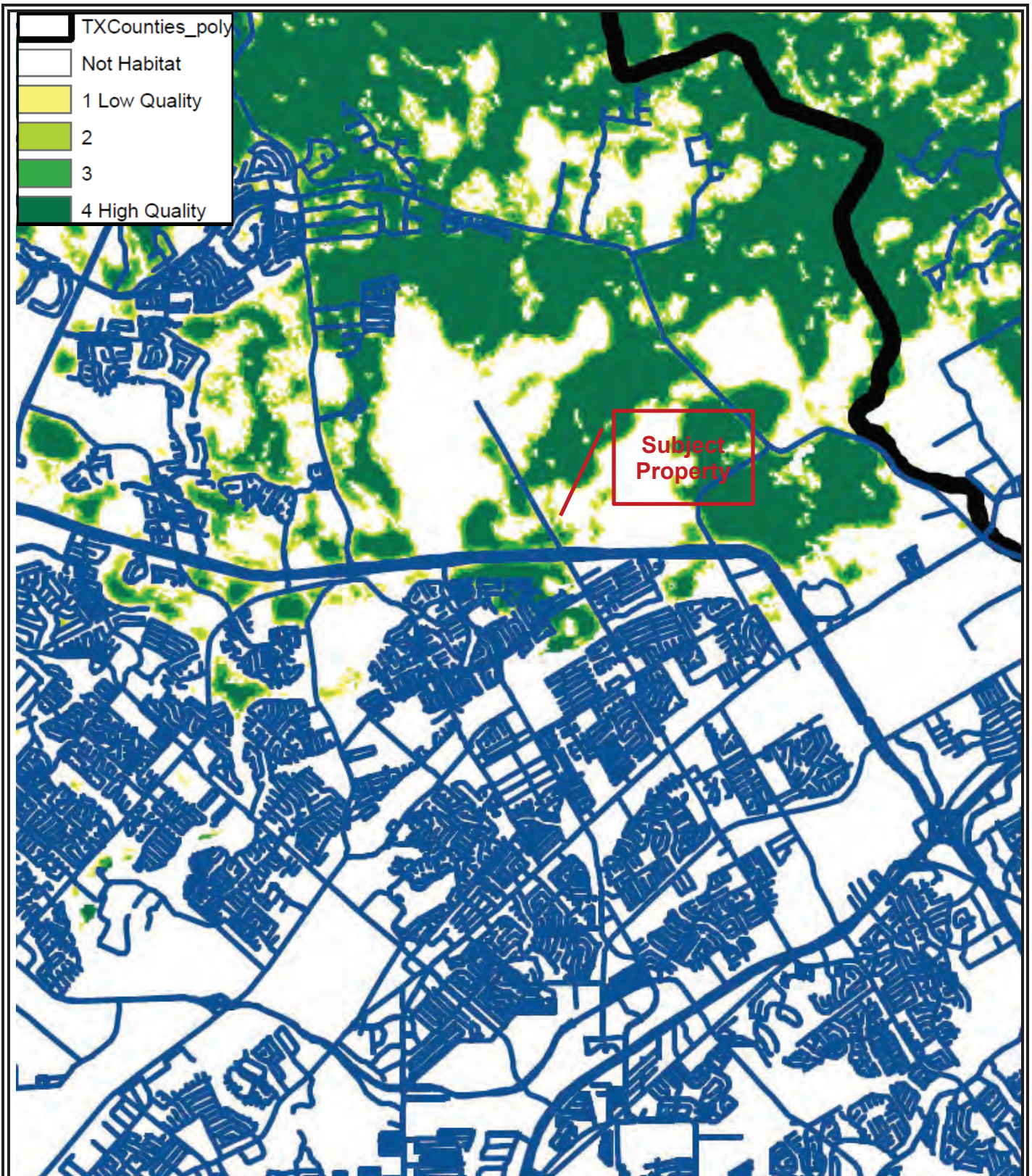
intertek
psi

PSI, Inc.
3 Burwood Lane
San Antonio, Texas 78216

PROJECT NAME:
SAWS Ackerman Site
Judson Road
San Antonio, Texas 78247
PSI Project No.: 0435-4076

Figure
USFWS Critical
Habitat Mapper
(Revised 2019)



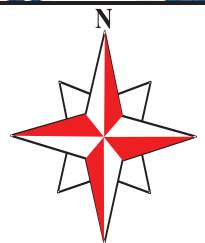


intertek
psi
 PSI, Inc.
 3 Burwood Lane
 San Antonio, Texas 78216

PROJECT NAME:
 SAWS Ackerman Site
 Judson Road
 San Antonio, Texas 78247
 PSI Project No.: 0435-4076

Figure 3

**Golden Cheek
 Warbler Habitat
 Quality Map
 Bexar County
 (USFWS 2008)**

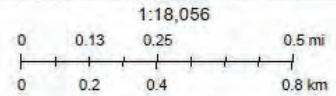


Edwards Aquifer Viewer Custom Print



8/5/2019, 10:05:27 AM

- Edwards Aquifer Label
- Edwards Aquifer Boundary
- Edwards Aquifer Boundary central line
- TX Counties
- 7.5 Minute Quad Grid

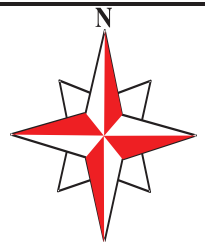


1:18,056
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus
 Web AppBuilder for ArcGIS
 TCEQ | TX Orthoimage Program, USDA FSA, DigitalGlobe, GeoEye, CNES/Airbus DS |

intertek
psi
 PSI, Inc.
 3 Burwood Lane
 San Antonio, Texas 78216

PROJECT NAME:
 SAWS Ackerman Site
 Judson Road
 San Antonio, Texas 78247
 PSI Project No.: 0435-4076

Figure 4
TCEQ Edwards Aquifer
Transition Zone Map



Last Update: 7/17/2019

BEXAR COUNTY

AMPHIBIANS

black-spotted newt

Notophthalmus meridionalis

May be found in resacas and bodies of water with firm bottoms and little or no vegetation. Can be found in wet or sometimes wet areas, such as arroyos, canals, ditches, or even shallow depressions; the absence of predatory fish is probably important. Aestivates in the ground during dry periods; Gulf Coastal Plain south of the San Antonio River.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S3

Cascade Caverns salamander

Eurycea latitans

Subaquatic; springs and caves in Medina River, Guadalupe River, and Cibolo Creek watersheds within Edwards Aquifer area

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

Comal Blind salamander

Eurycea tridentifera

Occurs within the aphotic zones of shallow limestone caves with streams fed by phreatic groundwater; semi-troglobitic; found in springs and waters of caves

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

Mexican treefrog

Smilisca baudinii

The subtropical Rio Grande embayment around Brownsville. May do well in association with man and may tolerate relatively dry situations provided moist microclimates available; breeds May-October coinciding with rainfall, eggs laid in temporary rain pools.

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

Strecker's chorus frog

Pseudacris streckeri

Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

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

Texas salamander

Eurycea neotenes

Troglobitic; springs, seeps, cave streams, and creek headwaters; often hides under rocks and leaves in water; restricted to Helotes and Leon Creek drainages

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1S2

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

AMPHIBIANS

Valdina Farms sinkhole salamander

Eurycea troglodytes

Isolated, intermittent pools of subterranean streams and sinkholes in Nueces, Frio, Guadalupe, and Pedernales watersheds within Edwards Aquifer area.

Federal Status:	State Status:	SGCN: N
Endemic: Y	Global Rank: G3	State Rank: S3S4

Woodhouse's toad

Anaxyrus woodhousii

Extremely catholic up to 5000 feet, does very well (except for traffic) in association with man.

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

ARACHNIDS

Braken Bat Cave meshweaver

Cicurina venii

Small, eyeless, or essentially eyeless spider; karst features in north and northwest Bexar County

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

Cokendolpher Cave harvestman

Texella cokendolpheri

Small, eyeless harvestman; karst features in north and northwest Bexar County

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

Government Canyon Bat Cave meshweaver

Cicurina vespera

Small, eyeless, or essentially eyeless spider; karst features in north and northwest Bexar County

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

Government Canyon Bat Cave spider

Neoleptoneta microps

Small, eyeless, or essentially eyeless spider; karst features in north and northwest Bexar County

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

Madla Cave meshweaver

Cicurina madla

Small, eyeless, or essentially eyeless spider; karst features in north and northwest Bexar County

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

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

ARACHNIDS

No accepted common name *Speodesmus reddelli*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Tartarocreagris amblyopa*

Habitat description is not available at this time.

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

No accepted common name *Tartarocreagris reyesi*

Habitat description is not available at this time.

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

Robber Baron Cave meshweaver *Cicurina baronia*

Small, eyeless, or essentially eyeless spider; karst features in north and northwest Bexar County

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

ARTHROPODS

No accepted common name *Speodesmus falcatus*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Speodesmus ivyi*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

BIRDS

bald eagle *Haliaeetus leucocephalus*

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3B,S3N

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

BIRDS

black-capped vireo

Vireo atricapilla

Oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; return to same territory, or one nearby, year after year; deciduous and broad-leaved shrubs and trees provide insects for feeding; species composition less important than presence of adequate broad-leaved shrubs, foliage to ground level, and required structure; nesting season March-late summer

Federal Status:	State Status: E	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2B

Franklin's gull

Leucophaeus pipixcan

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S2N

golden-cheeked warbler

Setophaga chrysoparia

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.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2B

interior least tern

Sternula antillarum athalassos

Sand beaches, flats, bays, inlets, lagoons, islands. Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G4T2Q	State Rank: S1B

mountain plover

Charadrius montanus

Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous

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

piping plover

Charadrius melodus

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

BIRDS

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.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2N

reddish egret *Egretta rufescens*

Resident of the Texas Gulf Coast; brackish marshes and shallow salt ponds and tidal flats; nests on ground or in trees or bushes, on dry coastal islands in brushy thickets of yucca and prickly pear

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3B

tropical parula *Setophaga pitiayumi*

Semi-tropical evergreen woodland along rivers and resacas. Texas ebony, anacua and other trees with epiphytic plants hanging from them. Dense or open woods, undergrowth, brush, and trees along edges of rivers and resacas; breeding April to July.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B

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

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

whooping crane *Grus americana*

Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1N

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

BIRDS

wood stork *Mycteria americana*

Prefers to nest in large tracts of baldcypress (*Taxodium distichum*) or red mangrove (*Rhizophora mangle*); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SHB,S2N

zone-tailed hawk *Buteo albonotatus*

Arid open country, including open deciduous or pine-oak woodland, mesa or mountain county, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains; nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3B

CRUSTACEANS

a cave obligate isopod *Speocirolana hardeni*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S2

Cascade Cave amphipod *Stygobromus dejectus*

Subaquatic crustacean; subterranean obligate; in pools

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

Ezell's Cave amphipod *Stygobromus flagellatus*

Known only from artesian wells

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S3

No accepted common name *Mexiweckelia hardeni*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

FISH

Guadalupe bass *Micropterus treculii*

Endemic to the streams of the northern and eastern Edwards Plateau including portions of the Brazos, Colorado, Guadalupe, and San Antonio basins; species also found outside of the Edwards Plateau streams in decreased abundance, primarily in the lower Colorado River; two introduced populations have been established in the Nueces River system. A pure population was re-established in a portion of the Blanco River in 2014. Species prefers lentic environments but commonly taken in flowing water; numerous smaller fish occur in rapids, many times near eddies; large individuals found mainly in riffle tail races; usually found in spring-fed streams having clear water and relatively consistent temperatures.

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

river darter *Percina shumardi*

In Texas limited to eastern streams including Red southward to the Neches, and a disjunct population in the Guadalupe and San Antonio river systems east of the Balcones Escarpment. Confined to large rivers and lower parts of major tributaries; almost invariably found in deep chutes and riffles where current is swift and bottom composed of coarse gravel or rock.

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

Texas shiner *Notropis amabilis*

In Texas, it is found primarily in Edwards Plateau streams from the San Gabriel River in the east to the Pecos River in the west. Typical habitat includes rocky or sandy runs, as well as pools.

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

toothless blindcat *Trogloglanis pattersoni*

Restricted to five artesian wells penetrating the San Antonio Pool of the Edwards Aquifer; found at depths of 305-582 m.

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

widemouth blindcat *Satan eurystomus*

Restricted to five artesian wells penetrating the San Antonio Pool of the Edwards Aquifer; found at depths of 305-582 m.

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

INSECTS

a cave obligate beetle *Batrisodes shadeae*

Habitat description is not available at this time.

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

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

INSECTS

a ground beetle

Rhadine exilis

Small, essentially eyeless ground beetle; karst features in north and northwest Bexar County

Federal Status: LE

State Status:

SGCN: Y

Endemic: Y

Global Rank: G3

State Rank: S1

a ground beetle

Rhadine infernalis

Small, essentially eyeless ground beetle; karst features in north and northwest Bexar County

Federal Status: LE

State Status:

SGCN: Y

Endemic: Y

Global Rank: G2G3

State Rank: S1

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

Helotes mold beetle

Batrisodes venyivi

Small, eyeless mold beetle; karst features in northwestern Bexar County and northeastern Medina County

Federal Status: LE

State Status:

SGCN: Y

Endemic: Y

Global Rank: G1

State Rank: S1

Manfreda giant-skipper

Stallingsia maculosus

Most skippers are small and stout-bodied; name derives from fast, erratic flight; at rest most skippers hold front and hind wings at different angles; skipper larvae are smooth, with the head and neck constricted; skipper larvae usually feed inside a leaf shelter and pupate in a cocoon made of leaves fastened together with silk

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G1

State Rank: S1

No accepted common name

Bombus variabilis

Habitat description is not available at this time.

Federal Status:

State Status:

SGCN: Y

Endemic:

Global Rank: GU

State Rank: SNR

No accepted common name

Cotinis boylei

Habitat description is not available at this time.

Federal Status:

State Status:

SGCN: Y

Endemic:

Global Rank: GNR

State Rank: SNR

No accepted common name

Cotalpa conclamara

Habitat description is not available at this time.

Federal Status:

State Status:

SGCN: Y

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

INSECTS

Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Dichopetala catinata*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Dichopetala seeversi*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Lymantes nadineae*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Megachile parksi*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Global Rank: GH State Rank: SNR

No accepted common name *Nectopsyche texana*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Global Rank: G1G3 State Rank: S2?

No accepted common name *Rhadine bullis*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Pygarcia lorula*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Y Global Rank: G2G3 State Rank: S2?

MAMMALS

American badger *Taxidea taxus*

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

MAMMALS

Habitat description is not available at this time.

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 bear *Ursus americanus*

In Chisos, prefers higher elevations where pinyon-oaks predominate; also occasionally sighted in desert scrub of Trans-Pecos (Black Gap Wildlife Management Area) and Edwards Plateau in juniper-oak habitat. For ssp. *luteolus*, bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine; marsh. Bottomland hardwoods and large tracts of inaccessible forested areas.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	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

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

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

eastern spotted skunk *Spilogale putorius*

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

MAMMALS

Catholic; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. *S.p. ssp. interrupta* found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S1S3

hoary bat *Lasiurus cinereus*

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

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

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

mink *Neovison vison*

Intimately associated with water; coastal swamps & marshes, wooded riparian zones, edges of lakes. Prefer floodplains.

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

mountain lion *Puma concolor*

Rugged mountains & riparian zones.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S2S3

plains spotted skunk *Spilogale putorius interrupta*

Catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie

Federal Status: State Status: SGCN: N
Endemic: N Global Rank: G4T4 State Rank: S1S3

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

MAMMALS

swamp rabbit *Sylvilagus aquaticus*

Habitat description is not available at this time.

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

thirteen-lined ground squirrel *Ictidomys tridecemlineatus*

Habitat description is not available at this time.

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

tricolored bat *Perimyotis subflavus*

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G2G3 State Rank: S3S4

western hog-nosed skunk *Conepatus leuconotus*

Habitats include woodlands, grasslands & 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 spotted skunk *Spilogale gracilis*

Habitat description is not available at this time.

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

white-nosed coati *Nasua narica*

Woodlands, riparian corridors and canyons. Most individuals in Texas probably transients from Mexico; diurnal and crepuscular; very sociable; forages on ground and in trees; omnivorous; may be susceptible to hunting, trapping, and pet trade

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G5 State Rank: S1

MOLLUSKS

golden orb *Quadrula aurea*

Sand and gravel in some locations and mud at others; found in lentic and lotic; Guadalupe, San Antonio, Lower San Marcos, and Nueces River basins

Federal Status: C State Status: T SGCN: Y
Endemic: Y Global Rank: G1 State Rank: S2

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

MOLLUSKS

mimic cavesnail

Phreatodrobia imitata

Subaquatic; only known from two wells penetrating the Edwards Aquifer

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G1

State Rank: S1

No accepted common name

Phreatodrobia conica

Habitat description is not available at this time.

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G1

State Rank: S2

No accepted common name

Cyclonaias necki

Habitat description is not available at this time.

Federal Status:

State Status:

SGCN: N

Endemic: Y

Global Rank: GNR

State Rank: SNR

REPTILES

American alligator

Alligator mississippiensis

Coastal marshes; inland natural rivers, swamps and marshes; manmade impoundments.

Federal Status:

State Status:

SGCN: N

Endemic: N

Global Rank: G5

State Rank: S4

Cagle's map turtle

Graptemys caglei

Guadalupe River System; shallow water with swift to moderate flow and gravel or cobble bottom, connected by deeper pools with a slower flow rate and a silt or mud bottom; gravel bar riffles and transition areas between riffles and pools especially important in providing insect prey items; nests on gently sloping sand banks within ca. 30 feet of waters edge

Federal Status:

State Status: T

SGCN: Y

Endemic: Y

Global Rank: G3

State Rank: S1

common garter snake

Thamnophis sirtalis

Irrigation canals and riparian-corridor farmlands in west; marshy, flooded pastureland, grassy or brushy borders of permanent bodies of water; coastal salt marshes.

Federal Status:

State Status:

SGCN: N

Endemic:

Global Rank: G5

State Rank: S2

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

REPTILES

eastern box turtle *Terrapene carolina*

Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures. In Maryland bottomland forest, some hibernated in pits or depressions in forest floor (usually about 30 cm deep) usually within summer range; individuals tended to hibernate in same area in different years (Stickel 1989). Also attracted to farms, old fields and cut-over woodlands, as well as creek bottoms and dense woodlands. Egg laying sites often are sandy or loamy soils in open areas; females may move from bottomlands to warmer and drier sites to nest. In Maryland, females used the same nesting area in different years (Stickel 1989).

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

keeled earless lizard *Holbrookia propinqua*

Coastal dunes, barrier islands, and other sandy areas; eats insects and likely other small invertebrates; eggs laid underground March-September (most May-August)

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

northern spot-tailed earless lizard *Holbrookia lacerata lacerata*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4TNR	State Rank: S2

slender glass lizard *Ophisaurus attenuatus*

Prefers relatively dry microhabitats, usually associated with grassy areas. Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil. This species often appears on roads in spring. During inactivity, it occurs in underground burrows. In Kansas, slender glass lizards were scarce in heavily grazed pastures, increased as grass increased with removal of grazing, and declined as brush and trees replaced grass (Fitch 1989). Eggs are laid underground, under cover, or under grass clumps (Ashton and Ashton 1985); in cavities beneath flat rocks or in abandoned tunnels of small mammals (Scalopus, Microtus) (Fitch 1989).

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

southern spot-tailed earless lizard *Holbrookia lacerata subcaudalis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4TNR	State Rank: S2

spot-tailed earless lizard *Holbrookia lacerata*

Central and southern Texas and adjacent Mexico; moderately open prairie-brushland; fairly flat areas free of vegetation or other obstructions, including disturbed areas; eats small invertebrates; eggs laid underground

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

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

REPTILES

Texas garter snake *Thamnophis sirtalis annectens*

Irrigation canals and riparian-corridor farmlands in west; marshy, flooded pastureland, grassy or brushy borders of permanent bodies of water; coastal salt marshes. Wet or moist microhabitats are conducive to the species occurrence, but is not necessarily restricted to them; hibernates underground or in or under surface cover; breeds March-August.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G5T4	State Rank: S1

Texas horned lizard *Phrynosoma cornutum*

Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area. Open, arid and semi-arid regions with sparse vegetation, including grass, 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; breeds March-September.

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

Texas indigo snake *Drymarchon melanurus erebennus*

Thornbush-chaparral woodland of south Texas, in particular dense riparian corridors. Can do well in suburban and irrigated croplands if not molested or indirectly poisoned. Requires moist microhabitats, such as rodent burrows, for shelter; Texas south of the Guadalupe River and Balcones Escarpment.

Federal Status:	State Status: T	SGCN: Y
Endemic:	Global Rank: G5T4	State Rank: S4

Texas tortoise *Gopherus berlandieri*

Open brush with a grass understory is preferred; open grass and bare ground are avoided. Seasonally flooded tidal flats are not utilized. When inactive occupies shallow depressions at base of bush or cactus, sometimes in underground burrows or under objects; longevity greater than 50 years; active March-November; breeds April-November

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S2

timber (canebrake) rattlesnake *Crotalus horridus*

Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.

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

western box turtle *Terrapene ornata*

Ornate or western box turtles 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; winter burrow depth was 0.5-1.8 meters in Wisconsin (Doroff and Keith 1990), 7-120 cm (average depth 54 cm) in Nebraska (Converse et al. 2002). Eggs are laid in nests dug in soft well-drained soil in open area (Legler 1960, Converse et al. 2002). Very partial to sandy soil.

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

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

REPTILES

western hognose snake *Heterodon nasicus*

Habitat consists of areas with sandy or gravelly soils, including prairies, sandhills, wide valleys, river floodplains, bajadas, semiagricultural areas (but not intensively cultivated land), and margins of irrigation ditches (Degenhardt et al. 1996, Hammerson 1999, Werler and Dixon 2000, Stebbins 2003). Also thornscrub woodlands and chaparral thickets. Seems to prefer sandy and loamy soils, not necessarily flat. Periods of inactivity are spent burrowed in the soil or in existing burrows. Eggs are laid in nests a few inches below the ground surface (Platt 1969).

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

western rattlesnake *Crotalus viridis*

Grassland, both desert and prairie; 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

awnless lestdaisy *Chaetopappa imberbis*

Habitat description is not available at this time.

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

big red sage *Salvia pentstemonoides*

Moist to seasonally wet, steep limestone outcrops on seeps within canyons or along creek banks; occasionally on clayey to silty soils of creek banks and terraces, in partial shade to full sun; basal leaves conspicuous for much of the year; flowering June-October

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

bigflower cornsalad *Valerianella stenocarpa*

Usually along creekbeds or in vernal moist grassy open areas (Carr 2015).

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

bracted twistflower *Streptanthus bracteatus*

Shallow, well-drained gravelly clays and clay loams over limestone in oak juniper woodlands and associated openings, on steep to moderate slopes and in canyon bottoms; several known soils include Tarrant, Brackett, or Speck over Edwards, Glen Rose, and Walnut geologic formations; populations fluctuate widely from year to year, depending on winter rainfall; flowering mid April-late May, fruit matures and foliage withers by early summer

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

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

PLANTS

bristle nailwort

Paronychia setacea

Flowering vascular plant endemic to eastern southcentral Texas, occurring in sandy soils

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

Buckley tridens

Tridens buckleyanus

Occurs in juniper-oak woodlands on rocky limestone slopes; Perennial; Flowering/Fruiting April-Nov

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G3G4 State Rank: S3S4

Burridge greenthread

Thelesperma burridgeanum

Sandy open areas; Annual; Flowering March-Nov; Fruiting March-June

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

Correll's false dragon-head

Physostegia correllii

Wet, silty clay loams on streamsides, in creek beds, irrigation channels and roadside drainage ditches; or seepy, mucky, sometimes gravelly soils along riverbanks or small islands in the Rio Grande; or underlain by Austin Chalk limestone along gently flowing spring-fed creek in central Texas; flowering May-September

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

Elmendorf's onion

Allium elmendorffii

Grassland openings in oak woodlands on deep, loose, well-drained sands; in Coastal Bend, on Pleistocene barrier island ridges and Holocene Sand Sheet that support live oak woodlands; to the north it occurs in post oak-black hickory-live oak woodlands over Queen City and similar Eocene formations; one anomalous specimen found on Llano Uplift in wet pockets of granitic loam; Perennial; Flowering March-April, May

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

Glass Mountains coral-root

Hexalectris nitida

Apparently rare in mixed woodlands in canyons in the mountains of the Brewster County, but encountered with regularity, albeit in small numbers, under *Juniperus ashei* in woodlands over limestone on the Edwards Plateau, Callahan Divide and Lampasas Cutplain; Perennial; Flowering June-Sept; Fruiting July-Sept

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

gravelbar brickellbush

Brickellia dentata

Essentially restricted to frequently-scoured gravelly alluvial beds in creek and river bottoms; Perennial; Flowering June-Nov; Fruiting June-Oct

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G3G4 State Rank: S3S4

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

PLANTS

hairy sycamore-leaf snowbell *Styrax platanifolius ssp. stellatus*

Rare throughout range, in habitats similar to those of var. *platanifolius* - usually in oak-juniper woodlands on steep rocky banks and ledges along intermittent or perennial streams, rarely far from some reliable source of moisture; Perennial; Flowering April-Oct; Fruiting May-Sept

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

Heller's beardtongue *Penstemon triflorus ssp. integrifolius*

Occurs sparingly on rock outcrops and in grasslands associated with juniper-oak woodlands (Carr 2015).

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G3T2 State Rank: S2

Heller's marbleseed *Onosmodium helleri*

Occurs in loamy calcareous soils in oak-juniper woodlands on rocky limestone slopes, often in more mesic portions of canyons; Perennial; Flowering March-May

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

Hill Country wild-mercury *Argythamnia aphoroides*

Mostly in bluestem-grama grasslands associated with plateau live oak woodlands on shallow to moderately deep clays and clay loams over limestone on rolling uplands, also in partial shade of oak-juniper woodlands in gravelly soils on rocky limestone slopes; Perennial; Flowering April-May with fruit persisting until midsummer

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G2G3 State Rank: S2S3

low spurge *Euphorbia peplidion*

Occurs in a variety of vernal-moist situations in a number of natural regions; Annual; Flowering Feb-April; Fruiting March-April

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

Lundell's whitlow-wort *Paronychia lundellorum*

The Sand Sheet of eastern South Texas, in tight sandy soils over saline clay on microhighs within salty prairie grasslands, and in upper portions of saline flats surrounding short drainages and brackish basins typical of the South Texas Sand Sheet; flowering April through at least October, probably intermittently throughout the year depending on rainfall

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G1Q State Rank: S1

narrowleaf brickellbush *Brickellia eupatorioides var. gracillima*

Moist to dry gravelly alluvial soils along riverbanks but also on limestone slopes; Perennial; Flowering/Fruiting April-Nov

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G5T3 State Rank: S3

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

PLANTS

net-leaf bundleflower *Desmanthus reticulatus*

Mostly on clay prairies of the coastal plain of central and south Texas; Perennial; Flowering April-July; Fruiting April-Oct

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

Osage Plains false foxglove *Agalinis densiflora*

Most records are from grasslands on shallow, gravelly, well drained, calcareous soils; Prairies, dry limestone soils; Annual; Flowering Aug-Oct

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

Parks' jointweed *Polygonella parksii*

Mostly found on deep, loose, whitish sand blowouts (unstable, deep, xeric, sandhill barrens) in Post Oak Savanna landscapes over the Carrizo and Sparta formations; also occurs in early successional grasslands, along right-of-ways, and on mechanically disturbed areas; flowering June-late October or September-November

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

Plateau loosestrife *Lythrum ovalifolium*

Banks and gravelly beds of perennial (or strong intermittent) streams on the Edwards Plateau, Llano Uplift and Lampasas Cutplain; Perennial; Flowering/Fruiting April-Nov

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3G4 State Rank: S3S4

plateau milkvine *Matelea edwardsensis*

Occurs in various types of juniper-oak and oak-juniper woodlands; Perennial; Flowering March-Oct; Fruiting May-June

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

sandhill woollywhite *Hymenopappus carrizoanus*

Disturbed or open areas in grasslands and post oak woodlands on deep sands derived from the Carrizo Sand and similar Eocene formations; flowering April-June

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

Siler's huaco *Manfreda sileri*

Rare in a variety of grasslands and shrublands on dry sites; Perennial; Flowering April-July; Fruiting June-July

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

South Texas rushpea *Caesalpinia phyllanthoides*

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

PLANTS

Tamaulipan thorn shrublands or grasslands on very shallow sandy to clayey soils over calcareous sandstone and caliche; flowering in spring, sometimes later in growing season, perhaps in response to rainfall

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

spreading lestdaisy *Chaetopappa effusa*

Limestone cliffs, ledges, bluffs, steep hillsides, sometimes in seepy areas, oak-juniper, oak, or mixed deciduous woods, 300-500 m elevation; Perennial; Flowering (May) July-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

sycamore-leaf snowbell *Styrax platanifolius ssp. platanifolius*

Rare throughout range, usually in oak-juniper woodlands on steep rocky banks and ledges along intermittent or perennial streams, rarely far from some reliable source of moisture; Perennial; Flowering April-May; Fruiting May-Aug.

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

Texas almond *Prunus minutiflora*

Wide-ranging but scarce, in a variety of grassland and shrubland situations, mostly on calcareous soils underlain by limestone but occasionally in sandier neutral soils underlain by granite; Perennial; Flowering Feb-May and Oct; Fruiting Feb-Sept

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

Texas amorphia *Amorpha roemeriana*

Juniper-oak woodlands or shrublands on rocky limestone slopes, sometimes on dry shelves above creeks; Perennial; Flowering May-June; Fruiting June-Oct

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

Texas fescue *Festuca versuta*

Occurs in mesic woodlands on limestone-derived soils on stream terraces and canyon slopes; Perennial; Flowering/Fruiting April-June

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

Texas peachbush *Prunus texana*

Occurs at scattered sites in various well drained sandy situations; deep sand, plains and sand hills, grasslands, oak woods, 0-200 m elevation; Perennial; Flowering Feb-Mar; Fruiting Apr-Jun

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

Texas seymeria *Seymeria texana*

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

BEXAR COUNTY

PLANTS

Found primarily in grassy openings in juniper-oak woodlands on dry rocky slopes but sometimes on rock outcrops in shaded canyons; Annual;
Flowering May-Nov; Fruiting July-Nov

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

threeflower penstemon *Penstemon triflorus ssp. triflorus*

Occurs sparingly on rock outcrops and in grasslands associated with juniper-oak woodlands (Carr 2015).

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

tree dodder *Cuscuta exaltata*

Parasitic on various *Quercus*, *Juglans*, *Rhus*, *Vitis*, *Ulmus*, and *Diospyros* species as well as *Acacia berlandieri* and other woody plants; Annual;
Flowering May-Oct; Fruiting July-Oct

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

turnip-root scurfea *Pediomelum cyphocalyx*

Grasslands and openings in juniper-oak woodlands on limestone substrates on the Edwards Plateau and in north-central Texas (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

woolly butterfly-weed *Gaura villosa ssp. parksii*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G5T3	State Rank: S3

Wright's milkvetch *Astragalus wrightii*

Habitat description is not available at this time.

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

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.



T.E.A.M. Study Area Report Study Area










Report Created Fri Aug 02 2019



T.E.A.M. Study Area Report Legend



Summary: Study Area 35.97 Acres || 14.56 Hectares

Acres	Hectares	% Total	# Polys	Tx Ecological System
10.75	4.35	29.89	7	 Edwards Plateau: Deciduous Oak - Evergreen Motte and Woodland
<p><i>Description: This mixed woodland type contains significant variation, but deciduous oaks such as Texas oak, white shin oak, or Lacey oak (west) are often important in the overstory, together with Ashe juniper, plateau live oak, cedar elm, or sugar hackberry. The understory often contains Ashe juniper, plateau live oak, and Texas persimmon, agarito, mesquite, and Texas mountain-laurel are common shrubs.</i></p> <p>NatureServe Number: CES303.660 NatureServe EcoSys: Edwards Plateau Limestone Savanna and Woodland Modeled Landcover: CD Mixed Forest Descriptive Landcover: Mixed Forest WL Habitat Type: Timberlands</p>				
9.12	3.69	25.36	2	 Edwards Plateau: Oak - Hardwood Motte and Woodland
<p><i>Description: This deciduous woodland or forest may contain a diversity of species in the overstory, including cedar elm, Texas oak, sugar hackberry, post oak, white shin oak, or pecan. Plateau live oak is often an important component, and Ashe juniper may be in the overstory. Understory may contain species such as prairie sumac, Texas persimmon, white shin oak, and elbowbush.</i></p> <p>NatureServe Number: CES303.660 NatureServe EcoSys: Edwards Plateau Limestone Savanna and Woodland Modeled Landcover: CD Forest Descriptive Landcover: Deciduous Forest WL Habitat Type: Timberlands</p>				
6.02	2.44	16.73	3	 Edwards Plateau: Ashe Juniper-Live Oak Shrubland
<p><i>Description: Ashe juniper and plateau live oak are the most frequent dominants of this evergreen shrubland. Plateau live oak and/or Ashe juniper may form a sparse canopy and Vasey oak (west), white shin oak, Mohr's shin oak (west), agarito, Texas persimmon, Texas mountain-laurel, mesquite, Lindheimer's pricklypear may be common in the understory.</i></p> <p>NatureServe Number: CES303.041 NatureServe EcoSys: Edwards Plateau Limestone Shrubland Modeled Landcover: EG Shrub Descriptive Landcover: Evergreen Shrubland WL Habitat Type: Native Range/Brush</p>				
2.62	1.06	7.27	2	 Edwards Plateau: Riparian Hardwood - Ashe Juniper Forest
<p><i>Description: Ashe juniper, redberry juniper, and plateau live oak are frequent dominant trees of this broadly defined mixed forest mapped along narrow upland drainages. American sycamore, sugar hackberry, cedar elm, and mesquite may be components.</i></p> <p>NatureServe Number: CES303.652 NatureServe EcoSys: Edwards Plateau Riparian Modeled Landcover: CD Mixed Forest Descriptive Landcover: Riparian Mixed Forest WL Habitat Type: Bottomland/Riparian Native</p>				
2.29	0.93	6.37	3	 Edwards Plateau: Shin Oak Shrubland
<p><i>Description: This type typically has a diverse array of shrub components including species such as mesquite, white shin oak, Vasey oak, agarito, Texas persimmon, plateau live oak, pricklypear, and Ashe juniper. Grasses such as purple threeawn, curlymesquite, Texas wintergrass, sideoats grama, little bluestem, and slim tridens are often important.</i></p> <p>NatureServe Number: CES303.041 NatureServe EcoSys: Edwards Plateau Limestone Shrubland Modeled Landcover: CD Shrub Descriptive Landcover: Deciduous Shrubland WL Habitat Type: Native Range/Brush</p>				
1.80	0.73	5.00	11	 Urban Low Intensity
<p><i>Description: This type includes areas that are built-up but not entirely covered by impervious cover, and includes most of the non-industrial areas within cities and towns.</i></p> <p>NatureServe Number: Anthropogenic/Disturbance NatureServe EcoSys: Urban Low Intensity Modeled Landcover: Urban Low Descriptive Landcover: Urban Low WL Habitat Type: Other</p>				
1.37	0.55	3.80	3	 Barren
<p><i>Description: This type includes areas where little or no vegetation cover existed at the time of image data collection. Many areas mapped as this type are human-associated land clearings.</i></p> <p>NatureServe Number: Azonal NatureServe EcoSys: Barren Modeled Landcover: Barren Descriptive Landcover: Barren WL Habitat Type: Other</p>				



T.E.A.M. Study Area Report Legend



Summary: Study Area 35.97 Acres || 14.56 Hectares

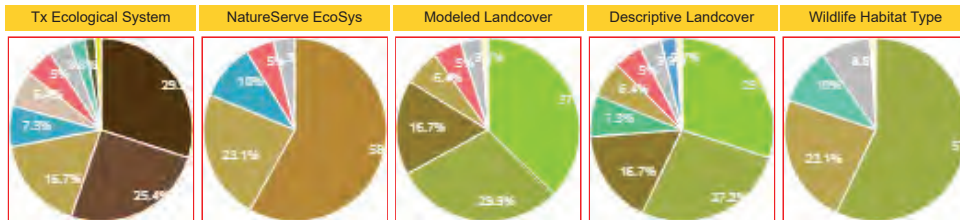
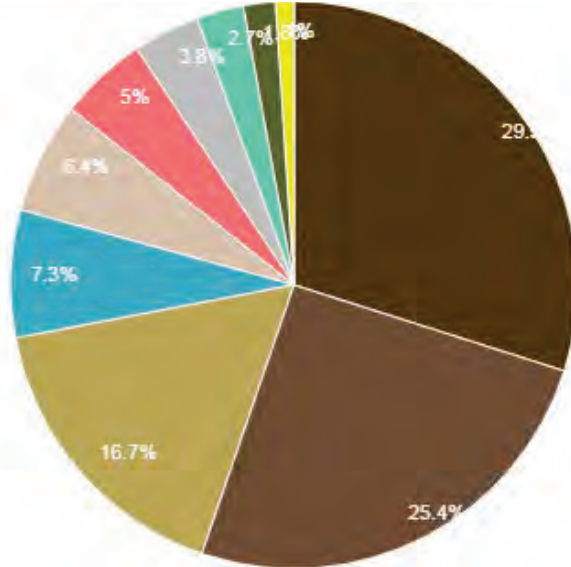
Acres	Hectares	% Total	# Polys		Tx Ecological System
0.97	0.39	2.68	1		Edwards Plateau: Riparian Hardwood Forest
<i>Description: This narrow, deciduous forest is mapped along first-order drainages and may contain cedar elm, plateau live oak, Texas oak, sugar hackberry, American sycamore, green ash, pecan, or boxelder as important overstory trees. Ashe juniper, elbowbush, Texas persimmon, whitebrush, false-willow, little walnut, or buttonbush may be present in the shrub layer.</i>					
NatureServe Number: CES303.652					
NatureServe EcoSys : Edwards Plateau Riparian					
Modeled Landcover: CD Forest					
Descriptive Landcover: Riparian Deciduous Forest					
WL Habitat Type: Bottomland/Riparian Native					
0.66	0.27	1.83	2		Edwards Plateau: Post Oak Motte and Woodland
<i>Description: Post oak and plateau live oak are often the most important overstory dominants of this mainly deciduous woodland, and cedar elm, blackjack oak, Texas oak, and sugar hackberry are often present. Ashe juniper and mesquite may be present as small trees or shrubs.</i>					
NatureServe Number: CES303.660					
NatureServe EcoSys : Edwards Plateau Limestone Savanna and Woodland					
Modeled Landcover: CD Forest					
Descriptive Landcover: Deciduous Forest					
WL Habitat Type: Timberlands					
0.38	0.15	1.04	2		Edwards Plateau: Savanna Grassland
<i>Description: Grassland condition varies for this mapped type, but many areas contain non-native King Ranch bluestem as an important species, and Bermudagrass is also frequent. Common native grasses include little bluestem, sideoats grama, silver bluestem, Texas wintergrass, purple three-awn, and common curlymesquite. Trees and shrubs are usually present, and may include plateau live oak, Ashe juniper, mesquite, agarito, and/or cedar elm.</i>					
NatureServe Number: CES303.660					
NatureServe EcoSys : Edwards Plateau Limestone Savanna and Woodland					
Modeled Landcover: Grassland					
Descriptive Landcover: Grassland					
WL Habitat Type: Pasture/Grassland					



T.E.A.M. Study Area Report Study Area Charts



Tx Ecological System



Aboveground Storage Tank Facility Plan Checklist

- **Edwards Aquifer Application Cover Page (TCEQ-20705)**
- **General Information Form (TCEQ-0587)**
 - Attachment A - Road Map
 - Attachment B - USGS / Edwards Recharge Zone Map
 - Attachment C - Project Description
- **Geologic Assessment Form (TCEQ-0585)**
 - Attachment A - Geologic Assessment Table (TCEQ-0585-Table)
 - Comments to the Geologic Assessment Table
 - Attachment B - Soil Profile and Narrative of Soil Units
 - Attachment C - Stratigraphic Column
 - Attachment D - Narrative of Site Specific Geology
 - Site Geologic Map(s)
 - Table or list for the position of features' latitude/longitude (if mapped using GPS)
- **Aboveground Storage Tank Facility Plan (TCEQ-0575)**
 - Attachment A - Alternative Methods of Secondary Containment
 - Attachment B - Scaled Drawing(s) of Containment Structure
 - Attachment C - Exception to the Geologic Assessment (if requesting an exception)
 - Attachment D - Spill and Overfill Control
 - Attachment E - Response Actions to Spills
 - Site Plan
- **Temporary Stormwater Section (TCEQ-0602)**
 - Attachment A - Spill Response Actions
 - Attachment B - Potential Sources of Contamination
 - Attachment C - Sequence of Major Activities
 - Attachment D - Temporary Best Management Practices and Measures
 - Attachment E - Request to Temporarily Seal a Feature, if sealing a feature
 - Attachment F - Structural Practices
 - Attachment G - Drainage Area Map
 - Attachment H - Temporary Sediment Pond(s) Plans and Calculations
 - Attachment I - Inspection and Maintenance for BMPs
 - Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices
- **Permanent Stormwater Section (TCEQ-0600)**
 - Attachment A - 20% or Less Impervious Cover Declaration, if project is multi-family residential, a school, or a small business and 20% or less impervious cover is proposed for the site
 - Attachment B - BMPs for Upgradient Stormwater

Attachment C - BMPs for On-site Stormwater

Attachment D - BMPs for Surface Streams

Attachment E - Request to Seal Features (if sealing a feature)

Attachment F - Construction Plans

Attachment G - Inspection, Maintenance, Repair, and Retrofit Plan

Attachment H - Pilot-Scale Field Testing Plan, if BMPs not based on Complying with the Edwards Aquifer Rules: Technical Guidance for BMPs

Attachment I - Measures for Minimizing Surface Stream Contamination

- **Agent Authorization Form (TCEQ-0599), if application submitted by agent**
- **Application Fee Form (TCEQ-0574)**
- **Check Payable to the “Texas Commission on Environmental Quality”**
- **Core Data Form (TCEQ-10400)**