

17. Enhancing Wildlife Habitat: A Primer

By Gary Goff

Most NY forest owners value the wildlife on their land more highly than its timber potential. Fortunately, management for either objective can be quite compatible for the other. That is, few sacrifices need be made to enhance both objectives simultaneously.

Wildlife management is a broad topic that fills volumes of texts. The purpose of this section is to introduce a few important concepts that can be the basis for further study. Fortunately scores of excellent publications have been written for forest owners interested in enhancing their lands for wildlife.

The basis of all wildlife management is on creating or preserving HABITAT. Habitat equates to home and consists of the necessities of life that are food, water, and cover. Technically there is no such thing as "good wildlife habitat". Habitat has little meaning as a general term, but is best associated with a single species or perhaps with a community of species that live in the same geographic region. Examples of wildlife communities would be the set of species that live in a wetland or a mature northern hardwood forest.

As a woodland owner, your goal may be to supply quality habitat for a favored wildlife species. How good or suitable the habitat is will be determined by the quantity, quality, spacing, and availability over time of the food, water, and cover your land can supply. Let's use the gray squirrel as an example of the species for which you might

wish to supply "good habitat". Squirrels need adequate food supplies 12 months of the

year. Spring foods can consist of tree flower and leaf buds, summer foods might be mushrooms, seeds and berries, and favorite fall and winter foods are apples and nuts. Stable squirrel populations are dependent on a variety of different foods in each season as the quantity of any one food item will vary year by year. Water is

If you want to attract gray squirrels to your forest, you need to provide habitat that offers a year round food supply.



seldom a problem for squirrels, but the provision of a pond, a stream pool, or the deepening of a seep can help ensure a year round supply. Squirrels need nesting cover and winter denning cover. Both of these are best supplied by hollow den trees. The last factor to consider is the spacing or juxtaposition of food, water and cover throughout your woods. The more interspersed these habitat components are, the larger the population of squirrels the woodlot can support as each squirrel have all his habitat needs within a relatively small home range.

All habitats have a carrying capacity

A common goal of forest owners is to optimize the number of “favored” wildlife species on their land. That generally means they want to increase the population size. To do so then the habitat needs to be improved to support more individuals. Just as a pasture will support only a certain number of livestock, a woodlot will only support a limited number of any one wildlife species. This number is called the carrying capacity, or the number animals of a species that an area of land can support over a period of time. The focus of management should be on the habitat limiting factor, i.e., the one habitat component that is limiting the growth of the population or not allowing the carrying capacity to increase. Using squirrels once again as an example, winter dens are often

Turkeys range over 10 square miles to find sufficient food and shelter.



the limiting factor in relatively young woodlots because there are few old, mature trees with suitable cavities. In such woodlots, squirrels build leaf nest that are inferior to cavity dens. In this circumstance, the owner might decide to build artificial dens out of wood or old auto tires.

It is often impossible to supply all the habitat requirements of a species on one ownership parcel. Deer have a home a home range of at least 600 acres, a flock of wild turkeys may range over 10 sq. miles in search of food and cover, and mated pairs of barred owls defend a home territory of 675 acres. Therefore, it is best to focus on providing the habitat component that is in shortest supply in the “neighborhood”. To identify the missing component, conduct a driving or walking tour adjacent ownership parcels and/or obtain an aerial photo of the area and look for missing components, such as conifer cover, open grasslands, wetlands, mature forests, etc.

Forests are an ever changing ecosystem

In the previous example the woodlot would develop large, old trees in time. This points out another important factor to consider, when choosing appropriate habitat management practices. All woodlots are part of an ever changing ecosystem, i.e., an interacting system of plants, animals, soil, microorganisms, and climate. Nature generally follows a fairly orderly and predictable process whereby one plant community is gradually replaced by another over time. This process is called natural succession. In time, as young forests become older, more and more trees will become larger and start to decay, thereby supplying cavity dens for squirrels and a multitude of wildlife species dependent on tree dens. Here, time works well for the person interested in squirrels. However, the owner interested in early succession-stage wildlife, such as ruffed grouse and cottontail rabbits would not be pleased with the transformation of a brushlot (good grouse habitat) to a mature forest over time. His objective might be to hold succession at its current stage or even to set it back to a combination of brush and grasslands. It’s true that everything a forest owner does (or doesn’t do) affects the wildlife.

Nature's way of setting back succession is commonly through what humankind calls natural disasters, i.e, floods, wind and ice storms, fire, and insect or disease epidemics. Beavers are perhaps a bit more acceptable to our way of thinking, but the results are the same. Each of these forces can rapidly transform a mature forest to a brushlot in a matter of hours or perhaps months. Such vegetative changes are followed by a corresponding change in the wildlife community inhabiting the area. Landowners use chainsaws, brushhogs, controlled burns or perhaps herbicides to set back succession to a plant community of a size, age and species composition that provides improved habitat for desired wildlife species.

Obtaining adequate regeneration is critical to successful habitat manipulation.

Regeneration is the process by which forests are replaced or renewed by natural or artificial means. Cutting or planting vegetation is undertaken to change the age, size, vigor, species, or form of the vegetation that makes up the current brushlot or timber stand. The goal is to provide better cover or food for desirable species. While the goal is usually laudable, success is often difficult to achieve. A multitude of variables intervene and often lay waste to the best plans. Deer, rabbits and voles typically gobble up plantings. Droughts raise havoc with new tree plantings. Tree and shrub species must be well matched to site characteristics. Successful natural regeneration through seeds or sprouts is greatly influenced by deer populations, site characteristics, availability of seed sources, competition with other vegetation, timing or season of the cutting or harvest, and existence (or absence) of advanced regeneration. Luck will not win the day as there are just too many variables that must be controlled and correctly factored into

a management plan. Do everything you can to ensure successful tree or shrub regeneration, as failure is just too expensive in terms of squandered time, money, resources, and opportunity.

What's a forest owner to do?

As described earlier, help is available through scores of affordable publications and videos written for private forest owners. A few suggestions appear at the end of this booklet. Beginners should work out a simple, inexpensive, not time consuming plan of work that is virtually fool proof. It's important to develop the process of determining the habitat limiting factor and devising a management activity to supply the

Deer often interfere with plans for regeneration by eating seedlings.



missing component. Always work with nature in a manner that complements natural succession rather than attempting to overpower it. Once experience breeds confidence, the complexity, and expense of time and effort can increase to address more demanding goals. An example of a relatively high success habitat improvement project is the building of bluebird houses. Most "bluebird" projects describe the habitat needs of bluebirds and provide some excellent construction designs for safe, species specific houses. Projects involving the creation of water or wetland habitats are usually moderately complex and "expensive", but often bring immediate and rewarding results as a new wildlife community moves into the newly established ecosystem.

Finally, perhaps the most ambitious and challenging endeavor of a forest owner interested in wildlife habitat improvements is coordinating sawtimber management and eventual harvests with wildlife management goals. The size of the operation and the magnitude of change often from a mature woodland to seedling-sized trees will bring about a significant change in the appearance of the woodlot and its suitability for various wildlife species. Still, the change can bring about some great opportunities to diversify the woodland vegetation and thereby provide a greater variety of habitat suitable to a greater variety of wildlife species. Also, many wildlife species depend on a variety of successional stages of forest at various stages of their life and through the seasons. As an example, wild turkeys benefit greatly from having a combination of open fields, brush and mature woodlots composed of mixed hardwood species in their home range.

Summary

1. Get to know the life cycle and habitat requirements of wildlife species of interest.
2. Understand your forest holding and adjacent ownerships to judge the area's habitat suitability for species of interest. A site visit by a Master Forest Owner/COVERTS volunteer can be a big help at this stage of planning.
3. Identify habitat-limiting factors that seem to be restricting population growth of desired wildlife species.
4. Start with relatively sure-fire, low-in-put management practices to gain confidence.
5. As practices become more complex and demanding, learn to work with nature toward achieving your goals.

6. Plan to work diligently toward achieving successful regeneration, as changes in vegetation composition will influence your forest for decades.

7. Set goals that are compatible and complementary, such as timber harvests that create new habitat for desirable wildlife species and provide other attributes such as access roads, scenic view, wildlife-observation locations, and funds for management equipment.

For more information, see the "Additional Information" portion of this booklet.



In order to attract desired species, you need to know about their life cycle and habitat requirements.