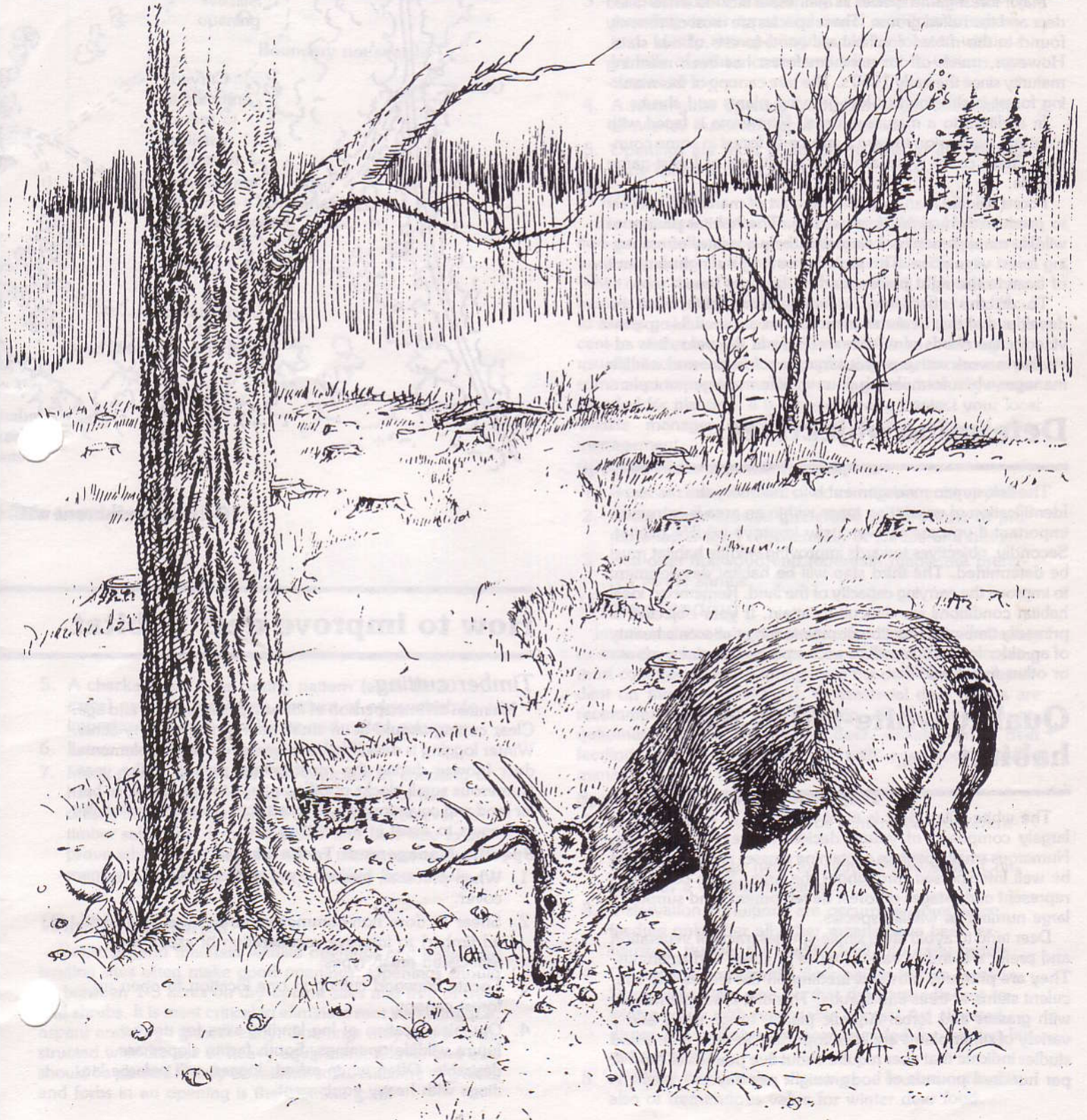


For the Landowner

Habitat Improvement for White-Tailed Deer



Habitat Improvement for Whitetailed Deer, A Landowner's Guide

Managing forests for wildlife

Major forest-game species in Minnesota 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.

In addition to a maturing forest, Minnesota is faced with a natural succession toward a spruce-fir forest in some counties. These cover types are poor producers of forest-game wildlife.

Forest wildlife management is the art 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 developed so that desirable plant species are available to provide for the needs of wildlife throughout the year. It is advisable to work with a professional state forester and wildlife manager when formulating your wildlife management plan.

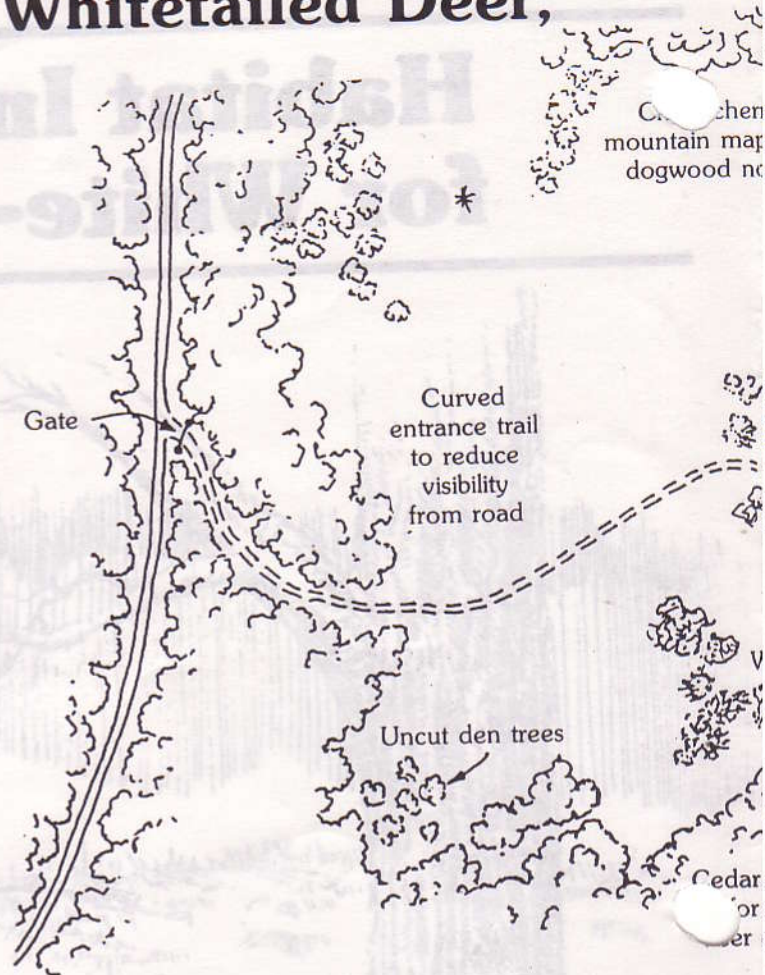
Determine objectives

The first step in management is to inventory the resource. Identification of vegetation types within an area is extremely important if you are to eventually improve wildlife habitat. Secondly, objectives towards improving wildlife habitat must be determined. The third step will be habitat development to improve the carrying capacity of the land. Remember, ideal habitat conditions are difficult to attain. If your objective is primarily timber production or maintaining the scenic beauty of an older forest, little will be accomplished for deer, grouse or other forest wildlife.

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 development, 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.



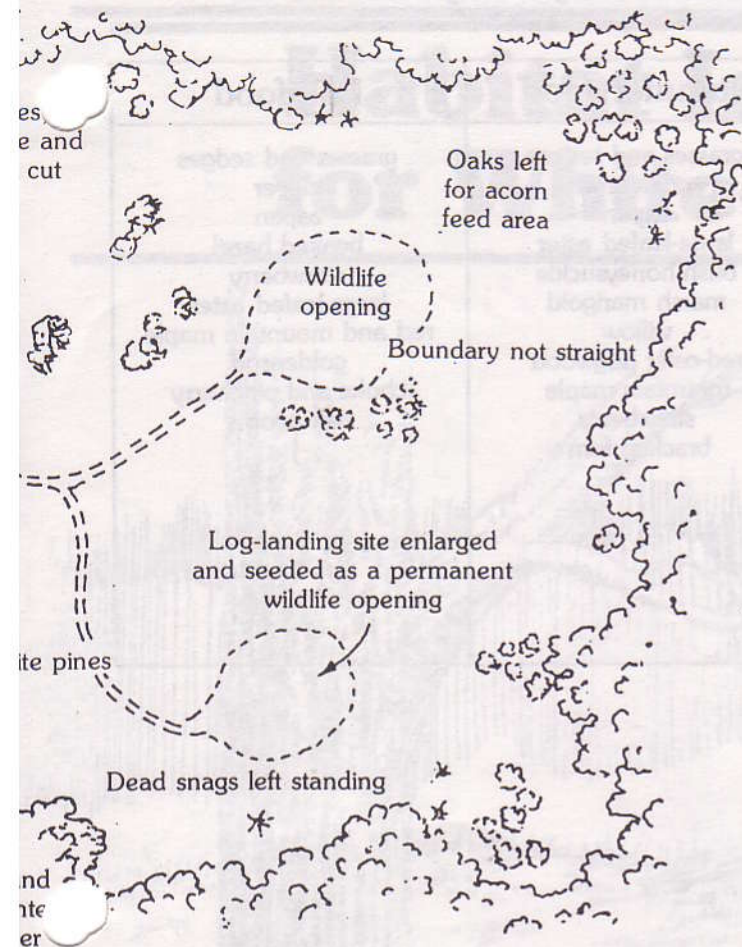
How to improve deer habitat

Timber cutting

Maintain an interspersed forest types by species and age. Clear cutting should be in small tract of five to forty acres. Winter logging is desirable because it provides supplemental deer browse during the most critical period of the year. Numerous small blocks of different age timber provides better food and cover for deer. Contact state foresters and wildlife managers 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 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.



Wildlife considerations

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 timber sale is the least expensive and best way to improve white-tailed deer habitat in the forest, not to mention the significant income derived from a sale.

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.

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 1/4 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.

Winter cover

In some areas, winter cover may be lacking. Upland conifers are usually associated with good winter deer cover, however, dense lowland white cedar is also heavily used. White cedar should be preserved whenever it is found because besides cover, it is 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. Jack pine is usually recommended for planting. It is a good idea to contact your local wildlife manager 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 (preferably in the winter to promote lower level regeneration of shrubs and trees).
3. Red-osier dogwood and mountain maple are preferred winter shrubs.

Winter feeding

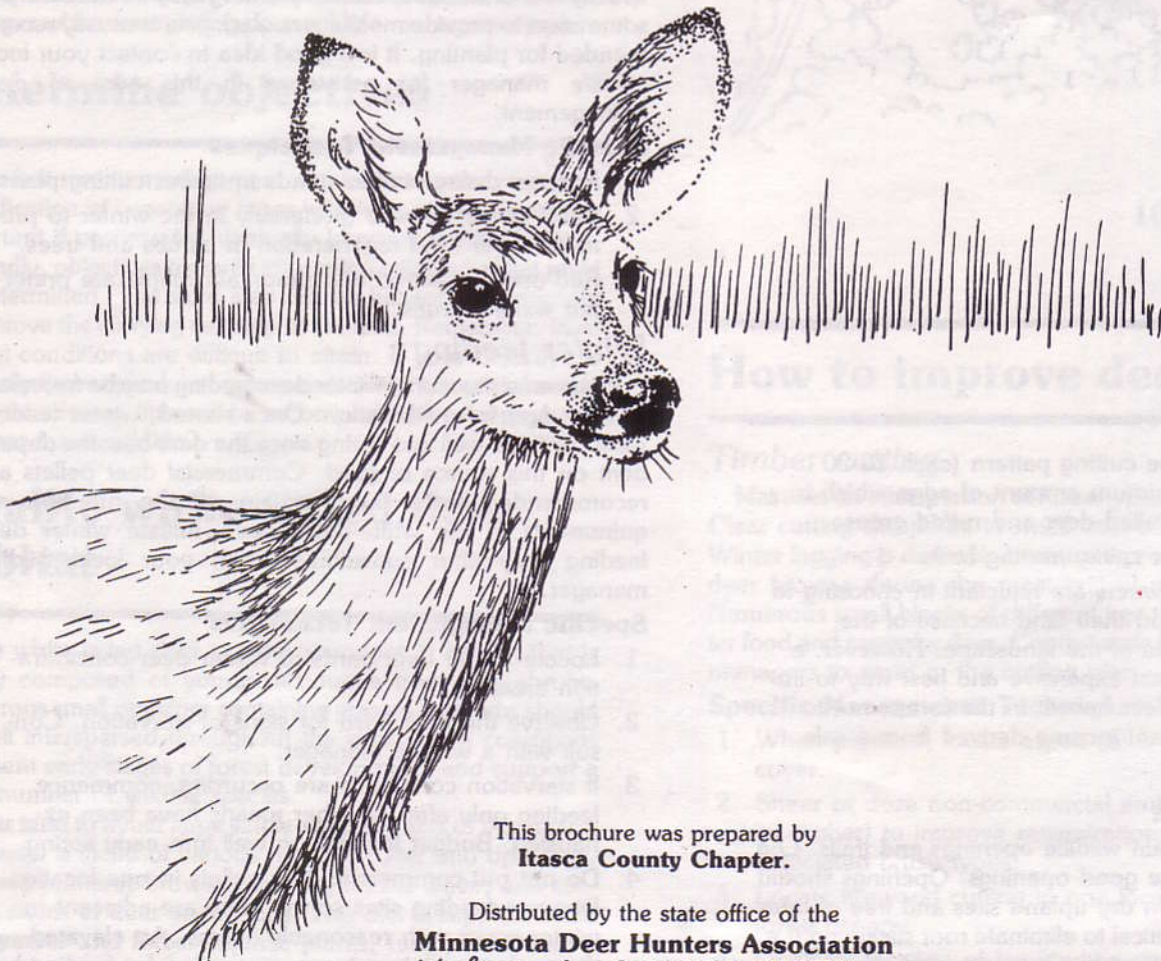
In extreme situations, winter deer feeding may be necessary to save deer from starvation. Once started, winter feeding must continue well into spring since the deer become dependent on this source of food. Commercial deer pellets are recommended since they contain all the nutrition requirements of the white-tailed deer. Initiate winter deer feeding only after consultation with your local wildlife manager.

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 manager.
3. If starvation conditions are occurring, commence feeding only after all other means have been exhausted. Budget for feeding well into early spring.
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 food habits - Preferred foods

Winter food	Spring food	Summer food	Fall food
white cedar beaked hazel red-osier dogwood mountain maple arboreal lichens blueberry jack pine red maple sumac wintergreen aspen Starvation foods red pine, balsam fir alder, raspberry tamarack, white spruce black spruce	white cedar beaked hazel bush-honeysuckle grasses and sedges red-osier dogwood strawberry mountain maple paper birch blueberry	grasses and sedges goldenrod aspen large-leafed aster bush-honeysuckle marsh marigold willow red-osier dogwood mountain maple strawberry bracken fern	grasses and sedges clover aspen beaked hazel strawberry large-leafed aster red and mountain maple goldenrod choke and pincherry oak acorns



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