

APPENDIX C
TEXAS PARKS AND WILDLIFE DEPARTMENT ANNOTATED
COUNTY LIST OF RARE SPECIES

HAYS COUNTY

AMPHIBIANS

		Federal Status	State Status
Barton Springs salamander	<i>Eurycea sosorum</i>	LE	E
dependent upon water flow/quality from the Barton Springs pool of the Edwards Aquifer; known from the outlets of Barton Springs and subterranean water-filled caverns; found under rocks, in gravel, or among aquatic vascular plants and algae, as available; feeds primarily on amphipods			
Blanco blind salamander	<i>Eurycea robusta</i>		T
troglobitic; water-filled subterranean caverns; may inhabit deep levels of the Balcones aquifer to the north and east of the Blanco River			
Blanco River springs salamander	<i>Eurycea pterophila</i>		
subaquatic; springs and caves in the Blanco River drainage			
San Marcos salamander	<i>Eurycea nana</i>	LT	T
headwaters of the San Marcos River downstream to ca. ½ mile past IH-35; water over gravelly substrate characterized by dense mats of algae (Lyng bya) and aquatic moss (Leptodictym riparium), and water temperatures of 21-22 O C; diet includes amphipods, midge larve, and aquatic snails			
Texas blind salamander	<i>Eurycea rathbuni</i>	LE	E
troglobitic; water-filled subterranean caverns along a six mile stretch of the San Marcos Spring Fault, in the vicinity of San Marcos; eats small invertebrates, including snails, copepods, amphipods, and shrimp			

ARACHNIDS

		Federal Status	State Status
Bandit Cave spider	<i>Cicurina bandida</i>		
very small, subterrestrial, subterranean obligate			

BIRDS

		Federal Status	State Status
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	DL	T
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.			
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>	DL	
migrant throughout state from subspecies' far northern breeding range, 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.			
Bald Eagle	<i>Haliaeetus leucocephalus</i>	DL	T
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			

HAYS COUNTY

BIRDS

		Federal Status	State Status
Black-capped Vireo	<i>Vireo atricapilla</i>	LE	E
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			
Golden-cheeked Warbler	<i>Setophaga chrysoparia</i>	LE	E
juniper-oak woodlands; 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			
Mountain Plover	<i>Charadrius montanus</i>		
breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous			
Peregrine Falcon	<i>Falco peregrinus</i>	DL	T
both subspecies migrate across the state from more northern breeding areas in US and Canada to winter along coast and farther south; subspecies (<i>F. p. anatum</i>) is also a resident breeder in west Texas; the two subspecies' listing statuses differ, <i>F. p. tundrius</i> is no longer listed in Texas; but because the subspecies are not easily distinguishable at a distance, reference is generally made only to the species level; see subspecies for habitat.			
Sprague's Pipit	<i>Anthus spragueii</i>	C	
only in Texas during migration and winter, mid September to early April; short to medium distance, diurnal migrant; strongly tied to native upland prairie, can be locally common in coastal grasslands, uncommon to rare further west; sensitive to patch size and avoids edges.			
Western Burrowing Owl	<i>Athene cunicularia hypugaea</i>		
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			
Whooping Crane	<i>Grus americana</i>	LE	E
potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties			
Zone-tailed Hawk	<i>Buteo albonotatus</i>		T
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			

HAYS COUNTY CRUSTACEANS

	Federal Status	State Status
A cave obligate crustacean <i>Monodella texana</i> subaquatic, subterranean obligate; underground freshwater aquifers		
Balcones Cave amphipod <i>Stygobromus balconis</i> subaquatic, subterranean obligate amphipod		
Ezell's cave amphipod <i>Stygobromus flagellatus</i> known only from artesian wells		
Texas cave shrimp <i>Palaemonetes antrorum</i> subterranean sluggish streams and pools		
Texas troglobitic water slater <i>Lirceolus smithii</i> subaquatic, subterranean obligate, aquifer		

FISHES

	Federal Status	State Status
Fountain darter <i>Etheostoma fonticola</i> known only from the San Marcos and Comal rivers; springs and spring-fed streams in dense beds of aquatic plants growing close to bottom, which is normally mucky; feeding mostly diurnal; spawns year-round with August and late winter to early spring peaks	LE	E
Guadalupe bass <i>Micropterus treculii</i> endemic to perennial streams of the Edward's Plateau region; introduced in Nueces River system		
Guadalupe darter <i>Percina sciera apristis</i> Guadalupe River basin; most common over gravel or gravel and sand raceways of large streams and rivers		
Ironcolor shiner <i>Notropis chalybaeus</i> Big Cypress Bayou and Sabine River basins; spawns April-September, eggs sink to bottom of pool; pools and slow runs of low gradient small acidic streams with sandy substrate and clear well vegetated water; feeds mainly on small insects, ingested plant material not digested		
San Marcos gambusia <i>Gambusia georgei</i> extinct; endemic; formerly known from upper San Marcos River; restricted to shallow, quiet, mud-bottomed shoreline areas without dense vegetation in thermally constant main channel	LE	E

INSECTS

	Federal Status	State Status
A mayfly <i>Proclleon distinctum</i> mayflies distinguished by aquatic larval stage; adult stage generally found in shoreline vegetation		
Comal Springs dryopid beetle <i>Stygoparnus comalensis</i> dryopids usually cling to objects in a stream; dryopids are sometimes found crawling on stream bottoms or along shores; adults may leave the stream and fly about, especially at night; most dryopid larvae are vermiform and live in soil or decaying wood	LE	E

HAYS COUNTY

INSECTS

		Federal Status	State Status
Comal Springs riffle beetle	<i>Heterelmis comalensis</i>	LE	E
Comal and San Marcos Springs			
Edwards Aquifer diving beetle	<i>Haideoporus texanus</i>		
habitat poorly known; known from an artesian well in Hays County			
Flint's net-spinning caddisfly	<i>Cheumatopsyche flinti</i>		
very poorly known species with habitat description limited to 'a spring'			
Leonora's dancer damselfly	<i>Argia leonorae</i>		
south central and western Texas; small streams and seepages			
Rawson's metalmark	<i>Calephelis rawsoni</i>		
moist areas in shaded limestone outcrops in central Texas, desert scrub or oak woodland in foothills, or along rivers elsewhere; larval hosts are <i>Eupatorium havanense</i> , <i>E. greggii</i> .			
San Marcos saddle-case caddisfly	<i>Protophila arca</i>		
known from an artesian well in Hays County; locally very abundant; swift, well-oxygenated warm water about 1-2 m deep; larvae and pupal cases abundant on rocks			
Texas austrotinodes caddisfly	<i>Austrotinodes texensis</i>		
appears endemic to the karst springs and spring runs of the Edwards Plateau region; flow in type locality swift but may drop significantly during periods of little drought; substrate coarse and ranges from cobble and gravel to limestone bedrock; many limestone outcroppings also found along the streams			

MAMMALS

		Federal Status	State Status
Cave myotis bat	<i>Myotis velifer</i>		
colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (<i>Hirundo pyrrhonota</i>) 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			
Plains spotted skunk	<i>Spilogale putorius interrupta</i>		
catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie			
Red wolf	<i>Canis rufus</i>	LE	E
extirpated; formerly known throughout eastern half of Texas in brushy and forested areas, as well as coastal prairies			

HAYS COUNTY

MOLLUSKS

		Federal Status	State Status
Creeper (squawfoot)	<i>Strophitus undulatus</i>		
small to large streams, prefers gravel or gravel and mud in flowing water; Colorado, Guadalupe, San Antonio, Neches (historic), and Trinity (historic) River basins			
False spike mussel	<i>Quadrula mitchelli</i>		T
possibly extirpated in Texas; probably medium to large rivers; substrates varying from mud through mixtures of sand, gravel and cobble; one study indicated water lilies were present at the site; Rio Grande, Brazos, Colorado, and Guadalupe (historic) river basins			
Golden orb	<i>Quadrula aurea</i>	C	T
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			
Texas fatmucket	<i>Lampsilis bracteata</i>	C	T
streams and rivers on sand, mud, and gravel substrates; intolerant of impoundment; broken bedrock and course gravel or sand in moderately flowing water; Colorado and Guadalupe River basins			
Texas pimpleback	<i>Quadrula petrina</i>	C	T
mud, gravel and sand substrates, generally in areas with slow flow rates; Colorado and Guadalupe river basins			

REPTILES

		Federal Status	State Status
Cagle's map turtle	<i>Graptemys caglei</i>		T
endemic; 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 water's edge			
Spot-tailed earless lizard	<i>Holbrookia lacerata</i>		
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			
Texas garter snake	<i>Thamnophis sirtalis annectens</i>		
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			
Texas horned lizard	<i>Phrynosoma cornutum</i>		T
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			

HAYS COUNTY

PLANTS

Federal Status

State Status

Bracted twistflower

Streptanthus bracteatus

C

Texas endemic; 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

Hill Country wild-mercury

Argythamnia aphoroides

Texas endemic; 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; flowering April-May with fruit persisting until midsummer

Texas wild-rice

Zizania texana

LE

E

Texas endemic; spring-fed river, in clear, cool, swift water mostly less than 1 m deep, with coarse sandy soils rather than finer clays; flowering year-round, peaking March-June

Warnock's coral-root

Hexalectris warnockii

in leaf litter and humus in oak-juniper woodlands on shaded slopes and intermittent, rocky creekbeds in canyons; in the Trans Pecos in oak-pinyon-juniper woodlands in higher mesic canyons (to 2000 m [6550 ft]), primarily on igneous substrates; in Terrell County under *Quercus fusiformis* mottes on terraces of spring-fed perennial streams, draining an otherwise rather xeric limestone landscape; on the Callahan Divide (Taylor County), the White Rock Escarpment (Dallas County), and the Edwards Plateau in oak-juniper woodlands on limestone slopes; in Gillespie County on igneous substrates of the Llano Uplift; flowering June-September; individual plants do not usually bloom in successive years