



Habitat Improvement for White-tailed Deer: A Landowner's Guide

Managing Forests for Game Species

Major forest-game species in Michigan include white-tailed deer and the ruffed grouse. These species are most commonly found in the mixed conifer-hardwood forests of our state. However, much of our northern forest has been reaching maturity since the early 1950's. The tree canopy of this maturing forest is shading out low-growing plants and shrubs used by deer and grouse.

Michigan, particularly the Upper Peninsula, is faced with a natural succession toward a mature northern hardwood forest in most counties. This cover type does not provide the best habitat for deer, grouse, and most of our other forest game species. Keep in mind that all vegetation types harbor a host of wildlife species. This document suggests ways of manipulating vegetation for a specific outcome ... the provision of quality game habitat.

Forest wildlife management is the art and science of managing a forest to produce annual crops of wildlife.



The habitat phases of wildlife management are almost entirely a matter of managing forest vegetation. This includes cutting the right amount of trees in the right places, and at the right time.

To do this effectively, a management plan must be implemented to encourage the availability of desirable plant species that provide for the needs of game species throughout the year. It is advisable to work with a professional forester and wildlife biologist when formulating your forest management plan.

Determine Objectives



The first step in management is to inventory the resource. In Michigan, the Steward Incentives Program provides technical assistance in the

development of a management plan and limited cost-share dollars for certain forestry practices.

Identification of vegetation types within an area is extremely important if you are to eventually improve wildlife habitat. Secondly, objectives towards improving habitat must be determined. The third step will be habitat development to improve the carrying capacity of the land for desired wildlife species. Remember, ideal habitat conditions are difficult to attain. Most timber management systems are highly compatible with game habitat management, especially with modifications that specifically consider habitat management.

Quality White-tailed Deer Habitat

The white-tailed deer is most abundant in habitat that is largely composed of young deciduous trees and shrubs. Numerous small openings containing grasses and forbs should be well interspersed throughout the area. Such conditions represent early stages of forest succession, and support a large number of wildlife species.

Deer tend to avoid large single-species tracts of vegetation and prefer a blend of various types of cover and openings. They are primarily browsers feeding on the leaves and succulent stems of trees and shrubs. This diet is supplemented with grasses and forbs. Aquatic plants, fungi, nuts, and a variety of other plants are also important in their diet. Food studies indicate that deer require about five pounds of browse per hundred pounds of body weight per day.

How to Improve Deer Habitat

A. Timber Cutting

Maintain an interspersion of forest types by species and age. Clearcutting should be in small tracts of five to forty acres. Winter logging is desirable because it provides



supplemental deer browse during the most critical period of the year, but may reduce the regeneration of some forest tree species. Numerous small blocks of different aged timber provides better food and cover for deer. Contact a professional forester and wildlife biologist to assist in the cutting plan.

Specific Management Techniques

1. When practical, locate aspen sales adjacent to winter cover.
2. Shear or doze non-commercial timber (i.e. high graded timber) to improve regeneration of aspen, birch, and associated brush types.
3. Locate firewood cutting in one location to open up forest canopy.
4. Optimize location of log landing sites for use as future wildlife openings. South facing slopes are desirable. Often when asked, loggers will enlarge landings with heavy equipment.
5. A checkerboard type cutting pattern (each 10-20 acres) provides maximum amount of edge which is important to white-tailed deer and ruffed grouse.
6. Leave snag trees for cavity nesting birds.
7. Many private landowners are reluctant in choosing to have a timber sale on their land because of the drastic initial changes of the landscape. However, a modified timber sale is the least expensive (actually generates revenue) and best way to improve white-tailed deer habitat in the forest.

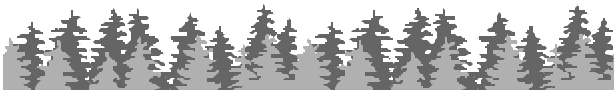
B. Wildlife Openings

Construct and maintain wildlife openings and trails. Log landing sites often make good openings. Openings should be between 1-5 acres on dry upland sites and free of trees

and shrubs. It is most critical to eliminate root suckering (i.e. aspen) and shrub growth early. Openings may also be constructed with the use of heavy equipment. Clover and oats should be planted initially on mineral soil. A mixture of grasses and forbs in an opening is the ultimate goal. Consider native plant seed, if available.

Specific Management Techniques

1. Maintain existing 1-5 acre openings every 5 years by cutting, burning, dozing or chemical treatment.
2. Clover grows best on disturbed mineral soil. To maintain an opening with clover the area should be disced every 5 years.
3. The location of an opening in relation to the surrounding cover types and travel corridors is important. Ideally, an opening should be located within a ¼ mile of winter cover and adjacent to various age classes of aspen.
4. A rectangular opening with north-south orientation allows for maximum light penetration.
5. Openings are most important to deer in the fall, with early spring a close second.



C. Winter Cover

In some areas, winter cover may be lacking. Lowland conifers, especially northern white cedar, is usually associated with good winter deer cover. However, dense upland conifers (balsam fir, spruce, and even red pine plantations) are also used. Cedar is also a preferred winter food. It is often difficult to assess good winter cover. Dense stands of conifers adjacent to winter browse

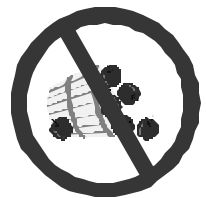
should be maintained. Although not usually recommended, conifer planting may be necessary in some cases to provide more cover. It is a good idea to contact a wildlife biologist for assistance in this area of deer management.

Specific Management Techniques

1. Reserve dense conifer stands in timber cutting plans.
2. Shear or cut browse near winter yards.
3. Red-osier dogwood and mountain maple are preferred winter shrubs.

D. Winter Feeding

Generally, winter deer-feeding is not recommended. There are more cost-effective ways to enhance the habitat which will do more to pull deer through a hard winter than feeding programs. Additionally, concentrated deer feeding stations may introduce disease and skew herd population structure. In extreme situations, winter deer feeding has occurred to save some deer from starvation, but this has not been an effective measure. In other cases, individuals may simply wish to observe deer throughout the winter months. Once started, however, winter feeding must continue well into spring since the deer become dependent on this source of food. Commercial deer pellets are recommended since they contain all the nutritional requirements of the white-tailed deer. Initiate winter deer feeding only after consultation with your local wildlife biologist.



Specific Management Techniques

1. Locate winter deer yards or winter deer concentration areas.

2. Observe the deer herd for signs of starvation. Consult with a wildlife biologist.
3. If starvation conditions are occurring, commence feeding only after all other means have been exhausted. Budget for feeding well into early spring. This can be expensive.
4. Do not put commercial deer pellets in one location. Disperse feeding sites so that they are adjacent to winter cover with reasonable access. An elevated dispensing container is recommended for feeding but not necessary.
5. A winter timber sale, shearing, or browse cutting is also of tremendous value for winter deer food.

White-tailed Deer Preferred Foods by Season

Winter	Spring	Summer	Fall
N. White Cedar Beaked Hazel Red-osier Dogwood Mountain Maple Tree Lichens Blueberry Jack Pine Red Maple Sumac Wintergreen Aspen	N. White Cedar Beaked Hazel Bush-honeysuckle Grasses/Sedges Red-osier Dogwood Strawberry Mountain Maple Paper Birch Blueberry Grasses/Sedges Goldenrod	Aspen Big-leafed Aster Bush-honeysuckle Marsh Marigold Willows Red-osier Dogwood Mountain Maple Strawberry Bracken Fern Grasses/Sedges Clover	Aspen Beaked Hazel Strawberry Big-leafed Aster Red Maple Mountain Maple Goldenrod Choke Cherry Pin Cherry Acorns
<u>Starvation Foods</u> Red Pine Balsam Fir Tag Alder Raspberry Tamarack Spruces	Remember that deer food preferences vary considerably by region and the learned behavior of local deer populations. Deer will eat almost anything when hungry but poor quality food will not provide the necessary nutrients for survival no matter how much the deer eat.		

