GUIDELINES

Habitat Enhancement

Photo by © John Mielcarek

Tailored to the Private Landowner

GUIDELINES

The American landscape has undergone tremendous alteration since the turn of the century, and it is amazing to think that the white-tailed deer has increased in population from about 500,000 animals to well over 30 million today. Because of their unrestricted habitat requirements, whitetails have easily adapted to an ever-changing environment.

However, each year in the United States forest areas are lost to urbanization and industrial development, while in other areas some cropland is returned to a wild state. As the landscape changes there is a need to develop programs that assist property owners in enhancing existing wildlife habitat.

As a landowner, you personally have an opportunity to improve the quality and suitability of land as wildlife habitat. Private landowners possess more than 300 million acres of forest, a substantial percentage of our nation's woodland.

Therefore, to help private landowners assess and manage wildlife habitat, proper management has to start with specific habitat requirements, and Whitetails Unlimited is suggesting a plan for you —

the private landowner.

Photo by John R. Ford

The Principles

Modern wildlife management tends to be guided primarily by our knowledge of select groups or species of animals and the habitats they call home. It also applies knowledge acquired through biological research, not only to sustain populations, but to increase the species that we desire while reducing populations of animals we deem as undesirable.

Looking collectively at wildlife and how they survive in the fields, woods and waters they call home, one would have to wonder why select groups occupy a specific tract of land. What is the appeal, and why don't other species, both plant and animal, exist there?

Biologists recognize that vegetation and other aspects of our natural environment can increase *carrying capacity.* The carrying capacity of an area is the maximum number of any given species that a particular habitat can support. Once this limit is exceeded it is inevitable that severe range destruction will occur, and the ingredients for supporting life will diminish.

The world is made up of considerably more than a million species of plants and animals. This biodiversity has allowed for adaptation throughout the centuries, where both plants and animals have carved out niches and continue today to survive in natural communities, compatible with one another. The relationship between plants and animals is, in a natural environment, one so closely knit that sometimes the elimination of one species can have a drastic effect on another.

In our own little corners of the world, on lands we want to see populated with healthy deer herds, small and upland game, waterfowl and songbirds, it often takes intervention on our part to enhance the habitat structure of the property in order for wildlife to not only survive, but flourish.

When looking to optimize a tract of land you must first determine where a species can exist, and, conversely, where it cannot exist. Each species needs a suitable environment in terms of food, shelter, climate and neighbors, and individual species have different requirements. However, when all essential elements are available, wildlife numbers, especially for deer, can increase to the point of overpopulation. When populations get out-of-hand, decimating factors such as hunting, disease, and starvation often bring populations back in check with the carrying capacity of the land.

The single element of the habitat that is most vital to the animal is called the *critical limiting factor.* It could be the availability of water, shelter plants for cover from strong winds and cold, or the availability of food types to adequately sustain the animal throughout the seasons. Different areas could have different critical limiting factors, even if they are geographically close.

Getting Started

An important goal a landowner should try to achieve when enhancing a tract of land, whether it is your backyard or 1,000 acres of woodland, is a balance in the natural environment in order to avoid under or overpopulation.

Regardless of the primary species you want to manage for, it is of utmost importance that you plan your management strategy. Many short-range objectives can be achieved almost immediately, but a sustained approach will have the most desirable long-term results.

To effectively design a plan for habitat enhancement, the private landowner should first take an inventory of all the different types of plants and animals already in the area. Remember that your efforts are not only helping deer, but also a variety of other wildlife species, both game and non-game.

Mapping

Before you seed a new food plot, trim a tree, or develop a brush pile, make a working map of the property to be enhanced. Start by drawing in the boundaries of the property and determine a scale that will work. Whether it is 1 inch equals 10 feet or 100 feet, make sure everything will fit on the paper, and that there is enough detail to make it easy to work with. If you have a large property, use several pieces of paper, all to the same scale.

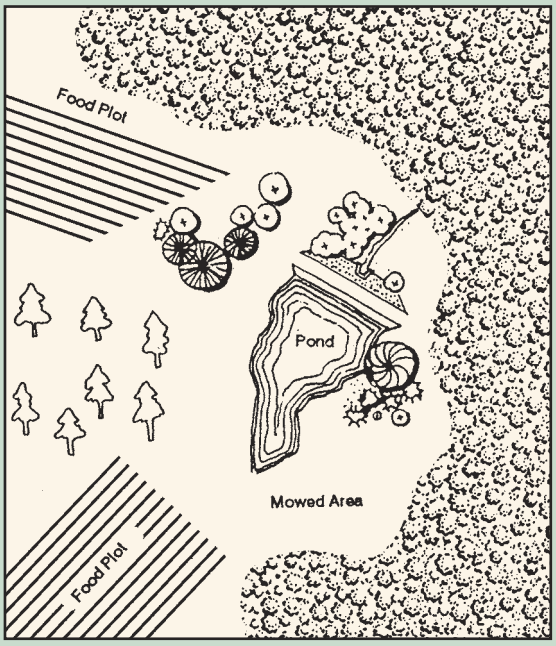
After drawing in the boundaries, fill in the existing details. Permanent features, those that will not change as you enhance the land, should be drawn first. Some examples include roads, fences, buildings, wetlands and large stands of trees.

Carefully note all details that pertain to water on the property, including marshy areas, both seasonal and permanent, creeks, ponds and watersheds. These

are vital in enhancing habitats for wildlife. Also note stands of existing plants (both food producing and shelter), steep slopes, areas that are susceptible to erosion, other permanent trees and shrubs, and any areas where livestock graze.

You should actually walk the property, and pace the distances off or use a rangefinder or measuring line to establish distances. While you are not actually surveying the property, being accurate will save you time and money later. If you plant food plots, you will purchase the seed based on how many square feet of land you need to seed. You don't want to order too much, and you also don't want to run out of seed when you have 20% of the plot left.

If your land is hilly, obtain a topographic map to reference for elevations. Customized topographical maps and aerial photos are available from MyTopo.com by going to the Whitetails Unlimited website and clicking on the Topographic Maps link.



Food Habitats

The objective of habitat management is to provide adequate supplies of a variety of foods during all seasons. The white-tailed deer, for example, is considered a selective browser. From spring through fall, deer normally have an ample variety of vegetation, herbaceous plants and green grasses that constitute the major portion of their daily diet.

Soils

Without fertile soil plants don't grow. Soil is much more than just dirt; it is a complex collection of mineral matter and organic material (the remains of plants and animals). In most undisturbed areas, soil is made up of layers, or horizons. The upper layer is topsoil, containing most of the organic matter, the middle layer is subsoil, often containing rock and mineral fragments, and the bottom layer is bedrock.

Ideal soil has a loose, loamy upper layer 18 inches or more deep. Plants are necessary to stabilize this soil, to hold moisture, and to prevent erosion or runoff.

Whenever you plant food plots, it is always advisable to have your soil tested to determine if necessary nutrients are available and the soil has the proper pH. Potential hydrogen (pH) measures how acidic the soil is, so it can be adjusted if necessary. University extension agents and soil conservation districts may offer soil testing, as do many private companies. Nature's Own seed company, a WTU Partner, offers complete testing kits, including instructions, containers and mailing labels, and will recommend the proper fertilizer mix for your intended use.

SMALL TRACT MANAGEMENT TECHNIQUES

Some individuals feel that nature should take its own course, and therefore they see no value in habitat enhancement. They don't realize that a mature forest offers very little as a wildlife resource. Recognizing potential problems and developing plans to deal with them is the key to managing habitat without destroying the natural beauty and ecological balance.

Normally, when we speak of ideal habitat, we are speaking of edges. Edges are where different ages or types of vegetation meet because of terrain, differing soil or water conditions, or where humans have influenced the terrain or habitat. Edges, such as when a farm field meets a woodlot, create an area that is more open to light, which enables fast-growing, opportunistic plants to grow. For many wildlife species (including deer) edges are an ideal place for food, since they are also close to cover. Mature forests need to be harvested and edges developed if you plan to maintain a healthy deer population. There are several ways to create new edge areas.

Burning

An inexpensive but very dangerous technique, burning is sometimes used to set back succession on a variety of plants and habitats to better manage wildlife populations. Deer benefit tremendously from the effects of fire when old timber stands that offer little value to deer are burned, allowing a new, succulent understory a chance to grow. Thinning by planned burning also allows seed germination by a variety of annuals. This also gives ground-dwelling animals, like grouse and rabbits, a chance to move about, feed and nest.

If you think burning is an option, plan carefully and seek out professional advice. You will need to contact local and state agencies to secure the proper permits, and there may be local or state rules or regulations that need to be followed. Local weather conditions may make a scheduled burn unsafe, and there may be problems in scheduling the proper time for a burn. If a fire gets out of control you may be held liable, either civilly or criminally. Proceed with caution!

Discing

Much safer and more common than burning, discing with a tractor is another method to control plant succession. Discing is best used to break up stands of sod where the grasses have reached the point where they are choking out other vegetation. After discing, food plots of more desirable vegetation can be successfully planted.

Mowing

Extensive stands of tall grass benefit many animals, including deer. However, mowing strips in these heavy stands will benefit a wide variety of animals by allowing easier movement, and by manipulating the vegetation to increase habitat diversity, thereby enhancing the value of food and cover.

Tree Thinning

Often in an uneven growth forest there are trees of various sizes, shapes and economic values. By thinning trees in such a forest, a landowner can achieve several results. Some trees may have economic value, and selling them for lumber can offset some of the costs of habitat enhancement. In mature forests, there is often little underbrush due to having the light blocked by mature trees. By selectively cutting certain trees, other types of vegetation are able to grow, producing browse for deer.

Plantings

To maximize the potential of a tract of land, interspersion, diversity, and edge are the most essential factors to consider when improving habitats. It is vital to keep good food, cover and water in close proximity, creating as small an area as possible for animals to fulfill food and water requirements. It is also important to provide several varieties of plants, as this will help draw a more diverse mixture of wildlife.

Plants for most wildlife generally fall into three categories: annuals, perennial grasses and forbs (broadleaf plants, clover, etc.), and woody perennials (trees and shrubs). All three groups can furnish both food and cover, but annuals are planted mostly for food sources. Common foods are listed toward the end of this article.

Regardless of location, feeding habits of the white-tailed deer change seasonally. However, in most northern areas of the United States, winter causes white-tailed deer to gather in small bands and keep rather loose quarters. Northern deer usually have a very limited amount of browse available during winter months. It is only in severe winters that deer congregate in large populations and confined areas. Most deer yards are found in a mixture of evergreens and hardwoods. Evergreens serve as a prime source of wind protection. White cedars also offer ideal wind protection and are choice winter food for many of our northern whitetails.

Existing Structure

In some cases, increasing wildlife on your land might involve leaving old brush piles in place, leaving a deadfall from an old oak tree alone or, if you farm your land, allowing the last few feet of crops along a fencerow to go unharvested so it can provide food, shelter, and birthing areas for

deer and other wildlife. Shelter improvements can be made by adding evergreens.

LARGE TRACT MANAGEMENT TECHNIQUES

Selective Management

This is the practice of maintaining a forest where trees in all age groups are combined together. Trees should be selectively harvested in small, narrow patches to provide

escape cover. This select cutting allows regeneration and new growth, which will provide browse for deer. The quality of the browse provided by such cutting depends upon the inventory of trees and quantities removed from that particular site. An important factor is to ensure that most of the mast producing trees remain. If select cutting is to be practiced, here are some recommendations:

- Cutting should be performed in fall or winter to allow wildlife an opportunity to utilize the fresh cut tree tips.
- A number of mast producing trees should be left standing.
- Harvest timber to develop a variety of age classes.
- Remove enough trees to open the forest floor to sunlight in order to increase plant diversity.
- Plant food plots that include berries, grains, clover, and low-growing grasses.
- Leave the banks along waterways in their natural state. This will help eliminate soil erosion and protect water resources.
- Increase lumber quality by learning and practicing periodic pruning techniques.
- Conifer patches and rhododendron thickets should be preserved.

Ideal habitat for deer would consist of the following: 70% forest area, 10% conifer patches for cover, 15% openings to provide edge and early vegetation growth, and 5% mixture of grain groups, low-growing grasses and legumes.

Even-aged Management

This is the process used to create an even-age for a stand of trees. Sections of trees are cut on a 10- to 15-year basis. The older trees provide for protection while the cut areas allow new growth for browse. In the past, many areas have been managed for one-of-a-kind growth, primarily because of timber sales. To maintain a balance, selected seedlings should be replanted. If stands of trees are cut by following a management plan, trees can benefit both people and wildlife.

If clear cutting is to be practiced, here are some recommendations:

- Plan cuttings so that natural, living screens are preserved.
- Make long, narrow cuts so there is a high edge-to-area ratio.
- Allow a large number of mast producing trees to remain.
- Seed any logging roads created to provide for additional varieties of food.
- Avoid cutting cedar thickets and pine stands so these areas can provide winter protection and escape cover.
- Plant additional types of wildlife food such as fruits, nuts, berries and shrubs.

Other Resources

This is just a brief overview and starting point for habitat enhancement. Each piece of land is unique, and even when adjoining sections of land are similar, each landowner's goals and objectives may differ. There are many sources of information, both public and private, to help you customize a long-term plan for your property.

If you want to simply establish a small food plot in an area of your property you can easily buy a couple of boxes of seed and follow the label directions. If you have large tracts of land and want to develop it comprehensively for a period of years, you will need to educate yourself more thoroughly and seek advice from others experienced in land management.

The Soil Conservation Service is an excellent resource. You can also contact your local university extension agent, soil and water conservation district, agriculture or forestry department or DNR to find out what resources are available to you. There are also private companies that can assist you.

Laws and Regulations

Even though you own the land, most areas have laws, rules, and regulations that can impact what, when or how you can modify the land. If you are going to do logging or anything to do with wetlands, state or federal land-use regulations may apply. There could also be zoning issues for large-scale plans, and you must also ensure that any changes you make to your land will not have an adverse impact on your neighbor's property (changing water runoff patterns, for instance). Simple food plots can normally be done easily, with few problems and no outside help, but experts need to be consulted for large-scale projects.

In some cases state or federal programs can provide benefits through cost-sharing, grants, free trees for planting, or tax abatement if you enroll your land under specific criteria. Check with your local government representatives to see if any programs would be of benefit to you.

Summary

If you own land as small as a backyard or as large as thousands of acres, you can improve the quality of the habitat to attract deer and other animals.

Each year thousands of acres of habitat are lost to urbanization and industry. As a result, it is up to the landowners of this country to enhance and maintain their property in order to attract and maintain wildlife populations of all species.

With a little planning and some careful execution, your land management techniques could yield more wildlife than you ever thought possible.

Photo by John R. Ford

White-tailed deer are incredibly adaptive and will eat a wide variety of available plants. Listed below are foods common to white-tailed deer in ***fall and winter***, depending on geographic location:

acorns
arrowleaf sida
ash
bittersweet
blackgum
blueberry
clover
coralberry
crab apple
creeping blueberry
dogwood
elderberry
fir
goldenrod
grasses
greenbrier
hemlock
holly
honeysuckle
lespedeza
live oak
maple
mushrooms
mat euphorbia
oak
oxalis
palmetto berry
persimmon
plains lovegrass
poplar
pussytoes
red maple
red raspberry
sassafras
snakeweed
snowberry
striped maple
sumac
sweet fern
swamp ironwood
teaberry
viburnum
wheatgrass
white cedar
white pine
wild cherry
wild grape
wild rose
willow
wintergreen
witch hazel
yellow birch

Photo by George Barnett

White-tailed deer are incredibly adaptive and will eat a wide variety of available plants. Listed below are foods common to white-tailed deer in ***spring and summer***, depending on geographic location:

alfalfa
aster
bearberry
bigleaf gallberry
bitterbush
blackberry
black-eyed Susan
blueberry
bluegrass
cabbage palm
chestnut oak
cinquefoil
clover
corn
crab apple
curly mesquite
dandelion
dogwood
elderberry
ferns
greenbrier
jewelweed
magnolia
May hawthorn
mushrooms
New Jersey tea
plantain
poison ivy
pokeweed
red maple
sassafras
serviceberry
soybean
speedwell
striped maple
sumac
sunflower
swamp ironwood
tall dropseed
teaberry
trailing arbutus
trefoils
wheatgrass
wildrose
wild grape
wild hydrangea
wild strawberry
willow

For Additional Help

You can get additional information on plants, soils, and conservation methods at your local soil and water conservation district office. The Soil Conservation Service, as part of its assistance to conservation districts, helps people apply many conservation practices that increase wildlife. County agencies, state agencies (like the DNR, or departments of agriculture, forestry or conservation), university or cooperative extension agents, and private consultants can also help.

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We'd all like to look down from our tree stand and see a buck like this. But, Mother Nature needs a hand. We need to be more than just hunters. We need to be stewards of the land, for our generation and the next. Nature's Own in partnership with Whitetails Unlimited can help. The best way to increase the numbers and overall quality of wildlife populations is to improve the habitat by providing greater cover and year round food supplements. You can learn more about this growing culture by becoming an active member in the Whitetails Unlimited and Nature's Own strategic alliance "Partners in Conservation." This combined effort will allow you the opportunity to tap into two of the best sources in the industry with products, knowledge, services and merchandise at discounted prices just for WTU members. For more information about the Official Seed Company of Whitetails Unlimited and our habitat products "The Enhancer" and "Grazin' Trophy Buck Mixture" visit **www.whitetailsunlimited.com.** It all starts with you!