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# Focusing Your Habitat Management Plan

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When making habitat management decisions, an important question is, "Should habitat management be based on Diet Preference or Variety?" Rather than focusing on what are perceived to be “highly preferred plant species,” habitat management should be focused on maintaining diverse, healthy ecosystems so that good quality forages are available during all seasons and especially during adverse environmental conditions such as drought. Habitat management practices that promote plant species diversity include:

- grazing livestock at densities that do not result in excessive use of vegetation
- maintaining deer densities within the carrying capacity of the habitat
- not planting non-native plants such as Old World bluestems and buffelgrass that reduce abundance and diversity of native plants
- conducting weed and brush management only when absolutely necessary, and
- avoiding introduction of exotic ungulates that may compound grazing and browsing intensity.

### Background

Managing white-tailed deer habitat is not as simple as promoting growth of a specific set of plants that we think deer like the best. One of the characteristics enabling these highly adaptable animals to live in varied environments from Canada to South America is the ability to be extremely flexible in what they eat. Annual and seasonal forage preferences of deer are complex because they constantly change in time and space with variation in plant abundance and nutritional quality. Because of this complexity, managing for healthy ecosystems containing a diversity of plant species is a wiser strategy than attempting to manipulate habitat to maximize production of a select group of forage plants.

The ability of deer to change diet composition in response to environmental changes is well documented. The following examples from the deer research literature illustrate these changes very well. In the first example, researchers compared diet composition during drought with diets during a high rainfall year; in the second example, researchers compared deer diets with and without browsing by domestic goats.

### Example 1

***The findings:*** Texas Parks and Wildlife personnel and faculty from Texas State University conducted research on deer food habits in the Cross Timbers and Prairies Region of Texas from spring 1996 through winter 1998. None of the forbs recorded in deer diets during spring 1996, when rainfall was lacking, were among the 10 most preferred forbs in diets in spring 1997, when rainfall was high. Acorns, mesquite beans, or mistletoe were the most highly preferred species in diets on 7 of the 8 sampling dates. Forbs were the most highly preferred plant

species only during the wet summer of 1997.

***Implications:*** Forbs that are highly preferred during wet years may be absent in dry or normal rainfall years. Conversely, forbs that are unpalatable during high rainfall years may be staples of the diet in dry years. From a management perspective, clearing oaks and mesquites to favor growth of forbs simply because we know that deer prefer them over browse would be unwise. Managing for a few selected species or group of plants is likely to result in an abundance of palatable forage in wet years that exceeds nutritional needs of deer, and a deficiency in dry years when forage is badly needed.

**Example 2**

***The findings:*** Researchers from Texas A&M University and the Texas A&M Agrilife Research and Extension Center at Uvalde found that grazing by goats caused white-tailed deer to reduce consumption of blackbrush acacia and increase consumption of shrubby blue sage. Goats preferred blackbrush acacia, reducing its availability, but ate only small amounts of shrubby blue sage. By changing composition of their diet, deer maintained a relatively constant level of diet nutritional quality. Biologists normally consider blue sage to be of low value to deer.

***Implications:*** Plants generally regarded as relatively unpalatable to deer may meet a critical nutritional need under certain circumstances.