



Early Successional Habitat Management - Old Field Management

Vermont Conservation Practice Job Sheet **VT-647**

Client Name:	Town:
Land Units:	Acres of Contiguous Old Field to be Managed:
Planned By:	Date:

Target Species/Groups: Old Field/Shrub Species
% Shrub Crown Cover to be managed for _____ %

Mosaic Management _____ **Sectional Management** _____ **Whole Field Management*** _____

Site Specific Comments and Recommendations for Successful Implementation

*Whole field management should be paired with cut back borders or even aged forest management; specify above.

For Land Units and Management Dates Refer to your 'Conservation Plan'
Note to Planner: Attach a map with the specific location of this practice if the conservation plan map does not clearly indicate where this practice will be applied.

Background and Purpose

Early successional habitats are typically transitional and require different levels of disturbance to be maintained. Examples of early successional habitats include weedy areas, grassland, old fields, shrub thickets, and young forest. If these habitats are not mowed, brush hogged, burned, cut, grazed or disturbed in some other fashion, they will eventually become forest over time. Grasslands will revert to old fields. Old fields will eventually grow into young forest. Young forest will grow into mature forest. This process is referred to as *succession*. As such, grasslands, old fields, and young forests are often referred to as *early-successional habitats*. Some sites such as wetlands, sandy sites and ledge areas can support a relatively stable shrub cover; however, most shrub communities in the northeast are successional.

Early successional habitats are of concern because many species that depend on these habitats are experiencing population declines across the Northeast. This is probably due to a variety of factors but changes in land use and the vegetation succeeding toward mature forest has resulted in less available quality habitat for these species.

Old Fields

“*Old Fields*” is a broad term that applies to many open, transitional habitats (transitioning from field to forest) but in general these are areas that are dominated by forbs, grass and shrubs and small

trees. The vegetative make up of these habitats is variable based on the length of time since abandonment, management history, and other factors that can affect the long-term stability and composition of plants that occupy the site. Their use by wildlife will depend on their size, configuration, vegetation height, percent woody vegetation cover, density, and composition.

Old field habitats in Vermont are important for *shrubland* birds. Shrubland birds use a variety of habitats, including old fields, shrublands and young forest. Old fields are also used by a variety of other wildlife such as butterflies and bees, cottontail rabbit, deer, snipe, turkey, bobcat, green and rat snakes, frogs and many others. Shrubland birds are the focus of many management plans because 22 of the 40 birds associated with shrubland habitats are undergoing significant population declines in eastern North America. Additionally, 139 species of reptiles, amphibians, birds, and mammals either prefer (17 species) or utilize (122 species) shrub and old-field habitats. Shrubland bird species in Vermont include common or locally common species such as common yellowthroat, white-throated sparrow, field sparrow, Eastern towhee, American woodcock, brown thrasher, and more rare species such as prairie warbler, golden-winged warbler, and vesper sparrow.

While small areas of old field (<5 acres) can be important to a variety of wildlife, priority is given to managing large blocks or managing within large blocks of similar habitat. Some shrubland birds are “*area sensitive*” which means they prefer and select large areas of contiguous habitat for breeding. Birds such as the brown thrasher will use smaller fields (<5 acres) but the more uncommon species such as vesper sparrows or golden-winged warblers require areas of 25 acres or more. In general, large blocks of any habitat (grassland, shrubland, mature forest, wetland, etc.) are more valuable to wildlife because they tend to support both the common species and the uncommon species that may depend on larger habitat patches. This approach will provide quality habitat that will lead to enhanced reproduction and survival.

Area Selection

When evaluating your property to determine where to focus your efforts, decide where you can provide the best wildlife habitat for the effort. You may already have good old field habitat with shrubby areas that may only need to be maintained through the removal of larger trees and periodic mowing. These may be areas that are shallow to bedrock or wet which has made it difficult to mow or brush hog the entire field. This is a good thing for old field and shrubland species as most require shrubby areas.

Focus attention on areas that are still primarily open and that are 5 or more acres. Smaller fields (<5 acres) may become less suitable depending on the surrounding landscape. Large blocky fields are favored because they have a large area for the amount of *edge*. Long narrow fields have a low amount of area to the amount of *edge*. *Edge* is considered the contact zone where two different habitats come together. Edges often concentrate predators (raccoons, skunks, foxes, etc.) as they travel these areas searching for food. Soft edges are generally considered better for wildlife than are hard edges. An example of a soft or “feathered” edge would be an old field habitat that transitions into a young forest that may have similar species and similar vegetative heights. An example of hard edge would be grassland that butts up against a mature forest. Habitat for shrubland birds and other old field species can be maximized by working on blocks of habitat versus strips.

The actual field size for shrubland birds becomes less important when the field is within a suitable landscape so it is important to consider the landscape when determining your management plan. Managing old fields near other old fields, pasture or hayfields with hedgerows, scrub-shrub

wetlands, young forest, power line rights-of-way, or similar habitats is a great way to maintain or improve conditions for shrubland birds. They are drawn to suitable landscapes; especially areas with large acreages of open land (e.g. Champlain Valley). If your land is in a mature forest-dominated landscape, consider incorporating some forest management in your plan as well to increase the value of your old field habitat.

Management Techniques and Guidelines

Since most old field species require a short, woody component, establishing or maintaining this habitat element is important. A minimum range of 10-30% shrub (and young trees) crown cover is a good amount to strive for in your old field. This will make the habitat suitable for species such as brown thrasher, field sparrow and many others. This may be done by allowing some areas to become shrubby by brush hogging less acreage or by maintaining the field as is and incorporating some adjacent even-aged forest management. It is also important to maintain herbaceous habitat including bare ground, grasses and forbs. These are productive habitats (insects, nectar, and fruits) that are critical to many species (e.g. courtship areas for woodcock).



Fig. 1 (left) This old field has a mosaic of habitats with grasses, forbs, shrubs and young trees that provide for a variety of wildlife.



Fig. 2 (below left) Fields can also have a more managed look and still provide good habitat. Field sparrows require grasses and short shrubs to be present. Old or lightly used pastures with shrubs (e.g. juniper) are good habitat.

Fig. 3 (below) Woodcock will use open areas of old fields for courtship display, roosting and shrubby areas for feeding.



Generally, managing an old field habitat is about increasing plant species diversity and structure (different heights of vegetation) within the field so that you have a mosaic of different habitats (see

Figs 1 & 2). Brush hogging should not take place on the entire field at once. The field may be mowed in a random mosaic pattern around existing shrubs and obstacles or the field may be broken up into sections that will be mowed on a rotation. Both systems of mowing will leave some areas undisturbed each year so that they continue to provide cover and food through the next year(s). This is particularly important for late nesting species (e.g. goldfinch), migrating birds and pollinators that may be active late in the summer.

If the site is currently a mix of tall growing tree species, shrubs and herbaceous areas, the old field habitat can be improved through selective tree removal (i.e., selectively targeting tall growing tree species for removal, while leaving behind desirable shrub species). This method helps establish the preferred habitat and also makes the habitat more stable over time by selecting for shrubs. The trees can be cut, girdled or treated with herbicide. Cut trees can be used to construct brush piles. Girdled trees will become snags which are dead or partially dead trees. These can provide perches for hawks, roosting sites for bats (under exfoliating bark) and cavity sites for birds such as kestrels.

If incorporating cut-back borders in the forest around fields as part of the management plan avoid narrow linear strips and consolidate cutting into blocks. Strips 150 feet wide or more are recommended to support shrubland birds.

Mowing or brush hogging must occur outside the primary nesting season which is April 15-August 1. Tree cutting should also take place outside the primary nesting season. Minimum mower deck height will be 4-6 inches. If warm season grasses are present then mower height will be 6 inches or greater. Where wood turtles, rat snakes or other reptiles of concern are known to occur, mow after October 1st with a mower height of 6 inches or greater. Mowing or brush hogging in old fields is generally scheduled every 2-5 years depending on site conditions and prescriptions for different parts of the field. Since each site is variable, monitor you site to determine if the current schedule is meeting the plan objectives. Mowing, brush hogging or other disturbance practices within the old field can be used to select for the best habitat. Mow around wet areas and rocks to allow shrubs to establish. Learn to determine what the valuable shrubs and trees are for wildlife and select out the less desirables. Examples of valuable shrubs for wildlife include serviceberry, elderberry, alder, viburnums, willows, dogwoods, hazelnut, etc.

Maintenance

The shrubland wildlife habitat benefits of old fields decline over time as trees grow tall and shade out grasses, forbs and shrubs. Continue to monitor the site and remove trees that are making the habitat less suitable. Also, monitor for invasive plant species that can thrive in old fields. Learn how to identify these species and control them where possible. Any land use or use of fertilizers, pesticides and other chemicals shall not compromise the intended purpose of this practice which is improved early successional habitat. Be sure to follow all label requirements when using herbicides.

Resources for More Information -

Scrub-shrub Birds – USDA NRCS WHMI and the WHC Fish and Wildlife Habitat Management Leaflet #42, 2007.

<http://www.whmi.nrcs.usda.gov/technical/leaflet.htm>

Managing Grasslands, Shrublands and Young Forests for Wildlife – Northeast Upland Habitat Technical Committee, 2006: Chapter 4.

Managing Shrublands and Old Fields

http://www.wildlife.state.nh.us/Wildlife/Northeast_Hab_Mgt_Guide.htm

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