

**APPENDIX F**  
**FISH AND WILDLIFE RESOURCES**

**Table F-1  
Representative Wildlife Species in the Project Region**

<b>Common Name</b>	<b>Scientific Name</b>	<b>General Habitat<sup>1</sup></b>	<b>Likely Seasonal Occurrence<sup>2</sup></b>	<b>Observed in the Project Area<sup>3</sup></b>
<b>Mammals<sup>4, 5</sup></b>				
Virginia opossum	<i>Didelphis virginiana</i>	F, G, S	R	X
Least shrew	<i>Cryptotis parva</i>	G	R	
Eastern mole	<i>Scalopus aquaticus</i>	G	R	
Silver-haired bat	<i>Lasionycteris noctivagans</i>	F, S	R	
Eastern pipistrelle	<i>Pipistrellus subflavus</i>	F, S	R	
Eastern red bat	<i>Lasiurus borealis</i>	F, S	R	
Hoary bat	<i>L. cinereus</i>	G, B, S	R	
Northern yellow bat	<i>L. intermedius</i>	F, G, S	R	
Evening bat	<i>Nycticeius humeralis</i>	F, S	R	
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>	F, S	R	
Nine-banded armadillo	<i>Dasypus novemcinctus</i>	B, F, G	R	X
Swamp rabbit	<i>Sylvilagus aquaticus</i>	F, S	R	
Eastern cottontail	<i>S. floridanus</i>	G, B, F	R	X
Black-tailed jack rabbit	<i>Lepus californicus</i>	G	R	X
Thirteen-lined ground squirrel	<i>Spermophilus tridecemlineatus</i>	G	R	
Eastern gray squirrel	<i>Sciurus carolinensis</i>	F	R	
Eastern fox squirrel	<i>S. niger</i>	F	R	X
Southern flying squirrel	<i>Glaucomys volans</i>	F	R	
Attwater's pocket gopher	<i>Geomys attwateri</i>	G, F, B	R	
Plains pocket gopher	<i>G. bursarius</i>	G	R	X
Hispid pocket mouse	<i>Chaetodipus hispidus</i>	G	R	
Beaver	<i>Castor canadensis</i>	S	R	X
Fulvous harvest mouse	<i>Reithrodontomys fulvescens</i>	G, B	R	
Plains harvest mouse	<i>R. montanus</i>	G	R	
Deer mouse	<i>Peromyscus maniculatus</i>	G, F, B	R	X
Cotton mouse	<i>P. gossypinus</i>	F	R	
White-footed mouse	<i>P. leucopus</i>	F	R	X
Northern pygmy mouse	<i>Baiomys taylori</i>	G	R	X
Hispid cotton rat	<i>Sigmodon hispidus</i>	G	R	X
Eastern woodrat	<i>Neotoma floridana</i>	F	R	X
Norway rat	<i>Rattus norvegicus</i>	G, D	R	
Black rat	<i>R. rattus</i>	D	R	

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
House mouse	<i>Mus musculus</i>	G, D	R	
Nutria	<i>Myocastor coypus</i>	S	R	X
Coyote	<i>Canis latrans</i>	G, F	R	X
Gray fox	<i>Urocyon cinereoargenteus</i>	F	R	
Red fox	<i>Vulpes vulpes</i>	F, G	R	
Ringtail	<i>Bassariscus astutus</i>	B, F	R	
Raccoon	<i>Procyon lotor</i>	F, S	R	X
Long-tailed weasel	<i>Mustela frenata</i>	F, G	R	
American mink	<i>M. vison</i>	S	R	
Badger	<i>Taxidea taxus</i>	G	R	X
River otter	<i>Lutra canadensis</i>	S	R	
Eastern spotted skunk	<i>Spilogale putorius</i>	G, B, F	R	
Striped skunk	<i>Mephitis mephitis</i>	F, G	R	X
Mountain lion	<i>Felis concolor</i>	F	R	
Bobcat	<i>F. rufus</i>	F	R	
White-tailed deer	<i>Odocoileus virginianus</i>	F	R	X
<b>Birds<sup>6,7</sup></b>				
Common loon	<i>Gavia immer</i>	S	M, WR	
Least grebe	<i>Tachybaptus dominicus</i>	S	V	
Pied-billed grebe	<i>Podilymbus podiceps</i>	S	M, WR	
Horned grebe	<i>Podiceps auritus</i>	S	M, WR	
Eared grebe	<i>P. nigricollis</i>	S	M, WR	
American white pelican	<i>Pelecanus erythrorhynchos</i>	S	M	
Double-crested cormorant	<i>Phalacrocorax auritus</i>	S	M, WR	
Olivaceous cormorant	<i>P. olivaceus</i>	S	M, WR	
Anhinga	<i>Anhinga anhinga</i>	S	M	
American bittern	<i>Botaurus lentiginosus</i>	S	M	
Least bittern	<i>Ixobrychus exilis</i>	S	SR	
Great blue heron	<i>Ardea herodias</i>	S	R	X
Great egret	<i>A. alba</i>	S	SR	
Snowy egret	<i>Egretta thula</i>	S	SR	X
Little blue heron	<i>E. caerulea</i>	S	SR	
Cattle egret	<i>Bubulcus ibis</i>	GS	R	X

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
Striated heron	<i>Butorides striatus</i>	S	SR	X
Tricolored heron	<i>Egretta tricolor</i>	S	SR	
Black-crowned night heron	<i>Nycticorax nycticorax</i>	S	SR	
Yellow-crowned night heron	<i>N. violaceus</i>	S	SR	
White ibis	<i>Eudocimus albus</i>	S	M	
White-faced ibis	<i>Plegadis chihi</i>	S	M	
Roseate spoonbill	<i>Ajaia ajaja</i>	S	M	
Wood stork	<i>Mycteria americana</i>	S	M	
Black vulture	<i>Coragyps atratus</i>	G, F, B	R	X
Turkey vulture	<i>Cathartes aura</i>	G, F, B	R	X
Black-bellied whistling duck	<i>Dendrocygna autumnalis</i>	SG	SR	X
Fulvous whistling duck	<i>D. bicolor</i>	SG	C	
Greater white-fronted goose	<i>Anser albifrons</i>	SG	M	
Snow goose	<i>Chen caerulescens</i>	SG	M	
Canada goose	<i>Branta canadensis</i>	SG	M	
Wood duck	<i>Aix sponsa</i>	S	R	
Gadwall	<i>Anas strepera</i>	S	M, WR	
American wigeon	<i>A. americana</i>	S	M, WR	
Mallard	<i>A. platyrhynchos</i>	S	M, WR	
Blue-winged teal	<i>A. discors</i>	S	M, WR	
Cinnamon teal	<i>A. cyanoptera</i>	S	M	
Northern shoveler	<i>A. clypeata</i>	S	M, WR	
Northern pintail	<i>A. acuta</i>	S	M, WR	
Green-winged teal	<i>A. crecca</i>	S	M, WR	
Canvasback	<i>Aythya valisineria</i>	S	M, WR	
Redhead	<i>A. americana</i>	S	M, WR	
Ring-necked duck	<i>A. collaris</i>	S	M, WR	
Greater scaup	<i>A. marila</i>	S	M	
Lesser scaup	<i>A. affinis</i>	S	M, WR	
White-winged scoter	<i>Melanitta fusca</i>	S	M	
Long-tailed duck	<i>Clangula hyemalis</i>	S	M	
Bufflehead	<i>Bucephala albeola</i>	S	M, WR	
Common goldeneye	<i>B. clangula</i>	S	M, WR	

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
Hooded merganser	<i>Lophodytes cucullatus</i>	S	M, WR	
Common merganser	<i>Mergus merganser</i>	S	M, WR	
Red-breasted merganser	<i>M. serrator</i>	S	M, WR	
Ruddy duck	<i>Oxyura jamaicensis</i>	S	M, WR	
Osprey	<i>Pandion haliaetus</i>	S	M	
Swallow-tailed kite	<i>Elanoides forficatus</i>	S, F	C, M	
Black-shouldered kite	<i>Elanus caeruleus</i>	G	M	
Mississippi kite	<i>Ictinia mississippiensis</i>	G, F, B	M	
Bald eagle	<i>Haliaeetus leucocephalus</i>	S, F	M, WR	
Northern harrier	<i>Circus cyaneus</i>	G	M, WR	
Sharp-shinned hawk	<i>Accipiter striatus</i>	F, B	M, WR	
Cooper's hawk	<i>A. cooperii</i>	G, F, B	R	X
Harris's hawk	<i>Parabuteo unicinctus</i>	F, B	R	
Red-shouldered hawk	<i>Buteo lineatus</i>	F, B	R	X
Broad-winged hawk	<i>B. platypterus</i>	F, B	M	
Swainson's hawk	<i>B. swainsoni</i>	G, B	M, SR	
Red-tailed hawk	<i>B. jamaicensis</i>	G, F, B	R	X
Ferruginous hawk	<i>B. regalis</i>	G, F, B	C	
Rough-legged hawk	<i>B. lagopus</i>	S, G	M, WR	
Golden eagle	<i>Aquila chrysaetos</i>	G, F	M, WR	
Crested caracara	<i>Polyborus plancus</i>	G	SR	X
American kestrel	<i>Falco sparverius</i>	G	M, WR	
Merlin	<i>F. columbarius</i>	S, G	M, WR	
American peregrine falcon	<i>F. peregrinus anatum</i>	G	M	
Arctic peregrine falcon	<i>F. peregrinus tundrius</i>	G	M	
Prairie falcon	<i>F. mexicanus</i>	G	M	
Wild turkey	<i>Meleagris gallopavo</i>	G, F, B	R	X
Northern bobwhite	<i>Colinus virginianus</i>	G, F, B	R	X
Yellow rail	<i>Coturnicops noveboracensis</i>	S, G	M	
King rail	<i>Rallus elegans</i>	S	R	
Virginia rail	<i>R. limicola</i>	S	M	
Sora	<i>Porzana carolina</i>	S	M	
Purple gallinule	<i>Porphyryula martinica</i>	S	SR	

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
Common moorhen	<i>Gallinula chloropus</i>	S	SR	
American coot	<i>Fulica americana</i>	S	R	
Sandhill crane	<i>Grus canadensis</i>	S, G	M	
Whooping crane	<i>G. americana</i>	S, G	M	
Black-bellied plover	<i>Pluvialis squatarola</i>	S, G	M	
American golden plover	<i>P. dominica</i>	S, G	M	
Snowy plover	<i>Charadrius alexandrinus</i>	S	M	
Semipalmated plover	<i>C. semipalmatus</i>	S	M	
Piping plover	<i>C. melodus</i>	S	M	
Killdeer	<i>C. vociferus</i>	S, G	R	X
Mountain plover	<i>C. montana</i>	G	M	
Black-necked stilt	<i>Himantopus mexicanus</i>	S	M, SR	
American avocet	<i>Recurvirostra americana</i>	S	M	
Greater yellowlegs	<i>Tringa melanoleuca</i>	S	M, WR	
Lesser yellowlegs	<i>T. flavipes</i>	S	M, WR	
Solitary sandpiper	<i>T. solitaria</i>	S	M	X
Willet	<i>Catoptrophorus semipalmatus</i>	S	M	
Spotted sandpiper	<i>Actitis macularia</i>	S	M	X
Upland sandpiper	<i>Bartramia longicauda</i>	G	M	X
Whimbrel	<i>Numenius phaeopus</i>	S, G	M	
Long-billed curlew	<i>N. americanus</i>	S, G	M	
Hudsonian godwit	<i>Limosa haemastica</i>	S	M	
Marbled godwit	<i>L. fedoa</i>	S, G	M	
Ruddy turnstone	<i>Arenaria interpres</i>	S	M	
Sanderling	<i>Calidris alba</i>	S	M	
Semipalmated sandpiper	<i>C. pusilla</i>	S	M	
Western sandpiper	<i>C. mauri</i>	S	M, WR	
Least sandpiper	<i>C. minutilla</i>	S	M, WR	
White-rumped sandpiper	<i>C. fuscicollis</i>	S, G	M	
Baird's sandpiper	<i>C. bairdii</i>	S	M	
Pectoral sandpiper	<i>C. melanotos</i>	S, G	M	
Dunlin	<i>C. alpina</i>	S	M	
Stilt sandpiper	<i>C. himantopus</i>	S	M	

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
Buff-breasted sandpiper	<i>Tryngites subruficollis</i>	G	M	
Short-billed dowitcher	<i>Limnodromus griseus</i>	S	M	
Long-billed dowitcher	<i>L. scolopaceus</i>	S	M	
Common snipe	<i>Gallinago gallinago</i>	S	M, WR	
American woodcock	<i>Scolopax minor</i>	F	M	
Wilson's phalarope	<i>Phalaropus tricolor</i>	S	M	
Franklin's gull	<i>Larus pipixcan</i>	S, G	M	
Ring-billed gull	<i>L. delawarensis</i>	S	M	
Herring gull	<i>L. argentatus</i>	S	M	
Common tern	<i>Sterna hirundo</i>	S	M	
Forster's tern	<i>S. forsteri</i>	S	M	
Interior least tern	<i>S. antillarum athalossos</i>	S	S, R	
Black tern	<i>Chlidonias niger</i>	S	M	
Rock dove	<i>Columbia livia</i>	D	R	X
White-winged dove	<i>Zenaida aurita</i>	G, F, B	SR	
Mourning dove	<i>Z. macroura</i>	G, F, B	R	X
Inca dove	<i>Columbina inca</i>	G, D	R	X
Common ground dove	<i>C. passerina</i>	G, E, B	R	X
Black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>	F, B	M	
Yellow-billed cuckoo	<i>C. americanus</i>	F, B	M, SR	X
Greater roadrunner	<i>Geococcyx californianus</i>	G, F, B	R	X
Barn owl	<i>Tyto alba</i>	F, B, D	R	
Eastern screech owl	<i>Otus asio</i>	S, F, B	R	X
Great horned owl	<i>Bubo virginianus</i>	S, F, B	R	
Burrowing owl	<i>Athene cunicularia</i>	G	WR	
Barred owl	<i>Strix varia</i>	S, FU	R	X
Long-eared owl	<i>Asio otus</i>	S, G	M, WR	
Short-eared owl	<i>A. flammeus</i>	S, G	M, WR	
Common nighthawk	<i>Chordeiles minor</i>	G, F, B, D	M, SR	X
Chuck-will's-widow	<i>Caprimulgus carolinensis</i>	F, B	M, SR	X
Whip-poor-will	<i>C. vociferus</i>	F, B	M	
Chimney swift	<i>Chaetura pelagica</i>	F, D	M, SR	X
Ruby-throated hummingbird	<i>Archilochus colubris</i>	G, F, B, D	M, SR	X

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
Rufous hummingbird	<i>Selasphorus rufus</i>	G, F, B, D	M	
Belted kingfisher	<i>Ceryle alcyon</i>	S	R	X
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	F, B, D	R	
Red-bellied woodpecker	<i>M. carolinus</i>	F, B, D	R	X
Yellow-bellied sapsucker	<i>Sphyrapicus varius</i>	F	M, WR	
Ladder-backed woodpecker	<i>Picoides scalaris</i>	F, B, D	WR	
Downy woodpecker	<i>P. pubescens</i>	F, D	R	
Hairy woodpecker	<i>P. villosus</i>	F	R	X
Northern flicker	<i>Colaptes auratus</i>	G, F, D	WR	
Pileated woodpecker	<i>Dryocopus pileatus</i>	F	R	X
Olive-sided flycatcher	<i>Contopus borealis</i>	F, B	M	
Eastern wood-pewee	<i>C. virens</i>	F, B	M, SR	
Yellow-bellied flycatcher	<i>Empidonax flaviventris</i>	F, B	M	
Acadian flycatcher	<i>E. virescens</i>	S, F, B	SR	
Alder flycatcher	<i>E. alnorum</i>	S, B, F	M	
Willow flycatcher	<i>E. traillii</i>	S, G	M, SR	
Least flycatcher	<i>E. minimus</i>	F, B	M	
Black phoebe	<i>Sayornis nigricans</i>	S, B	V	
Eastern phoebe	<i>S. phoebe</i>	S, G, B, D	WR	
Say's phoebe	<i>S. saya</i>	G	M, WR	
Vermilion flycatcher	<i>Pyrocephalus rubinus</i>	S, F, B	M, SR	
Great crested flycatcher	<i>Myiarchus crinitus</i>	F, B	M, SR	
Western kingbird	<i>Tyrannus verticalis</i>	G, F, B	M, SR	X
Eastern kingbird	<i>T. tyrannus</i>	G, F, B	SR	X
Scissor-tailed flycatcher	<i>T. forficatus</i>	G, F, B	M, SR	X
Blue jay	<i>Cyanocitta cristata</i>	F, D	R	X
American crow	<i>Corvus brachyrhynchos</i>	G, F, B	R	X
Loggerhead shrike	<i>Lanius ludovicianus</i>	G, B	R	X
White-eyed vireo	<i>Vireo griseus</i>	F, B	M, SR	X
Bell's vireo	<i>V. bellii</i>	S, F	M, SR	
Blue-headed vireo	<i>V. solitarius</i>	F	M, WR	
Yellow-throated vireo	<i>V. flavifrons</i>	F	M, SR	X
Warbling vireo	<i>V. gilvus</i>	F	M, SR	

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
Philadelphia vireo	<i>V. philadelphicus</i>	F	M	
Red-eyed vireo	<i>V. olivaceus</i>	F, B	M, SR	
Horned lark	<i>Eremophila alpestris</i>	G	R	
Purple martin	<i>Progne subis</i>	F, D	M, SR	X
Tree swallow	<i>Tachycineta bicolor</i>	S, G	M	
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	S	M, SR	
Bank swallow	<i>Riparia riparia</i>	S, G	M	
Cliff swallow	<i>Hirundo pyrrhonota</i>	S, G	M, SR	
Cave swallow	<i>H. fulva</i>	S, G	M, SR	
Barn swallow	<i>H. rustica</i>	S, G	M, SR	X
Carolina chickadee	<i>Parus carolinensis</i>	F, B, D	R	X
Tufted titmouse	<i>P. bicolor</i>	F, B	R	X
Red-breasted nuthatch	<i>Sitta canadensis</i>	F, B	M, WR	
White-breasted nuthatch	<i>S. carolinensis</i>	F, B	WR	
Brown creeper	<i>Certhia americana</i>	F, B	M, WR	
Canyon wren	<i>Catherpes mexicanus</i>	S, F, G	V	
Carolina wren	<i>Thryothorus ludovicianus</i>	F, B, D	R	X
Bewick's wren	<i>Thryomanes bewickii</i>	F, B, D	R	X
House wren	<i>Troglodytes aedon</i>	F, B, D	M, WR	
Winter wren	<i>T. troglodytes</i>	F	M, WR	
Sedge wren	<i>Cistothorus platensis</i>	S, G	M, WR	
Marsh wren	<i>C. palustris</i>	S	M, WR	
Golden-crowned kinglet	<i>Regulus satrapa</i>	F	M, WR	
Ruby-crowned kinglet	<i>R. calendula</i>	F	M, WR	
Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>	F	R	X
Eastern bluebird	<i>Sialia sialis</i>	G, B, F	R	X
Mountain bluebird	<i>S. currucoides</i>	G, B	WR	
Veery	<i>Catharus fuscescens</i>	F	M	
Gray-checked thrush	<i>C. minimus</i>	F	M	
Swainson's thrush	<i>C. ustulatus</i>	F	M	
Hermit thrush	<i>C. guttatus</i>	F	M, WR	
Wood thrush	<i>Hylocichla mustelina</i>	F	M, SR	X
American robin	<i>Turdus migratorius</i>	G, F, B, D	R	

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
Gray catbird	<i>Dumetella carolinensis</i>	F	R	
Northern mockingbird	<i>Mimus polyglottos</i>	G, F, B, D	R	X
Sage thrasher	<i>Oreoscoptes montanus</i>	F, B	M, WR	
Brown thrasher	<i>Toxostoma rufum</i>	F, B	R	X
European starling	<i>Sturnus vulgaris</i>	G, D	R	X
Water pipit	<i>Anthus spinoletta</i>	S, G	M, WR	
Sprague's pipit	<i>A. spragueii</i>	G	M, WR	
Cedar waxwing	<i>Bombycilla cedrorum</i>	G, F, B, D	M, WR	
Blue-winged warbler	<i>Vermivora pinus</i>	F, B	M	
Golden-winged warbler	<i>V. chrysoptera</i>	F, B	M	
Tennessee warbler	<i>V. peregrina</i>	F, B	M	
Orange-crowned warbler	<i>V. celata</i>	F, B	M, WR	
Nashville warbler	<i>V. ruficapilla</i>	F, B	M	
Northern parula	<i>Parula americana</i>	F, B	M, SR	
Yellow warbler	<i>Dendroica petechia</i>	S, R	M	
Chestnut-sided warbler	<i>D. pensylvanica</i>	F, B,	M	
Magnolia warbler	<i>D. magnolia</i>	F, B	M	
Cape May warbler	<i>D. tigrina</i>	F, B	M	
Black-throated blue warbler	<i>D. caerulescens</i>	F	M	
Yellow-rumped warbler	<i>D. coronata</i>	F, B	M, WR	
Black-throated gray warbler	<i>D. nigrescens</i>	F	V	
Black-throated green warbler	<i>D. virens</i>	F	M	
Blackburnian warbler	<i>D. fusca</i>	F, B	M	
Yellow-throated warbler	<i>D. dominica</i>	F, B	M, SR	
Pine warbler	<i>D. pinus</i>	F, B	WR	
Prairie warbler	<i>D. discolor</i>	F, B	M	
Palm warbler	<i>D. palmarum</i>	G	M	
Bay-breasted warbler	<i>D. castanea</i>	F, B	M	
Blackpoll warbler	<i>D. striata</i>	F, B	M	
Cerulean warbler	<i>D. cerulea</i>	F	M	
Black-and-white warbler	<i>Mniotilta varia</i>	F	M, SR	
American redstart	<i>Setophaga ruticilla</i>	F, B	M	X
Prothonotary warbler	<i>Protonotaria citrea</i>	S, F	M, SR	

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
Worm-eating warbler	<i>Helmitheros vermivorus</i>	F	M	
Swainson's warbler	<i>Limnothlypis swainsonii</i>	S, F	SR	
Ovenbird	<i>Seiurus aurocapillus</i>	F	M	
Northern waterthrush	<i>S. noveboracensis</i>	S, F, B	M	
Louisiana waterthrush	<i>S. motacilla</i>	S, F, B	M	
Kentucky warbler	<i>Oporornis formosus</i>	F	SR	
Connecticut warbler	<i>O. agilis</i>	F	M	
Mourning warbler	<i>O. philadelphia</i>	F	M	
MacGillivray's warbler	<i>O. tolmiei</i>	F	V	
Common yellowthroat	<i>Geothlypis trichas</i>	F, B	M, SR	
Hooded warbler	<i>Wilsonia citrina</i>	F	M, SR	
Wilson's warbler	<i>W. pusilla</i>	F	M	
Canada warbler	<i>W. canadensis</i>	F	M	
Yellow-breasted chat	<i>Icteria virens</i>	F, B	M, SR	
Summer tanager	<i>Piranga rubra</i>	F, B, D	M, SR	
Scarlet tanager	<i>P. olivacea</i>	F	M	
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>	F, B	M, WR	
Spotted towhee	<i>P. maculatus</i>	F, B	WR	
Rufous-crowned sparrow	<i>Aimophila ruticeps</i>	G	R	
Cassin's sparrow	<i>A. cassinii</i>	G	R	
Chipping sparrow	<i>Spizella passerina</i>	F, B, D	WR	
Clay-colored sparrow	<i>S. pallida</i>	G, B	M, WR	
Field sparrow	<i>S. pusilla</i>	G	M, WR	
Vesper sparrow	<i>Poocetes gramineus</i>	G	M, WR	X
Lark sparrow	<i>Chondestes grammacus</i>	G, F, B	R	X
Savannah sparrow	<i>Passerculus sandwichensis</i>	S, G	M, WR	X
Grasshopper sparrow	<i>Ammodramus savannarum</i>	G	SR	X
Henslow's sparrow	<i>A. henslowii</i>	G	M	
LeConte's sparrow	<i>A. leconteii</i>	G	WR	
Sharp-tailed sparrow	<i>A. caudacutus</i>	S	M	
Fox sparrow	<i>Passerella iliaca</i>	F	M, WR	
Song sparrow	<i>Melospiza melodia</i>	S, F, B	M, WR	X
Lincoln's sparrow	<i>M. lincolnii</i>	G, F, B	M, WR	X

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
Swamp sparrow	<i>M. georgiana</i>	S	M, WR	
White-throated sparrow	<i>Zonotrichia albicollis</i>	F	M, WR	
White-crowned sparrow	<i>Z. leucophrys</i>	F, B, D	M, WR	
Harris' sparrow	<i>Z. querula</i>	F, B	M, WR	
Dark-eyed junco	<i>Junco hyemalis</i>	F, B	M, WR	
McCown's longspur	<i>Calcarius mccownii</i>	G	M, WR	
Lapland longspur	<i>C. lapponicus</i>	G	M, WR	
Smith's longspur	<i>C. pictus</i>	G	M, WR	
Chestnut-collared longspur	<i>C. ornatus</i>	G	M, WR	
Northern cardinal	<i>Cardinalis cardinalis</i>	F, B, D	R	X
Pyrrhuloxia	<i>C. sinuatus</i>	F, B, D	V	
Rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>	F	M	
Blue grosbeak	<i>Guiraca caerulea</i>	F, B	M, SR	
Indigo bunting	<i>Passerina cyanea</i>	F, B	M, SR	X
Lazuli bunting	<i>P. amoena</i>	F, B	V	
Painted bunting	<i>P. ciris</i>	S, F, B	M, SR	X
Dickcissel	<i>Spiza americana</i>	G	M, SR	
Lark bunting	<i>Calamospiza melanocorys</i>	G	V	
Bobolink	<i>Dolichonyx oryzivorus</i>	S, G	M	
Red-winged blackbird	<i>Agelaius phoeniceus</i>	S, G	R	
Eastern meadowlark	<i>Sturnella magna</i>	G	R	X
Western meadowlark	<i>S. neglecta</i>	G	R	
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	S, G	M	
Rusty blackbird	<i>Euphagus carolinus</i>	S	M, WR	
Brewer's blackbird	<i>E. cyanocephalus</i>	G, D	M, Wr	
Great-tailed grackle	<i>Quiscalus mexicanus</i>	F, B, D	R	
Common grackle	<i>Q. quiscula</i>	S, G, D	R	X
Bronzed cowbird	<i>Molothrus aeneus</i>	G, F, B	WR	
Brown-headed cowbird	<i>M. ater</i>	G, F, B	R	X
Orchard oriole	<i>Icterus spurius</i>	F, B, D	M, SR	
Bullock's oriole	<i>I. bullockii</i>	F, B, D	M	
Purple finch	<i>Carpodacus purpureus</i>	F, B	WV	
Pine siskin	<i>Carduelis pinus</i>	F, B	M, WR	

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
American goldfinch	<i>C. tristis</i>	F, B	M, WR	
Evening grosbeak	<i>Coccothraustes vespertinus</i>	F, B	WV	
House sparrow	<i>Passer domesticus</i>	D	R	X
<b>Amphibians<sup>8,9</sup></b>				
Smallmouth salamander	<i>Ambystoma texanum</i>	S, F	R	
Eastern tiger salamander	<i>A. tigrinum tigrinum</i>	S, G	R	
Dwarf salamander	<i>Eurycea quadridigitata</i>	F	R	
Central newt	<i>Notophthalmus viridescens louisianensis</i>	S, F	R	
Western lesser siren	<i>Siren intermedia nettingi</i>	S	R	
Blachard's cricket frog	<i>Acris crepitans blanchardi</i>	S	R	X
Houston toad	<i>Bufo houstonensis</i>	S, F	R	
Texas toad	<i>B. speciosus</i>	G, B, S	R	
Gulf coast toad	<i>B. valliceps</i>	G, B, F, S	R	X
Woodhouse's toad	<i>B. woodhousei</i>	G, B, F, S	R	X
Eastern narrowmouth toad	<i>Gastrophryne carolinensis</i>	G, B, F, S	R	X
Great plains narrowmouth toad	<i>G. olivacea</i>	G, B, F, S	R	
Green treefrog	<i>Hyla cinerea</i>	F, S	R	X
Cope's gray treefrog	<i>H. chrysoscelis</i>	B, F, S	R	X
Spring pepper	<i>H. crucifer</i>	B, F, S	R	X
Squirrel treefrog	<i>H. squirella</i>	B, F, S	R	
Gray treefrog	<i>H. versicolor</i>	B, F, S	R	X
Spotted chorus frog	<i>Pseudacris clarki</i>	G, S	R	
Strecker's chorus frog	<i>P. streckeri streckeri</i>	S, G, B, F	R	X
Upland chorus frog	<i>P. triseriata feriarum</i>	S, G, B, F	R	
Crawfish frog	<i>Rana areolata</i>	S	R	
Bullfrog	<i>R. catesbeiana</i>	S	R	X
Green frog	<i>R. clamitans clamitans</i>	S	R	
Pickerel frog	<i>R. palustris</i>	S	R	
Southern leopard frog	<i>R. sphenoccephala</i>	S	R	X
Hurter's spadefoot	<i>Scaphiopus holbrookii hurterii</i>	G, S, F	R	
<b>Reptiles<sup>8,9</sup></b>				
Snapping turtle	<i>Chelydra serpentina</i>	S	R	X
Western chicken turtle	<i>Deirochelys reticularia miaria</i>	S	R	

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
Mississippi map turtle	<i>Graptemys kohni</i>	S	R	
Mississippi mud turtle	<i>Kinosternon subrubrum hippocrepis</i>	S	R	
Yellow mud turtle	<i>K. flavescens</i>	S	R	
Texas river cooter	<i>Pseudemys concinna texana</i>	S	R	
Red-eared slider	<i>P. scripta elegans</i>	S	R	X
Razorback musk turtle	<i>Stemotherus carinatus</i>	S	R	
Stinkpot	<i>S. odoratus</i>	S	R	
Eastern box turtle	<i>Terrapene carolina</i>	G, B, F	R	
Western box turtle	<i>T. ornata</i>	G	R	
Midland smooth softshell	<i>Trionyx muticus muticus</i>	S	R	X
Pallid spiny softshell	<i>T. spiniferus pallidus</i>	S	R	X
American alligator	<i>Alligator mississippiensis</i>	S	R	
Green anole	<i>Anolis carolinensis</i>	B, F	R	X
Texas spotted whiptail	<i>Cnemidorphorus gularis</i>	G, B	R	
Six-lined racerunner	<i>C. sexlineatus sexlineatus</i>	G, B	R	X
Collared lizard	<i>Crotaphytus collaris</i>	G, B	R	
Five-lined skink	<i>Eumeces fasciatus</i>	G, B, F	R	
Broadhead skink	<i>E. laticeps</i>	B, F	R	
Southern prairie skink	<i>E. septentrionalis obtusirostris</i>	G, B, F	R	
Ground skink	<i>Scincella lateralis</i>	F	R	X
Western slender glass lizard	<i>Ophisaurus attenuatus attenuatus</i>	G	R	
Texas horned lizard	<i>Phrynosoma cornutum</i>	G	R	
Texas spiny lizard	<i>Sceloporus olivaceus</i>	B, F	R	
Northern fence lizard	<i>S. undulatus hyacinthinus</i>	B, F	R	X
Southern copperhead	<i>Agkistrodon contortrix contortrix</i>	F, B	R	X
Western cottonmouth	<i>A. piscivorus leucostoma</i>	S	R	
Texas glossy snake	<i>Arizona elegans arenicola</i>	G, F	R	
Eastern yellowbelly racer	<i>Coluber constrictor flaviventris</i>	G, B, F	R	
Western diamondback rattlesnake	<i>Crotalus atrox</i>	G, B, F	R	
Timber rattlesnake	<i>C. horridus</i>	B, F	R	
Ringneck snake	<i>Diadophis punctatus</i>	S, F	R	
Great plains rat snake	<i>Elaphe guttata emoryi</i>	G, B, F	R	
Texas rat snake	<i>E. obsoleta lindheimeri</i>	S, G, B, F	R	X

Table F-1 (Continued)

Common Name	Scientific Name	General Habitat <sup>1</sup>	Likely Seasonal Occurrence <sup>2</sup>	Observed in the Project Area <sup>3</sup>
Mud snake	<i>Farancia abacura</i>	S	R	
Western hognose snake	<i>Heterodon nasicus</i>	G	R	
Eastern hognose snake	<i>H. platyrhinos</i>	G	R	X
Prairie kingsnake	<i>Lampropeltis calligaster calligaster</i>	G	R	
Common kingsnake	<i>L. getulus</i>	S, G	R	
Milk snake	<i>L. triangulum</i>	G	R	
Louisiana milk snake	<i>L. triangulum amaura</i>	G, F	R	
Mexican milk snake	<i>L. triangulum annulata</i>	G, B	R	
Plains blind snake	<i>Leptotyphlops dulcis dulcis</i>	G	R	
Eastern coachwhip	<i>Masticophis flagellum flagellum</i>	G, B	R	
Texas coral snake	<i>Micrurus fulvius tenere</i>	B, F	R	X
Plainbelly water snake	<i>Nerodia erythrogaster</i>	S	R	
Broad-banded water snake	<i>N. fasciata confluens</i>	S	R	
Diamondback water snake	<i>N. rhombifera rhombifera</i>	S	R	X
Rough green snake	<i>Opheodrys aestivus</i>	S, F, B	R	
Graham's crayfish snake	<i>Regina grahami</i>	S	R	
Gulf crayfish snake	<i>R. rigida sinicola</i>	S	R	
Western massasauga	<i>Sistrurus catenatus tergeminus</i>	B, F, G	R	
Western pigmy rattlesnake	<i>S. millarius streckeri</i>	B, F, G	R	
Texas brown snake	<i>Storeria dekayi texana</i>	S, F, G, B	R	
Flathead snake	<i>Tantilla gracilis</i>	G, B, F	R	
Checkered garter snake	<i>Thamnophis marcianus</i>	S	R	
Western ribbon snake	<i>T. proximus</i>	S	R	
Common garter snake	<i>T. sirtalis</i>	S, G, F	R	
Texas lined snake	<i>Tropidoconion lineatum texanum</i>	G, F	R	
Rough earth snake	<i>Virginia striatula</i>	G, F	R	
Smooth earth snake	<i>V. valeriae</i>	G	R	

<sup>1</sup>S = Aquatic associated habitats.

G = Grasslands and other open areas.

F = Forest and woodlands.

B = Brushlands/edges.

D = Human habitations.

<sup>2</sup>R = Resident: Occurring regularly in the same general area throughout the year. Implies breeding.

SR = Summer Resident: Implies breeding but may include non-breeders.

### Table F-1 (Continued)

WR = Winter Resident: Occurring during the winter season.

M = Migrant: Occurs as a transient passing through the area either in spring, fall, or both.

V = Visitor: Does not occur in numbers large enough or with frequency great enough to be considered a seasonal resident but is not unexpected.

C = Casual: Might be expected to occur once in 10 years on the average.

<sup>3</sup>Based on surveys conducted by Horizon Environmental Services, Inc. and Texas A&M University (Alcoa 2000 [Volume 6]).

<sup>4</sup>Nomenclature follows Jones et al. (1997).

<sup>5</sup>Presence according to Davis and Schmidley (1994).

<sup>6</sup>Nomenclature follows the AOU (1983).

<sup>7</sup>According to Robbins et al. (1983) and Peterson (1963).

<sup>8</sup>Nomenclature follows Collins et al. (1982).

<sup>9</sup>According to Conant (1975); Raun and Gehlbach (1972); Tennant (1984); and Smith and Brodie (1982).



Table F-2 (Continued)

Common Name	Scientific Name	Sandy Creek <sup>1</sup>				Willow/Mine Creek <sup>1</sup>				Middle Yegua Creek <sup>1</sup>	
		SC2	SC3	SC4	SC5	WC1	WC2	WC3	WC4	MY1	MY2
<b>Herrings</b>	<b>Clupeidae</b>										
Gizzard shad	<i>Dorosoma cepedianum</i>				X						X
<b>Characins</b>	<b>Characidae</b>										
Mexican tetra	<i>Astyanax mexicanus</i>				X						
<b>Perches</b>	<b>Percidae</b>										
Bluntnose darter	<i>Etheostoma chlorosomum</i>			X	X					X	
Slough darter	<i>E. gracile</i>	X	X	X	X	X			X	X	X
Dusky darter	<i>Percina sciera</i>				X						X
<b>Total Number of Taxa</b>		<b>4</b>	<b>10</b>	<b>12</b>	<b>19</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>11</b>	<b>14</b>

Information sources noted below for each sampling site.

- <sup>1</sup>Sampling site designations: SC2 = Tributary to Big Sandy Creek (Alcoa 2001b [Volume 3]).  
 SC3 = Tributary to Big Sandy Creek (Alcoa 2001b [Volume 3]).  
 SC4 = Big Sandy Creek (Alcoa 2001b [Volume 3]).  
 SC5 = Big Sandy Creek at Camp Swift (Linam et al. 1996).  
 WC1 = Willow/Mine Creek (Alcoa 2001b [Volume 3]).  
 WC2 = Tributary to Willow/Mine Creek (Alcoa 2001b [Volume 3]).  
 WC3 = Willow/Mine Creek (Alcoa 2001b [Volume 3]).  
 WC4 = Tributary to Willow/Mine Creek (Alcoa 2001b [Volume 3]).  
 MY1 = Middle Yegua Creek within permit area (Alcoa 2001b [Volume 3]).  
 MY2 = Middle Yegua Creek downstream of Highway 21 (TPWD 2000b).

**Table F-3  
Summary of Special Status Wildlife, Fish, Herptile, and Invertebrate Species**

<b>Common Name (Scientific Name)</b>	<b>Federal Status<sup>1</sup></b>	<b>State Status<sup>1</sup></b>	<b>Range and Habitat Associations</b>	<b>Potential for Occurrence Within the Study Area and Cumulative Effects Area</b>	<b>Eliminated from Detailed Analysis</b>	<b>References</b>
<b>Invertebrates</b>						
Bone Cave harvestman ( <i>Texella reyesi</i> )	E	Rare	Edwards Plateau of Travis and Williamson Counties, Texas. Inhabits subsurface void spaces within the limestone of the Edwards Group.	None. The study area and cumulative effects area occur east of Edwards Plateau and are not underlain by the Edwards Group limestone.	Yes. This species would not occur within the study area or cumulative effects area.	BEG 1995; USFWS 1994
Coffin Cave mold beetle ( <i>Batrisodes texanus</i> )	E	Rare	Edwards Plateau of Williamson County, Texas. Inhabits subsurface void spaces within the limestone of the Edwards Group.	None. The study area and cumulative effects area occur east of Edwards Plateau and are not underlain by the Edwards Group limestone.	Yes. This species would not occur within the study area or cumulative effects area.	BEG 1995; USFWS 1994
Tooth Cave ground beetle ( <i>Rhadine persephone</i> )	E	Rare	Edwards Plateau of Travis and Williamson Counties, Texas. Inhabits subsurface void spaces within the limestone of the Edwards Group.	None. The study area and cumulative effects area occur east of Edwards Plateau and are not underlain by the Edwards Group limestone.	Yes. This species would not occur within the study area or cumulative effects area.	BEG 1995; USFWS 1994
<b>Fishes</b>						
Blue sucker ( <i>Cycleptus elongatus</i> )	SOC	T	Mississippi River basin and west into Texas and New Mexico. Inhabits main channels of medium to large rivers, typically in channels, chutes, and flowing pools of at least moderate depth and current. Substrate consists primarily of exposed bedrock, gravel, or sand. Spawning Season: March through May.	Low to Moderate. Suitable riverine habitat does not occur within the proposed permit area. This species has been recorded in the Colorado River near the confluence with Big Sandy Creek in Bastrop County within the study and cumulative effects areas.	No.	Bradsby et al. No date; BISON-M 2001; Hubbs et al. 1991; Koster 1957; Mosier & Ray 1992; Page & Burr 1991

Table F-3 (Continued)

Common Name (Scientific Name)	Federal Status <sup>1</sup>	State Status <sup>1</sup>	Range and Habitat Associations	Potential for Occurrence Within the Study Area and Cumulative Effects Area	Eliminated from Detailed Analysis	References
<b>Amphibians</b>						
Georgetown salamander ( <i>Eurycea naufragia</i> )	C	Rare	Edwards Plateau in south and central Williamson County. Inhabits aquatic habitats of springs and possibly caves. This species is dependent on groundwater from the Edwards Group.	None. The study area occurs east of Edwards Plateau and water in the study area and cumulative effects area does not originate from the Edwards Group.	Yes. This species would not occur within the study area or cumulative effects area.	BEG 1995; Chippindale et al. 2000
Houston toad ( <i>Bufo houstonensis</i> )	E w/CH	E	Nine east-central Texas counties including Lee and Bastrop Counties. Inhabits deep, friable sandy soils in pine and/or oak woodlands or savannas associated with the Carrizo, Queen City, Sparta, Reclaw, or Weches Formations. Breeding typically occurs in permanent or ephemeral waters that persist long enough for eggs to hatch and young to develop. Potential breeding sites include small water bodies (creeks, ponds, seeps) as well as rain pools and flooded fields. Breeding Season: December through June.  Critical Habitat for the species has been designated in Bastrop County approximately 6.5 miles from the southern end of the permit area.	Low to Moderate. This species is confirmed from Bastrop and Lee Counties and has been documented within 1 mile east of the permit area on the Carrizo Formation. No individuals were identified within the permit area during vocalization surveys or from the analysis of genetic samples. Soils and geology of the study area are atypical of those habitats that are known to support this species.  No critical habitat occurs within the study area or cumulative effects area.	No.	Campbell 1995; Forstner and Dixon 2001; Horizon 2001; USFWS 1984b

Table F-3 (Continued)

Common Name (Scientific Name)	Federal Status <sup>1</sup>	State Status <sup>1</sup>	Range and Habitat Associations	Potential for Occurrence Within the Study Area and Cumulative Effects Area	Eliminated from Detailed Analysis	References
<b>Reptiles</b>						
Timber/canebrake rattlesnake ( <i>Crotalus horridus</i> )	---	T	Mississippi River basin and portions of eastern and southeastern U.S. Inhabits lowland forests and hilly woodlands near water. Also occurs in palmetto-covered lowlands, cane thickets, abandoned fields, and woodland clearings. Prefers dense ground cover. Breeding Season: August through September.	High. No individuals have been identified within the permit area during wildlife surveys. However, this species has been identified within the cumulative effects area at the Sandow Mine. This species also has been documented in Bastrop and Lee Counties. Potentially suitable habitat exists in the study area.	No.	Alcoa 2001c (Volume 3); Werler and Dixon 2000
Texas horned lizard ( <i>Phrynosoma cornutum</i> )	SOC	T	Widely distributed in Texas. Inhabits dry open areas with sparse vegetation including grass, cactus, scattered brush, or scrubby trees. Soil may vary in texture from sandy to rocky. Breeding Season: April through July.	Low to Moderate. Potentially suitable habitat may exist within the permit area and cumulative effects area. This species has been documented in Lee County and potentially could occur in Williamson County.	No.	Alcoa 2001c (Volume 3); Animal Diversity Web 2002; Garret and Baker 1987
<b>Birds</b>						
American peregrine falcon ( <i>Falco peregrinus anatum</i> ) and Arctic peregrine falcon ( <i>F. p. tundrius</i> )	---	E (Amer.) T (Arctic)	Widely distributed but usually locally rare throughout the western U.S. Both subspecies are seasonal migrants that winter along the Texas coast and occasionally occur inland. Breeding has been documented in the Chisos and Guadalupe	Low to Moderate. Potential for occurring infrequently within the study area and cumulative effects area as a transient or during winter. Observation records exist for a	No.	Brown 2001; Kutac and Caran 1994; NGS 1987; Texas On-line Clearing House 2002; TOS 1995

Table F-3 (Continued)

Common Name (Scientific Name)	Federal Status <sup>1</sup>	State Status <sup>1</sup>	Range and Habitat Associations	Potential for Occurrence Within the Study Area and Cumulative Effects Area	Eliminated from Detailed Analysis	References
			mountains of west Texas. This species typically forages in open, less wooded habitats, often near water during winter.	peregrine falcon (not identified to subspecies) in Lee and Milam Counties.		
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	T*	T	Widely distributed in the U.S., but locally rare in Texas. Occurs year-round in Texas as migrants, breeders, and/or winter residents; non-breeding/wintering eagles occur mostly in central and east Texas and the Panhandle; breeding occurs mostly in east Texas. Nest sites typically occur in mature, heterogeneous stands of multi-storied trees, often within 1 mile of wetlands or open water. Breeding Season: October to July.  Winter roosts are often located near water; however, eagles also may roost on windbreaks and in secluded canyons well away from water.	Low to Moderate. Potential for occurring infrequently as a transient. Low potential for occurrence within the permit area, based on the lack of suitable habitat. One nesting pair has been documented near the confluence of the Colorado River and Wilbarger Creek in Bastrop County, approximately 10 miles south of the permit area; an eagle also has been observed on reclaimed land at the Sandow Mine in Milam County.	No.	Campbell 1995; NGS 1987; Ortega 2001; Thering 2002; USFWS 1982
Black-capped vireo ( <i>Vireo atricapillus</i> )	E	E	Migratory songbird; breeds in Trans-Pecos, Lampasas Cut-Plain, and Edwards Plateau regions in Texas; this passerine is a very rare migrant outside of its known breeding range. Typical breeding habitat consists of scrubby vegetation dominated by broad-leafed shrubs with high foliage volume from ground level	Low. Potential for occurring infrequently as a transient. Extremely low potential for breeding occurrence. The proposed study area and cumulative effects area are east of its known range. Two	Yes. The potential occurrence by this species within the study area or cumulative effects area is extremely unlikely.	Brown 2001; Campbell 1995; TOS 1995; USFWS 1991

Table F-3 (Continued)

Common Name (Scientific Name)	Federal Status <sup>1</sup>	State Status <sup>1</sup>	Range and Habitat Associations	Potential for Occurrence Within the Study Area and Cumulative Effects Area	Eliminated from Detailed Analysis	References
			to approximately 6 to 8 feet in height. Breeding Season: March through mid-September.	records exist for the observation of this species in Lee County approximately 1 to 2 miles east of the permit area.		
Golden-cheeked warbler ( <i>Dendroica chrysoparia</i> )	E	E	Migratory songbird; breeding range restricted to Edwards Plateau and Lampasas Cut-Plain of central Texas. Typical breeding habitat consists of mature woodland composed of a mix of Ashe juniper and broad-leaved deciduous, and live oak trees with a high percentage of canopy closure. Breeding Season: April to August.	Low. Potential for occurring infrequently as a transient; extremely low potential for breeding occurrence. The study area and cumulative effects area occur east of its known breeding range. One record exists for the observation of this species in Bastrop County approximately 11 miles southwest of the permit area.	Yes. The potential occurrence by this species within the study area and cumulative effects area is extremely unlikely.	Texas On-line Clearing House 2002; USFWS 1992
Interior least tern ( <i>Sterna antillarum athalassos</i> )	E	E	Breeds along the Rio Grande, Missouri, Mississippi, Colorado (of the western U.S., not Texas), Arkansas, and Red River systems. In Texas, breeders have been documented in the eastern Panhandle and along the Red River at the Texas/Oklahoma border. This species is a casual to rare migrant in the eastern two-thirds of the state. Breeding habitat consists of barren to sparsely vegetated sandbars	Low. Potential for occurring infrequently as a transient; extremely low potential for breeding occurrence. The study area and cumulative effects area are outside of its known breeding range. Two records exist for the observation of this species in Bastrop County, at the	Yes. The potential occurrence by this species within the study area or cumulative effects area is extremely unlikely.	Campbell 1995; Texas On-line Clearing House 2002; TOS 1995; USFWS 1990

Table F-3 (Continued)

Common Name (Scientific Name)	Federal Status <sup>1</sup>	State Status <sup>1</sup>	Range and Habitat Associations	Potential for Occurrence Within the Study Area and Cumulative Effects Area	Eliminated from Detailed Analysis	References
			along rivers, sand and gravel pits, and lake and reservoir shorelines. Breeding Season: April to September.	Colorado River approximately 11 miles southwest of the permit area and at Lake Bastrop approximately 9 miles south of the permit area.		
Mountain plover ( <i>Charadrius montanus</i> )	PT	Rare	Breeds in shortgrass prairies of the Great Plains. Breeding distribution may extend to portions of west Texas. Wintering range includes parts of south, central, and west Texas. Winter habitat consists of grasslands and bare dirt fields.	Low. Potential for occurring infrequently as a transient. Low potential for occurrence during winter, based on the lack of suitable habitat within the study area and cumulative effects area. The study area and cumulative effects area are outside of its known breeding range. This species has been observed in Williamson County at Granger Lake about 20 miles northwest of the permit area.	Yes. The potential occurrence by this species within the study area or cumulative effects area is extremely unlikely.	NGS 1987; Texas On-line Clearing House 2002; USFWS 1999a
Piping plover ( <i>Charadrius melodus</i> )	T w/CH	---	Winter resident and rare migrant along the Texas coast. Uncommon migrant in eastern half of state, rare migrant elsewhere. Inhabits sandy beaches and mudflats.	Low. Potential for occurring infrequently as a transient. Low potential for occurrence during winter. The study area and cumulative effects area are outside of its known breeding range. No critical habitat occurs within the study	Yes. The potential occurrence by this species within the study area or cumulative effects area is extremely unlikely.	Campbell 1993; NGS 1987; TOS 1995

Table F-3 (Continued)

Common Name (Scientific Name)	Federal Status <sup>1</sup>	State Status <sup>1</sup>	Range and Habitat Associations	Potential for Occurrence Within the Study Area and Cumulative Effects Area	Eliminated from Detailed Analysis	References
				area or cumulative effects area.		
Whooping crane ( <i>Grus americana</i> )	E w/CH	E	Breeds in Canada and winters on the Texas coast at the Aransas National Wildlife Refuge. During migration, this species may utilize croplands for feeding and wetlands, rivers, lakes, potholes, prairie grasslands, and croplands for feeding and roosting.	Low to Moderate. Potential for occurring infrequently as a fly-through transient; low potential for regular stop-over occurrence in the proposed study area and cumulative effects area during migration. This species has been reported in Bastrop, Falls, and Milam Counties. No critical habitat occurs within the study area or cumulative effects area.	No.	Brown 2001; Campbell 1995; NGS 1987;
Wood stork ( <i>Mycteria americana</i> )	E**	T	Occurs in coastal areas associated with marshes, shallow ponds, swamps, and wet meadows. This species also could occur at wet inland habitats during breeding dispersal.	Moderate. Potential for occurring infrequently in the study area and cumulative effects area as a post-breeding visitor. This species has been observed in Bastrop, Lee, and Milam Counties.	No.	NGS 1987; Texas On-line Clearing House 2002; TOS 1995

Table F-3 (Continued)

Common Name (Scientific Name)	Federal Status <sup>1</sup>	State Status <sup>1</sup>	Range and Habitat Associations	Potential for Occurrence Within the Study Area and Cumulative Effects Area	Eliminated from Detailed Analysis	References
Zone-tailed hawk ( <i>Buteo albonotatus</i> )	---	T	Breeds in portions of Arizona, New Mexico, and south/southwest Texas, occasionally in the Edwards Plateau. Winters in Mexico, casual winter resident in southern Texas. Breeding habitat includes canyons and streamsid es of semi-arid hilly and mountainous terrain.	Low. Potential for occurring infrequently in winter. Habitats within the study area and cumulative effects area are atypical of breeding habitat for this species. Occasional winter and spring observations in Bastrop County, primarily from the vicinity of the Colorado River.	Yes. The potential occurrence of this species within the study area or cumulative effects area is unlikely.	Kutac & Caran 1994; NGS 1987; TOS 1995

- <sup>1</sup>E = Endangered.  
E w/CH = Endangered with designated Critical Habitat.  
T = Threatened.  
T w/CH = Threatened with designated Critical Habitat.  
PT = Proposed as Threatened.  
C = Candidate for listing as Threatened or Endangered.  
SOC = Species of Concern: Species for which USFWS believes that there is some information showing evidence of vulnerability but not enough data to support listing at this time.  
Rare = Species considered rare by TPWD but for which the agency has not assigned regulatory listing status.  
--- = Not listed by this agency as potentially occurring in Bastrop, Lee, Milam, or Williamson Counties.  
\* = USFWS has proposed to delist bald eagles in the lower 48 states (USFWS 1999b).  
\*\* = USFWS lists wood storks as endangered in portions of their range but not in Texas.

Source for status information: TBCDS 2001; USFWS 2002.

**Table F-4**  
**Summary of Wildlife, Fish, Herptile, and Invertebrate Species of Special Concern**

<b>Common Name (Scientific Name)</b>	<b>Federal Status<sup>1</sup></b>	<b>State Status<sup>1</sup></b>	<b>Range and Habitat Associations</b>	<b>Potential for Occurrence Within the Proposed Permit Area</b>	<b>Eliminated from Detailed Analysis</b>	<b>References</b>
<b>Invertebrates</b>						
Leonora's dancer ( <i>Argia leonorae</i> )	SOC	---	In Texas, this species is uncommon but widely distributed; known to occur within the Brazos, Guadalupe, Rio Grande, and San Antonio watersheds. Little is known of this species' life history. However, adults have been documented along small streams and seeps such as "muddy banked rivulets" and in areas that contain scattered "sedge-ridden swales." Larvae have not been identified. Breeding Season: unknown, adults emerge from mid-May to mid-September.	Low to Moderate. This species is not known to occur within the study area or cumulative effects area; this species has been documented within Williamson County.	No.	Odonata Central (No date)
<b>Fishes</b>						
Guadalupe bass ( <i>Micropterus treculi</i> )	SOC	Rare	Central Texas. Inhabits streams of the northern and eastern Edwards Plateau including portions of the Brazos, Colorado, Guadalupe, and San Antonio River drainages. Inhabits riffles, runs, and pools with gravel and cobble substrates in small- to medium-sized rivers. Spawning Period: March through June.	Low to Moderate. Suitable riverine habitat does not occur within the permit area. However, this species is known to occur within the Colorado River near the confluence with Big Sandy Creek within the study and cumulative effects area.	No.	Hubbs et al. 1991; Mosier 2002; Page and Burr 1991
Sharpnose shiner ( <i>Notropis oxyrhynchus</i> )	SOC	---	Endemic to the Brazos River. Inhabits shallow, moderately flowing waters over sand substrates in broad, open channels.	Low. Suitable habitat for this species does not occur within the study area or cumulative effects area.	Yes. The potential occurrence of this species within the study area or cumulative effects area is extremely unlikely.	Hubbs et al. 1991; Moss and Mayes 1993

Table F-4 (Continued)

Common Name (Scientific Name)	Federal Status <sup>1</sup>	State Status <sup>1</sup>	Range and Habitat Associations	Potential for Occurrence Within the Proposed Permit Area	Eliminated from Detailed Analysis	References
Smalleye shiner ( <i>Notropis buccula</i> )	SOC	---	Native to the upper and middle Brazos River drainage. Inhabits shallow, moderately flowing waters over sand substrates in broad, open channels.	None. Suitable habitat for this species does not occur within the study area or cumulative effects area. A recent survey failed to locate the species downstream of Young County, approximately 280 miles north of the project area.	Yes. The potential occurrence of this species within the study area or cumulative effects area is extremely unlikely.	Hubbs et al. 1991; Moss and Mayes 1993
<b>Amphibians</b>						
Buttercup Creek salamander ( <i>Eurycea</i> sp.)	SOC	---	Edwards Plateau of Travis and Williamson Counties. Inhabits aquatic habitat within springs and caves. This species is associated with the groundwater from the Edwards Group.	None. The study and cumulative effects areas occur east of Edwards Plateau, and water in these areas does not originate from the Edwards Group.	Yes. This species would not occur within the study area or cumulative effects area.	BEG 1995; Chippindale et al. 2000
Jollyville Plateau salamander ( <i>Eurycea tonkawae</i> )	SOC	Rare	Edwards Plateau of Travis and Williamson Counties. Inhabits aquatic habitat within springs and caves. This species is associated with the groundwater from the Edwards Group.	None. The study and cumulative effects areas occur east of Edwards Plateau, and water in these areas does not originate from the Edwards Group.	Yes. This species would not occur within the study area or cumulative effects area.	BEG 1995; Chippindale et al. 2000
<b>Reptiles</b>						
Spot-tailed earless lizard ( <i>Holbrookia lacerata</i> )	---	Rare	This species occupies the Edwards Plateau and suitable habitats within southern Texas. Inhabits dry uplands with sparse, low-growing vegetation.	Low. The study area and cumulative effects area occur east of its known range.	Yes. The potential occurrence of this species within the study area or cumulative effects area is extremely unlikely.	Garrett and Barker 1987

Table F-4 (Continued)

Common Name (Scientific Name)	Federal Status <sup>1</sup>	State Status <sup>1</sup>	Range and Habitat Associations	Potential for Occurrence Within the Proposed Permit Area	Eliminated from Detailed Analysis	References
Texas garter snake ( <i>Thamnophis sirtalis annectens</i> )	SOC	Rare	Central Texas and north central Texas. Occupies grasslands and shrub/scrub habitats that are typically associated with wet or moist microhabitats near water.	Low to Moderate. The permit area occurs just east of the subspecies' known range. However, it is possible that this subspecies could occur within suitable habitats in the study area (including the permit area) and cumulative effects area.	No.	Werler and Dixon 2000
<b>Birds</b>						
Audubon's oriole ( <i>Icterus graduacauda audubonii</i> )	SOC	---	Rare to uncommon permanent resident in south Texas north to Duval, Goliad, and Val Verde Counties and would be considered as an accidental elsewhere. Inhabits upland and riparian woodlands with a shrubby understory.	Low. The study area occurs outside of range of this species. Potential to occur infrequently in the study area and cumulative effects as an accidental.	Yes. The potential occurrence of this species within the study area or cumulative effects area is extremely unlikely.	TOS 1995
Bachman's sparrow ( <i>Aimophila aestivalis</i> )	SOC	---	Uncommon permanent resident of pine forests of east Texas west to approximately Leon and Van Zandt Counties; isolated record for Lee County. Prefers drier pine woodlands with a grassy understory.	Low. The study and cumulative effects areas occur outside of the range of this species. The permit area lacks suitable habitat. Occurrence by this species in the study area or cumulative effects would be considered accidental.	Yes. The potential occurrence of this species within the study area or cumulative effects area is extremely unlikely.	NGS 1987; TOS 1995

Table F-4 (Continued)

Common Name (Scientific Name)	Federal Status <sup>1</sup>	State Status <sup>1</sup>	Range and Habitat Associations	Potential for Occurrence Within the Proposed Permit Area	Eliminated from Detailed Analysis	References
Henslow's sparrow ( <i>Ammodramus henslowii</i> )	---	Rare	Rare to uncommon migrant and winter resident in eastern third of Texas, generally west to Balcones Escarpment. Winter habitat consists of grasslands and savannas or open woodlands with grassy understory.	Moderate. Potential to occur infrequently in the study area and cumulative effects area during migration or as a winter resident.	No.	TOS 1995
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	SOC	---	Permanent resident throughout Texas, except portions of South Texas Plains where it occurs during the non-breeding season. Typically occupies open areas dominated by grasses and/or forbs, interspersed with shrubs or trees. Breeding season: mid-February through July.	High. Very likely to occur within the study area and cumulative effects area as a permanent resident in suitable habitats.	No.	TOS 1995
Reddish egret ( <i>Egretta rufescens</i> )	SOC	---	Portions of the U.S. Gulf coast including Texas. Prefers saltwater beaches and bays and infrequently occurs in inland wetland habitats.	Low to Moderate. Potential to infrequently occur within the study area and cumulative effects area as an accidental summer, fall, or winter visitor. This species has been documented within Bastrop County.	No.	Alcoa 2001c (Volume 3); Kutac and Caran 1994; NGS 1987
White-faced ibis ( <i>Plegadis chihi</i> )	SOC	---	Common resident along Texas coast and scattered breeding records for north, central, and west Texas; rare to uncommon post-breeding visitor and migrant throughout most of Texas. Primarily associated with freshwater marshes, wet meadows, and rice fields.	Moderate. Potential to occur infrequently within the study area and cumulative effects area as a migrant. This species has been documented within Bastrop County.	No.	NGS 1987; Texas On-line Clearing House 2002; TOS 1995

Table F-4 (Continued)

Common Name (Scientific Name)	Federal Status <sup>1</sup>	State Status <sup>1</sup>	Range and Habitat Associations	Potential for Occurrence Within the Proposed Permit Area	Eliminated from Detailed Analysis	References
<b>Mammals</b>						
Elliot's short-tailed shrew ( <i>Blarina hylophaga hylophaga</i> )	---	Rare	Known from Bastrop County (at Bastrop State Park) and Montague County (along the Texas/Oklahoma border). Typical habitat includes small stands of live oak, grassy areas with loblolly pine overstory, and grassy areas near post oak stands. Burrows occur in soft, damp soils, under leaf litter, and under logs.	Low. Habitat in the study area generally is not typical of that supporting this species. However, some portions of the cumulative effects area within Bastrop County may support some shrew habitat.	No.	Davis and Schmidly 1994; Dronen and Simmons 1990; Baumgardner et al. 1992; TXBCD 2001
Cave myotis ( <i>Myotis velifer</i> )	SOC	Rare	Occurs throughout much of Texas excluding east Texas and parts of the Panhandle. Roosts in relatively large colonies, primarily within caves, but also is known to roost in rock crevices, old buildings, carports, bridges, and abandoned cliff swallow nests.	Moderate. This species potentially could occur within the study area and cumulative effects area. This species has been documented within Bastrop County.	No.	Davis and Schmidly 1994
Plains spotted skunk ( <i>Spilogale putorius interrupta</i> )	SOC	Rare	Occurs throughout much of eastern and northern Texas. Occupies wooded areas and tall-grass prairies. Preferred denning habitat includes rocky canyons, rock outcrops, and beneath manmade features such as homes and buildings.	Moderate. This subspecies potentially could occur within the study area and cumulative effects area. This subspecies has been documented within Bastrop County.	No.	Davis and Schmidly 1994

<sup>1</sup>SOC = Species of Concern: Species for which USFWS believes that there is some information showing evidence of vulnerability but not enough data to support listing at this time.

Rare = Species considered rare by TPWD but which have no regulatory listing status within the agency.

--- = Not listed by this agency as potentially occurring in Bastrop, Lee, Milam, or Williamson Counties.

Source for status information: TBCDS 2001; USFWS 2002.