

Enhancing Forest Pollinator Habitat: A Checklist for Landowners

A companion document to
Pollinators in Your Woodlands: A Guide to Understanding and Creating Forest Pollinator Habitat



This checklist can help you identify opportunities to enhance the pollinator habitat in your forest. Take a walk through your woods with this checklist as an exercise to get you thinking about what pollinators need, and what steps you can take to benefit pollinators in your woodland.

Background

Pollinators like bees and butterflies generally favor forests with open canopies and more light availability. Gaps in the forest canopy especially favor the growth of flowering plants on the forest floor, providing attractive food and resources for pollinators. Canopy gaps also benefit soil-nesting bees, which prefer patchy ground with ample sun exposure.

It may also be helpful to pollinators to remove nonnative plant species in these gaps and throughout your forest. Even though non-native plants can provide nectar, pollen, and food for butterfly larvae, they can negatively affect pollinators when they are toxic to caterpillars or outcompete native plants. Having a variety of flowering native plant species available can help improve the overall health of bees and can lead to a more diverse bee population.

When assessing the plant composition of your forest, consider that different pollinators have different resource needs at different times. For example, bees need nectar and pollen throughout their entire life cycle, while butterflies only use nectar as adults. Some small carpenter bees excavate their nests in the pithy stems of plants, such as raspberry and blackberry, Joe Pye weed, and honeysuckle. If you want to see butterflies and moths in your forest, it is important to have woody plants, like trees and shrubs, to provide them with food and habitat - woody plants support more butterflies and moths than herbaceous plants.



Black Walnut has unique, chambered pithy stems. Pithy stems have a center of soft, spongy cells, perfect for some pollinators to burrow into to make their nests.



Creating brush or log piles, or leaving treetops on the ground after a timber harvest, can have many benefits for the pollinators in your forest. Increased presence of logs increases the number of bee and butterfly species in your forest by providing a wider variety of habitats for species with different needs. Piles of brush and logs can supply pithy stems for tunneling, overwintering habitat for butterflies, and often attract other insects and animals that create the tunnels and cavities some bees repurpose for their nests.



The forest interior is not the only place where you can make changes to benefit pollinators. In fact, forest edges that receive more sunlight show a positive effect on pollinator activity and abundance within the forest. Roads, powerline corridors, and log landings are excellent places to manage for pollinator habitat. You can protect pollinator larvae by mowing less frequently and limiting pesticide use in these areas.

Checklist of Forest Pollinator Habitat Components

Habitat feature is abundant	Habitat feature is present	Habitat feature is missing or inadequate
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FOREST STRUCTURE

Open forest canopy OR Forest canopy with many gaps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Closed forest canopy OR Forest canopy with few gaps
Well-lit forest floor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Understory with shady, dense vegetation
Patches of exposed bare ground	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetation or leaf litter covers most of the forest floor

VARIETY OF HIGH-QUALITY FOOD RESOURCES

Many types of spring wildflowers are present and flowering OR only a few species are present but they are abundant and flower profusely	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Spring wildflower community is dominated by just a couple species OR many species are present but don't flower
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Many types of summer wildflowers are present and flowering
OR
 only a few species are present but they are abundant and flower profusely

Summer wildflower community is dominated by just a couple species
OR
 many species are present but don't flower

Many types of fall wildflowers are present and flowering
OR
 only a few species are present but they are abundant and flower profusely

Fall wildflower community is dominated by just a couple species
OR
 many species are present but don't flower

Many types of native trees and shrubs are present, either in the canopy or throughout the forest.

One or a few tree and shrub species dominate the forest

Many areas of vegetation with no or few invasive species

Invasive species dominate

COVER

Piles of logs and brush

Little to no woody material

Standing dead trees/snags

Dead trees removed or not present

Plants with pithy stems

Few or no plants with pithy stems

NON-FOREST HABITAT INCLUSIONS

Roadsides, rights of way, or log landings:

Receive lots of sunlight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shady, receive little sunlight
Mowed infrequently	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mowed often
No pesticides used	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pesticides used
Support diverse species of flowering plants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Support few flowering species
Have few invasive species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have many invasive species

Steps you can take to improve missing habitat elements:

- Girdle low-quality trees to create future snags; aim for at least 4 standing snags/acre to maximize benefits for wildlife and pollinators
- Build brush or log piles
- Learn to recognize and manage invasive plant species on your property
- Reduce deer populations or fence to exclude deer - deer feed on wildflowers and tree and shrub seedlings and reduce their abundance, diversity, and rate of flowering, which can severely affect pollinator habitat.
- Research when butterflies in your area may have caterpillars developing and avoid mowing during those periods



To learn more about stewarding pollinator habitat in your forest, refer to the companion fact sheet: [Pollinators in Your Woods: A Guide to Understanding and Creating Forest Pollinator Habitat.](#)

Prepared by Margaret C. Lin and Kristi L. Sullivan, Cornell University Dept. of Natural Resources and the Environment. 2021. Photos by Margaret C. Lin and Kristi L. Sullivan.

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