



Natural Revegetation



One way to create wildlife habitat is to allow a selected area to grow naturally into the desired vegetation stage. This practice is known as natural revegetation, and in most circumstances it is one of the easiest, least expensive, and least time consuming methods for establishing wildlife habitat. This method can be used on any type of land, however, it is most often used on areas that are difficult to plant and maintain with conventional equipment, such as along the edges of woodlands, fence lines, sink holes, wetlands, streams, or on steep slopes, or shallow, rocky soils.

Natural revegetation relies on natural plant succession. Succession is the predictable, gradual, and sequential change in plant communities over a given period of time. Throughout most of Indiana, an area of bare soil, if left undisturbed, will naturally advance from: (1) annual grasses and forbs (broadleaf plants); to (2) perennial grasses and forbs; then to (3) shrubs, vines and briars; followed by (4) young forest tree species; and finally (5) a mature/climax forest.

Natural revegetation could be considered a lazy man's way of providing wildlife habitat through plant succession. One takes a piece of land, basically does nothing, and lets mother nature and plant succession work for him.

Natural revegetation relies upon the establishment of plants growing from three primary sources: 1) those already present on the site, 2) plants lying dormant in the soil as seeds or roots, and 3) seeds from nearby plants, carried by the wind or deposited by wildlife. To use this method, simply leave the area to be developed alone and allow natural succession to occur at its own pace. If the area to be developed contains a thick stand of sod-forming grasses, which might impede the natural establishment of plants, then removal or disturbance of the existing sod by plowing, disking, burning, herbicide application or a combination, thereof, may be necessary.

Selected Characteristics of Successional Stages				
Stage of Succession	Years Needed to Reach Stage	Typical Plants	Benefits to Wildlife	Wildlife Benefitted
Annual grasses and forbs	1	foxtail grass, ragweed	areas of bare soil for dusting, seeds and insects for food, nesting cover	quail, pheasant, turkey, grassland songbirds
Perennial grasses and forbs	2-5	warm and cool season grasses, goldenrod, milkweed, daisys, ironweed	nesting cover, green browse, insects	quail, pheasant, turkey, rabbit, deer, grassland songbirds, snakes
Briars, brambles, vines, shrubs	3-10	blackberry, raspberry, dewberry, roses, grapevines, dogwoods, sumacs, red cedar	escape, nesting and winter cover, berries, fruits, buds, green browse	quail, pheasant, rabbit, deer, turkey songbirds, woodcock, snakes
Young forest	15-30	sassafras, cherry, cedar, tulip, persimmon, ash, elm	seeds, fruits, buds, nesting and winter cover, green browse	deer, turkey, squirrels, woodland songbirds, snakes, woodcock, ruffed grouse, amphibians, reptiles
Mature forest	50-100	oak, hickory, maple, beech, walnut	nuts, green browse, nesting cavities, winter cover denning sites	deer, turkey, squirrels, woodland songbirds, snakes, amphibians, reptiles, bats

Developing a Plan

Planning is important in any wildlife habitat development and management endeavor. Identify the wildlife species you are interested in and identify their habitat requirements. Then identify which habitat types are not currently available or are lacking in supply. Most species of wildlife require more than one type of habitat to meet annual needs. Also, consider if the existing habitats are of sufficient proximity to one another to satisfy the mobility of the target wildlife. Habitat types that are too far removed from one another may prevent wildlife from becoming established or result in depressed population levels. Creating the proper habitat elements and providing the proper arrangement are essential for maintaining viable, stable populations.

After completing your assessment, give some thought on how natural revegetation can provide the necessary habitat components. In one location, you might want to encourage annual grasses and forbs to provide food for quail or pheasants. In another area you might want to encourage brushy growth such as along a woodland edge or around sink holes, to provide escape and winter cover for quail and rabbits. In another area you might want to regenerate a thick woodland component for woodcock or ruffed grouse. Remember, however, that at some point you will have to maintain that particular stage of growth or it will eventually grow beyond its intended purpose.

As natural succession progresses through the various vegetation stages, changes in plant communities, structure, height, density, and food resources will change. As a result, wildlife species will increase, decrease, or disappear in response to their individual habitat needs. In some situations, it may be best to establish numerous areas of natural revegetation and then manipulate these areas on a rotational basis through two or three of the successional stages. This technique provides at least one

representative component of each of the stages you need for the desired wildlife. Typically, if the intent is to provide a mix of the earlier successional stages (annuals, perennials, and briars), it is best to select terrain that has a low erosion potential and is easily manipulated through these stages with **strip mowing**, **strip disking**, or **prescribed burning**. Therefore, the terrain should be somewhat flat and consideration should be given to the placement and installation of fire breaks. Additionally, these locations have probably been farmed in the past and are less likely to contain the seeds or roots of trees and shrubs that might accelerate advanced succession. Conversely, steeper or less fertile soils are typically more suitable to the later successional stages (shrub, young forest, mature forest).

Consideration must also be given to the types of vegetation that might invade the area and the time needed to achieve the desired stage of growth. Vegetation that is growing on similar soil types near you will most likely be the same type of vegetation that will eventually become established on your property. If your property is bordered by a mature ash grove, laden with wind-disseminated seed, you can expect numerous ash seedlings to become established on your revegetation site as well. Conversely you will probably not have walnut or hickory trees, if none are near your property. Natural revegetation can, also, be painstakingly slow if the goal is to provide vegetation towards the later end of the plant succession cycle. Obviously, achieving a young forest or mature forest stage through the use of natural revegetation will take many years. One way to accelerate the establishment of vegetation by this method is to erect an artificial bird perch (fence wire) along the length of the intended area. The droppings, deposited by birds perching on the wire, contain a rich source of seeds. Many of these seeds will germinate and the resulting plants will eventually produce the various fruits and berries preferred by wildlife. Natural revegetation will probably not be your method of choice if the surrounding plants near your property are not to your liking, or if you wish to accelerate the pace at which habitat is created. If that's the case, then you will need to use alternative methods for establishing the habitat you desire.

Controlling Plant Succession

It must be understood, that if left alone, areas managed by this method will eventually evolve into woody vegetation and, ultimately, into a mature forest. If the intent is to maintain the earlier successional stages, some type of maintenance regime will be required to periodically set back succession. Years ago the famous wildlife ecologist, Aldo Leopold, noted four(4) tools to control or alter "plant succession." Cow, plow, fire and axe are the generic tools he recognized, and they are still true today. Although grazing can be used (if one has livestock), in most situations the cow has been replaced by a deck mower and the axe replaced with a chainsaw. By utilizing one of these four tools, you can change or intervene in the progression of plant succession.

Maintenance of the earliest plant stages will be the most labor intensive, where as the later stages (young or mature forests) will be the least intensive or not required. Plowing, disking or **strip disking** can be used to maintain the earliest stages, up through the early-shrub stage. Mowing can be used to maintain the perennial grass and shrub stages, however, it should be noted that this practice will encourage the grass component to thicken and reduce the forb component. **Prescribed burning** can also be used to maintain these same stages and will encourage a higher forb component. If prescribed burning is to be conducted, make sure a comprehensive burn plan has been developed, and if necessary, seek professional assistance in conducting the burn.

Setting back succession in the forest stages, to conduct **woodland edge enhancement** or **forest habitat improvement**, will ultimately require the use of chainsawing and/or tree girdling. Tree felling activities, however, should not be conducted during the months of April through July to avoid the accidental taking of the endangered Indiana Bat (*Myotis sodalis*) which may be using the trees to raise their young. Trees and shrubs removed by this method can be used for **brush pile construction**. Always keep in mind that natural revegetation is an on-going, dynamic process. Plant succession continues while you sleep. If succession is allowed to progress well beyond the desired stage, the amount of labor required to regain the desired stage will be substantially more than the amount required by more frequent maintenance.

Techniques for Maintaining Successional Stages				
Stage of Succession	Disking	Mowing ¹	Prescribed Burning	Chainsawing ² / Girdling
Annual grasses and forbs	X		X	
Perennial grasses and forbs	X	X	X	
Briars, brambles, vines, shrubs	X	X	X	
Young forest				X
Mature forest				X

¹ Mowing will cause grass sod to thicken. If the intent is to thin the grass component and allow more annual grasses and forbs to become established, mow and bale existing cover (or burn), and then lightly disk so that approximately 30 % to 60% of the soil is exposed within the area.

² The felling of trees should not be conducted during the months of April through July to avoid the accidental taking of the Indiana bat (*Myotis sodalis*).

Natural revegetation is inexpensive and requires minimal effort. It is mother nature's way of providing habitat. However it is not necessarily a recommended means of providing habitat if one desires specific vegetation for specific wildlife species. If the habitat and related vegetation you desire is not near your property, it is unlikely it will naturally occur. Alternative methods of habitat establishment will be required. The process of natural revegetation is ongoing and, at some point in time, maintenance will be required.

Related Habitat Management Fact Sheets:

Strip Disking
Strip Mowing
Legume Interseeding
Prescribed Burning
Direct Seeding

Forest Habitat Improvement
Forest Regeneration
Woodland Edge Enhancement
Fescue Eradication

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