

# Fall and Winter Gardening for Habitat

Creating a resilient garden for all seasons

Introduction

Part 1: Leave the Leaves (and logs and limbs)

How to Leave the Leaves

Part 2: Save the Stems

How to Save the Stems

Part 3: Saving Seeds

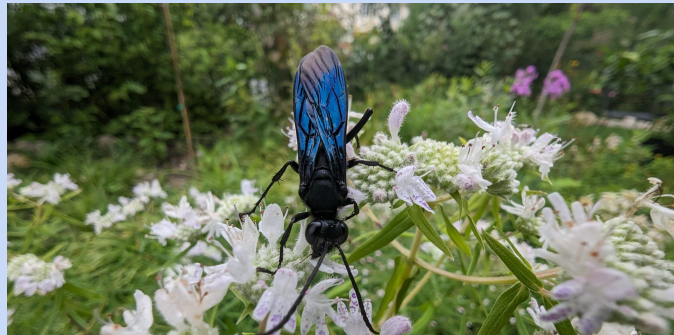
Part 4: Thinking about Spring!

# Worcester Native Plant Initiative

Who we are and why we are.  
How you can find us.

<https://www.facebook.com/groups/1079048142881378>

<https://worcesternativeplantinitiative.godaddysites.com/>



The background of the image is a close-up, top-down view of a forest floor covered in a thick layer of fallen autumn leaves. The leaves are in various shades of brown, tan, and orange, with some showing distinct vein patterns. The lighting is soft, creating a warm, textured appearance. Centered over this background is white text.

Leave the Leaves  
(& stems, & logs, & limbs!)



## About Leave Leaves Alone!

Leave Leaves Alone! was developed by a group of Bedford, NY, residents in 2011, most of whom were Cornell Cooperative Extension Master Gardeners, concerned about the environmental pollution and destruction of soil properties caused by the practice of leaf blowing. Our message goes far further than our small town and our mission is to educate landscapers and homeowners on the value of leaves and leaf mulch; to remind them that nature is there to do most of the work for us, and that fall leaves are a great natural resource that should be valued and not regarded as trash.



# Fallen Leaves Left Undisturbed Become Butterfly and Firefly Nurseries



Great Spangled Friillary

Fireflies

Luna Moth



THANK YOU FOR LEAVING THE LEAVES  
UNDISTURBED!

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## Reason #1 to Leave the Leaves:

***Support Insects through their whole life cycle.***

By leaving the leaves, you will support the insects that we have invited to our yards in the spring through their entire life cycle.

Not only pollinators (certain native butterflies and bees), but also beetles and spiders need protection over the winter.

Some species overwinter as adults, others as chrysalides, others as eggs.

While monarch migration is a well-known phenomenon, it's not the norm when it comes to butterflies. In fact, the vast majority of butterflies and moths overwinter in the landscape as an egg, caterpillar, chrysalis or adult. In all but the warmest climates, these butterflies use leaf litter for winter cover. Great spangled fritillary (*Speyeria cybele*) and woolly bear (*Pyrrharctia isabella*) caterpillars tuck themselves into a pile of leaves for protection from cold weather and predators. Red-banded hairstreaks lay their eggs on fallen oak leaves, which become the first food of the caterpillars when they emerge. Luna moths (*Actias luna*) and swallowtail butterflies disguise their cocoons and chrysalis as dried leaves, blending in with the “real” leaves. There are many such examples.



Where do caterpillars go  
during the last stage?

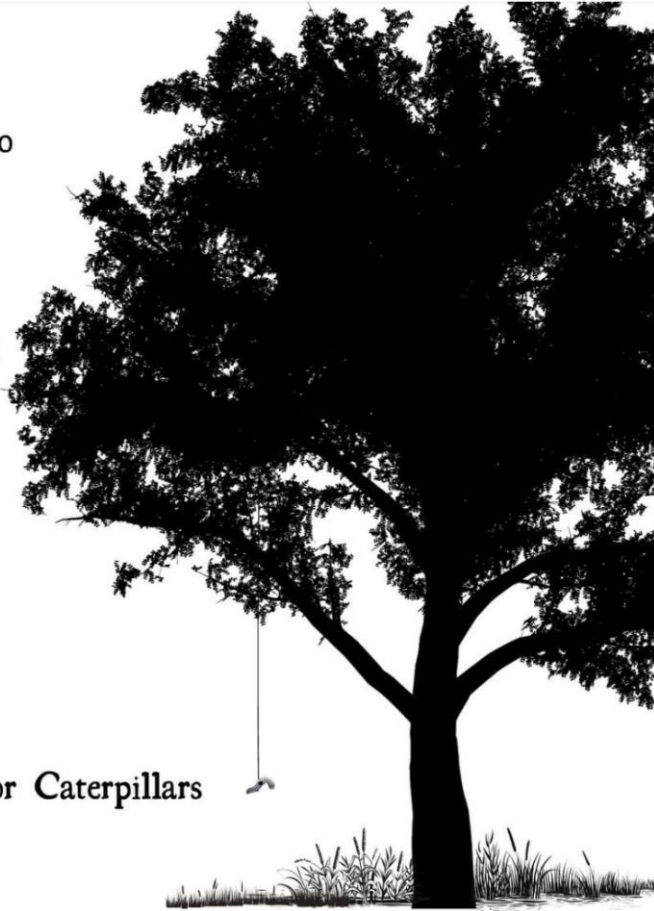
Most of them  
drop from a tree  
sometimes on a thread  
into fallen leaves  
or plants below.

The caterpillar  
burrows under leaves  
or underground then  
forms a cocoon.

Make Soft Landings For Caterpillars



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## Reason #2 to Leave the Leaves:

***Support reptiles and amphibians. Through the colder months.***

There are other animals in the ecosystem that also overwinter in fall leaves such as frogs and toads, salamanders and snakes.

Did you know that terrestrial reptiles in New England such as salamanders, turtles, frogs, and toads, and snakes are remarkably adaptable in dealing with the winter's challenges. Turtles and toads hibernate in a manner similar to that of snakes — by digging their way down beneath the leaf litter, under logs, or by making dens and burrows.

Many of these animals have suffered because of habitat loss. Why not invite them to spend the winter in your yard?

## THESE ANIMALS ARE MADE POSSIBLE BY FALLEN LEAVES



Ring Neck Snake



American Bumble Bee



Luna Moth



Wood Frogs and  
American Toads



Spotted salamander



Fritillary and  
Checkerspot Butterflies  
...and many more

## LEAVE LEAVES ALONE

Eastern Box Turtle



Eastern Newt



Garter Snake

### Reason #3 to Leave the Leaves:

#### Support the firefly's fragile life cycle.

For this reason alone, to experience the beauty and wonder of these little beings in July, you must leave a permanent leafy area in your yard. You guessed it, there are fewer and fewer of these areas left.

Like all beetles, fireflies undergo complete metamorphosis with four distinct stages: egg, larva, pupa, and adult. The complete life cycle can take anywhere from a couple of months to two to three years or more, with the majority of the life cycle spent in the larval stage.

# Want to see more fireflies?



## Then leave permanent leafy areas in your yard!

*pollinator friendly yards on facebook*

Leave the leaves

## Reason #4 to Leave the Leaves:

### ***Support Mammals this winter and into the Spring.***

Not only are small mammals (think squirrels, deer, rabbits, chipmunks) camouflaged by the fallen leaves, they need the leaves in the Spring when it's time to build their nests. (so do birds!, but we'll get to that!) Leaves also help some small animals, like chipmunks and opossums to stay warm in their winter burrows. And the understory of a forest (or the edges of your own yard) provide important areas for mammals to forage in winter.



Carolina Wren Nest



Squirrel Nest

## Reason #5 To Leave the Leaves:

***Support birds with food this winter and nesting material next spring.***

Who is not charmed by the appearance of a red cardinal with a snowy white backdrop in the outdoors in winter?

Their reason for visiting has to do with food. Just like mammals, birds forage at forest's edge. They are looking for the insects, slugs and earthworms and sometimes the small reptiles that are overwintering in the leaves that you have left. Come Spring, birds, too, will be lining their nests. Keeping a stick and brush pile in the corner of your yard will come in handy for birds to use as winter cover from intense storms and to safe safe from predators. In the Spring as they look for small sticks and twigs for their nests in the brush pile.



## Reason #6 to Leave the Leaves

- The leaves provide nutrients for the tree they fell from, as well as shrubs and flowers in your beds- free fertilizer!
- Fallen leaves provide the same moisture retention and weed suppression as bark mulch.
- A thick layer of leaves provides additional insulation against bitter cold weather, and can protect newly planted perennials when frost-heave may expose tender roots

Fallen leaves are a RESOURCE!

They hold the nutrients that the trees need the following year.

Hey, I need those!



**A WORLD  
WITHOUT  
BUGS  
IS A  
WORLD  
WITHOUT  
BIRDS**



Photo Larissa Brogley

[pollinator friendly yards on facebook](#)

**How can I use my leaves????**

**What do I do with them all?**



**Mulch around  
shrubs & perennials**



**Layer of browns in  
active compost**

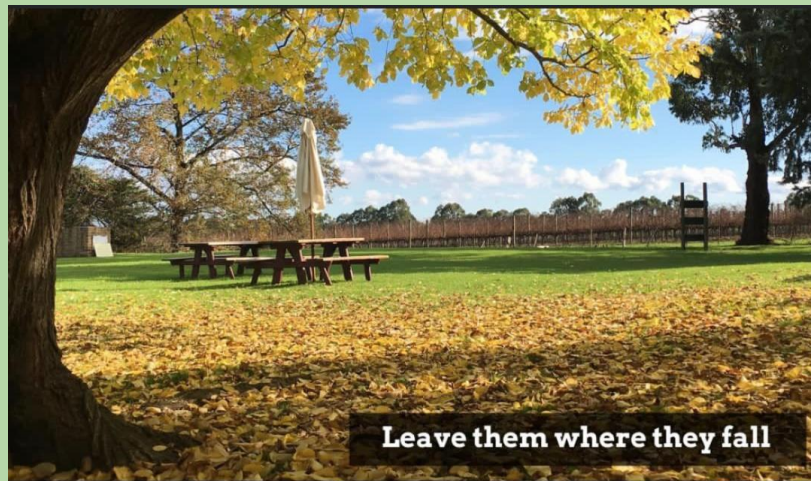
**Ways To Use Your Leaves**



**Pile in wire circle to  
compost passively**



**Fun!**



**Leave them where they fall**

## **Ways To Use Your Leaves**



**Rake a LIGHT layer  
into garden beds**



**Makes it easier to mow  
around, and you have the  
option to plant native right  
into the leaf piles!**

**Pile around trees  
to make new beds**

Wow, your yard is  
so MESSY  
with the dead tree,  
the brush pile,  
the plants that  
have gone to seed...



Thanks,  
it's called  
habitat.



## BUMBLEBEE QUEENS

spend the winter just below ground or under leaf litter. To protect bumblebees, avoid pesticides and leaf blowers.



Bee Friendly Gardening

## Yard of the Past



ARE YOU A "RESPONSIBLE CITIZEN"?

Shrink your lawn & plant native to show you're a responsible citizen.

2023



- 1 million acres of wildlife habitat are lost, **annually**, to suburban development
- Lawns use 9 billion gallons of water nationwide **per DAY**
- Common garden weed killers and pesticides harm beneficial insects and microorganisms essential to healthy ecosystems, and pollute our water
- Leaf blowers and lawn mowers are contributing to noise pollution as well as carcinogens polluting our air.

# HELLO! YARD OF THE FUTURE



# GOODBYE! YARD OF THE PAST



POLLINATOR FRIENDLY YARDS ON FACEBOOK

## Yard of the Future

- Provides resources to the 4 elements of habitat- food, water, cover, & a place to raise young
- Songbirds rely on caterpillars supplied by native plants
- 30% of native bees are pollen specialists
- Native Plants- sequester carbon, use less water, deep roots help with stormwater runoff...

## How to Leave the Leaves (and Logs and Limbs) or “Should I do nothing at all?”

- Rake or corral leaves to garden beds.
- Rake leaves around your trees to create soft landing for caterpillars.
- Leave some standing to restore the soil.
- Do not shred (most chrysalids that are overwintering are disguised as leaves!)
- How about blowing? It really is a waste of fuel (no regulation on leaf blowers) and adds so much to the ever increasing noise and air pollution. Let's get old fashioned with a rake.
- You can passive compost.
- Start a pile of fallen sticks and logs in a forgotten corner. This will go a long way to providing shelter to overwintering mammals, a safe place for birds during storms, and a place for our reptile and amphibian friends to retreat for the colder months.
- Brown bag some leaves and store in your garage or a corner of your yard to use as brown matter through the warmer months for your compost.
- Shrink your Lawn. Heavily cover one area of the lawn that you're not using (let's face it, we really don't NEED all that grass!) and you will have an area ready to plant in the spring with something that gives more back than grass.
- Provide signage to let people know why you are leaving the leaves.
- Pass the word about why you're turning “garden clean up” on its head. Gardening for habitat is a growing trend and needs to happen more and more so that biodiversity loss can be reversed.

## Part 2: Save the Stems

By leaving your flower stems standing in the Fall, you provide:

### **FOOD FOR BIRDS.**

The seed heads on top of your dormant flowers are one of the best sources of food for birds in Winter. Removing those seed heads as part of a fall clean up robs backyard birds of an excellent source of nutrition and calories they depend on during the Winter.

Some of the easiest native flowers to grow that will act as natural bird feeders include Asters, Coneflowers, and Sunflowers of all kinds. Each year I get surprised by just how many seeds birds clean from my plants. Even plants I didn't know they could perch on tend to get cleaned off. Just last Winter I went to collect some seed from *Verbena hastata* and was surprised to find it completely cleaned off!

Once you begin watching the birds in the Fall, you will see that they each have their own preferences of seeds. It's fun to see the evening primrose disappear first for me!



The birds eating the seeds will also naturally spread the seed around and increase the number of plants that you have in the Spring. Win, win!

## Saving the Stems:

Gives bee larvae a place to overwinter. Leave the stems standing all winter.

All the plants from the previous year are left intact all through the winter, as is.

This provides a beautiful landscape of dried seedheads, stems, and grasses through the winter and more importantly, food and shelter for pollinators and other wildlife.

I wait until late winter/early spring (March into April) to start cutting plants back. Aim to cut back from 12-18 inches. The cutting can be placed in your standing brush pile. Before you know it, your new perennials will begin new growth and soon surpass 12-18 inches.

Aim to have at least some stems cut back by early March when our earliest emerging stem-nesting bees, the mason bees, start looking for nesting sites.



**DON'T  
"Clean Up"  
YOUR PLANT STEMS!  
NATIVE BEES USE THEM  
AS NESTS**



photo Helen Derry

pollinator friendly yards on facebook

- 400 species of native bees in New England
  - 70% ground nesting
  - 30% pupate in pithy or hollow stems
- Removing seed heads removes food for birds

## **Saving the Stems:**

### **Gives cover to wildlife in winter.**

The more foliage that is left up, including large perennials and tall grasses like Little Bluestem, the more cover will be available for birds and other wildlife. This can especially help with birds that like to feed on the ground during Winter such as Dark-eyed Juncos, Carolina and House Wrens, and White-throated Sparrows.



*Kim Smith*

## **Save the Stems:** **Provide winter beauty to your garden.**

Leaving seed heads and stalks up in Fall may sound messy, but many species can be quite beautiful.

Snow gathering on Echinacea seed heads look almost like cotton balls, Ironweed can look great standing tall in Winter, and all of these will also help provide cover and food!



## **How to Save the Stems:**

Leave the stems standing through most of the winter, for winter interest, bird food, spreading the seeds naturally, and cover for wildlife.

**Don't cut back in spring until SOIL TEMPS are at 50 degrees. It's not air temps (the original Xerces Society report this all came from says soil temps, not air temps). Why soil? 50 degrees is when plants and some overwintering spiders, bugs, butterflies, etc start to do their thing again. Just remember, not everyone emerges on the same day in spring, or even in spring -- some keep coming well into summer.**

In March and April, cut back stems, but not to the ground! Leave 12-18 inches of stem (especially the pithy stems (e.g. soft, spongy tissue of native plants like joe-pye weed, elderberry, wild bergamot, mountain mint, and swamp milkweed produce hollow stems suitable for nesting bees.

**Plants left standing gather more snow in winter and increase soil moisture during the spring melt.**

**Leaving plants vertical helps keep moisture on site, reducing urban flooding. Stems, dead leaves, umbels, branches -- all of it holds water longer, slowing penetration into the soil to help soil drink over time.**



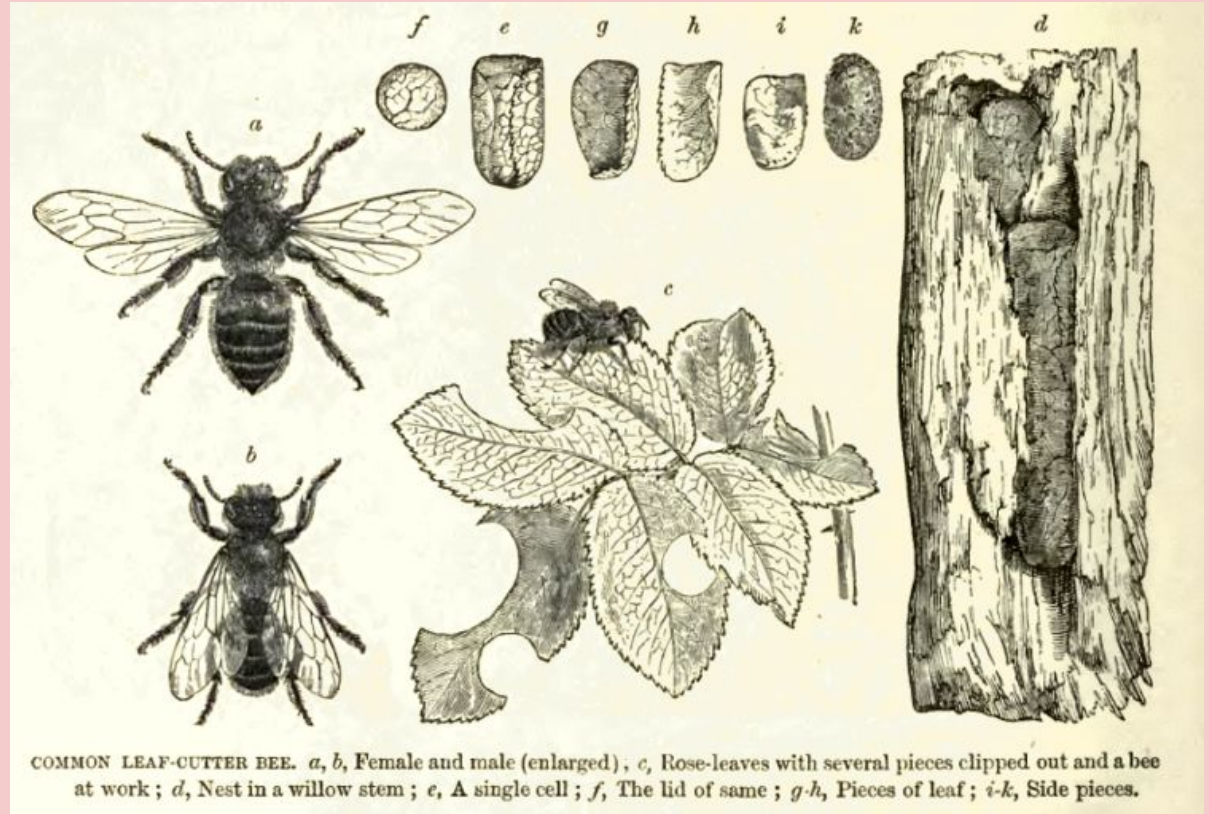
**Saving the stems is a three year process: i.e. Don't ever cut them down to the ground!**

**Year 1:** Plant stems are growing. Native plants like joe-pye weed, elderberry, wild bergamot, mountain mint, and swamp milkweed produce hollow or pithy (e.g. soft, spongy tissue) stems suitable for nesting bees. Bees won't nest in these actively growing stems. At the end of the growing season (December through March), cut the stems back to between 6-18" tall. Use sharp tools to ensure a clean cut. By cutting back the stems, you have created homes for next year's bees.



**Year 2:** Bees active during this year will nest in the stems you left standing. They will lay eggs in the stem and provision each egg with a nutritious ball of pollen and nectar. Inside the stem, bees will develop from eggs into larvae and adults that hibernate through winter. Bees won't emerge from stems until *next* growing season. Remember to cut back the new, green stems produced this year for next year's bees.

Leafcutter bees (*Megachile* sp.) will live in your garden if you provide undisturbed stems for them to nest in.



**Year 3:** In spring of year 3, stems produced in year 1 still contain bees; stems produced in year 2 do not contain bees. Leave both generations of stems standing throughout the year. Spring-active bees will emerge from year 1 stems by June, whereas fall-active species might not emerge from year 1 stems until August or early September. During this time, new bees will nest in year 2 stems, so leave them standing!



While this may seem like an awfully long time to leave stubble in a garden, it is **the only way** to ensure that native bees find safe, undisturbed places to nest. Posting signage in your garden to inform visitors about how gardens can be managed to balance aesthetic and ecological goals can be helpful.



# LET'S CHANGE OUR MINDSET

## DID YOU KNOW?

instead of being *decoration*,  
your yard can be a:



biodiversity regenerator



air + water cleaner



carbon storer



birdfeeder



rainwater capturer



pest + flood controller



nature connector



(just add native plants!)

# Seed Saving and Collecting

**One way to acquire native plants very cheaply is to collect your own seed.**

- This can come from plants you or a neighbour already have, or from plants growing wild in your area.

## **Please keep in mind:**

1. **You should get permission from the landowner first.** Collecting seeds from plants growing along the roadside is usually OK. In any other location, you need to find out who owns the property and get permission.
2. **You do not want to destroy a native plant colony,** or compromise creatures which depend on seeds as a food source. Take no more than 10% of the available seeds. If there are signs that someone else has already collected (trampled grass, stripped or removed seed heads) you should not take any more.
3. **Learn which plants are common** and which are rare in your area. Never collect seed from rare species.



# General guidelines for seed collection

- **Wait until the seed is ripe.** Often the seed will become hard, dry and dark in colour. The parent plant may show signs of dying back. Some seeds may have already dispersed. In some cases, you can pull or shake off the seeds. In other cases its easiest to cut off the seed head and clean it at home later.
- **Keep seeds dry.** Put them in a paper (not plastic) bag or envelope until they are completely cleaned and dried. Once the seeds are cleaned and dry they can be kept in plastic bags, preferably in a dry cool dark place. Remember to label them carefully with the species, the date and the location where they were collected.
- **It is often necessary to persuade a dormant seed that it has been through a winter.** Most seeds mature in the fall and are intended to germinate the following spring. The exact requirement for each species can be looked up, but the commonest is cold damp stratification. This means moistening the seed and placing it in a cold environment for one or more months before planting.



*Growing plants from your own seed is a great way to expand your own garden or to provide extra plants for your friends and neighbours to grow.*

*Careful and responsible collecting of seeds from wild plants can be an important part of regenerating endangered environments and putting back the natives where they belong!*

Seed sharing: The most economical way to propagate our beautiful and incredibly important native plant species



Collective Conservation



# Thinking About Spring

All gardeners deserve a rest during the winter, to dream about what they will do in Spring! There are also some ways to keep your hands in the soil over the winter and play with native seeds. Think Winter Sow!

For very cheap, or free if you have collected your own seeds or attend a WNPI winter sow program, you can ready the seeds for cold stratification outdoors.

You can prepare for winter sowing easily by:

- Saving gallon milk jugs or large salad green containers.
- Rounding up some duct tape.
- Getting some nice organic potting soil.
- Clearing a space outdoors to store your jugs through the winter.
- Stay tuned for our winter sowing dates!



Thanks  
for  
being a  
part of  
the  
change!



Photo Credit: Christine Sparks