



HABITAT MANAGEMENT FOR NONGAME WILDLIFE SPECIES IN THE CROSS-TIMBERS REGION OF NORTH TEXAS

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INTRODUCTION

Managing habitat for nongame wildlife species is an important land management activity for many landowners in the Cross-Timbers and Prairies Region of North Texas. As the quality and quantity of habitat for wildlife continues to diminish in many areas of Texas, proper management of smaller land holdings becomes increasingly important. Resident and migratory wildlife species are dependent on quality habitat for survival and reproduction. Without the conscious effort on the part of landowners to manage their land and wildlife habitat, wildlife populations may be displaced or their numbers diminished. This bulletin discusses a variety of management practices and concepts that can be used to improve and enhance habitat for songbirds, small mammals and other wildlife species commonly found in this part of Texas.

Plant diversity is an important component of good wildlife habitat. Habitats with a variety of plants (annual and perennial, herbaceous and woody) that produce different cover types and foods throughout the year have greater habitability than those that do not. Habitats dominated by relatively few plant species are less likely to support high populations of wildlife. Plants that produce fruits, nuts, seeds, berries, buds, foliage and nectar during different seasons of the year are important to wildlife. The greater the variety - the better the habitat.

Deciduous plants provide cover, shelter, nesting sites and abundant food sources during the warm seasons but lose their leaves during winter months. Landscapes dominated by deciduous vegetation may become less habitable for many wildlife species after leaf drop in the fall and late winter when protection from the elements and predators diminishes. Evergreen or **non-deciduous** plants found in north central Texas such as Ashe juniper, eastern red cedar, and liveoak provide year around cover, protection, and nesting sites. Habitat containing both deciduous and non-deciduous plants is a desirable characteristic of good wildlife habitat. Habitat should contain varying degrees of shape, heights, and density of vegetation to meet the needs of different wildlife species. Tall trees restrict sunlight from reaching the ground and can be thinned for openings created to stimulate growth of understory shrubs and other herbaceous vegetation. Areas of vegetation with irregular borders increase the amount of edge (transition

zones between openings and brush that is referred to as “**edge effect**”) and are used by many wildlife species to access feeding areas where insects, seeds and other food sources are available near escape cover. Some species of Neotropical songbirds, however, prefer dense woodlands. Islands of trees, vines and brush with thick vegetation growing from the ground level upwards into the lower limbs of the trees provides excellent habitat for many bird species. “**Corridors**” of cover that provide lanes for wildlife to travel and reduce their exposure to predators should connect these areas.

Dead trees often contain cavities or loose bark where insects hide or burrow into wood. These “**snags**” are important to many birds and small mammals for den and nest sites and food sources. Woodpeckers (downy, ladder-backed or red-bellied woodpeckers), flickers, wrens, chickadees, nuthatches, bluebirds, titmice, flycatchers, screech owls, squirrels, lizards, and many other species use these snags. Several species of bats roost in interior cavities of snags or under loose bark. Snags can be created where surplus timber occurs in dense woodlands by “**girdling**” with a saw. Sawing through the outer bark and into the inner bark layers near the base of a tree will eventually kill it and produce a dead standing snag. If undesirable woody species occur, a concentrated effort can be made to select individual trees for girdling, which kills them and at the same time provides standing habitat structure for wildlife.

Water is important to wildlife and good wildlife habitat should contain water sources that are available throughout the year. This source of water can be in the form of ponds, creeks, or other natural or man-made depressions developed on natural drainages of the land or made available by creative development. Animals are attracted to running or dripping water. Water should be piped to small ground level structures that provide easy access for birds and small mammals. Water level can be manipulated using floats or overflow outlets to a running water source. Winter maintenance is necessary on some types of developed water sources to prevent freezing and to keep water available for wildlife. Water depth is important to many wildlife species such as small mammals, birds, turtles, amphibians and insects (butterflies). Shallow water with sloping shorelines or edges with a portion of the area free of heavy vegetation will provide access for a variety of wildlife species.

Sixty to 75 percent per cent of shorelines of small ponds should be covered by vegetation to prevent erosion.

Planting a mixture of **native grasses** and **native wildflowers** in open areas will compliment woody cover and provide habitat for insects and increase feeding and nesting areas for birds and small mammals. Most wildflowers should be planted during the fall on a prepared seedbed in full sunlight for spring germination and growth. Some cool season forbs will require a spring planting. Perennial and annual species will provide long-term vegetation once they are established and regrow each year with little or no soil disturbance. Seeds should not be planted deep but rolled or pressed only 1/16 of an inch into the soil that has been tilled to a depth of one inch. Periodic watering and control of unwanted weeds and annual grasses may be required to establish wildflowers or native perennial grasses. Mixed plantings also help control water and wind erosion of the soil. The use of prescribed burning is a tool that can be used to help regenerate and restore meadows and prairies that are important habitats for many ground nesting birds and small mammals.

Many species of wildlife prefer low to mid-stages of **plant succession**. Plant succession is the natural process of recolonization of disturbed soil sites by plants. Annual weeds and grasses are the first plants that normally reappear and over time are replaced by perennial weeds and grasses or woody species adapted to the area (climax plant communities). Land management practices that set back climax plant communities and replace some of the climax species with other annual and perennial species may result in enhanced habitat for wildlife. Use of management tools such as grazing, fire, herbicides and soil disturbance by mowing, plowing or disking can be used to achieve lower stages of plant succession without planting new species.

Disking is the one of the most cost-effective tools available to landowners for promoting foods for wildlife. Disking promotes germination and growth of native seeds existing in the natural seed bank in the soil. Winter disking should be conducted in strips adjacent to or near existing brush or cover such as brush lines, fence rows, or around plum thickets or other dense vegetation cover types. Avoid disking on slopes or terrain that may cause soil erosion. Best results occur on sandy or sandy loam soils. Initial disking should be thorough followed in later years by light disking. Alternate plowing of disk strip from year to year increases the variety of warm and cool season weeds produced. A disk strip 12 ft. wide and one mile long covers approximately 1.45 acres. Twelve-foot strips disked every 75 yards on a section

(640 acres) of land results in a total of 32 acres disked (22 one-mile strips).

Important seed producing native plants in the Cross-Timbers include ragweeds, crotons, sunflower, panic grasses, Paspalum grasses, Illinois bundleflower, wildbeans, broomweed, partridge pea, milk peas, smartweed, dayflower, sumac, grapes, hackberry, bumelia, mesquite, pigweed, sumpweed, snow-on-the-mountain, pricklypoppy, and beggar ticks. Cultivated plants such as milo, millet, corn, lespedezas, soybeans, wheat, and rye are also eaten by wildlife.

When reseeding pastures to grasses following mechanical brush control, plant a mixture of species such as sideoats grama, little bluestem, and plains bristlegass in combination with perennial native legumes such as Eldorado Engelmann Daisy, Aztec Maximilian sunflower, Comanche partridge pea, or Sabine Illinois bundleflower. For wildlife habitat enhancement, a reduced seeding rate for grass seed is recommended when legumes or other forb species are planted. A period of deferment from grazing may be required to establish these plants.

Nest boxes for a wide variety of birds and small mammal species can be installed where natural cavities are absent or in limited supply. Specific dimensions and placement of nest boxes is critical for attracting different species of birds and mammals. Use the smallest entrance hole recommended for that species you are wishing to attract. Do not install a perch to prevent attracting European Starlings and House Sparrows. Install predator guards or baffles to prevent mammalian and reptilian predators from entering nest boxes. Apply axle grease or Tanglefoot™ on the support pole to repel ants. Rub bar soap on the inside ceiling of nest boxes to discourage wasps. Monitor nest boxes regularly and keep records of use and production. Literature references are available on how to construct, place, and monitor nest boxes for many birds and small mammals. If possible, work to develop and promote natural cavities within wildlife habitat for long-term availability.

Development and maintenance of natural sources of food for wildlife from within the habitat should be the objective of a successful long-term management program. Bird feeding should be supplemental only and not a replacement for natural foods within the habitat. **Bird feeders** can be installed to provide **supplemental sources** of food for birds throughout the year and to increase visibility of birds for viewing and enjoyment. Feeders can be hung from trees or other supports or placed on the ground. Different bird species are attracted to different types of feed. Black-oil sunflower

seeds attract a wide variety of bird species including Blue Jay, Tufted Titmouse, Carolina Chickadee, Evening Grosbeak, Pine Siskins, House Finch, American Goldfinch, and Northern Cardinal. Other commonly used feeds include cracked corn, millets, peanut kernels, milo, and other small grains. Ground feeding birds include Mourning Dove, Junco, Red-winged Blackbirds, Rufous-sided Towhee, White-crowned Sparrows and other native sparrow species and many others. Feed scattered directly on the ground near cover will also be used by a variety of birds and small mammals.

Suet feeders provide a source of high-energy food and are used by many species during the winter months.

Grain spilled on the ground under feeders may become contaminated by droppings and contribute to the transmission of diseases. Move feeders regularly and keep them clean. Hummingbird feeders can be installed in shaded areas and filled with a boiled mixture of 1-part sugar and 4-parts water. Unused solution should be placed in a refrigerator. Feeders should be refilled every few days to prevent fermentation and cleaned with a mixture of hot water and vinegar.

For more detailed information concerning nongame wildlife and habitat management, write: Wildlife Diversity Program, Texas Parks and Wildlife Department, 4200 Smith School Rd., Austin, TX 78744.