APPENDIX S

Nongame Wildlife Management Recommendations

This document provides a brief description of habitats and various management practices that are beneficial to nongame species of wildlife. Refer to guidelines provided through TPWD's Texas Wildscapes Program for specific practices to provide food, water and cover requirements for various nongame species. It should be noted that many of the recommended practices are also beneficial to game species (e.g., deer, dove, turkey, quail, etc.). Conversely, most management practices directed at managing game species will also benefit many species of nongame wildlife.

HABITAT CONTROL

Grassland restoration - Establishing a mixture of native grasses and forbs on disturbed range or farmland to provide habitat for wildlife diversity. Use the TPWD wildscape plant list. Restore and maintain short and mixed grass sites by planting native seed stock, using species such as little bluestem, switchgrass, plains bristlegrass, green sprangletop, sideoats grama, and other mixed grama species. Follow guidelines in Appendix U. Reduce woody plants near restored blocks of prairie to reduce incidence of predators and cowbirds. Use prescribed burning or apply selective herbicides in late summer or early fall using individual plant treatments according to recommendations provided by Texas A&M University Extension Service, Natural Resource Conservation Service and local Fire Department protocols. Summer burns are more effective at woody plant control, but extensive prescribed burns should be avoided during the nesting season. Prescribed burning in early summer may be necessary to improve the vegetation composition and structure, but a rotational burning program (relatively small patches are burned each year) should not significantly impact local bird species and other nongame wildlife. Proper grazing management is extremely important to improve security cover, nesting habitat, and food availability. In addition to monitoring grass height and cover, land managers should periodically evaluate the degree of use on shrubs by livestock and wildlife. Heavy utilization on shrub species can result in a loss of nesting habitat and food availability. Grass height of 4-12 inches is desirable for feeding and nesting cover of ground-nesting birds. Avoid fragmenting large blocks of habitat. "Area-sensitive" grassland species benefit from tracts of 125- 250 acres or more in size. Expand the size and value of desert grasslands by restoring connecting corridors between small, disjoined grasslands. If this is not possible, restore small grassland plots of 15-20 acres located within a mile of each other.

Shrubland restoration – Establishing native shrubs or small trees where appropriate to restore native habitats for wildlife diversity. Use the TPWD Wildscapes plant list. Early-successional habitats can be provided by establishing hedgerows or plots of fruit-bearing native shrubs. Maintain brush along fencelines or shelterbelts with saplings and dense thickets of shrubs and vines for nongame birds such as the loggerhead shrike and blue grosbeak.

Wetland restoration - Establishing water flows and native vegetation in former wetlands to provide wildlife habitat.

Riparian area management - Provide alternate livestock feeding and watering sites, exclude pastures with riparian areas from livestock grazing or fence out livestock. Defer grazing in riparian areas during April- October.

Prescribed burning - The use of fire to restore, enhance or maintain native habitats for wildlife diversity. Prescribed burns should be conducted according to TPWD, USDA Natural Resource Conservation Service, Texas Agricultural Extension Service and Texas Natural Resource Conservation Commission protocols in coordination with the local Fire Department.

Exotic or "weedy" plant control - Use of fire, selective herbicides, and mechanical methods to control invasive plants in important habitat types to maintain or restore wildlife populations.

Conversion of exotic vegetation - Removal and replacement of exotic vegetation with native plants for wildlife habitat.

Restoration and maintenance of desert shrub/grasslands - Prescribed burns should only be conducted according to TPWD, USDA Natural Resources Conservation Service, Texas Agricultural Extension Service, and Texas Natural Resource Conservation Commission protocols in coordination with local Fire Department. Most prescribed burns are conducted during December-March. Late winter-early spring burns will not impact cool season forbs as much as mid-winter burns. Summer burns (June) are more risky, but are more effective at woody plant control. If mechanical brush control is used, leave brush piles for small mammals. Reseed areas with native grass/forb mixtures as necessary.

Maintain riparian areas with dense understory - Exclude livestock during summer and fall growing season. This allows for understory regeneration and mast (fruit) production. Severely overgrazed riparian areas may initially require several years of year-round deferment from grazing. Maintain dense horizontal layers of understory vegetation for nesting warblers, vireos and other songbirds. Connect fragmented blocks of habitat by planting a diversity of native, fruit-bearing trees and shrubs.

Enhance mid-succession brush/shinnery habitat - Promote brush regeneration with prescribed fire and/or mechanical methods that remove the top-growth of woody plants and encourage root sprouting. Use proper grazing management to avoid overuse of sprouting shrubs.

Protect karst, caves and other underground resources - Construct appropriate cave gates or other features to minimize human disturbance to roosting bats. Insure quality underground water resources through proper disposal of toxicants and runoff

management. Maintain unobstructed cave entrance for easy access by bats.

EROSION CONTROL

Riparian area management - Provide alternate livestock feeding and watering sites, exclude pastures with riparian areas from livestock grazing or fence out livestock. Defer grazing in riparian areas during April- October. Control erosion using water structures and native plants.

Grassland restoration - Establishing a mixture of native grasses and forbs on disturbed range or farmland to provide habitat for wildlife diversity. Use the TPWD Wildscapes plant list.

Riparian/Upland habitat restoration - Establishing native trees and shrubs where appropriate to restore native habitats for wildlife diversity. Use the TPWD Wildscapes plant list.

PREDATOR CONTROL

Avian predator and nest parasite control – Selected avian predators (grackles, starlings, and brown-headed cowbirds) may be controlled as a part of a PLANNED PROGRAM to reduce impacts on nesting neotropical and resident songbirds through shooting and trapping, grazing management, and maintenance of large blocks of wildlife habitat.

Carnivore/furbearer control - Reduce the impact of coyotes, foxes, raccoons and other carnivores on colonial nesting birds. Control of feral dogs and cats by humane methods can enhance grassland bird nesting success and survival.

Fire ant control - Control fire ants using bait (such as Logic) or other approved product during spring-fall.

PROVIDING SUPPLEMENTAL WATER

Wetland restoration - Establishing water flows and native vegetation in altered coastal and inland wetlands.

Well/trough/pond with overflows - Establish additional shallow water supplies through construction of ground-level wildlife ponds, or adding overflow systems on existing wells and troughs. Protect these areas from livestock use. Follow TPWD Wildscapes Program guidelines and guidelines in Appendix O.

PROVIDING SUPPLEMENTAL FOOD

Establish food plots ½ to 1 acre in size by shallow-discing to promote native, seed-producing food plants for birds (i.e., sunflower, ragweed, croton, bundleflower, pigweed,

etc.). Where irrigation is an option, consider supplementing native forage with 1 to 5 acre plots of small grains (e.g., wheat, oats, sorghum, millet, etc.).

Butterfly and hummingbird gardens - Establish native wildflowers, trees, shrubs, vines, or cultivated flowers as food sources for butterflies and hummingbirds. Follow the TPWD Wildscapes Program plant list.

Feeding stations - Set up liquid, seed and free-choice feeding stations for resident and migratory birds. Especially critical during migration and winter months when natural food sources are scarce. Follow TPWD Wildscapes Program guidelines.

Reduction of broadcast insecticides - Increases the amount of insects available as a wildlife food source for birds, reptiles and amphibians.

Conversion of exotic vegetation - Removal and replacement of exotic vegetation with native plants for wildlife habitat.

PROVIDING SUPPLEMENTAL SHELTER

Brush piles/rock piles - Leaving or stacking cleared brush and rocks to create denning and escape cover for birds, small mammals, reptiles and amphibians. Follow TPWD Wildscapes Program guidelines.

Thickets of native brush - Create or maintain thickets of native shrubs/trees for refuge.

Grassland restoration - Establishing a mixture of native grasses and forbs on disturbed range or farmland to provide habitat for wildlife diversity. Use the TPWD wildscape plant list.

Snag maintenance and creation - Protect snags and deadfalls for cavity-dwelling species. Create snags by using selective herbicides or girdling on undesirable woody plants.

Nest boxes and perching platforms/poles - Provide nest structures for songbirds, owls, small mammals, bats, raptors, herons, and other nongame species. In many areas dead timber snags, which provide cavities or natural hollows, are absent or rare. Where suitable nest cavities are in short supply, artificial nest/roost boxes can be erected to help alleviate these shortages for particular species. Some of the birds and mammals that can benefit from these structures are: bluebirds, chickadees, titmice, prothonotary warbler, wrens, woodpeckers, screech owls, kestrels, squirrels, and bats. The TPWD Wildscapes Program can furnish additional information regarding number, specifications, placement, and maintenance of these structures for specific species.

CENSUS

Time area counts - The number of individual species seen or heard during a fixed time

frame per unit area (eg., point counts for birds, squirrels).

Drift fences/pit fall traps - A system of flashing or similar material arranged on the ground to funnel small wildlife species into buried buckets or other pitfall trap. (used primarily for reptiles and amphibians).

Small mammal traps - Small live traps arranged along a trapline to sample small mammals.

Other or Indicator Species: Bobwhite quail, dove, and wild turkey may be desired game species to have in the area, which may be expressed in the overall objective. The land management techniques that have been recommended primarily for the deer population (**Appendix G and H**) can benefit these game birds and many other non-game species of wildlife. These are: prescribed burning, disking, proper water distribution, livestock rotation or time-specific exclusion from woods and certain native grass areas, and supplemental food plots. See **Appendix (P and Q)** for more information on quail and **Appendix O** for turkey.

Nest/Roost boxes for Cavity Nesters/Roosters: Where suitable nest cavities are in short supply because of limited dead timber snags that provide cavities or natural timber hollows, artificial nest/roost boxes can be erected to help alleviate these shortages for particular species. Some of the birds and mammals that can benefit from these structures are: bluebirds, chickadees, titmice, prothonotary warbler, wrens, woodpeckers, screech owls, kestrels, wood ducks, black-bellied whistling ducks, squirrels, and bats. The TPWD Nongame and Urban Program can furnish additional information regarding number, specifications, placement, an maintenance of these structures for specific species.

Neotropical Migratory Birds: These are birds that breed in the United States and Canada, and migrate to the Neotropical regions of Mexico, Central and South America, and the Caribbean during the nonbreeding season. As mentioned in the General Habitat Management section at the beginning of this example plan, loss and fragmentation of woodland and native grassland habitat has reduced populations of many neotropical populations. Neotropicals include the following groups of birds: kites, hawks, falcons, owls, cuckoos, nightjars, hummingbirds, flycatchers, swallows, thrushes, vireos, warblers, tanagers, grosbeaks, buntings, sparrows, orioles, and blackbirds. For more information regarding neotropical status, surveys, and possible management strategies, contact the Partners in Flight Program Coordinator at TPWD Headquarters in Austin.

Birds of management concern for the Trans-Pecos region include:

A. Shrublands (Various Types)
Black-capped Vireo (SR)
Lucifer Hummingbird (SR)
Bell's Vireo (SR)

Scaled Quail (PR)
Lucy's Warbler (SR)
Black-chinned Hummingbird (SR)
Crissal Thrasher (PR)
Canyon Towhee (PR)
Cassin's Sparrow (SR)
Varied Bunting (PR*)
Black-tailed Gnatcatcher (PR)
Black Chinned Sparrow (PR*)
Scott's Oriole (SR)

B. Pinyon-Juniper woodlands/savannahs

Montezuma (Mearn's) Quail (PR)
Gray Vireo (SR)
Elf Owl (PR*)
Cassin's Kingbird (SR)

C. Grasslands

Aplomado Falcon (extirpated from Trans-Pecos for 40 years, but birds may still exist in the Marfa-Van Horn basin)
Burrowing Owl (PR)

D. Riparian Areas

Willow Flycatcher (Southwestern subspecies; MI, possibly nesting)
Common Black-Hawk (SR)
Gray Hawk (PR)
Elf Owl (SR)

E. Highland mixed conifers

Spotted Owl (Mexican subspecies; PR)
Colima Warbler (SR)

F. Rocky ledges and cliff faces

Peregrine Falcon (American subspecies; PR)

Legend:

PR- Permanent Resident (year round)
PR*- Numbers of individuals *decrease* during the winter months
SR- Summer Residents (only here during nesting)
MI- Migrant (only fall and/or spring time passage)

Waterfowl/Wading Birds: To improve the habitat for dabbling ducks and wading birds, construction of 3- 4 foot high levees with a drop-board water control structure in suitable low areas could back up and hold water during the winter months or the summer months, depending on water management strategy. This could provide shallow-water

(6 to 24 inches) feeding areas for migrant ducks, wading birds, and spring-nesting wood ducks. Exclude livestock from this area with installation of an electric or barbed wire fence around the perimeter, at least 50 yards upland from the maximum flooded area. Contact the local Natural Resources Conservation Service or TPWD waterfowl biologist for assistance in location and construction of the levee.

Exotic Species: Over-browsing of shrubs by non-native species such as aoudad, corsican and mouflan sheep can have a detrimental impact on nesting and forage availability for many songbirds. Many species of birds utilize the lower and mid-portions of shrubs, and it is these areas that are hardest hit by browsing animals.

Feral Hogs: Wild hogs do not occur in all areas of the Trans-Pecos, but where they do occur, they should be controlled by shooting and live trapping whenever possible. Control efforts are most successful when conducted during the winter when feral hogs have to travel more to find food, or during summer droughts when they tend to concentrate around available sources of water. Besides rooting up pastures, feral hogs compete directly with deer, turkey and most other wildlife species that rely heavily on acorns and other hard and soft mast for winter food. Deer also tend to avoid areas when feral hogs are present. Studies have revealed that several species of snakes and lizards are included in the diet of feral hogs.

Other Comments: The development of a Landowner Wildlife Management Association with adjacent and neighboring landowners will greatly enhance any management practices that are conducted on your property. TPWD and TCE personnel are available to assist in the establishment of landowner associations.