NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

UPLAND WILDLIFE HABITAT MANAGEMENT

(acre)
Code 645

Texas Supplement, Zone 1

WHITE-TAILED DEER

Habitat Requirements

Cover

Woody vegetation is a requirement for meeting the deer's protection needs. Herbaceous vegetation is not sufficient on its own. Cover must furnish protection from weather and security from predators. Optimum habitat will usually have about 50 percent of the area in moderate to heavy woody vegetation. Deer will utilize habitat with much less woody vegetation but numbers are considerably lower. A good pattern of woody areas with numerous smaller irregularly shaped openings seems to meet the deer's requirements. Fawning cover consists of dense areas of taller grasses usually mixed with low growing shrubs that provide concealment from predators. Mature bucks seem to have a bigger need for larger areas of very dense cover as compared to younger bucks and does.

Food

The bulk of the deer's diet is browse, mast and forbs. Grasses make up a small percentage of the diet, but can be important during certain periods of the year. For proper body growth, reproduction and antler development, high quality food is required. Deer will consume about 3.5 percent of their body weight per day in dry weight forage. In relation to livestock about 7 deer will consume what 1 cow consumes. To provide deer the high quality food supply needed, the habitat needs a variety and abundance of woody and succulent forbs of high nutritive value throughout all seasons of the year.

Water

Available water is a necessary component of deer habitat. Daily consumption varies from 1/2 to 1 gallon per day. The greatest consumption is during hot weather.

Habitat Arrangement

Cover and food within habitat should be intermixed so that deer can forage in close proximity to protective cover. Deer will readily feed in open areas that are within 100 to 200 feet of woody cover. The more nutritional stress that deer are experiencing, the further from cover they will venture. Deer will sometimes travel a mile or more away from cover to feed, especially during drought, but they will do so primarily at night. Permanent water should be available close to cover and spaced no more than 1 to 1.5 miles apart, preferably closer.

Habitat Size

Individual deer normally range in areas of 500 to 1000 acres. Females have a smaller home range than males. Males have a much larger range during the breeding season (October – January). In general, large areas of habitat are needed to sustain viable populations that have surplus animals available for harvest. Smaller tracts of habitat will be used periodically as deer travel from tract to tract along corridors.

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Habitat Management Techniques

Cover

1. Brush management, when needed, should be carried out in patterns which create irregularly shaped openings. This can be accomplished by controlling brush in alternating strips, checkerboard blocks, random odd sized openings or contoured bands. The percentage of an area that should be left in woody cover will vary depending on landowner objectives, the deer density desired, the method of clearing and the existing density and distribution of woody cover. Generally clearing 25 to 50 percent of the acreage will maintain good deer habitat if the remaining acreage has moderate to dense cover. Clearing at this level may cause some deer number reduction. Clearing 50 to 75 percent will generally result in a significant decrease in deer population.

2. Brush should not be removed along creeks, draws, areas that provide natural travel lanes and existing quality habitat. Leave some large continuous tracts of moderate to dense woody cover to serve as sanctuaries for mature bucks.

3. Cleared areas should be less than 200 feet wide. Quality trees and shrubs should be left in the cleared areas. Generally narrower cleared areas provide better habitat. For best results these narrower cleared areas should be about 20 acres in size.

4. Non cleared areas should be wide and dense enough to fully conceal deer. This is especially important during winter when leaves have fallen. These areas may need to be 300 to 500 feet wide.

5. Light to moderate grazing will help provide areas for fawning cover. If past heavy grazing has developed inadequate fawning cover pastures can be deferred for 1 to 3 years to allow grasses to recover.

6. For long term herbaceous cover management a prescribed grazing program of light to moderate use should be developed. This should include regular rest periods for all pastures.

Food

1. Deer and livestock numbers must be in balance to provide a stable quality food supply for deer. Excessive deer numbers result in overuse of choice food plants. Goats and sheep compete for the deer's preferred food plants. Cattle are primarily grass eaters but forbs and browse can make up to 20 percent of their diet. Cattle can consume large amounts of forbs and browse which directly competes with deer. This can be critical during dry periods and winter months.

2. Heavy use of key perennial food plants (Refer to Table 1) indicates an imbalance of deer numbers. This may mean a need to reduce deer numbers. Moderate use (50 percent or less of current years production) indicates population numbers are near or at proper levels.

3. Livestock grazing must be carried out using a systemic rotation system. The system must provide for periodic rest during the year. Generally, deer food plants are favored by shorter grazing periods and longer rest periods. Forage use should be moderate to light and avoid any prolonged heavy use.

4. Include high value forbs and shrubs in seeding mixtures. Refer to Tables 1 and 2.

5. Utilize prescribed burning to remove accumulations of old grass, stimulate basal sprouting of browse plants, improve nutritional value (short lived) of food plants and stimulate germination of certain species.

6. Roller chopping, chaining or shredding can stimulate basal sprouting and increase availability and production of woody plants.

7. Mechanical methods of brush management minimize losses of forbs and damage to desirable shrubs and trees. Chemical methods can reduce forb production and damage or kill desirable shrubs and trees.

8. Food plots can be utilized to increase food supplies. Food plots must be planted and maintained properly to have success. This may include weed control and fertilization. Refer to Table 2 for selected species and planting information. A rule of thumb is to plant 2 to 5 percent of the area to food plots. Perennial food plots eliminate annual tillage and planting and with proper management they provide quality forage. Refer to Table 2. Food plots are not a habitat management practice and should not be used to artificially carry an excessive number of deer. Proper harvest must be practiced.

9. Supplemental feeding of deer is not a habitat management practice but it is used to enhance the quality of the deer diet. This does not include the feeding of corn during deer season. This is considered baiting and not supplemental feeding. It can be a tool to improve harvest numbers. Protein and minerals, especially phosphorus, is the most common feed. Care must be taken to not allow supplemental feeding to increase numbers above carrying capacity of the habitat. Proper harvest must be practiced.

Water

1. Deer use livestock watering facilities. When livestock are removed from a pasture maintain water supply for deer.

2. Refer to Wildlife Watering Facility standard for selected designs for furnishing water for deer.

References

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TABLE 1

IMPORTANT NATIVE AND NATURALIZED WHITE-TAILED DEER FOOD PLANTS

High Value Perennial Forbs

Winecup
Primroses
Gauras
Heath Aster
Spiderwort
Penstemons
Engelmann Daisy
Dayflower
Trailing Ratany
Gayfeather
Bush Sunflower
Illinois Bundleflower
Prairie Acacia
Texas Nightshade
Trailing Ratany

High Value Browse

Mistletoe
Hackberry
Mountain Mahogany
White Honeysuckle

Medium Value Browse

Epheda
Western Soapberry
Elbowbush
Bumelia
Wild Plum
Skunkbush Sumac
Littleleaf Sumac
Lotebush
Grapevine
Shin Oak

Annual Forbs High Seasonal Value

Filaree
Huisache Daisy
Bladderpod
Indian Blanket
Burclover
Bluecurls
Croton
Pigweed
Broomweed
Lambsquarter
Russian Thistle
Kochia1
Tallow Weed
Milk Vetch
Wild Carrot

Medium Value Perennial Forbs

Mentzelia
Wild Onion
Snoutbean
Sida
Prairie Clover
Globe Mallow
Milkwort
Dalea
Western Ragweed
Evolvulus
Milkwort
Perennial Spurges
Maximillian Sunflower

Lower Value Browse

Pricklypear
Mesquite
Algerita
Javelinabush
Junipers
Catclaw Mimosa
Fragrant Mimosa
Little Walnut
Feather Dalea
Willow Baccharis

Grasses High Seasonal Value

Rescuegrass
Texas Wintergrass
Wheat

Lower Value Perennial Forbs

Prairie Coneflower
Theadleaf Groundse
Mealycup Sage
Goldaster
Queen's Delight
Broom Snakeweed
Verbena
Silverleaf Nightshade

Fruit and Mast High Seasonal Value

Mesquite Beans
Pricklypear Fruit
Yucca Flower Stalks
Oak Acorn

TABLE 2

Planting Information for Commercially Available Seed
Used for Food Plots or to Enhance White-tailed Deer Food Supply

	Seed Rate Lbs/Acre [1]					
	Broadcast or Drilled	Rows [2]	Planting Dates	Planting Depth In.	Minimum Rainfall [3]	Comments
Perennials [4]						
Illinois bundleflower [5] (W)	13.6	NR	12/1 - 5/31	¼ - ½	18	
Bushsunflower (W)	2.6	NR	12/1 - 5/31	¼ - ½	16	
Maximilian sunflower (W)	3	NR	12/1 - 5/31	¼ - ½	20	shred to improve leafiness
Engelmanndaisy (C)	15	NR	9/1 - 2/28	¼ - ½	18	needs cold stratification
Alfalfa [5](CW)	4	NR	12/1 - 4/15	¼ - ½	18	short-lived (4 - 8 yr)
Fourwing saltbush (CW)	15.5	6	12/1 - 5/31	¼ - ½	10	evergreen shrub
Skunkbush Sumac (W)	17.8	6.2	12/1 – 5/31	¼ -1/2	16	
Warm Season Annuals						
Cowpea [5]	15	5	4/1 - 6/31	1 - 2	20	usually dies late summer
Mungbean [5]	15	5	4/1 - 6/31	1 - 2	20	
Guar [5]	30	10	4/1 - 6/31	1 - 2	18	
Grain sorghum [7]	12	4	4/1 - 6/31	1 - 2	18	seedheads eaten
Cool Season Annuals						
Wheat	60	20	9/1 - 11/15	1 - 2	18	more cold hardy
Oats	60	20	9/1 - 11/15	1 - 2	20	less cold hardy
Rye	60	20	9/1 - 11/15	1 - 2	20	
Triticale	60	20	9/1 - 11/15	1 - 2	18	
Ryegrass	4.6	NR	9/1 - 11/15	0 - ¼	24	can overseed
Yellow sweetclover [5]	3.4	NR	9/1 - 11/30	¼ - ½	16	biennial, "Madrid"
White sweetclover [5]	3.4	NR	9/1 - 11/30	¼ - ½	20	"Hubam"
Hairy vetch [5]	26	9	9/1 - 11/30	1 - 2	20	

Footnotes:
1 Seeding rates based on PLS when available, otherwise, use good quality commercial seed.
2 Row planting (20 - 40 inch rows) should be used only when weed control will be carried out between rows. NR - Row planting not normally recommended.
3 Approximate annual rainfall zone recommended for successful establishment. Irrigation recommended when planting west of this line.
4 (W) – warm season forage production. (C) – cool season forage production. (CW) – provides some forage during both cool and warm season.
5 All legumes should be inoculated with the proper strain of Rhizobium for best production.
6 These species are also important agricultural weeds and should not be used in farming areas.
7 White or yellow seeded varieties with lower tannin content are preferred.