

Forest Management for Wildlife Habitat: **Early Successional Habitat**

Succession is the natural progression of a biological community, characterized by changes in vertical structure and species composition over time. While often measured by the types of vegetation present, the types of insects and wildlife may differ in each stage of succession as well. The first stage in the natural progression is commonly known as *early successional habitat*. This informational sheet will cover how we create or maintain early successional habitat on the landscape and how it supports wildlife.

Characteristics

Low and dense vegetation — often a highly biodiverse mixture of shrubs, herbaceous flowering plants, and grasses — covers the ground. Seeds, legumes, and other forage are abundant. Populations of pollinators and other insects swell. Early successional habitat can be thought of as the ‘grocery store’ of the natural world, providing food for a variety of wildlife. Many species may also call this habitat type ‘home:’ the low dense vegetation provides shelter for small mammals and ground-nesting birds.

The Role of Disturbance

A natural disturbance is an event or series of events that prevents a forest from retaining or establishing mature trees. Natural disturbances may be major storms (e.g., hurricanes, tornadoes), wildfires, or disease outbreaks. Mitigation for and suppression of these natural events has led to an abnormal ratio of mature forests on our landscape. Disturbances that mimic natural processes can be used to create or maintain early successional habitat. Timber harvesting and prescribed fire are two ways that land managers mimic disturbance on the landscape.



In many cases, such as this site at Nanticoke River Wildlife Management Area, early successional habitat naturally establishes on former agricultural fields.



A seed tree cut opened up the canopy at this site in the Pocomoke State Forest. Periodic prescribed burning maintains the low dense vegetation.

Regeneration Harvest

A *regeneration harvest* removes all of the merchantable trees within a designated area. This timber harvest technique opens up the canopy, maximizing the amount of sunlight available to plants on the ground. New vegetation emerges quickly from dormant seeds in the soil, also known as the *seed bank*.

Seed Tree Harvest

Similar to a regeneration harvest, a *seed tree harvest* removes almost all of the merchantable trees within a designated area. At least one tree per acre is left standing as a seed source for the future forest. This allows forest managers to guide the forest towards a desired species mix. The seeds also serve as a food source while the branches provide perches and nesting opportunities.

Prescribed Fire

A *prescribed burn* is an intentional fire set within a well-defined area and under specific weather conditions. Prescribed fire is an effective method for waking dormant *disturbance-dependent* seeds in the soil. Many of our native species are fire-dependent or fire-adapted; they evolved prior to colonization, through centuries of natural wildfires and prescribed burns by native peoples.

Wildlife Highlights

- * Open-space adapted bat species, such as the silver-haired bat (*Lasionycteris noctivagans*) and hoary bat (*Lasiurus cinereus*), are fast and agile. Their high-intensity, low-frequency echolocation is ideal for flying above or on the edges of open space. Small clearcuts surrounded by mature forest provide great insect foraging opportunities and roosting locations, respectively.
- * Many species of songbirds, such as the golden-winged warbler (*Vermivora chrysoptera*) and eastern towhee (*Pipilo erythrophthalmus*), rely on early successional habitat for some or all of their needs. Both the golden-winged warbler and eastern towhee build their nests on the ground, using shrubby vegetation as cover. However, while the eastern towhee mainly forages on the ground, scratching through leaf litter, the golden-winged warbler mainly forages at a higher level, in the tops of shrubs or in small trees.
- * Native bee species, notably the threatened American bumblebee (*Bombus pensylvanicus*) and the black and gold bumblebee (*Bombus auricomus*) flourish in early successional habitats. The diversity of native flowering plants that grow throughout the year provides abundant honey-producing opportunities.



Regeneration Harvest

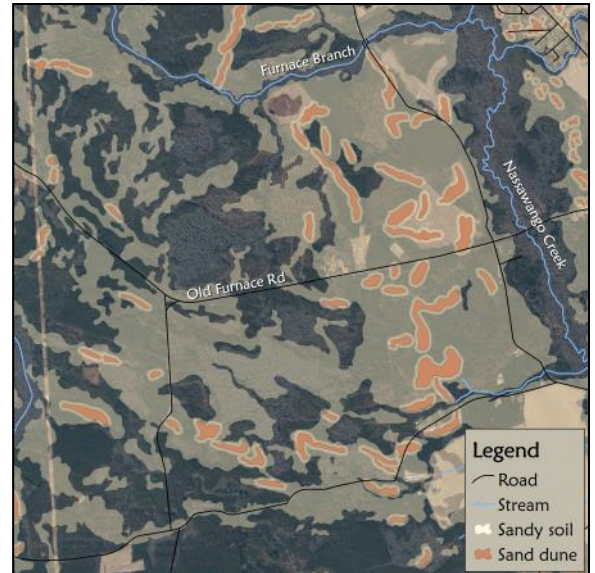


Seed Tree Harvest

Spotlight On: *Inland Sand Dune Restoration*

The Eastern Shore of Maryland hides a unique and highly disturbance-dependent geographic feature: inland sand dunes. At one such dune in the Pocomoke State Forest, land managers maintain early successional, oak-pine savanna habitat to support the critically endangered frosted elfin butterfly (*Callophrys irus*) and its main host plant, sundial lupine (*Lupinus perennis*).

Visit our Demonstration Network site near Furnace Town in Worcester County to learn more.



Forest Management for Wildlife Habitat

To learn more about how forest management can benefit wildlife habitat, refer to the Links & Resources tab on our home page.

<https://dnr.maryland.gov/forests/Pages/default.aspx>