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Woody Plants and Wildlife

Brush Sculpting in South Texas and the Edwards Plateau

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Our perspective is changing on the value of brush or woody plants. When Texas rangeland was used primarily for livestock, managing brush meant eradicating it, or at least removing certain unwanted species. Now rangeland owners are shifting to multiple use, which includes managing for wildlife, recreation and aesthetic value. Accordingly, our view of woody plants has changed to one that values these plants in appropriate amounts for wildlife and other benefits.

The essential elements of wildlife habitat include food, cover and water. Because woody plants provide some or all of these requirements, managing these plants is important. Woody plants provide food in the form of leaves, flowers, pollen, nectar, mast and fruit. Some woody plants also provide cover, which protects and shelters wildlife from predators and inclement weather. The kind and amount of cover required varies among wildlife species. Many birds also use these plants for nesting, nighttime roosting and daytime loafing. Plants such as cacti even provide water.

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Species	Loc.		Food			Cover			Water
	STP	EP	Forage	Mast	Fruit	Protection	Nesting	Roosting	
Agarito, desert holly, *Mahonia trifoliolata*	✔	✔							
Allthorn, *Koeberlinia spinosa*	✔	✔							
Amargosa, *Castela texana*	✔	✔							
Anaqua, *Ehretia anacua*	✔	✔							
Blackbrush, *Acacia rigidula*	✔	✔							
Blackcherry, *Prunus serotina*		✔							
Brasil, *Condalia hookeri*	✔	✔							
Catclaw acacia, *Acacia greggii*	✔	✔							
Catclaw mimosa, *Mimosa spp.*	✔	✔							
Cedar elm, *Ulmus crassifolia*	✔	✔							
Cenizo, purple sage, *Leucophyllum frutescens*	✔	✔							
Coma, *Bumelia celastrinum*	✔								
Coyotillo, *Karwinskia humboldtiana*	✔	✔							
Creosotebush, *Larrea tridentata*	✔	✔							
Desert yaupon, *Schaefferia cuneifolia*	✔	✔							
Elbowbush, *Forestiera pubescens*		✔							
Ephedra, *Ephedra spp.*	✔	✔							
Evergreen sumac, *Rhus virens*	✔	✔							
Feather dalea, *Dalea formosa*	✔	✔							
Flameleaf sumac, *Rhus glabra*		✔							
Four-wing saltbrush, *Atriplex canescens*	✔	✔							
Fragrant mimosa, *Mimosa borealis*		✔							
Granjeno, spiny hackberry, *Celtis pallida*	✔	✔							
Greenbrier, *Smilax spp.*	✔	✔							

Green condalia, *Condalia viridis*		✔							
Guajillo, *Acacia berlandieri*	✔	✔							
Guayacan, *Guaiacum angustifolium*	✔	✔							
Gum bumelia, *Bumelia lanuginosa*	✔	✔							
Hercules'-club pricklyash, *Zanthoxylum clava-hercules*		✔							
Hogplum, *Colubrina texensis*	✔	✔							
Honey mesquite, *Prosopis glandulosa*	✔	✔							
Hoptree, *Ptelea spp.*		✔							
Huisache, *Acacia smallii*	✔	✔							
Juniper, *Juniperus spp.*		✔							
Knife-leaf condalia, *Condalia spathulata*	✔								
Lantana, *Lantana spp.*	✔	✔							
Lime prickly-ash, *Zanthoxylum fagara*	✔								
Littleleaf sumac, *Rhus microphylla*	✔	✔							
Lotebush, *Ziziphus obtusifolia*	✔	✔							
Mexican buckeye, *Ungnadia speciosa*	✔	✔							
Mountain laurel, *Sophora secundiflora*	✔	✔							
Narrowleaf forestiera, *Forestiera angustifolia*	✔	✔							
Netleaf hackberry, *Celtis reticulata*		✔							
Oaks, *Quercus spp.*	✔	✔							
Palo verde, *Parkinsonia texana*	✔								
Pecan, *Carya illinoensis*	✔	✔							
Poison ivy, *Toxicodendron radicans*	✔	✔							
Possum-haw holly, *Ilex decidua*		✔							
Pricklypear cactus, *Opuntia spp.*	✔	✔							
Redbud, *Cercis canadensis*		✔							
Retama, *Parkinsonia aculeata*	✔	✔							

Roemer acacia, *Acacia roemeriana*	✔	✔							
Rusty blackhaw, *Viburnum rufidulum*		✔							
Shrubby blue sage, *Salvia ballotiflora*	✔	✔							
Skunkbush sumac, *Rhus aromatica*		✔							
Southwest bernardia, *Bernardia myricifolia*	✔	✔							
Sugar hackberry, *Celtis laevigata*	✔	✔							
Sweet mountain grape, *Vitis monticola*		✔							
Tasajillo, *Opuntia leptocaulis*	✔	✔							
Texas ebony, *Pithecellobium flexicaule*	✔								
Texas kidneywood, *Eysenhardtia texana*	✔	✔							
Texas persimmon, *Diospyros texana*	✔	✔							
Texas Sophora, Eve's necklace, *Sophora affinis*		✔							
Twisted acacia, *Acacia schaffneri*	✔	✔							
Walnut, *Juglans spp.*		✔							
Western soapberry, *Sapindus drummondii*	✔	✔							
Wild olive, *Cordia boissieri*	✔								
Whitebrush, beebrush, *Aloysia spp.*	✔	✔							
Wolfberry, *Lycium spp.*	✔	✔							
Yucca, *Yucca spp.*	✔	✔							

LEGEND: - Butterflies, bees and other insects
- White-tailed deer
- Small mammals (e.g. squirrels, rabbits)
- Songbirds
- Game birds (quail, turkey, doves)

STP - South Texas Plains
EP - Edwards Plateau

Table 1. Classes of wildlife that benefit from various native plants.

Woody plants may also provide indirect benefits, including soil improvement from mulch, protected sites for certain beneficial plants to grow, mineral cycling, and nitrogen fixation by woody legumes such as mesquite and blackbrush. They also provide a cooler microclimate for birds, small mammals, reptiles and insects.

Even though woody plants are beneficial, it is still possible to have too much brush. Landowners should consider manipulating brush in some situations, depending on the wildlife species being managed and other goals. Brush sculpting is a way to achieve the desired balance between woody plant cover and herbaceous plant or grass production. Brush can be sculpted by mechanical, chemical and biological means and by prescribed burning. Treating individual plants, either mechanically or chemically, is especially useful in brush sculpting.

The brush-sculpting approach recognizes that woody plants aid wildlife and seeks to shape the landscape and habitat to benefit wildlife and accommodate other multiple uses. To sculpt brush for a wildlife habitat, landowners must know the woody plant species present and their value to wildlife. Some woody plants are more valuable than others, depending on the habitat requirements of the various wildlife species. However, the value of any particular plant species also depends on which other species are present. For example, live oak has only moderate value as white-tailed deer browse when favored plants such as kidneywood are abundant, but it may be a major part of the diet when other more highly favored species are unavailable.

In the table beginning on page 2, symbols represent the classes of wildlife that benefit from each plant species. In this bulletin, forage is broadly defined not only as the leaves and twigs that provide food for herbivores such as deer, but also as the flowers that are eaten and that provide nectar and pollen for birds and insects. Mast includes hard fruits such as acorns and mesquite pods, and fruit refers to soft fleshy fruits such as berries. Cover is divided into three categories:

- Protection from predators and the elements;
- Places for nesting by birds or small mammals; and
- Daytime loafing and nighttime roosting areas.

This publication does not rank plants according to how valuable they are to wildlife, but instead provides a basis for understanding that all woody plants offer at least some value to particular classes of wildlife. Rangeland must have a mixture of vegetation that includes as many different plants as possible, so that it can consistently supply the diverse needs of the various wildlife species. Landowners and managers who understand this concept can make informed decisions about which and how much woody vegetation to maintain.

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Revision