



Tree and Shrub Coverts



Tree and shrub coverts are thickets that provide shelter and food for a variety of wildlife species. A well-designed covert will provide food sources, nesting sites, and protection from snow, ice, and predators. A covert planting can be part of a reforestation plan, used to stabilize a stream bank, or used to address an erosion problem. The planting can provide other benefits to the landowner such as a sight and sound barrier, or windbreak.

How important are these thickets to wildlife? A study in Missouri found that wintering quail coveys were usually located within 70 feet of brushy vegetation at all times. Examples of wildlife species that will benefit from this type of habitat component are quail, rabbits, pheasants, and turkeys. Most resident and migratory songbirds will also use these areas.

Three possible techniques are available to produce a tree and shrub covert for wildlife. The first is natural regeneration (see Natural Revegetation Habitat Management Fact Sheet). In some situations, an area can be allowed to naturally grow into a thicket. If the site has seed sources available, and a lack of competing vegetation, a thicket will develop over time. The advantage of this technique is the low cost. The disadvantages are no control of the plant species that grow, and a longer time period to achieve the desired results.

The second technique is to enhance an existing thicket. This could be done by cutting down larger trees and allowing understory species to increase in size and number, or by planting trees and shrubs in and around the existing thicket to increase the size or the plant diversity.

The third technique is to “start from scratch” by designing and planting the covert on open ground. The layout of your property, your goals, and the existing vegetation will determine which technique will produce the best results.

Planning

Creating a plan for your property is the critical first step. A soil map (available from your local Natural Resource Conservation Service office) or aerial photograph is a good base on which to start sketching a plan. In addition, you will need to consider the

following questions: (1) What species of wildlife do I want to benefit? (2) What species of wildlife are in the area? (3) Where is adequate winter and escape cover lacking? (4) What other purposes do I want to accomplish? (5) What are the site characteristics (soil type, slope, moisture, existing vegetation, etc.) of my property? (6) How does my property fit in with the surrounding landscape? (7) Are there small, odd areas on my property, such as wetlands, sink holes, small ravines, or field corners that can be enhanced with coverts? (8) What type of trees and shrubs should I plant, and (9) How will the planting and maintenance be done?

In general, tree and shrub coverts should be 1/8 to 1/4 acre in size and at least 50 feet wide. Coverts that are too small or too narrow will not protect wildlife from predators or harsh weather. Also, many wildlife species will not stray far from protective cover. In large, open areas, coverts should be located no farther than 200 yards apart and will provide the greatest benefit if connected by habitat corridors (see Wildlife Corridors Habitat Management Fact Sheet).

Tree and shrub coverts are thickets that provide food and cover. Therefore, the ideal covert should consist of a dense planting of a variety of trees, shrubs and evergreens. The more species of trees and shrubs planted, the greater the benefits will be to wildlife. Most shrub seedlings should be planted no more than 3 to 4 feet apart, with tree and evergreen seedlings planted no more than 5 to 6 feet apart. Seedlings should be randomly mixed during planting, however taller shrubs should be mixed with taller shrubs, and shorter shrubs should be mixed with shorter shrubs. Seedlings of shorter species should be planted on the outside edges so enough sunlight is received.

Planting

In most cases, tree and shrub seedlings are planted as soon as possible after the ground thaws in the spring. The site must be prepared for the seedlings by controlling existing vegetation. Tillage and/or herbicide will probably be required unless seedlings are to be planted in a field that was cropped the previous year. (In that situation, check on herbicides that were used on the crop field to see if any carry-over could injure the seedlings.) Generally, fertilizing is not recommended because it tends to encourage the competing vegetation to grow more rapidly, thus hindering seedling growth.

Small projects (500 seedlings or less) are usually planted by hand using a planting bar or garden spade. Larger projects are usually planted by using a tree planter, pulled behind a tractor. Some Soil and Water Conservation Districts have tree planters available for rent. Most Consulting Foresters also provide custom planting, herbicide, and maintenance services on a fee basis. For some tree and shrub species, direct seeding (planting tree and shrub seeds instead of seedlings) by broadcasting or use of a grain drill is also an option - the main benefits are lower costs and less labor in large plantings or creating a thicker seedling density when desired (See Direct Seeding Habitat Management Fact Sheet).

Helpful information on how to plant seedlings is included in the Indiana Department of Natural Resources Tree Seedling Order Form. This form is available from the Division of Forestry each September to order seedlings for the following spring's planting. The order form can be obtained over the internet at the following location: www.state.in.us/dnr/forestry. Try to order as much stock as you can from the state tree nursery, and "fill in" as needed from other nurseries. This will help keep project costs down. When ordering seedlings, it's a good idea to order 5% more seedlings than needed to provide replacements for damaged or inferior stock.

Maintenance

As with most wildlife habitat development projects, maintenance is an important element that needs to be considered. In most situations, competing vegetation will likely need to be controlled during the first 2 - 3 growing seasons. Mulching, mowing, or herbicide treatment may be needed if seedlings begin to get smothered by weeds or grasses. If competing vegetation is going to be controlled by

mowing, it is a good idea to mark the individual seedlings or, at least, the ends of the planting rows with biodegradable flagging material. This will greatly reduce the accidental mowing of seedlings and aid in locating seedlings to assess their growth. Non-biodegradable flagging should not be used because it will constrict seedling growth at the point of attachment and ultimately lead to weakened trunk development. The objective of covert creation is to provide thick, woody cover with an understory of weeds, grasses, briars and brambles for additional protective cover at ground level. Therefore, once seedlings have become firmly established, usually after the second or third year, weed control should be discontinued.

If the planting occurs in a high deer-density area, it is sometimes best not to control the competing vegetation. Although this technique will result in slower seedling growth, a tall weed canopy can reduce the likelihood of deer finding individual seedlings. Maintaining hunting pressure throughout the deer season will also help. Rodents may also cause severe damage by girdling the base of the seedlings. In this situation, consideration should be given to erecting raptor perches in the immediate vicinity to encourage their presence and focus their prey-foraging activities on the impacted area. Appropriate fencing should be erected if the planted area is accessible to livestock or horses.

Long-term maintenance also needs to be considered. Coverts will eventually grow to the point at which the thicket starts to thin out. Larger trees will shade out the understory, and smaller trees and shrubs may get too large to provide the thick cover necessary for wildlife. Some cutting of larger trees may be needed to increase sunlight penetration and, thus, increase the growth of understory plants. The cut trees can be used for brush piles or firewood. Once cut, most hardwood trees and deciduous shrubs will re-sprout around the stump. The resulting basal sprouts, if allowed to grow, will help rejuvenate and thicken the covert without additional planting needs. Conifers, on the other hand, will not re-sprout and may need to be replaced. You may also need to cut out “invading” species to maintain the diversity of the planting.

A top quality tree and shrub covert will have fruit and nut-bearing trees and shrubs, conifers for shelter, and a mixture of vines, briars, weeds, and other wildlife-friendly plants. The covert is an important component that will provide for the habitat needs of many wildlife species, and fit in well with your overall plan. For assistance with the design, establishment, or maintenance of tree and shrub coverts, contact your District Wildlife Biologist.

Selected Native Conifers with Value to Wildlife				
Species	Scientific Name	Wildlife Benefit	Sun	Soil Moisture
Bald Cypress	<i>Taxodium distichum</i>	shelter/seeds	partial/full	moist/wet
Cedar, Eastern Red	<i>Juniperus virginiana</i>	shelter/ fruit	partial/full	all
Cedar, Northern White	<i>Thuja occidentalis</i>	shelter/fruit	partial/full	moist
Hemlock, Eastern	<i>Tsuga canadensis</i>	shelter/seeds	all	moist/wet
Pine, Eastern White	<i>Pinus strobus</i>	shelter/seeds	full	well drained/moist
Pine, Jack	<i>Pinus banksiana</i>	shelter/seeds	full	all
Pine, Virginia	<i>Pinus virginiana</i>	shelter/seeds	full	all

Selected Native Shrubs (Over 15') with Value to Wildlife

Shrub Species	Scientific Name	Wildlife Benefit	Sun	Soil Moisture
Blackhaw	<i>Viburnum prunifolium</i>	fall fruit	all	well-drained
Dogwood, Flowering	<i>Cornus florida</i>	fall fruit	full/partial	well-drained
Dogwood, Rough Leaved	<i>Cornus drummondii</i>	summer fruit	full/partial	well-drained/moist/wet
Cherry, Choke	<i>Prunus virginiana</i>	summer fruit	all	dry/well-drained/moist
Nannyberry	<i>Viburnum lentago</i>	winter fruit	all	dry/well-drained/moist
Redbud	<i>Cercis canadensis</i>	nectar/seeds	full/partial	well-drained/dry
Serviceberry	<i>Amelanchier arborea</i>	summer fruit	all	moist/wet
Sumac, Shining (Dwarf)	<i>Rhus copallina</i>	winter fruit	full/partial	dry/well-drained/moist
Sumac, Staghorn	<i>Rhus typhina</i>	winter fruit	full/partial	dry/well-drained/moist

Selected Native Shrubs (under 15') with Value to Wildlife

Shrub Species	Scientific Name	Wildlife Benefit	Sun	Soil Moisture
Arrowwood	<i>Viburnum dentatum</i>	winter fruit	partial/full	dry/well-drained/moist
Buttonbush	<i>Cephalanthus occidentalis</i>	nectar/seeds	full/partial	well-drained/wet
Chokeberry, Black	<i>Aronia melanocarpa</i>	winter fruit	full	well-drained
Dogwood, Gray	<i>Cornus racemosa</i>	fall fruit	full/partial	well-drained/moist
Dogwood, Red-Osier	<i>Cornus stolonifera</i>	fall fruit	all	moist/wet
Dogwood, Silky	<i>Cornus amomum</i>	summer fruit	full/partial	well-drained/wet
Elderberry	<i>Sambucus canadensis</i>	summer fruit	partial/full	well-drained/moist/wet
Hazelnut	<i>Corylus americana</i>	nut	full/partial	well-drained/moist/wet
Ninebark	<i>Physocarpus opulifolius</i>	summer fruit	partial/full	well-drained/wet
Plum, Wild	<i>Prunus americana</i>	summer fruit	full/partial	dry/well-drained/moist
Spicebush	<i>Lindera benzoin</i>	nectar/fall fruit	partial/full	well-drained/moist/wet
Sumac, Smooth	<i>Rhus glabra</i>	winter fruit	full/partial	dry/well-drained/moist
Winterberry	<i>Ilex verticillata</i>	fall fruit	all	moist/wet

Selected Native Trees with Value to Wildlife				
Species	Scientific Name	Wildlife Benefit	Sun	Soil Moisture
Ash, Green	<i>Fraxinus pennsylvanica</i>	fall seed	full	well-drained/moist
Ash, White	<i>Fraxinus americana</i>	fall seed	full	well-drained/moist
Beech, American	<i>Fagus grandifolia</i>	nut	full	moist
Birch, River	<i>Betula nigra</i>	nectar	full	well-drained/wet
Blackgum	<i>Nyssa sylvatica</i>	fruit	partial/full	all
Cherry, Black	<i>Prunus serotina</i>	summer fruit	full	well-drained
Hickory, Shellbark	<i>Carya laciniosa</i>	nut	full	well-drained/moist/wet
Hickory, Shagbark	<i>Carya ovata</i>	nut	partial/full	well-drained/wet
Hackberry	<i>Celtis occidentalis</i>	winter fruit	partial/full	all
Oak, Black	<i>Quercus velutina</i>	nut	full	dry/well-drained
Oak, Bur	<i>Quercus macrocarpa</i>	nut	full	dry/well-drained
Oak, Chinquapin	<i>Quercus muehlenbergii</i>	nut	full	dry/well-drained
Oak, Pin	<i>Quercus palustris</i>	nut	full	well-drained/wet
Oak, Red	<i>Quercus rubra</i>	nut	full	well-drained/moist
Oak, Scarlet	<i>Quercus coccinea</i>	nut	full	dry/well-drained
Oak, Swamp Chestnut	<i>Quercus michauxii</i>	nut	full	well-drained/moist/wet
Oak, Swamp White	<i>Quercus bicolor</i>	nut	full	well-drained/wet
Oak, White	<i>Quercus alba</i>	nut	full	well-drained/moist
Pecan	<i>Carya illinoensis</i>	nut	full	well-drained/moist/wet
Persimmon	<i>Diospyros virginiana</i>	fruit	full	well-drained
Sweetgum, American	<i>Liquidambar styraciflua</i>	seed	full	well-drained/wet
Sycamore, American	<i>Platanus occidentalis</i>	seeds	full	well-drained/wet
Tuliptree	<i>Liriodendron tulipifera</i>	nectar/summer seed	full	well-drained/moist
Walnut, Black	<i>Juglans nigra</i>	nut	full	well-drained

Related Habitat Management Fact Sheets:

Natural Revegetation
Direct Seeding

Woodland Edge Enhancement
Wildlife Corridors

Prepared by the Indiana Department of Natural Resources, Division of Fish and Wildlife. For up-to-date information concerning the Indiana Division of Fish and Wildlife, or for information on the location of your District Wildlife Biologist, visit our website at www.wildlife.IN.gov

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