

## Appendix E

### **Vegetation Management Recommendations**

In the South Texas Plains, managing native vegetation (browse, weeds, grasses) to prevent continuous overuse by deer or cattle so that the native vegetation provides the majority of nutrition year-around for deer and other wildlife should be of primary concern. Over 50 percent use of most species on a continuous basis will stress vegetation, causing less production or killing of the plant. Good livestock management, utilizing a deferred-rotation grazing system at proper stocking rates, can prevent overutilization of vegetation by livestock. Sound deer and feral hog (and other large exotics, such as axis, sika, etc.) harvest strategies are also needed to prevent overuse of food and cover by wildlife. Native white-tailed deer and feral hogs (and large exotics if present) are the only wildlife species present in the South Texas Plains that can degrade or virtually destroy the habitat for not only themselves, but for the many smaller mammal and bird species that rely on the same vegetation for food and/or cover.

Managing or planning for the long term, considering wet years as well as drought years, and not carrying more livestock or deer than the land will support during poor as well as good years should be the overall goal.

Wildlife have a certain requirement for cover. Cover provides a sense of security from disturbance and protection from inclement weather and predators. The amount and kind of cover vary with the species. A stand of herbaceous plants may provide adequate cover for some bird species and small mammals, while other species require woody cover (trees and shrubs) in lieu of or in addition to herbaceous cover. The best cover for a large species such as white-tailed deer in the South Texas Plains is a diverse community shrubs, cacti, forbs (weeds) and grasses. Any clearing of shrubs should leave clumps or strips of brush should be wide enough so that an observer cannot see through them from one side to the other during the winter months when deciduous species are bare of leaves. Cover strips should be as continuous as possible to provide travel lanes. Deer and other wildlife can be displaced by disturbance from an area without adequate escape cover. A habitat that provides several different types and arrays of cover benefits more species of wildlife than a habitat that has limited types, amounts, and distribution of cover.

During the past 30 - 40 years, an estimated 75 percent or more of the South Texas Plains has been mechanically manipulated and seeded to introduced grasses such as Buffelgrass, Lehmann Lovegrass, Kleingrass, Guineagrass, etc. Encouraging the reestablishment of native shrubs, grasses and forbs on these acreage's can make these areas more productive habitats for all species of wildlife.

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themselves, but for the many smaller mammal and bird species that rely on the same vegetation for food and/or cover.

Management of any vegetative community requires long-term planning. Any vegetation manipulation practice will have an impact on resident wildlife species, either good or bad, depending on the type of treatment used, the degree of use, and location. Before implementing vegetation control techniques, determine what the long-term effects will be for each wildlife species that occurs in the area and minimize the negative impacts. Consider the location and size of sensitive wildlife habitats that provide important nesting or roosting sites, feeding areas, desirable wildlife food producing plants, cover, water, and space needs. Wildlife can be displaced by disturbance from an area without adequate escape or security cover. The amount and distribution of cover on adjacent lands need to be taken into consideration when assessing the cover needs of wide-ranging wildlife species such as deer and turkey. A small ranch would need a larger amount of security cover on a percentage basis than would a larger ranch where the vastness of the area provides security.

The control of plant species such as, mesquite, prickly pear, and other species that invade a variety of rangeland sites is often warranted. When these species dominate an area, they diminish plant diversity and the quality of habitat for most wildlife species. Vegetation manipulation may be in the form of prescribed burning, mechanical, biological, or herbicide control of trees, brush, or weeds, and is important to create and maintain open rangelands for grassland dependent wildlife. Most of these practices will require the use of specialized equipment or machinery for plowing, discing, bulldozing, spraying, or other vegetation or soil manipulation procedures. The cost effectiveness of the different control measures must be considered prior to initiation of control measures.

Prescribed burning is an effective, low-cost habitat management tool that can be used to enhance plant diversity by stimulating the production of a variety of forb and grass species and to maintain woody plants at the low heights most beneficial to wildlife. Livestock as well as wildlife can benefit from a properly planned and conducted prescribed burn. However, there are legal constraints and liabilities in the use of fire. The land manager should be well-trained and knowledgeable on the proper use of fire before attempting a prescribed burn. Refer to Texas Agricultural Extension Service bulletin "Prescribed Range Burning in Texas" for details on the use of fire as a range management tool.

Prescribed Burning Recommendations: To restore and maintain native grasslands, prescribe burn about one-third of native grass openings each year, burning each site every three years, on a rotating basis, to remove old growth and young, invasive woody growth such as cedar, locust, and persimmon. This will stimulate new growth of plants that may have become dormant due to not having occasional fires to stimulate growth. Pasture burn sites should normally be less than 40 acres and be burned in late summer (late August through September) weather conditions permitting. See included TCE publication Prescribed Range Burning in Texas for good general guidelines, especially for native pastures. About seven times more insects are usually found in burned native grass areas compared to unburned areas, thus providing much more spring and

summer high protein food for quail and turkey, especially for the young.

General burn prescriptions for South Texas Plains are:

1. Prepare disked bare-ground fire guard around all sites before burning. Disked fire guards, which can include roads and right-of-ways, should be 15 to 20 feet wide. (These disked areas can be planted to winter supplemental food plots between burn years.
2. Humidity should be between 15 - 40 percent.
3. Wind speed should be between 10 - 15 miles per hour.
4. Always burn into the wind first (backfire) 50 yards into the woods or pasture, then set fire with the wind (headfire). The entire burn may be conducted with a backfire, depending on fuel and weather conditions and burning experience of crew.
5. Initiate burns in the morning, after 9 a.m.

Consult with TPWD, Natural Resources Conservation Service (NRCS, formerly Soil Conservation Service, SCS), or Texas Forest Service, and notify local volunteer fire department before conducting burns.

Cattle should be excluded from burned areas for at least 3 months to allow regrowth of new, tender vegetation.

Prescribed burning is the cheapest, most effective habitat management technique for the South Texas Plains area.

Prescribed burning under a predetermined set of guidelines and plans is the most cost-effective habitat management tool that can be used to enhance plant diversity by stimulating the production of a variety of forb and grass species. It is also effective in controlling low-growing woody plants and maintaining them at the low heights most beneficial to wildlife. Livestock as well as wildlife can benefit from a properly planned and conducted prescribed burn. However, there are legal constraints and liabilities in the use of fire. The land manager should be well-trained and knowledgeable on the proper use of fire before attempting a prescribed burn. Refer to Texas Agricultural Extension Service bulletin "Prescribed Range Burning in Texas" for details on the use of fire as a range management tool. It is often necessary for a pasture to receive a period of deferment from livestock grazing to allow for a build-up of enough fuel (herbaceous plant litter) to carry a fire.

The use of mechanical equipment to control woody plants will typically result in an initial growth of forbs and annual grasses and the resprouting of many woody species. Soil disturbance associated with mechanical controls releases the natural seed bank found in the soil, increasing the quantity, quality, and distribution of plants beneficial to wildlife.

However, without periodic follow-up treatments of fire, herbicides, or additional mechanical manipulations, and/or without proper livestock grazing management, these sites will eventually again become dense stands of regrowth brush and trees. Mowing (shredding) areas of herbaceous plants and/or low density woody plants is another form of mechanical treatment. Mowing should be postponed until after the peak of the nesting/young-rearing period of local ground-nesting birds and mammals. One-third of open areas can be mowed per year, preferably in strips or mosaic types of patterns, to create "edge" and structural diversity.

Biological control is the use of heavy grazing pressure by livestock such as goats to control or suppress woody plants and sheep to control herbaceous weeds. Under certain management goals, biological control of woody plants and forbs can be a legitimate practice if done correctly. However, it is not normally a recommended wildlife habitat management practice. Long-term heavy grazing pressure by goats, which prefer woody browse but will also consume forbs, will eliminate all leaves from woody plants up to a height of four feet. The creation of this "browse line" and the resulting park-like appearance of the woody plant community will have negative effects on the wildlife species that also depend on the low-growing foliage of woody plants for both forage and cover. Heavy grazing pressure by sheep, which prefer forbs, will reduce or eliminate forbs that are also beneficial to wildlife.

There are many specifically formulated herbicides on the market today that can selectively control unwanted vegetation to enhance wildlife habitat. Determining the proper product and application technique requires consultation with TCE, NRCS, or TPWD personnel. Always advise that wildlife is a goal for your projects of this type. If herbicides are improperly use, they can have a significant negative impact on many plant communities and may suppress or eliminate plants other than the target species. Selective application methods, rather than broad-scale applications, are recommended to avoid the elimination of plants that are important to wildlife.

### Mesquite Control

\_Mesquite is a woody plant occurring all over the South Texas Plains. Its growth form varies from a multi-stemmed shrub to an upright tree. Adaptable to a variety of soil types, mesquite can colonize and dominate open rangelands, old fields, and other areas where ground cover has been reduced and fire eliminated from the environment. Mesquite sprouts from buds along a compressed, buried section of the stem called the "crown". Control by grubbing, bulldozing, root plowing, and chaining of mature-size trees has proven successful under proper soil moisture conditions. Several approved herbicides are also available for control. Shredding, on the other hand, or other practices that only remove top growth but do not involve removal of the crown is not recommended and may result in further sprouting. Any control planning should proceed with good common sense and a sense of aesthetics.

Mesquite seed pods are readily eaten by wildlife and livestock, resulting in the dispersal of undigested seeds across the landscape. Seeds may remain dormant for extended periods of time and germinate when the right conditions or soil disturbances occur.

Young mesquites can quickly become established and grow rapidly, particularly when competition from other plants is reduced by heavy grazing pressure.

Mesquite does have some redeeming qualities. It provides seed pods that are a beneficial although sporadic food source, microclimates for cool season grasses and forbs that may be important to plant diversity, nitrogen fixing roots, and cover, that is beneficial to many wildlife species.

Range enhancement involves range reseeding and native grass restoration. Establishing native herbaceous plants (grasses and forbs) that provide food and cover, benefits wildlife and provides erosion control benefits. Plant species selected and methods for establishment should be applicable to the county. Non-native species are generally not recommended, but if required for a specific purpose, non-native species should not exceed 25 percent of the seeding mix. Seeding mixtures providing maximum native plant diversity are recommended. Many herbaceous broadleaf plants (known as forbs - weeds and wildflowers) are beneficial to wildlife for forage and/or seed production. Encourage "weed and wildflower" species by selective application of chemical, biological (eg., grazing management) and/or mechanical means on native rangelands, Conservation Reserve Program lands, and tame grass pastures (eg., coastal bermuda). Natural Resource Conservation Service personnel in the area can provide detailed recommendations on range and native grass reseeding, designed to meet individual goals. Refer to Appendix K for native grass restoration guidelines.

Farming Practices: Delaying of shredding or mowing of hay or native grass pastures until after July 31 will usually avoid killing of young fawns or ground nesting birds by accident.

Use Integrated Pest Management to minimize pesticide applications (consult the Texas Department of Agriculture, Austin). If necessary, spot spraying is much preferred over broadcast spraying especially for broad-spectrum herbicides. Spray early in the spring while plants are still small, requiring less spray. Many "weeds" are important to wildlife.

To provide weed seeds (ragweed, croton, sunflower, partridge pea, trailing wild bean, etc.) that are the basis of quail, dove, and other seed-eating bird's fall and winter diets, shallow disk 10 - 20 foot wide strips in sandy soil around the edge of brush and woods after the first freeze. This practice will promote growth of these important forbs the following spring and summer.