

*Enhancing White-tailed Deer Habitats on Your Property***Evaluating Habitat**

**W**hite-tailed deer are one of Missouri's most valuable resources, and many Missouri landowners, hunters and deer enthusiasts are interested in managing their properties to improve habitat conditions for them (Figure 1). White-tailed deer have adapted to a variety of habitat types in Missouri and use diverse vegetation and plant successional stages throughout the year. A mixture of forests, woodlands, grasslands, croplands and open fields provides deer with ample food, vegetative cover and water during each season (Figure 2).

Landowners can enhance habitat and the diversity of vegetation on a property, regardless of its size, by conducting a variety of management practices. Evaluating the current habitat conditions to identify deficiencies will help you determine the appropriate management practices to implement and is an important step toward successfully managing habitat for white-tailed deer.

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*Limiting factors are environmental components that restrict a population's size or geographical range. The purpose of a habitat evaluation is to identify limiting factors so they can be corrected and habitat can be enhanced.*

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**Evaluate habitat conditions**

Deer habitat is often a byproduct of land use, whether it be forest or agricultural production. However, food and cover for deer can be enhanced through various habitat management practices, such as timber harvesting, timber stand improvement practices, prescribed fire, edge feathering or managing a forest or wooded acreage for improved mast production. A habitat evaluation helps you determine the combination of management practices that will improve the area and accomplish your objectives.

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**This deer conservation guide is one in a series developed jointly by MU Extension and the Missouri Department of Conservation.**

Written by  
**Robert A. Pierce II**, Fisheries and Wildlife State Specialist,  
School of Natural Resources  
**Emily Flinn**, Resource Scientist, Missouri Department  
**Brad Mormann**, Private Land Conservationist, Missouri Department of  
Conservation



**Figure 1.** To attract deer to your property, improve the habitat by evaluating its current condition and then implementing appropriate management practices to enhance it.

When evaluating the current habitat conditions on a property, you are identifying the components in short supply — the *limiting factors*. This information will help you determine the management practices that need to be conducted to improve the habitat conditions and thus can guide development of your habitat management plan.

To successfully evaluate habitat, you will need an aerial photo of the property or area being managed (Figure 3) and you will need to observe the existing habitat conditions on the area (Figure 4). You can obtain aerial photos through the following websites:

- MU Center for Applied Research and Environmental Systems, <http://ims.missouri.edu/moims2008>
- Missouri Department of Conservation GIS Mapping Service, <http://newmdcgis.mdc.mo.gov>
- Google Earth, <http://earth.google.com>

Use your observations and the information obtained from the aerial photos to assess the overall condition of existing habitat. On the worksheet (Figure 5), identify the habitat types that exist on the property and rank their current condition.

**Address the limiting factors**

After evaluating the area, design a habitat management plan that initially focuses on addressing the habitat components or factors that are in shortest supply. Below are two examples of how you can use the evaluation results to identify potential deficiencies on an area.



**Figure 2. Land with a diversity of habitat types — such as a mixture of forest land, cropland and open fields — provides deer with food and cover throughout the year.**

If the property consists primarily of woodland or forest, consider these questions:

- Does the area have enough openings that provide the early successional vegetation ideal for deer?
- Does the woodland contain a diversity of mast-producing oaks and a variety of trees and shrubs in various stages of succession?
- Does the area contain thick, brushy cover?

If the area consists primarily of pastures and cropland, consider these questions:

- Are adequate amounts of acreage nearby that can provide cover and hard mast?
- Are trees and shrubs needed to address this limiting factor?

Considering these types of questions will help you determine the appropriate combination of management practices that will address the property's limiting factors.

Although many Missouri landowners do not own or control large enough properties to effectively manage a deer herd, they can manage their smaller acreages to provide quality habitat. Where landownership patterns consist of many small parcels, deer management can also be effective when neighbors work together toward similar management goals. Managing a large area provides additional opportunities to incorporate beneficial deer habitat management practices on a larger scale and to better manage the deer herd.

## Conclusion

Developing a habitat management plan is an important step in improving the conditions for white-tailed deer and other wildlife. Before you can develop an effective plan, you need to know the current habitat conditions within



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**Figure 3. Aerial photos of your property or the areas being managed are invaluable when evaluating habitat conditions.**



**Figure 4. Spending time on the property observing habitat conditions is an important part of a habitat evaluation.**

the area being managed. Although white-tailed deer have adapted to live and thrive in a variety of habitat types across Missouri, certain conditions make an area more appealing to them. By evaluating the current condition of the habitat, you can identify the property's deficiencies and determine appropriate management practices to implement over time to improve deer habitat on the area.

Habitat can be evaluated in several ways. This guide describes a basic method landowners can use to assess the quality of deer habitat on an area. Contact a private land conservationist with the Missouri Department of Conservation (<http://mdc.mo.gov/contact-us>) or MU Extension (<http://extension.missouri.edu/locations>) for more specific information or assistance in evaluating habitat and developing a white-tailed deer management plan for your property.

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Photo credits: Robert A. Pierce II and Missouri Department of Conservation.

## White-tailed deer habitat evaluation worksheet

Rate the property's current habitat conditions based on these habitat-type descriptions.

### Early successional herbaceous vegetation (old fields, pastures, haylands and prairies)

#### 1. Native warm-season grasses (percent of field)

- Excellent — Over 50 percent
- Good — 30 to 50 percent
- Poor — Less than 30 percent

#### 2. Forbs and legumes (number of species available)

- Excellent — 10 or more species
- Good — 5 to 9 species
- Poor — Less than 5 species

#### 3. Small grains and/or legume canopy coverage (percent of field)

- Excellent — Over 50 percent
- Good — 25 to 50 percent
- Poor — Less than 25 percent

#### 4. Eastern red cedar in the field

- Excellent — None or found only in small patches of less than 1 acre
- Good — Found in patches of 1 to 3 acres
- Poor — Dominate stand and found in blocks larger than 3 acres

#### 5. Cool-season perennial grasses in the field

- Excellent — None
- Good — Present but being removed from the area
- Poor — Predominant and not under control

#### 6. Prescribed fire frequency

- Excellent — Every 2 to 5 years
- Good — Every 6 to 10 years
- Poor — Most recent was more than 10 years ago

#### 7. Grazing intensity or haying pressure

- Excellent — Light or no grazing; haying discontinued by mid-September
- Good — Moderate grazing, leaving cool-season grasses 4 to 6 inches over winter height and warm-season grasses 8 to 10 inches over winter height
- Poor — Heavy grazing throughout the year

#### 8. Distance to escape or screening cover

- Excellent — Entire area of the field is within 50 yards of cover
- Good — Entire area of the field is within 100 yards of cover
- Poor — Most of the field is more than 100 yards from cover

#### 9. Distance to a crop field or food plot of at least 1 acre

- Excellent — Less than ½ mile
- Good — ½ to 1 mile
- Poor — More than 1 mile

### Woodlands and forests

#### 1. Composition of the stand or tract

- Excellent — Oaks are dominant with an equal amount of both red and white oak groups
- Good — Oaks are dominant but over 75 percent are within either the red or white oak group
- Poor — Other species, such as maples or elms, are dominant; if oaks are present, they constitute less than 10 percent of stand

### Woodlands and forests (continued)

#### 2. Woodland class size and canopy coverage

- Excellent — Sawtimber with an open canopy, 50 percent canopy coverage
- Good — Sawtimber or pole-sized trees with a closed canopy, 50 to 90 percent canopy coverage
- Poor — Pole-sized trees and a completely closed canopy

#### 3. Plant diversity in the understory

- Excellent — 10 or more species of legumes and forbs, and several shrub species
- Good — 5 to 9 species of legumes and forbs, and a few shrub species
- Poor — Less than 5 species of legumes and forbs, and no shrubs

#### 4. Eastern red cedar in the stand or tract

- Excellent — Scattered or comprises less than 1 contiguous acre
- Good — Comprises 2 to 3 contiguous acres
- Poor — Dominates the stand or comprises over 4 contiguous acres

#### 5. Livestock use of the stand or tract

- Excellent — None; fencing excludes livestock from grazing the area
- Good — Limited; livestock are allowed to graze in woodlands for only a short time in the summer and early fall; fencing excludes livestock during spring, late fall and winter
- Poor — Unlimited; livestock have year-round access to the stand

#### 6. Forest openings, temporary or permanent (percent of stand or tract)

- Excellent — 15 to 30 percent
- Good — 5 to 15 percent or 30 to 50 percent
- Poor — Less than 5 percent or more than 50 percent

#### 7. Distance to a crop field or food plot of at least 1 acre

- Excellent — Less than ½ mile
- Good — ½ to 1 mile
- Poor — More than 1 mile

### Cropland (corn, grain sorghum or milo, soybeans, wheat and oats)

#### 1. Cropping practices

- Excellent — Leave 4 acres per 40 acres unharvested or as food plot
- Good — Leave 1 to 4 acres per 40 acres unharvested or as food plot
- Poor — Completely harvest field

#### 2. Crop field management

- Excellent — No fall tillage; crop residues undisturbed or field seeded to a small grain such as winter wheat
- Good — Crop residues left on field but not seeded to a small grain, such as winter wheat, or a cover crop
- Poor — Fall tillage; crop residue removed by tillage, chopping, baling or grazing

#### 3. Distance to an ungrazed woodland, forest or prairie

- Excellent — Less than ½ mile
- Good — ½ to 1 mile
- Poor — More than 1 mile

Figure 5. Evaluate the white-tailed deer management area based on the habitat criteria described on this worksheet. For more information, refer to other MU Extension publications on enhancing white-tailed deer habitats on your property at <http://extension.missouri.edu/deer>.

#### ALSO FROM MU EXTENSION PUBLICATIONS

For a complete list of MU Extension publications on the ecology of white-tailed deer, go to <http://extension.missouri.edu/deer>.

- G9479 *Ecology and Management of White-tailed Deer in Missouri*
- G9480 *Implementing Quality Deer Management on Your Property*
- G9481 *Estimating Deer Populations on Your Property: Camera Survey*
- G9482 *Estimating Deer Populations on Your Property: Observational Data*
- G9483 *Estimating Deer Populations on Your Property: Harvest Data*
- G9484 *Aging a Deer by Examining Its Jawbone*
- G9485 *Techniques for Aging Live Deer*
- G9486 *Antler Development in White-tailed Deer: Implications for Management*
- G9487 *Nutritional Requirements of White-tailed Deer in Missouri*
- G9488 *Estimating Deer Populations on Your Property: Population Dynamics*
- G9489 *Potential Diseases and Parasites of White-tailed Deer in Missouri*
- G9490 *Managing for White-tailed Deer in Missouri: Establishing a Wildlife Management Cooperative*
- G9491 *Managing for White-tailed Deer in Missouri: Setting and Accomplishing Management Goals*
- G9493 *Enhancing White-tailed Deer Habitats on Your Property: Food Plots*

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