



Wildlife Management Plan

for

**Members of the Wilson County
Wildlife Management Association (WCWMA)**



****IMPORTANT: READ THIS ****

If you plan to participate in the Managed Lands Deer Permit (MLDP) program to receive doe permits as a member of the Wilson County Wildlife Management Association (WCWMA), you must:

- 1.) *Maintain current membership in the WCWMA.*
- 2.) *Submit survey data to TPWD by September 25 of each year (See Page 17).*
- 3.) *Submit harvest data to TPWD by February 15 of each year (See Page 18).*

This wildlife management plan is designed to help you complete activities 2 and 3 above and to assist you with managing wildlife on your property.

Section 1 – Tract Identification and Contact Information

Tract Name: _____ Majority County: _____ Ecoregion: _____

Additional Counties (if any): _____

Owner: _____	Agent or Manager: _____
Address: _____	Address: _____
City, State, Zip: _____	City, State, Zip: _____

Telephone numbers of person submitting form:

Specify: Agent Landowner

Business: _____	Home: _____
Fax: _____	Ranch: _____
Email: _____	Mobile: _____

Location of Property (distance and direction from nearest town; specify highway/road number):

Is Acreage Under High Fence? Yes No Partial (describe) _____

Acreage Under High Fence: _____

Section 2 – Landowner Goals and Objectives

1. Describe the landowner's wildlife management goals and objectives, including a description of the landowner's goals for wildlife-associated recreation:

- 1.) Assist with the management of wildlife across Wilson County by maintaining membership in the WCWMA.
- 2.) Manage animal populations and habitats on the property to benefit native wildlife species.
- 3.) If desired, participate in Level 1 of the Managed Lands Deer Permit (MLDP) program
 - a.) Increase recreational hunting opportunities on the property by obtaining permits to harvest female white-tailed deer.
 - b.) Maintain the property's deer population at a density suitable for the region.
 - c.) Balance white-tailed deer sex (buck:doe) ratios on the property.

2. The landowner has an interest in enhancing or creating habitat for the following species:

- | | | | |
|--|--|--|-------------------------------------|
| <input type="checkbox"/> White-tailed deer | <input type="checkbox"/> Northern bobwhite | <input type="checkbox"/> Scaled quail | <input type="checkbox"/> Waterfowl |
| <input type="checkbox"/> Rio Grande wild turkey | <input type="checkbox"/> Eastern wild turkey | <input type="checkbox"/> White-winged dove | <input type="checkbox"/> Small game |
| <input type="checkbox"/> Lesser prairie chicken | <input type="checkbox"/> Mule deer | <input type="checkbox"/> Mourning dove | <input type="checkbox"/> Songbirds |
| <input type="checkbox"/> Ring-necked pheasant | <input type="checkbox"/> Pronghorn | <input type="checkbox"/> Grassland birds | |
| <input type="checkbox"/> Reptiles and /or amphibians | | | |

Other nongame species (please list):

Rare, threatened or endangered species, including plants (please list):

Section 3 – Current Habitat and Livestock Management Description

1. Habitat Types and Amounts in Acres (*Indicate acreage for each major type*)

Cropland/Food Plots: _____	Bottomland/Riparian: _____
Non-native Pasture: _____	Wetlands: _____
Native Grassland/Savannah: _____	- Coastal Marsh: _____
Forests/Timberlands: _____	- Playa Lakes: _____
Native Rangeland/Brush: _____	- Bogs or Springs: _____
Fallow Fields (old cropland): _____	- Other Inland Wetlands: _____
Other (i.e., unique native plant communities) (please describe): _____	

Total acres included in this Management Plan: _____

2. Describe current habitat types, plant composition, land use, and any recent habitat management:

Soils help determine what vegetation grows in a given location while the vegetation growing in that location helps determine what habitat is available for wildlife. Thus, consideration of soils and vegetation is important in classifying habitat type. Habitat type is best described in terms of rangesite, which is a grouping of soils that support a distinct group of plant species and comparable quantities of each plant. Wilson county boast a diversity of rangesites. Predominant rangesites in the county include: 1.) deep sand savannah in the north, 2.) rolling blacklands in the east, 3.) tight sandy loam in the south, and 4.) loamy sand in west.

Vegetation species found across the county are consistent with rangelands in the South Texas Plains ecoregion. Trees and shrubs consist of live oak, Texas persimmon, blackbrush, lotebush, granjeno, sugar hackberry, and honey mesquite. A limited amount of prickly-pear cactus is also present. Forbs include annual sunflower, field ragweed, multiple croton species, Texas bluebonnet, yellow evening primrose, and silver bladderpod. Large portions of the area are also planted with Bermudagrass, Kleingrass, and Kleberg bluestem. Some native grass species including purple three-awn, red grama, little bluestem, sand dropseed, tumble lovegrass, and fall withchgrass remain in undisturbed areas. The habitat in most of Wilson County is of fair quality for use by wildlife for the South Texas Plains ecoregion.

Much of the landscape of Wilson County was plowed and contoured to create agricultural fields, specifically peanut and flax fields, beginning in the early 20th century. When the market for these crops failed during the late 20th century many property owners switched to cattle grazing as a source of revenue. This land use change resulted in the widespread planting of exotic grasses such as Bermudagrass throughout the county. In more recent times, the majority of larger properties have been sub-divided and/or sold and continue to be used for cattle grazing or for hunting and outdoor recreation. Natural gas and oil drilling have also been a prevalent part of the land use history of Wilson County over the past 50 years. These practices have left intermittent scars across the landscape. Much of the current habitat management in Wilson County focuses on improving pastures for cattle grazing. However, interest in habitat management for wildlife is on the rise.

4. Habitat Management – current practices:

- | | |
|--|--|
| <input type="checkbox"/> Grazing Management | <input type="checkbox"/> Ground Disturbance (fallow disking, aeration, etc.) |
| <input type="checkbox"/> Prescribed Burning | <input type="checkbox"/> Cover/Brush Establishment |
| <input type="checkbox"/> Brush Management | <input type="checkbox"/> Native Grass Restoration |
| <input type="checkbox"/> Erosion Control | <input type="checkbox"/> Forest Management and Restoration |
| <input type="checkbox"/> Population Control | <input type="checkbox"/> Pasture Reseeding (overseeding) |
| <input type="checkbox"/> Other (describe below): | |

5. Livestock Management – current practices:

Kind and Class of Livestock	Stocking Rate (acres/animal unit)	Grazing Management System(s)

Type of Livestock Operation: Cow/Calf Registered Herd Stockers/Yearlings

6. Describe general watershed conditions including conditions of streams, riparian areas and springs. Include current actions that address soil erosion.

Wilson County is primarily drained by the San Antonio River and Cibolo Creek. These major streams maintain water throughout most of the year. A multitude of smaller streams also exist throughout the county that flow only after significant rainfall. A small number of wetlands and springs are also found in Wilson County and are generally located within the San Antonio River basin. Portions of these riparian areas are subject hoof action by cattle and other forms of human disturbance increasing the potential for erosion. However, many landowners are conscious of the negative impacts of soil erosion and make an attempt to reduce erosion above and near these riparian areas.

Section 4 – Supplemental Water, Feeding and Shelter

1. Watering Facilities – type and location/density of existing facilities:

Properties throughout Wilson County possess an abundance of stock ponds and watering troughs for livestock which also provide supplemental water for wildlife. Many landowners managing for wildlife are conscious of the need for supplemental water in this semi-arid climate and provide additional water sources for deer, game birds, and songbirds. Wildlife in most of the county can easily find at least one water source for every 500 acres.

2. Supplemental Feeding - current practices:

Like most of South Texas, plenty of supplemental feed is available for wildlife in Wilson County. Provision of corn and milo for deer and game birds is ubiquitous throughout the area. Many landowners also distribute pelleted supplemental feed for deer which also provides a high-quality dietary supplement for other wild animals. An abundance of food plots planted with winter wheat, oats, milo, or a wild game mixture are also present throughout the county.

3. Supplemental Shelters or Structures – type and location/density:

The amount of supplemental shelter available to wildlife in Wilson County is on the rise. As interest in wildlife management increases, many landowners are allowing properties to rest from livestock grazing creating additional grass and shrub cover for wildlife. Many landowners also passively retain brush piles, snags, and allow vegetation to grow along fence rows creating supplemental shelter.

Section 5 – Participation in USDA Farm Bill Programs and Other Cost Share Incentive Programs.

1. Indicate specific program(s) and practices to be implemented:

The USDA offers a variety of Farm Bill and other cost share incentive programs that can help landowners by providing technical guidance and covering financial costs for certain management practices. These programs include the Conservation of Private Grazing Lands Program for managing grazing lands, the Conservation Reserve Program for resting farm land, the Wetland Reserve Program for enhancing and protecting wetlands, the Wildlife Habitat Incentive Program to assist with wildlife habitat management, and a host of other programs. Call Jason Katcsmorak the Wilson County NRCS District Conservationist at (830)393-3555 for more information on these programs.

2. Indicate where practices will be applied, time frame for completion, and expected wildlife benefits:

Participation in these programs will have various benefits for wildlife in Wilson County. Implementation and completion of management practices is at the discretion of the USDA

Section 6 – General Habitat and Wildlife Management Recommendations

Section 6A – General Habitat Management Recommendations

Habitat provides the resources necessary for wildlife to survive, grow, and thrive. As such, habitat management is the foundation on which a wildlife management program is built. The goal of habitat management on a property is to maintain sufficient **food, water, and cover** for wildlife within the space available. Vegetation provides the majority of food, water, and cover for most wildlife species and should be the primary focus of your habitat management program. Vegetation diversity (having many different plant species) is the key to successful habitat management. A high diversity of plant species ensures that food resources are available for plant-eating (herbivore) and seed-eating (granivore) species throughout the year and under all climatic conditions. A diversity of plants also attracts insect, small mammal, and other prey items needed by non-herbivores. Many wildlife species, such as quail, obtain most of the water needed from vegetation and do not heavily depend on surface water. Thus, availability of sufficient vegetation during all times of the year is also important to meet water needs. A diversity of forage types (i.e.) shrubs, weeds (forbs), cacti, grasses, and subshrubs) and *vertical structure* (i.e.) bare ground plus short, mid-height, and tall plants) is important to provide cover for all wildlife species.

Participation in Level 1 of the MLDP program does not require that the landowner complete habitat management activities. However, ***habitat management performed on the property will benefit white-tailed deer and other wildlife species enhancing the recreational opportunities available to you.*** A variety of habitat management activities that may apply to your property along with a description of each are listed below. *Please contact your TPWD biologist if you have any questions or would like assistance with any habitat management activity.*

Brush Management

The amount of brush and trees (hereafter referred to collectively as brush) left on your property will depend on the wildlife species for which you wish to manage. As a general rule of thumb:

- 1.) In areas managed for deer, *turkeys, owls, and other ***closed habitat species***, you should consider maintaining brush cover between 60 and 75%.
- 2.) In areas managed for dove, *turkeys, quail, rabbits and other ***open habitat species***, you should consider maintaining brush cover between 15 and 30%.

**Note: turkeys commonly use both closed and open habitats.*

You can easily estimate brush cover by looking at an aerial photo or map (available online) of the area you wish to manage. Simply: 1.) outline the borders of the area you wish to manage, 2.) draw circles around all brushy areas, 3.) estimate what percentage of the areas inside of the border are within your brush circles! Existing stands of brush can be managed as described in the following paragraphs to meet the above cover requirements for the species in which you are interested.

Closed Habitat Species

Closed habitat species such as deer still require open areas to thrive. Thus, you should consider maintaining 60-75% brush cover (or 25-40% open) in areas managed for these species.

If brush cover in the area you wish to manage for closed habitat species is *more* than the desired 60-75%, clear brush to form openings in select locations throughout the property. Openings can be created by *clearing patches* or *creating intermittent pathways/senderos* across the property. *Cleared patches* will provide a growing medium for herbaceous plants and facilitate hunting. Patches should vary in size from 15 to 50 yards in diameter and be irregularly shaped. You may consider leaving small brush mottes within the center of large cleared patches. Patches should be dispersed across the property and do not need to be interconnected for closed habitat species.

Intermittent pathways/senderos provide a growing medium for herbaceous plants, aid in wildlife movement, and facilitate hunting. Create intermittent pathways/senderos that are 5-15 yards in width and are

spaced at 200–250 yards. Avoid cutting these pathways in a straight line. A meandering or curvy roadway makes wildlife feel more secure because they will find dense escape cover near the open pathway and will not feel that they can be detected from long distances in either direction. Try to *clearing patches* or *creating intermittent senderos* in areas that lack brush diversity such as dense mesquite/huisache regrowth. Avoid clearing patches and senderos:

- 1.) In areas with large, mature trees and brush
- 2.) In areas with a large variety (diversity) of brush species
- 3.) In lowland, wetland, river/creek bottoms, or in other riparian areas

If brush cover in the area you wish to manage for open habitat species is less than the desired 60-75%, allow brush to regrow and maintain open areas in the pattern described in the previous paragraph. Keep in mind that waiting for regrowth is a very long-term management practice! See the **Brush Restoration Section Below** for advice on jump-starting the process in areas with very low brush cover, such as former fields or pastures.

Open Habitat Species

Open habitat species such as quail require an abundance of open ground but still need brush cover. For this reason, you should consider managing areas for open habitat species by retaining only 15-30% brush cover (or 70-85% open).

If brush coverage is more than the desired 15-30% or in a random arrangement (unlike that shown in **Figure 1**), clear the property to form a mosaic of brush and open areas. Create a mosaic in a manner that maintains large brush clumps within 40 yards from the center of any open area. Large clumps can range up to an acre in size and should be irregularly shaped. Smaller clumps can also be left in between large clumps. Small brush clumps (or even cactus clumps) should be at least the size of two pickup trucks (See **Figure 1** below). Start creating your mosaic by selecting and marking brush clumps that you wish to retain using flagging tape. *Areas with multiple shrub species and mature shrubs should be selected as clumps to retain if available (recall the importance of diverse vertical structure described above).* Allow brush to regrow naturally in these selected clumps. Brush outside selected clumps should be kept clear. See the information on brush removal in the next section. You should still avoid manipulating brush in lowland, wetland, river/creek bottoms, or other riparian areas, and instead retain these areas for other wildlife.

If brush cover in the area you wish to manage for open habitat species is less than the desired 15-30%, allow brush to regrow and maintain open areas in the pattern described in the previous paragraph. Keep in mind that waiting for regrowth is a very long-term management practice! See the **Brush Restoration Section Below** for advice on jump-starting the process in areas with very low brush cover, such as former fields or pastures.

The area you choose to mosaic for open habitat species can spread across the entire property if you are only interested in managing for open habitat species. If you wish to manage for both open and closed habitat species, you may 1.) create a large block of open habitat in one portion of the property, or 2.) disperse smaller sections of open habitat across your property. The choice depends on your desires and the vegetation on the property. If you select the latter, consider constructing 40-80 yard wide corridors (cleared pathways) between disconnected areas of open habitat (through the closed habitats). This will allow movement of open habitat species.

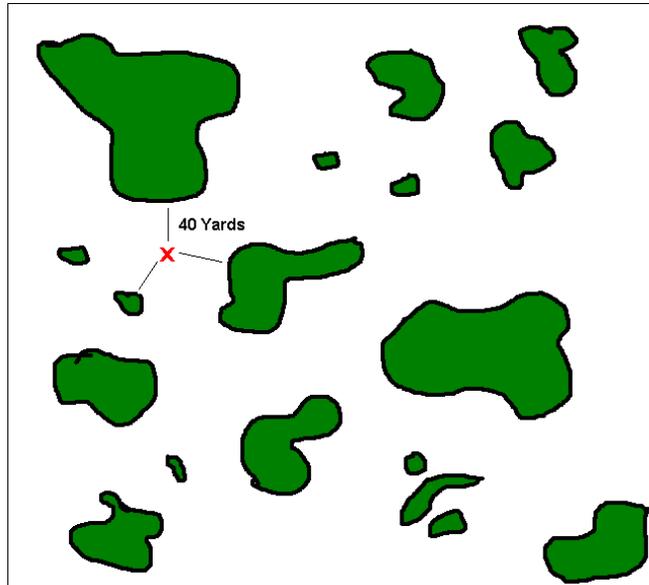


Figure 1: Schematic of brush clump distribution suitable for use by wildlife. Green areas represent remaining brush and the red X represents the center of an open area.

Brush Removal

Short brush may be removed by shredding or with a chain saw; whereas, larger plants will require use of a dozer, roller chopper, or extensive chainsawing. Avoid using a root plow to clear diverse, native brush. Most brush species in the South Texas Plains have the ability to resprout into more-dense growth once cut or cleared. Many will also produce larger thorns as a result of being disturbed if allowed to regrow. Therefore, after initially removing the brush, you **MUST** apply follow-up treatments to regrowth such as spraying with herbicide, periodic mechanical disturbance, and/or burning with prescribed fire. Be aware that maintaining regrowth will be a continuous job! If planning to use herbicide to control regrowth brush, Texas AgriLife Extension currently recommends Picloram mixed with Triclopyr, Clopyralid, OR Dicamba for those with a Pesticide Applicator's License. For those without a license, Triclopyr with diesel are recommended. Most trees found in the Post-Oak Savanna will not require a follow-up herbicide application. Contact your TPWD biologist for more information on brush removal or follow-up treatments.

Brush Restoration

Areas that have been formerly cleared of brush by a technique like root plowing will primarily regrow in less-desirable species including honey mesquite, prickly pear cacti, and huisache for the first few decades. Eventually, a few more-desirable species such as granjeno and lotebush will begin to return to the site. Full recovery into a diverse native stand of brush can be expected to take well over a century. *Bear in mind however that for most wildlife appropriately arranged cover of less desirable brush is preferred over no brush cover at all.* Regardless, few landowners have the luxury of waiting more than a century for desired brush to return to their property! Unfortunately, planting native brush and trees is rarely a viable option!

One attempt that has been used to increase the rate at which desirable, diverse brush returns is known as Wildlife-Assisted Brush Restoration! Take a look at an old barbed wire fence that has stood undisturbed for many years. You will notice that there are often dense stands of diverse brush growing along the fence. This occurs because birds and other mammals are initially attracted to the fence because they provide the only perch or cover amidst wide open pastures. These wildlife visitors deposit seeds along the fence while defecating resulting in new plant growth. As additional plants including brush grow along the fence, more and more animals will be attracted to the area and more seeds will be deposited. Wildlife-Assisted Brush Restoration uses the same principle described above but incorporates feeders to help attract wildlife.

If desired, you may consider using Wildlife-Assisted Brush Restoration to help increase the brush diversity in brush clumps that you have elected to create and maintain on your property. Consider implementing the following techniques based on the appearance of the area where a given brush clump will be located:

- Areas where no brush exists or where only sparse, short (<5 feet tall) regrowth exists – Disperse 4 steel t-posts around the perimeter (edge) of the proposed brush clump. Run smooth wire (essentially barbed wire without barbs) in a cross pattern (4 posts) between 2 of the t-posts such that the wire crosses the future brush clump. Larger brush clumps may require extra t-posts in the center of the future brush clump to support crossing wires. Next, suspend 1-2 songbird feeders inside the area that will compose the future brush clump. These feeders can be suspended from a commercially-available shepherd's hook or any other similar hanger that you can construct on your own. Fill the feeders with any commercially-available bird seed that you prefer. Relocate the feeders around the brush clump as necessary as the clump grows.
- Areas where regrowth brush (<5 feet tall) exists – Suspend 1-2 songbird feeders inside the area of the brush clump. These feeders can be suspended from a one of the brush plants already growing in the clump. Fill the feeders with any commercially-available bird seed that you prefer. Relocate the feeders around the brush clump as necessary as the clump grows.

Prescribed Burning

Prescribed burning can be used to enhance forb growth, rejuvenate native grasses, and encourage brush resprouting providing additional food and cover for wildlife. Burning can also remove excessively dense grass cover enhancing habitat for grassland birds and mammals. Winter burns performed from December to February are the most desirable for this area. Earlier burns (December) enhance grass growth; whereas, later burns (January-February) promote early-season forb growth. Burning during this time will also remove lower brush leaves and promote resprouting. *However, burning generally will not kill brush species greater than 8-10 inches in height.*

Burning multiple small areas is preferred over a single large burn as the former creates a mosaic of burned and unburned patches that are more beneficial to wildlife. Burns of 15-50 acres are common but this can vary with property size. Once an area has been burned it should not be burned again for 3-7 years. Burns should be planned in a manner that allows a portion of all potential burn sites to be burned each year, however.

Extensive planning is required ensure a safe, complete, and effective burn. In fact, planning for a burn should start a year or more before the actual burn! You must first ensure that a sufficient amount of fine fuels (dead grass and leaf litter) are available. Grasses are your primary means of carrying a fire and must exist throughout the area to be burned at a relatively consistent density. Generally, you will need more than 1200 lbs of fine fuels per acre which translates to a grass height of 14" or more. If cattle are grazed on the ranch, grazing deferment will be necessary in at least one growing season prior to the burn. You must also plan to disk bare-soil fireguards at a width of 12 ft or more a few days before a burn. Climatic factors including relative humidity, temperature, and wind speed must also be at appropriate levels the day of the burn. Due to the variability of winter weather conditions in this area, **you must be very flexible in your burn schedule.** You must be prepared to burn when conditions allow and willing to abandon a burn if conditions become unsuitable. If you are interested in performing a prescribed burn on your property, please contact your TPWD biologist or local NRCS agent for assistance in writing a burn plan and help with properly implementing a burn.

Grazing Management

Removal of dead herbaceous material via grazing promotes regrowth of existing plants, encourages seed production, and allows sunlight and water to reach the soil stimulating growth of new plants. New growth is more palatable (tasty) and has higher nutrient levels than dead material, which benefits herbivores like white-tailed deer and cottontail rabbits. Increased seed production helps doves, bobwhite quail, and other bird species. New growth and seed production also attracts insects which benefit quail and non-game birds. Much like prescribed fire, grazing can remove excessively dense grass cover enhancing habitat for grassland birds and mammals. **Grazing can be used in place of prescribed burning or in unison with burning.** Cattle are the preferred grazer for those wishing to manage wildlife as they predominately consume grass and compete

less-directly with wildlife. Sheep or goats consume more of the forbs and shrubs that are important to wildlife and compete directly with wild animals.

Should you graze your property? Certain grass communities may require little or no grazing while others may require almost continuous grazing. Note that heavily overgrazed or overused pastures should be rested for 1-3 years before you consider implementing a grazing management program with wildlife in mind. Alternately, pastures that have not been grazed for many years and have been overtaken by thick, dead grass (aka. thatch) may require a prescribed burn or other management activity before they can be grazed. **As a general rule of thumb, you should consider grazing if the grasses on your property grow so thick that no open spaces and few forbs exist between grass bunches in the absence of grazing.**

Two grazing systems and their applications are described below. The first system describes the use of grazing for wildlife management when cattle are (or can be) maintained on the property permanently; the second system describes the use of grazing for wildlife management when cattle can only be maintained on the property seasonally.

Grazing System I: Maintaining Livestock on the Property Permanently

Livestock and wildlife can coexist on a property when proper livestock stocking rates and grazing pressures are maintained. A one-herd multiple-pasture rotational grazing system is appropriate for those who wish to consistently keep livestock on their property. Moving one herd from one pasture to the next allows grasses to be grazed then rest and recover before being subjected to further grazing, which helps maintain grass health and vigor.

A property must first be divided by fencing into separate grazable pastures with gates between each pasture to facilitate rotation (Note: certain areas of a property, such as those covered by dense brush, may never require any grazing). This may be achieved through the use of barbed wire fences (permanent) or electric fencing (generally less permanent). The size of a given pasture and number of pastures will depend on the property size, the species and biomass of the available grass, the number of cattle in your herd, and the exact goals of the landowner. **Contact your TPWD biologist or your local AgriLife Extension Agent for assistance in designing your rotational plan.**

Grazing exclosures can provide a reference point to tell you when grasses outside of the exclosure have been sufficiently grazed (rotate out of the pasture) or are ready for more grazing pressure (ready to rotate into the pasture). You can use this general gauge to help decide when to rotate cattle and when cattle stocking rates should be varied. It is recommended that you construct **at least** one grazing exclosure in each pasture. Larger pastures or rangelands with varied forage types in each pasture will require more than one exclosure. **The exclosure(s) should be relocated to a new area within the pasture every year in January so that you are monitoring the current year's growth only.** The grazing exclosure should consist of 4 welded-wire panels (cattle panels) measuring 4 ft tall x 8 feet long with 4 inch x 4 inch holes. Set 4 t-posts to create an 8 ft wide square and fasten the wire panels to the t-posts. Insert additional t-posts as needed to prevent entry by cattle or other animals.

During the growing season (March – late October) your cattle herd should be maintained on a pasture until no more than the upper 50% of most grass bunches/plants has been consumed (See **Figure 2** below). Use the grazing exclosure described above as a gauge of grass use by comparing grasses inside and outside the exclosure. Using only the upper half of the grass will leave sufficient cover for wildlife, ensure grass health, and will have the greatest benefit to your herd, as the upper half of the grass is the most nutritious! Cattle should be rotated to a new pasture after the top half of most grass bunches/plants have been used. If you find that grasses outside of the grazing exclosure have not recovered to **the height of** grasses inside of the exclosure by the time you are ready to return cattle to a pasture that has already been grazed, you should consider reducing your stocking rates. Alternately, you may consider increasing your stocking rate if grasses outside of the exclosure are recovering well before you return cattle to a pasture that has already been grazed. This is especially true if grasses outside the grazing exclosure are becoming excessively dense such that they are inhibiting the growth of forbs between grass clumps.

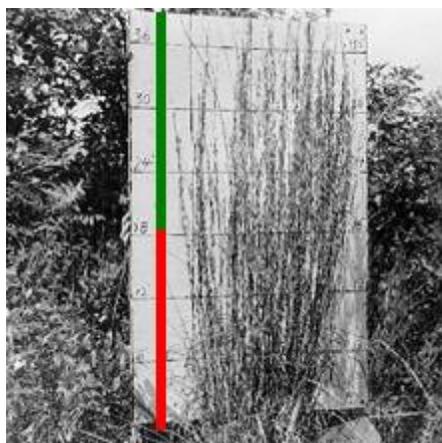


Figure 2: Proper grass use during the growing season (March – Late October). The upper 50% of the grass (green line) can be consumed by cattle. This example shows a clump of little bluestem but the same concept can be adapted to any grass species.

During the dormant season (November – late February), cattle can be maintained in a pasture until most of the grass bunches/plants have been grazed down to a height of no less than 8-10 inches; cattle should then be rotated to a new pasture. This approach will help clear off dead matter and prepare the grass plants for new growth in the coming spring. It will also clear the way for desirable forb growth between the grass plants *in the spring*. *Monitor your grazing intensity and adjust stocking rates such that sufficient grass remains in all pastures until the end of the dormant season.* Note that you will likely need to provide a nutritional supplement (i.e. range cubes) for cattle grazing on dormant grass during this time period.

At least once every 2-3 years, the grasses in each pasture should be rested allowing them to mature and seed out during the summer and fall to maintain the health and abundance of your grass. Stocking rates will vary based on habitat composition, habitat condition, grazing system, and annual rainfall. As such, no single stocking rate can be applied to every property in the county. **You should adjust your stocking rates in a manner that allows you to meet the grazing requirements in the previous 3 paragraphs.** Start with fewer cattle than you suspect that you may need then add more if necessary. Willingness to vary your stocking rates throughout the year is of the utmost importance to cooperatively managing rangeland habitats for livestock and wildlife!

Grazing System II: Seasonal Maintenance of Livestock

Grazing System I as described above is the preferred grazing system for wildlife management. However, this system is often not conducive to small properties or for absentee landowners. A modified short duration grazing system may be more appropriate in these situations. Short duration grazing in the manner described below is not designed to promote cattle weight gain, but it is beneficial for wildlife management in the situations described above and can be planned around hunting season to avoid cattle disturbance while hunting.

At a desired point during the dormant season (November – late February), cattle should be placed on the property (or on a selected pasture) at a high stocking rate. Maintain the cattle in this area until most of the grass bunches/plants have been grazed down to a height of 8-10 inches; cattle should then be rotated to a new pasture or moved off of the ranch. *The amount of time cattle are required to stay on the property/in a pasture will depend on the stocking rate and the amount of grass available. Contact TPWD or your local AgriLife Extension Agent for advice on an initial stocking rate.* This approach will help clear off dead matter and prepare grass plants for new growth in the coming spring. It will also clear the way for desirable forb growth between the grass plants in the spring, but is timed such that cattle consume few of the spring/summer forbs that are valuable for wildlife. Note that the cattle will likely require a nutritional supplement (i.e. range cubes) when grazing dormant grass during this time period.

During years with high spring and summer rainfall, the grass on your property may become too dense for grassland birds and may block out forbs that are necessary for deer and other wildlife. You should consider additional short duration grazing in the spring/summer if the grasses on your property are growing so thick that no open spaces and few forbs exist between grass bunches. In this case, stock high numbers of cattle on the

ranch/each pasture until the upper 50% of most grass bunches/plants has been consumed (See **Figure 2** above); then remove or relocate the cattle. Again, contact TPWD or your local AgriLife Extension Agent for stocking recommendations. I do not recommend shredding to reduce grass during the spring to mid-summer as it may harm grassland bird nests or deer fawns (See the paragraph on shredding below).

Graze the property using stockers or consider allowing a neighbor or lessee to run cattle during the aforementioned periods. Again, short duration grazing in this manner is not great for cattle weight gain or cattle production. However, it can provide an opportunity for a lessee or neighbor to obtain additional grazing areas at little to no cost (depending on your agreement). Bear in mind that cows grazing beyond late-February can directly compete with deer and doves for forbs and can reduce cover for quail nesting during the summer. Excessive grazing during the spring and summer months can have similar detrimental effects. Thus, you should never keep cattle on the property outside of these time periods and conditions. Do not let a neighbor or lessee convince you to do so! *Remember: your goal with the short duration grazing system is to remove the dead herbaceous growth and thin overabundant grass, not to feed cattle!!!*

Shredding

Shredding benefits wildlife by removing mature herbaceous material and by increasing the diversity of vertical structure. Much like grazing, removal of mature herbaceous material promotes regrowth of palatable, high-quality forage that can be used by herbivores. *However, unlike grazing or burning, shredding does not directly remove dead material to allow water and sunlight to reach the soil and stimulate the growth of new plants, so it is important to implement both practices.* Shredding can also bring the seeds of mature plants down to ground level giving doves and bobwhite quail easy access. Shredding promotes a diversity of vertical structure by creating clipped areas of short vegetation and untouched areas of taller vegetation. Vertical structure diversity created by shredding therefore creates habitat to suit the needs of multiple species including songbirds, game birds, rodents, and white-tailed deer. *Shredding can be performed alone but is particularly beneficial when used in unison with disking. Do not shred large continuous patches of land*, rather create a meandering patchwork design by shredding strips in a north-south direction crossed by similar strips in an east-west direction.

- If you plan to shred but not disk: **Space shredded strips in a manner that leaves about 200 yards between each strip. Note: You may reduce the spacing of these shredded strips down to 50-100 yards if desired. This is especially applicable if you plan to isolate the disk strips to a small section of the property.** Place strips near the same location each year.
- If you plan to shred and disk: Place shredded strips directly adjacent to your planned disk strips (See the disking section below).

Shredded strips should be 5 yards (15 feet) wide. Each year, shred east-west strips during the late summer (August to September) to promote regrowth of mature herbaceous plants. Waiting until late summer will allow you to avoid the nesting season of ground nesting birds and give white-tailed deer fawns time to mature and gain the ability to escape a tractor and shredder. Shred north-south strips during the winter (late-October to November) to provide lanes for hunting and to bring seeds to ground level for wildlife. **Do not shred during a severe drought as plant regrowth will not occur and animals will likely need all available cover. Avoid spreading exotic grass seeds into native grass stands by thoroughly cleaning your equipment before moving into native stands.**

Disking

Disking removes current plant growth and disturbs the soil promoting new vegetation growth. New vegetation tends to be more diverse and higher in nutrient quality and palatability. Because disking promotes increased plant species diversity, this practice is particularly useful in areas dominated by a single species of plant, especially improved grasses such as coastal Bermuda or King Ranch bluestem. **Avoid disking diverse native grasslands or native rangelands, as this practice is unlikely to increase diversity and may lead to encroachment of exotic grasses.** Disking also creates diversity in vertical structure much like shredding, so the two management tools can be used together successfully. Increased plant species diversity and vertical diversity will benefit white-tailed deer, bobwhite quail, rabbits, non-game birds, and a host of other wildlife species. **Do not disk large continuous patches of land**, rather create a meandering patchwork design by disking strips in a north-south direction crossed by similar strips in an east-west direction.

Space groups of disk strips at 200 yards. **Note: you may reduce the spacing of these disk strip groups down to 100 yards if you wish. This is especially applicable if you plan to isolate the disk strips to a small section of the property.** Space annual disk strips within each group such that there are 5 yards (15 feet) of undisturbed area between each strip (See **Figure 3**). *You should disk a given strip only once every 4 years or as grasses begin to dominate. Disking at a greater interval, such as every year, can lead to unwanted topsoil loss, invasion of exotic grasses, or growth of less desirable forb species!* A 4-year rotation is illustrated in **Figure 3** below: you would disk the red lines in year 1, the green lines in year 2, the brown lines in year 3, the blue lines in year 4, and start over with red lines in year 5. Each year, disk east-west strips in late summer (August - September) and north-south strips in the winter (January - February). Disking at more than one time period as described maximizes the potential for a strong forb response and greater forb diversity. Prepare for disking by shredding the strips that you plan to disk to remove excessive standing vegetation. Disk the 5 yard strips at a depth of 6 to 8 inches. Disking too deep may turn up poor quality soil, bury seeds in the topsoil, and result in poor plant regrowth. **Do not disk vertically down slopes as this can lead to unwanted soil erosion. Do not disk during a severe drought as plant regrowth will not occur and animals will likely need all available cover**

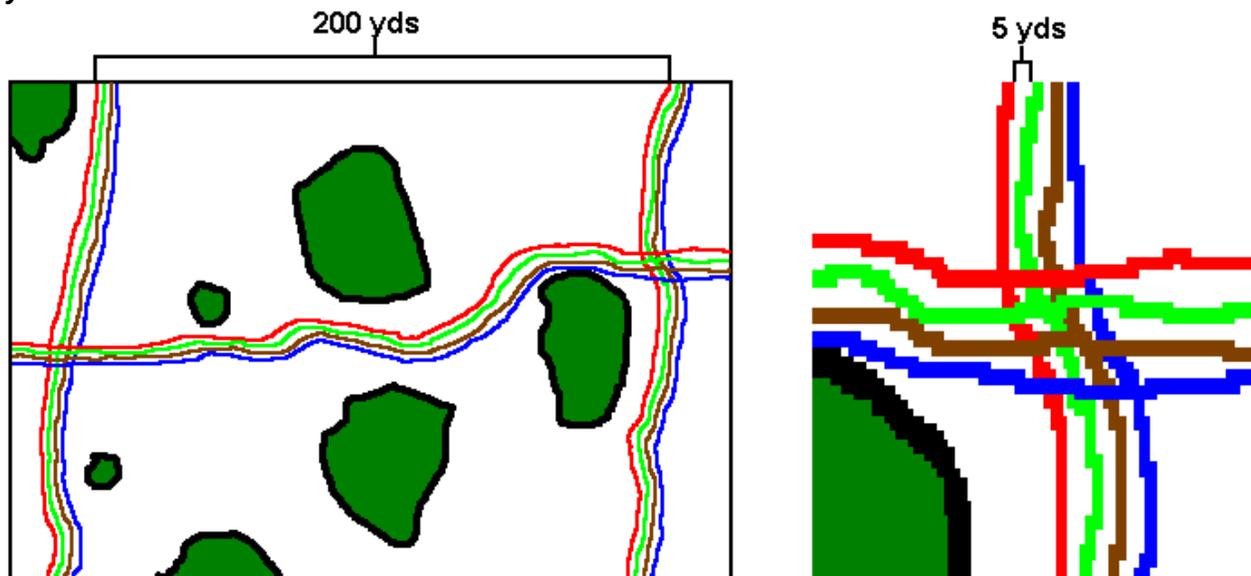


Figure 3. Space groups of disk strips at 200 yards. Space annual disk strips within each group such that there are 5 yards (15 feet) of undisturbed area between each strip. Disk each strip once every 4 years or when grasses begin to dominate. A 4-year rotation is shown above where colored lines represent disk strips.

Reseeding

Areas that lack diversity, such as improved grass monocultures, can be reseeded with native grasses that will benefit wildlife by returning some of the food sources on which they naturally depend. A mixture of native seeds including grasses like little bluestem, big bluestem, yellow Indiangrass, switchgrass, plains bristlegrass can be used. Note that the exact seed types will depend on your location.

Preparation is the key to reseeding! Select a block of the area to reseed, possibly 2-15 acres at a time depending on property size, to limit the cost of reseeding within any one season or year. Your seedbed needs to be bare soil, free of grass and forbs before planting. You should burn (December – February) or graze heavily (December–February) to remove excessive standing forage initially. Begin applying herbicide (Glyphosate preferred) in the spring. An application once every 1-2 months will be necessary to free the soil of grass and forbs. The area should be deep plowed (around 12" deep) then smoothed using a finishing disk in the summer.

You may select any seed producer you prefer just make sure that the seeds they provide are suitable for the area in which you are planting. Some native seed providers for Texas include Pogue Agri Partners in Kenedy, TX (<http://www.pogueagri.com/>), Native American Seed (<http://seedsource.com/>), Bamert Seed Company (<http://nativeseed.net/>), and Wildseed Farms (<http://www.wildseedfarms.com/>). Native grasses

are best seeded in the fall. Seeding can be achieved using a broadcast spreader and cultipacker or native seed drill. An annual cover crop such as oats or a legume can also be beneficial when reseeding.

Grazing must be deferred from reseeded pastures for 2–3 years to allow new grass establishment. Native grass pastures should also be rested from grazing at least once every 2-5 years during the growing season (April – October) to allow seed production. Reseeding with natives is an in-depth process. This information provides a general overview of the process only. Contact your TPWD biologist or the NRCS to establish a detailed restoration or reseeding plan.

EROSION CONTROL

Reseeding

Reseeding with native, perennial grasses along the banks of ponds, creeks, rivers, wetlands and other riparian areas where they are naturally lacking can help prevent soil erosion and damage to these locations. Follow the directions for reseeding above.

Livestock Deferment

Livestock hoof action and grazing can destroy vegetation in creeks, rivers, ponds, and other riparian areas leading to soil erosion and destruction of these sensitive areas. Maintain suitable stocking rates and rotate livestock to avoid overgrazing and damage to riparian areas. If your livestock herds are concentrating along riparian areas, even with suitable stocking rates, use either a 4 or 5-strand barbed-wire fence or a 2 to 3-strand electric fence to defer the animals and reduce potential damage. If using an electric fence, make sure to keep vegetation off of the fence to prevent a ground-out condition and loss of effectiveness. Also be sure to turn off electric fences when cattle are not being grazed near riparian areas to avoid inhibiting wildlife movements.

SUPPLEMENTAL WATER

Water Sources

Supplemental water is an essential management tool for wildlife in South Texas due to the unpredictable rainfall patterns that are characteristic of the region. *Ponds are great water sources for wildlife; however, you should consider providing additional water if your property has ponds that go dry during extended periods of low rainfall.*

A small concrete trough or dish no deeper than 12 inches with gently sloped sides can be used to provide supplemental water. These can be placed near the edges of brush clumps or beside an existing pond that tends to go dry. ***Place the dish in the shade to maintain cool water temperatures during the summer.*** Supplemental water sources should be placed at a density of at least 1 source for every 200 acres. Feed the trough/dish with a PVC or black poly-pipe connected to about 3 feet of ¼ to ½ inch copper drip line. Set the copper drip line to drip at a height of 1 foot above the water (Picture below shown without drip line). Dripping water attracts a variety of wildlife. Attach a float and/or valve to the base of the drip line to regulate flow in a manner that creates a slow drip while minimizing overflow from the trough.



If you have an existing water trough for cattle or other livestock, you can also modify it to maximize use by wildlife. Some of the ways this can be done include:

- Increasing Access
 - Build a dirt or gravel ramp up to one side of the water trough to allow more wildlife to access the trough
 - Allow the trough to overflow into a depression (as shown below) or concrete trough/dish (as shown above)
 - Stack cinder blocks or bricks inside the trough in a stair-step fashion to provide a perch for wildlife to stand and drink and to allow trapped wildlife to escape
- Provide Escape for Trapped Animals
 - Stack cinder blocks or bricks inside the trough in a stair-step fashion to provide a perch for wildlife to stand and drink and to allow trapped wildlife to escape
 - Place a wildlife escape ramp using expanded metal grate at an angle in the trough. Run the grate from the bottom to the edge of the trough.



Drowned red-tailed hawk



Trough overflow



Trough with wildlife escape ramp

Water for a supplemental water feature may be obtained from a well, guzzler, or any other catchment system. Guzzlers are a cost-effective technique to provide water in areas without an existing well. Contact your TPWD biologist for more information on guzzlers

SUPPLEMENTAL FOOD

Note: Supplemental feeding and food plots only count as one habitat management practice for levels 2 and 3 of the MLDP program even if you choose to implement both. Keep this in mind if you plan to advance beyond level 1 of the MLDP program.

Food Plots

Summer and winter food plots will benefit deer and other wildlife by providing supplemental nutrition. Winter forages that could be planted include oats, wheat, crimson clover, armadillo burr medic, and Austrian winter peas. Summer forages that could be planted include bundleflower, sunflowers, cowpeas, or a wildlife food plot seed mix. Choose a food plot mixture or food plot species that are adapted to this region of Texas. Pogue Agri Partners in Kenedy, TX (<http://www.pogueagri.com/>) and Douglass King Seed in San Antonio, TX (<http://www.dkseeds.com>) are examples of the many producers that distribute food plot seeds suitable for the area. As a result of inconsistent rainfall in the area, summer food plots are often unsuccessful without irrigation. Consider planting summer plots in a separate area than winter plots where you can deep disc (12-16 inches) or chisel the soil to increase moisture retention if you cannot irrigate. You should fence both winter and summer food plots until the forages mature if planting in areas with cattle grazing or high deer densities. *Consult with your seed distributor for specific information on site preparation, seeding method, and seeding date.*

For deer plots, you should fence your plots with a greater than 5 foot tall electric fence or net-wire fence to allow forages to grow/mature before being used by deer and other wildlife. You may also want to fence bird food plots to keep other animals from destroying the food plot before the seeds mature if this is an issue. You can help exclude feral pigs from a food plot by placing an electric fence with the first wire at 8 inches from the ground and a second at 18 inches from the ground.

Supplemental Feed for Deer

Pelleted Supplemental Feed

Pelleted supplemental feed can help sustain deer during periods of low natural forage availability.

Supplemental feeds should NEVER be used to sustain deer populations at a density above what the habitat can naturally support. Place pelleted supplement feeders at a density of 1 feeder per 200 acres. Barrel-type feeders from which the deer consume feed through a pipe appear to be more desirable than bin-type feeders where feed is consumed from a tray. Pelleted supplements used should be high in energy and contain at least 16% crude protein. Year around feeding is recommended, but, if cost is an issue, feed at minimum from April to November of each year. This term encompasses the periods of reproduction and antler growth in deer. *Do not hunt deer under your pelleted supplement feeders (or corn feeders placed next to supplement feeders).* These feeders should be reserved for supplementation and not baiting. As noted above, you may close off pelleted supplement feeders during deer season to attract deer to your corn feeders eliminating the need to hunt supplement feeders.

Consider placing 3 foot tall hog wire panels in a circle around supplement feeders to exclude feral pigs. Using wire taller than 3 feet may inhibit the movement of fawn and yearling deer. Arrange the wire in a manner that creates a circle with a diameter greater than 80 feet. Smaller circles will exclude less competitive deer, specifically does and fawns, from the feed site. This same setup can be used for corn feeders.

Corn

Corn is an effective bait for white-tailed deer but has less value as a supplement. **For this reason, corn should not be counted as supplemental to meet wildlife management practice requirements.** Corn provides high levels of energy which are beneficial to deer throughout most of the year; however, this grain lacks sufficient protein levels and is not a well-balanced supplement. Place corn feeders at a density of 1 feeder per 100 acres. Distribute corn starting at least one month before hunting begins to allow deer to locate feed sites on your property for hunting purposes. If you decide to use corn as a supplement, it can provide beneficial energy, which is often deficient during dry years. You may feed corn year around as a supplement; however, if cost is an issue, feed at minimum from April to November of each year. This term encompasses the periods of

reproduction and antler growth, which are more energetically expensive, in deer. Corn can contain high levels of aflatoxin which poses a health risk to deer. Purchase only corn containing less than 50 ppb aflatoxin and discard any stored corn in which the kernels appear discolored or “moldy.”

Whole Cottonseed

Whole cottonseed is a relatively affordable, high protein supplement for deer that may be fed in place of pelleted feed or in conjunction. Though some fears exist among the hunting population that gossypol in cottonseed will sterilize bucks, current research shows that gossypol has no negative impacts on the fertility of free-ranging white-tailed bucks. Additionally, the feed is toxic to feral pigs (though they will still eat a small amount).

Cottonseed should be fed from at least April to November but can be fed throughout the year. See the photo below for an example of a cottonseed feeder. The feed basket is made from net wire / horse wire fence made into a cylinder (6 foot section for a cylinder). The feed basket is placed over a T-post and filled with cottonseed. Deer will pull cottonseed through the holes in the fence. Cottonseed feeders should be placed at a density of 1 feeder per 50 acres. Notice that deer in this area have not been widely exposed to cottonseed and, therefore, may take a considerable amount of time to begin using the feeders.



Supplemental Feed for Birds

Supplemental feeds can help nourish and attract a variety of bird species including dove, quail, and non-game species. For dove and quail, use a pipe-type feeder filled with milo and cracked corn. Place these feeders along brush lines at the edge of open areas at a density of 1 feeder per 15–20 acres. Year around supplementation is preferred. Non-game birds may also be supplemented using feeders available at most any lawn and garden store. Place feeders in the lower tree canopy at a density of 1 feeder per 15–20 acres. Feeders may be concentrated in certain areas to facilitate bird watching. Consider feeds containing a mixture of sesame seeds, cracked corn, milo, and sunflower seeds.

SUPPLEMENTAL SHELTER

Brush Piles

Brush piles provide shelter for reptiles, birds, and small mammals. When brush management is performed, stack severed brush limbs in piles around the property. Maintain a diversity of brush pile sizes from 10 feet in diameter to 30 ft in diameter at about half of the diameter in height. Avoid establishing brush piles on the edges of prime quail habitat as almost everything that eats quail will live in these brush piles!

Snag Retention

Dead trees, also known as snags, serve as prime habitat for many cavity nesters like bats, squirrels, and woodpeckers. Allow all large trees (greater than 10 feet in height) that have died to remain standing. Focus on species with large trunks like large honey mesquite, sugar hackberry, cedar elm, and live oak. Brush with small diameter stems, like huisache, do not make good snags and can be removed if desired.

Section 6B – General Wildlife Management Recommendations

CENSUS COUNTS (SURVEYS)

White-Tailed Deer Surveys

To participate in Level 1 of the MLDP program, you must submit pre-season survey data. **The simplest and most used survey to qualify for Level 1 is the Stand Count described below.** If you prefer, you may perform a camera survey, spotlight survey, or even a helicopter survey. However, note that these other surveys are much more involved. Herd composition data is simply casual observation and will not meet the requirements of the MLDP program, but you can still collect additional data for your property using this technique.

Stand Counts

Stand counts should be conducted from August 15th to September 25th. The count is accomplished through the following procedure: Establish stand (or blind) locations at a feeder or well traveled deer trail on the property. Stands should be established on the ranch at a density of 1 stand per 100 acres. In either, the morning or evening have a person sit at each stand for 1 to 1 ½ hours and count all deer seen during that time period (**all stands must be filled during each count**). Record buck, does, fawns, and deer that cannot be identified. Repeat this survey at least 5 times during the August through October survey period. Use data sheet provided by TPWD biologist to record data. This information will be used to determine the deer density of the ranch and annual harvest recommendations.

Camera Surveys

Motion sensitive cameras can be a simple and useful way to assess the deer on the property. You can get a minimum estimate of the number of does, bucks, and fawns by counting the largest number of individual animals you see per photograph. However, motion sensitive cameras can also be used to quantify accurate density estimates using a mark-recapture technique. Each individual buck will need to be identified by antler characteristics. The initial photograph will be the mark and each successive photograph of the same deer will be identified as a recapture.

Utilizing photographs you can estimate the size of the white-tailed deer population on the property and also quantify the number of bucks and does. Furthermore, photographs can be used to quantify your buck to doe ratio, fawn to doe ratio, and spike to fork antlered ratio. Contact TPWD for more information on camera surveys.

Spotlight Surveys

Spotlight surveys are an effective technique to track deer populations in South Texas. Before performing a spotlight survey, a pre-defined route must be established that covers the entire property, and visibility estimates must be taken every 1/10 of a mile along this route. The actual survey should occur during one or more nights from August to October. A spotlight is used during the survey to count the number of bucks, does, fawns, and unidentified deer. Spotlight surveys provide a reliable estimate of sex ratios and fawn survival and can provide a rough estimate of density. Contact TPWD for more information on spotlight surveys.

Helicopter Surveys

Helicopter surveys are one of the most effective methods for determining deer sex ratio, age structure, and fawn survival and they provide information on deer density and quail abundance. These surveys should be performed from December to February of each year after all deciduous trees have lost their leaves but before bucks have lost their antlers. During a helicopter survey, a pilot and up to 3 additional observers will fly parallel transects spaced at a distance of 200 yards across the entire property. The number of bucks, does, and fawns are counted and the categorical age of all bucks observed is recorded.

Multiple helicopter companies fly surveys in the area. Contact your TPWD biologist for more information on these companies. Most landowners also prefer to have their TPWD biologist ride along as an observer during a helicopter survey, but you may perform the survey on your own. Though effective, helicopter surveys can be more expensive than other survey types. However, due to small ranch sizes in the area, we can fly multiple properties in one day reducing the cost for each landowner. Again, these activities can be coordinated through your biologist.

Herd Composition

Herd Composition should be collected during the survey period. Try to collect at least 100 observations of individual deer as you move about the property. Record all bucks, does, and fawns seen during daily activities on the ranch or in the surrounding area (nearby ranches, county roads, etc.). Don't worry if the same deer are counted at different times or different days, the data will still be useful. Record only deer that can be positively identified as buck, doe, or fawn. If a group of deer is encountered and not all can be identified do not record any deer in the group. This data can be used to determine the annual fawn production and sex ratio for your ranch.

Northern Bobwhite Quail Surveys

Quail call counts are an effective technique to estimate quail covey size and quail density. Fall morning covey counts should be conducted between the last week of September and the second week of November. Spring breeding male point counts should take place from May 1st – June 7th. Fall counts will reflect quail numbers before the hunting season and spring counts will help determine breeding male numbers. Keeping track of trends in fall and spring quail numbers will help you assess the effectiveness of your management. Contact TPWD for more information on quail surveys.

HARVEST DATA COLLECTION

Collection of harvest data is of the utmost importance monitor the impact of hunting on the wildlife species using your property. *To participate in Level 1 of the MLDP program, **you must submit harvest data on the number of bucks and does taken each year.** You may also submit deer age, dressed weight, and gross Boone and Crockett antler measurements (spread, tine length, gross score, etc). TPWD does not require age, weight, and antler data for Level 1 participation; however, this data will help the agency make informed deer management decision and your additional efforts will be greatly appreciated. Use the harvest datasheet provided by your TPWD biologist to report harvest data.*

PREDATOR CONTROL

Feral Pig Control

Feral pigs are an invasive species that cause extensive habitat damage, compete with native species for resources, and depredate native wildlife. These animals should be controlled with shooting as encountered while deer hunting or at night with spotlights. You should also consider setting box traps in the bottomland area of your property where feral pigs congregate if you notice an increase in pig numbers. To increase the effectiveness of box traps, wire the door open and pre-bait with corn at least a few days before removing the wire and actually setting the trap.

Fire Ant Control

Fire ants are an invasive species that negatively impact native species including leaf-cutter ants, small mammals, reptiles, and ground-nesting birds. Consider this environmentally-friendly alternative for fire ants: mix 16 tablespoons of Liquid Ivory Soap with 1 cup of lime fertilizer and pour into 4 gallons of warm water. Push back the soil on top of the mound and pour the solution directly down the nest. Use caution as concentrated lime can be harmful to humans.

Coyote, Bobcat, and other Native Predator Control

Bobcats, coyotes, and most other predators that you encounter are a natural part of the ecosystem, so their existence is important as they help to maintain healthy populations of other wildlife. You may consider incidental shooting as a method of population control if the numbers of these predator species increase to an unsuitable level. More intensive predator control methods such as trapping and toxicants generally do not produce a significant return relative to their cost and labor requirements. To mediate the effects of predators, focus on creating suitable habitat and abundant cover for potential prey species.

Section 7 – Specific Habitat Management Recommendations and Population Management Goals

Section 7A – Deer and Big Game Management

1. Density estimates for the past three seasons and techniques used to determine these estimates (include exotics):

Year	Bucks	Does	Fawns	Exotics	Density Estimate
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

2. Methods used to determine population density and date to submit data:

Survey Technique	Comments	Submit by date
Spotlight:	See Section 6B	September 25
Aerial:	See Section 6B	September 25
Mobile:	NA	NA
Other: Stand Count		
Remote Camera	See Section 6B	September 25

See <http://www.tpwd.state.tx.us/publications/huntwild/forms/index.phtml> for instructions and forms for surveys.

3. List deer harvest history for the past three seasons (include exotics):

Year	Bucks	Does	Total Deer	Exotics
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

4. Deer Population Management Goals Recommended by Biologist:

Recommended Density Goal for Deer Population (Acres/Deer):	12-15 ac/deer*
Recommended Sex Ratio (does/buck):	1.5 does/buck
Desired Fawn Production (fawns/does):	>50%

*Note: This is a general density for the area. The specific density will be determined annually by TPWD.

5. Landowner/Agent's Desired Harvest: _____ Bucks _____ Does

Allowing deer to reach their full potential requires consideration of genetics, nutrition, and age. Genetics (“nature”) underlies the body size, antler size, and fitness of an individual animal. Many hunters put emphasis on culling to create superior antlers. Small-scale culling efforts are shown to have little influence on the genetics of the overall population but selective buck harvest is not harmful as long as sufficient buck numbers exist. Nutrition (“nurture”) defines how the genetic potential of individual animals will be expressed. A buck with even the most-desired genetics for antler growth will not reach his maximum genetic potential under poor nutrition. *Managing for quality habitat is the best way to promote good nutrition.* By performing proper habitat management as described above you will help deer using your property meet their nutritional needs. Allowing deer to survive to older ages allows maximum antler growth. White-tailed deer in South Texas produce maximum antler growth at 6.5 to 7.5 years of age. Resisting the temptation to harvest a younger buck will allow you to harvest larger-antlered animals. Follow the general harvest guidelines below to help maximize the quality of deer harvested on your property while meeting legal requirements:

- Harvest adequate numbers of does with emphasis on numbers rather than ages
- Harvest any buck with ≤ 2 points
- Harvest any buck >1.5 years old with at least one unbranched antler
- Harvest bucks ≥3.5 years old with at least a 13 inch spread. *Older/mature bucks can most easily be identified heavy antler mass, stocky bodies, and enlarged stomachs (aka. “pot guts”)*

6. Habitat Management Recommendations, Including Livestock Management:

See Section 6A.

7. TPWD Permit Programs:

a. TTT Yes No

Year		<input type="checkbox"/>	Trap	<input type="checkbox"/>	Release	Bucks		Does		Total	
Year		<input type="checkbox"/>	Trap	<input type="checkbox"/>	Release	Bucks		Does		Total	
Year		<input type="checkbox"/>	Trap	<input type="checkbox"/>	Release	Bucks		Does		Total	
Year		<input type="checkbox"/>	Trap	<input type="checkbox"/>	Release	Bucks		Does		Total	

b. DMP Yes No

Year		Total number of Does in DMP pen		Release Date	
Year		Total number of Does in DMP pen		Release Date	
Year		Total number of Does in DMP pen		Release Date	
Year		Total number of Does in DMP pen		Release Date	

c. MLDP Yes No

Year		Level		Browse Survey Date		Number of Habitat Mgmt. Practices Completed	
Year		Level		Browse Survey Date		Number of Habitat Mgmt. Practices Completed	
Year		Level		Browse Survey Date		Number of Habitat Mgmt. Practices Completed	
Year		Level		Browse Survey Date		Number of Habitat Mgmt. Practices Completed	

d. SB (Scientific Breeder Pens) Yes No

If SB deer are released on ranch, please indicate number and type.

Year		Bucks		Does		Total	
------	--	-------	--	------	--	-------	--

Year		Bucks		Does		Total	
Year		Bucks		Does		Total	
Year		Bucks		Does		Total	

e. ADCP Yes No

Year		Number of Does Removed:		Number of Spikes Removed:	
------	--	-------------------------	--	---------------------------	--

Section 7B – Upland Game Bird Management

Quail/Pheasant/Prairie Chicken (specify): _____

1. Bird Population Management Goals:

a. Population Management Goals:

Desired Density Goal For Bird Population (Acres/Bird): 2 acres/bird

Fall OR Spring

Desired Production by Nov. 1st (Juvenile/Adult): 3 juveniles/adult

b. Methods used to determine population density and date to submit data.

Survey Techniques:

Call Counts (specify count type)	_____	Complete by:	_____
Roadside (comments)	_____	Submit by date:	_____
Incidentals (comments)	_____	Submit by date:	_____
Other (comments)	_____	Submit by date:	_____

See <http://www.tpwd.state.tx.us/publications/huntwild/forms/index.phtml> for instructions and forms for surveys.

c. List density estimates for the past three seasons and techniques used to determine these estimates:

Year	Coveys/Groups	Total Birds	Acres/Bird

2. Specific Habitat Management Goals and Recommendations – practices listed below can be used to increase the amount of space that is usable by _____ (specify one or more species), by evenly distributing (interspersed) the cover types (nesting, brooding, escape, screening, and loafing) needed by species:

a. Nesting cover management:

See Section 6A.

b. Brood cover management:

See Section 6A.

c. Escape and loafing cover management:

See Section 6A.

3. Wildlife Harvest and Record Keeping Recommendations

a. List bird harvest history for the past three seasons:

Year	Adult Males	Adult Females	Juveniles (both)	Total

b. Recommended record keeping: (harvest log, survey sheets, etc. can be included):

See Section 6B.

Wild Turkey

1. Wild Turkey Population Management Goals:

2. Specific Habitat Management Goals and Recommendations:

a. Roost site management

See Section 6A.

b. Water management

See Section 6A.

c. Nesting and brood rearing cover management

See Section 6A.

3. Wildlife Harvest and Record Keeping Recommendations

a. List turkey harvest history for the past three seasons:

Year	Adult Gobblers	Adult Hens	Juveniles (both)	Total

b. Recommended record keeping: (harvest log, survey sheets, etc. can be included):

Harvest logs.

Mourning Dove and White-Winged Dove

1. Dove Population Management Goals:

a. Methods used to determine population density and date to submit data.

Survey Techniques:

Point Counts (comments)	_____	Complete by: _____
Roadside (comments)	_____	Submit by date: _____
Incidentals (comments)	_____	Submit by date: _____
Other (comments)	_____	Submit by date: _____

See <http://www.tpwd.state.tx.us/publications/huntwild/forms/index.phtml> for instructions and forms for surveys.

b. Population Management Goals:

Desired Density Goal for Dove Breeding Population (Dove/Acre): 5–7 dove/acre _____

Desired Age Ratio (Juvenile/Juvenile + Adult): 1/3 _____

c. List density estimates for the past five seasons and techniques used to determine these estimates:

Year					
Doves/Acre					

2. Specific Habitat Management Goals and Recommendations:

a. Water management

See Section 6A. _____

b. Feed management

See Section 6A. _____

c. Nesting and brood rearing cover management

See Section 6A. _____

d. Shooting field habitat management

See Section 6A. _____

3. Wildlife Harvest and Record Keeping Recommendations

a. List dove harvest history for the past three seasons:

Year	Adults	Juveniles	Total

b. Recommended record keeping: (harvest log, survey sheets, etc. can be included):

See Section 6B _____.

Section 7C – Waterfowl Management

1. Identify Wetland Potential

2. Development, Restoration and Enhancement of Wetland

a. Potential funding and incentive programs

b. Other technical assistance

3. Wetland Habitat Management

4. Nesting Potential

a. Mottled ducks

b. Wood ducks

c. Whistling ducks

d. Hooded mergansers

5. Hunting Management

6. Wildlife Harvest and Record Keeping Recommendations

Section 7D – Rare and/or Declining Species (Includes Native Plants)

1. Habitat Management Recommendations for Rare Species. Refer to Texas Wildlife Action Plan online <http://www.tpwd.state.tx.us/business/grants/wildlife/cwcs/>. List all species as appropriate and include additional pages if needed.

2. Concerns for any State/Federally Listed Threatened/Endangered or Other Species of Concern. Refer to Texas Wildlife Action Plan <http://www.tpwd.state.tx.us/business/grants/wildlife/cwcs/>.

3. Landowner Incentive Program Participation:

Section 7E – Other Game or Nongame Species of Interest to Landowner
(javelina, rabbit, squirrel, wading birds, bats, songbirds, reptiles, amphibians, etc.)

1. Habitat Management Recommendations and Population Management Goals:

2. Wildlife Harvest and Record Keeping Recommendations:

3. Habitat Management Recommendations Benefiting Multiple Species:

Section 7F – Record of Landowner Decisions and Implementation Actions

Section 9 – Plan Preparation

1. Individual Preparing Plan:

Name: Jamie Killian Title: Wildlife Biologist
Address: P.O. Box 147, Floresville, TX
Phone(s): (830)480-9043
Email: Jamie.killian@tpwd.texas.gov

Landowner Manager Resource Mgmt. Prof. Consultant Certified Wildlife Biologist

3. Landowner/Agent Affidavit

By my signature below, I certify that I am the landowner of the above described property or a specifically authorized agent for the landowner. Authorized agent is defined as any person with verbal or written authorization to make decisions on behalf of the landowner. I also certify that the above information is true and correct to the best of my knowledge. I authorize TPWD to use this information for its purposes, but not to release it to other parties or agencies without my approval.

Landowner/Agent Signature

Printed Name

Date Signed



Texas Parks and Wildlife Department Certification

Place an X in one: Approved Disapproved

Authorized TPWD Signature _____ Date
Name: Jamie Killian
Title: Wildlife Biologist

Certification provides that this Wildlife Management Plan was reviewed and is found to be biologically and technically sound with regard to management of wildlife populations and habitats.

Texas Parks and Wildlife Department maintains the information collected through this form. With few exceptions, you are entitled to be informed about the information we collect. Under Sections 552.021 and 552.023 of the Texas Government Code, you are also entitled to receive and review the information. Under Section 559.004, you are also entitled to have this information corrected.