Pollinator Garden Tutorial

by Katryn Taylor

Planting for Butterflies, Bees, Hummingbirds & Migration

A successful pollinator garden is more than a collection of pretty flowers.
It is a living habitat that provides the four things pollinators need most:

food, water, shelter and places to reproduce.

For a Georgia garden, the best approach is to combine native host plants with nectar-rich flowering plants and companion herbs and flowers. By choosing plants that bloom at different times, your garden can support pollinators from early spring through fall migration.

The Golden Rule of Pollinator Gardening
Plant it. Let it bloom. Let it be eaten. Let it reproduce.

A beautiful ornamental garden is designed primarily for people.
A pollinator garden is designed for the entire life cycle of wildlife.
The goal isn't simply to attract a butterfly long enough to photograph it.
The goal is to give that butterfly a place to:

Feed → Find a Mate → Lay Eggs → Raise Caterpillars → Transform → Fly Away → Return

And when your garden provides those resources year after year, it becomes more than a flower bed.

It becomes a habitat.

1. Understand the Two Jobs Plants Do
When planning a butterfly garden, remember that adult butterflies and caterpillars need different plants.
Host Plants = Raise the Next Generation
Host plants are the plants where butterflies lay their eggs and where caterpillars feed.

Examples:

Butterfly	Native Host Plants
Monarch	Milkweeds (*Asclepias*)
Black Swallowtail	Native parsley, Golden
Eastern Tiger Swallowtail	Tulip tree, Wild Cherry,
Spicebush Swallowtail	Spicebush, Sassafras
Gulf Fritillary	Native passionflower
Pearl Crescent	Native asters
Painted Lady	Asters, thistles and other
Spring Azure	Native blueberry and other

Important: Some commonly sold garden plants are excellent butterfly plants but are not native. For a conservation garden, prioritize native species whenever possible.

**Fennel is a useful butterfly plant but is not native to Georgia.*

2. Nectar Plants Feed Adult Pollinators
Marietta Daisies is working hard to apply these methods to our pollinator garden at Park on Polk.
Adult butterflies, bees and other pollinators need nectar.
Choose plants with different bloom periods so that something is flowering throughout the growing season.

Spring

- Golden Alexander
- Native phlox
- Columbine
- Wild geranium
- Blueberry
- Mountain mint

Summer

- Coneflower
- Black-eyed Susan
- Bee balm
- Blazing star
- Coreopsis
- Buttonbush
- Butterfly weed
- Native mountain mint

Late Summer & Fall

- Native asters
- Goldenrod
- Joe-Pye weed
- Ironweed
- Swamp sunflower
- Mistflower
- Cardinal flower

Fall flowers are especially important. They provide critical fuel for butterflies, bees and other insects preparing for winter or migration.

3. Build the Garden in Layers

The variety of these layers amazingly already exist in the forest landscape.We are slowly adding the plantings for each season as our Marietta Daisies Pollinator garden evolves.

Think of your pollinator garden as a small ecosystem rather than a flower bed.

Upper Layer
Provides height, shelter and sometimes butterfly host plants.
Consider:

- Tulip poplar
- Sweetbay magnolia
- Serviceberry
- Eastern red cedar
- Native cherry

Middle Layer

- Spicebush
- Buttonbush
- Beautyberry
- Viburnum
- Ninebark

Flower Layer

- Coneflower
- Black-eyed Susan
- Bee balm
- Asters
- Goldenrod
- Coreopsis
- Blazing star

Ground Layer

- Native violets
- Woodland phlox
- Sedges
- Native ground covers

This layered design gives pollinators food, shelter and habitat at different heights.

4. Add Companion Plants

Companion plants can make a pollinator garden more useful—and more beautiful.

Herbs

Many culinary herbs are excellent nectar sources when allowed to flower:

- Oregano
- Thyme
- Lavender
- Chives
- Mint
- Basil
- Rosemary

Regular parsley (flat-leaf or curly) is a prized larval host plant for the Eastern Black Swallowtail butterfly in Georgia. Female butterflies lay eggs directly on the foliage, and the striped caterpillars feed on the leaves. It thrives in Georgia's climate when given morning sun and afternoon shade, and pairs well with nectar-rich companion plants.



Summer Watering at Marietta Daisies POP's Garden
photo by Katryn Taylor

Instead of harvesting every flower, allow portions of your herbs to bloom.

Companion Flowers
Combine herbs with:

- Zinnias
- Marigolds
- Calendula
- Sunflowers
- Cosmos
- Nasturtiums
- Celosia

These can provide additional nectar and extend the flowering season.
A note for a native-focused garden: Use these as supporting plants rather than replacements for native species.

5. Create a Monarch Migration
Station Monarchs need special consideration because their life cycle involves migration.
The most important plant is milkweed, because monarch caterpillars can only develop on milkweed.

Plant several milkweed species when appropriate for your area.
For Georgia, potential native choices include:

- Butterfly milkweed (*Asclepias tuberosa*)
- Swamp milkweed (*Asclepias incarnata*)
- Whorled milkweed (*Asclepias verticillata*)
- Common milkweed (*Asclepias syriaca*)

Planting several species can extend the availability of milkweed and increase habitat diversity.
But don't stop at milkweed.
Adult monarchs also need nectar plants, particularly during migration.
Plant late-season nectar sources such as:

- Goldenrod
- Asters
- Mistflower
- Ironweed
- Joe-Pye weed
- Swamp sunflower

Think of your garden as a rest stop on the migration highway.

6. Make a Butterfly "Fuel Station"
Butterflies need more than flowers.
Create several small habitat features.
Marietta Daisies has accomplished this in two sections of their Butterfly garden plan at Park on Polk, POP's garden.

Water
Add a shallow butterfly puddling area.
Use:

- A shallow dish
- Sand
- Small stones
- Soil
- Water

Keep it damp rather than creating a deep pool.
Butterflies are attracted to the minerals and moisture found in damp soil.

Sun
Most butterflies prefer sunny areas.
Place your nectar garden where it receives approximately 6 hours of sunlight when possible.

Resting Areas
Add:

- Flat stones
- Logs
- Branches
- Small dead limbs
- Butterfly house (*A feature in the Marietta Daisies pollinator garden*)

Butterflies use sunny surfaces for basking and warming their wings.

Shelter
Don't make the entire garden perfectly manicured.
Leave some:

- Leaf litter
- Hollow stems
- Seed heads
- Fallen branches
  These provide overwintering habitat for insects.

7. Plant for the Butterfly Life Cycle
A true butterfly garden should support every stage of the butterfly's life.
Egg
Host plants

↓

Caterpillar
Leaves from host plants

↓

Chrysalis
Sheltered vegetation and garden habitat

↓

Adult Butterfly
Nectar flowers

↓

Reproduction

Host plants for the next generation. This is why a garden filled exclusively with nectar flowers isn't necessarily a complete butterfly habitat.

8. Native Plant + Pollinator Pairings
Here are some easy combinations for a Georgia pollinator garden.

Spicebush
Supports: Spicebush Swallowtail **Companion plants:** Asters, mountain mint, goldenrod

Butterfly Milkweed
Supports: Monarchs **Companion plants:** Coneflower, black-eyed Susan, blazing star

Passionflower
Supports: Gulf Fritillary **Companion plants:** Native asters, coneflower and goldenrod

Golden Alexander
Supports: Black Swallowtail **Companion plants:** Coreopsis, bee balm and asters

Buttonbush

Supports: Bees, butterflies and other pollinators **Companion plants:** Swamp milkweed, cardinal flower and Joe-Pye weed

Asters
Supports: Numerous late-season pollinators **Companion plants:** Goldenrod, ironweed and native grasses

9. A Simple 10 × 10 Pollinator Garden
For a small garden, try this basic structure:
Back row

- 1 Buttonbush
- 1 Spicebush
- 2–3 Swamp milkweed

Middle

- 3 Coneflowers
- 3 Black-eyed Susans
- 3 Blazing stars
- 3 Bee balm

Front

- 3 Butterfly milkweed
- 3 Coreopsis
- 3 Asters
- 2 Native violets

Herb companions

- Oregano
- Chives
- Thyme
- Mint
- Parsley



10. Create a Migration Calendar
A great educational feature for a garden club or school garden is a

Pollinator Migration Calendar.
This will be a goal for our next years addition to the garden. It will also be added to the Educational Curriculum already being executed for this project.

Early Spring

Garden goal: Wake up the garden.
Look for:

- Early bees
- Spring butterflies
- Swallowtails

Provide early-blooming native plants.

Late Spring

Garden goal: Build population.
Plant and maintain:

- Host plants
- Milkweed
- Native flowering plants

Watch for eggs and caterpillars.

Summer

Garden goal: Raise the next generation.
Don't remove caterpillar-damaged leaves!
Chewed leaves are evidence that the garden is working.

Late Summer–Fall

Garden goal: Fuel migration.
Increase:

- Asters
- Goldenrod
- Ironweed
- Mistflower
- Joe-Pye weed
- Sunflowers

This is especially important for migrating monarchs.

Winter

Garden goal: Protect habitat.
Resist the urge to cut everything down.
Leave:

- Seed heads
- Hollow stems
- Leaf litter
- Standing plant material

Many beneficial insects spend the winter in these materials.

11. The "Don't Spray" Rule

A pollinator garden and broad-spectrum pesticide use don't mix well.
Instead of trying to create a garden without insects, remember:

A pollinator garden is supposed to have insects.

Caterpillars chewing leaves are not necessarily a problem—they may be exactly what you planted the garden to support.

Use an integrated pest management approach and avoid unnecessary pesticide applications, especially when flowers are actively attracting pollinators.

Meet Your Pollinators

Who are the pollinators?

PART 1

When we hear the word *pollinator*, most of us immediately picture a honeybee or perhaps a butterfly floating through the garden. But the world of pollinators is much bigger and far more interesting than many of us realize.

Pollination is essential to the reproduction of flowering plants. As pollen is carried from one flower to another, plants are able to produce seeds and, in many cases, the fruits and vegetables we enjoy. Bees, butterflies, moths, beetles, flies, wasps, hummingbirds, and other animals all contribute to this process.

Pollinators are just as important beyond our gardens and farms. They help native

wildflowers, shrubs, and trees reproduce, providing the seeds and fruits that feed countless birds and other wildlife. Many of the insects we encounter around flowers also perform other valuable jobs controlling garden and agricultural pests, recycling organic material, and contributing to the healthy ecosystems on which plants depend.

Yet some of these helpful creatures don't always receive a warm welcome. Bees and wasps may make us nervous. Flies and beetles are often shooed away. Moths can go almost unnoticed because much of their work happens after dark. Even bats, while not pollinators here in Georgia, play an important supporting role by helping control nighttime insect populations.

That's why it is worth getting to know the creatures sharing our gardens.

Pollinators face growing pressures from habitat loss, pesticides and other contaminants, disease, invasive species, and changing environmental conditions. Researchers, including scientists at the University of Georgia, continue to study pollinator populations and the ways homeowners, gardeners, farmers, and communities can help.

The good news is that our own gardens can be part of the solution. Planting native flowers, providing food and water throughout the seasons, preserving nesting and overwintering habitat, reducing unnecessary pesticide use, and even allowing a few areas to remain a little wild can make a meaningful difference.

And it begins with knowing who's out there.

So take a closer look at that flower. The visitor you find may surprise you.

Meet Your Pollinators...

Bees

Bees may be small, but their impact on Georgia's gardens, farms, forests, and food supply is enormous. Throughout the Southeastern Mixed Forest, bees are among our most important pollinators, moving pollen from flower to flower and making possible the fruits, vegetables, seeds, and native plants that both people and wildlife depend upon.

Georgia is home to more than 500 species of native bees, in addition to the managed honeybees commonly seen in gardens and agricultural fields. Together, these hardworking pollinators contribute hundreds of millions of dollars to Georgia agriculture each year. Insect pollination is estimated to support more than $600 million of Georgia's agricultural economy annually.

Peaches, strawberries, watermelon, blueberries, apples, and many other crops benefit from bee pollination. And while honeybees are certainly important, they are only part of the story.

Honeybees Aren't Actually Native to Georgia

Most of us are familiar with the honeybee (*Apis mellifera*), living in large colonies with a queen and thousands of workers. Honeybees have been agricultural pollination workhorses in the United States for generations, but they are not native to North America. European settlers brought them here nearly 400 years ago.

Long before honeybees arrived, however, thousands of species of native bees were already pollinating North American plants.

There are nearly 4,000 species of native bees in the United States, and Georgia alone is home to more than 500 of them. Unlike honeybees, many native bees do not live in hives. Some form small colonies, while many others live solitary lives, building individual nests underground, inside hollow plant stems, or in dead wood.

Native bees can also be remarkably efficient pollinators. For certain regional crops, including blueberries and apples, wild native bees and bumblebees can be even more effective pollinators than honeybees.

Meet Some of Georgia's Native Bees

- **Bumblebees (*Bombus* spp.)** live in relatively small colonies, often nesting underground. They are active across a long growing season and visit a tremendous variety of flowers. Bumblebees are particularly valuable because they can perform buzz pollination vibrating

flowers to release pollen. This makes them especially effective pollinators of plants such as tomatoes and blueberries.

- **Sweat bees (family Halictidae)** are often much smaller and may be metallic green, blue, bronze, or dark colored. Most nest in the ground. Depending on the species, they may live alone or together in loosely organized colonies.
- **Carpenter bees (*Xylocopa* spp.)** are large bees that are sometimes mistaken for bumblebees. Instead of nesting underground, females excavate tunnels in wood where they raise their young.
- **Leafcutter bees (*Megachile* spp.)** get their name from their fascinating nest-building behavior. Females cut nearly perfect pieces from leaves and use them to construct individual nest chambers, often inside existing holes in wood or hollow stems.
- **Mason bees (*Osmia* spp.)** also use existing cavities in stems and dead wood. Instead of leaves, they commonly use mud to divide their nests into individual chambers.
- **Digger and plasterer bees (*Colletes* spp.)** are solitary ground-nesting bees. Females excavate nests in the soil and line their brood cells with a waterproof, cellophane-like secretion.
- **Cactus bees (*Diadasia* spp.)** are another group of solitary ground nesters. Many species specialize in collecting pollen from particular groups of plants.

Different Bees, Different Flowers

Not every bee is built the same way.

Bees have tongues of different lengths, body sizes, behaviors, and methods of collecting pollen. These differences help determine which flowers they can successfully visit and pollinate. A flower that works perfectly for one bee species may be difficult for another to access.

This diversity is one reason having many different species of bees is so important. A healthy pollinator community provides a variety of specialists and generalists capable of pollinating different plants throughout the growing season.

And bees need more than flowers.

They need food, water, shelter, and places to raise their young.

A Bee-Friendly Garden Is More Than a Flower Garden

One of the best ways gardeners and landowners can help native bees is by providing habitat throughout the year.

Planting a diversity of native plants that bloom continuously from early spring through fall provides dependable sources of nectar and pollen. Early-blooming plants are particularly important for bees emerging from winter, while late-season flowers help bees prepare for colder months.

But resisting the urge to make every corner of the landscape perfectly tidy can be just as valuable.

Many native bees nest underground, so leaving some areas of bare, undisturbed soil can provide important nesting habitat. Other bees spend the winter inside hollow stems, dead wood, fallen branches, or standing vegetation.

Where it is safe, consider leaving dead trees or snags, hollow stems, and some standing vegetation through the winter. Rather than cutting everything down in fall, wait until spring before cleaning up portions of the garden.

On larger properties and farms, maintaining native vegetation along field edges, streams, low-production areas, hedgerows, and windbreaks can create valuable pollinator corridors. These areas provide food and shelter even when agricultural crops are not blooming.

Pollinators Need Our Help

Pollinator populations face a combination of pressures, including habitat loss and fragmentation, disease, parasites, pesticides and other contaminants, invasive species, and changing environmental conditions.

The encouraging news is that ordinary gardens and landscapes can become part of the solution.

How You Can Help the Bees

- **Plant native flowers** and choose a variety that provides blooms from spring through fall.
- **Leave some bare ground.** Many of our native bees build their nests underground.
- **Save hollow stems and dead wood** where practical. They can provide nesting and overwintering sites.
- **Wait until spring to clean up parts of the garden.** Pollinators may be spending the winter inside last year's stems and vegetation.
- **Provide a clean, shallow water source** with stones or other safe landing places.
- **Reduce pesticide use**, especially when plants are flowering and pollinators are actively foraging.
- **Create hedgerows and natural borders** with native flowering shrubs, grasses, and perennials.

- **Preserve natural areas.** Even a small undisturbed corner of a garden can provide valuable habitat.

Become a Citizen Scientist

You can do more than simply provide habitat, you can help scientists understand Georgia's pollinators.

The **Great Southeast Pollinator Census**, spearheaded by the University of Georgia Cooperative Extension, invites everyday gardeners, families, schools, garden clubs, and community groups to observe flowers and count the insects that visit them.

Participants learn to recognize different groups of pollinators while contributing valuable information about pollinator populations across the Southeast. It's a wonderful reminder that meaningful scientific research can happen right in our own backyards.

A Little Wild Can Be a Wonderful Thing

Perhaps one of the easiest lessons bees can teach gardeners is that a healthy garden doesn't always need to look perfectly manicured.

That hollow stem you were about to cut down may contain a developing mason bee. The little patch of bare soil beneath your flowers might be the entrance to a native bee's nest. A fallen branch could become next year's nursery for a leafcutter bee.

By planting thoughtfully and occasionally doing a little less we can give Georgia's remarkable diversity of bees the food, shelter, and nesting places they need.

And in return, these tiny neighbors will continue doing the enormous job they have been doing for thousands of years: keeping our gardens blooming, our farms productive,

and our natural landscapes alive.

Butterflies

Butterflies: Beautiful and Beneficial Pollinators

Georgia is home to more than 170 species of butterflies, from the Coastal Plain to the Piedmont and north Georgia mountains. Best known for their beauty, butterflies also contribute to healthy ecosystems by carrying pollen from flower to flower as they feed on nectar. Just as importantly, they are part of the food web and are indicators of diverse, healthy habitats.

Gardeners have long welcomed butterflies into their landscapes and fortunately, many of the same colorful flowers that make a garden beautiful also provide valuable food for butterflies.

Creating a Butterfly-Friendly Garden

Butterflies are sun-loving insects. Plant nectar-rich flowers in areas that receive plenty of sunshine and, when possible, provide some protection from strong winds. Flat stones or other sunny open areas give butterflies places to bask and warm their wings before taking flight.

Butterflies also need water and minerals, but they don't necessarily look for a birdbath. Many species practice a behavior called “puddling,” gathering on damp soil or mud to take in water, salts, and minerals. A small patch of moist soil or sand can become an important butterfly resource.

And don't make the garden *too* tidy! Some butterflies will feed on overripe or rotting fruit, tree sap, and other natural materials we might normally be tempted to clean away.

Don't Forget the Caterpillars

A true butterfly garden provides more than flowers for adult butterflies. It also provides host plants for their caterpillars.

Female butterflies can be very particular about where they lay their eggs because their caterpillars may eat only one plant or a small group of related plants. That means supporting butterflies sometimes requires accepting a few chewed leaves.

Think of those nibbled leaves not as garden damage, but as evidence that your garden is doing its job.

Planting both nectar plants for adults and host plants for caterpillars helps butterflies complete their entire life cycle in your landscape.

Butterflies You May Meet in Georgia

Butterflies belong to the insect order *Lepidoptera*. Georgia's gardens, meadows, roadsides, and woodland edges support a wonderful variety, including Goatweed Leafwings, Question Marks, Viceroys, Spicebush Swallowtails, Carolina Satyrs, Spring Azures, and many others.

A few particularly recognizable Georgia visitors include:

- **Eastern Tiger Swallowtail** Georgia's state butterfly. This spectacular large yellow-and-black swallowtail can frequently be seen visiting flowering trees, shrubs, and wildflowers.
- **Gulf Fritillary** A brilliant orange butterfly closely associated with native and cultivated passionflower vines, which serve as host plants for its caterpillars.

- **Cloudless Sulphur** A bright yellow butterfly often seen rapidly crossing gardens, fields, and roadsides. Populations move seasonally throughout the Southeast.
- **Common Buckeye** Easily recognized by the dramatic eyespots on its wings, this butterfly favors sunny, open habitats and gardens.

Plant a Butterfly Buffet

A diverse garden is one of the best ways to support butterflies. Include plants that flower at different times so nectar is available from spring through fall.

Native favorites such as **purple coneflower, black-eyed Susan, bee balm, Joe-Pye weed, asters, goldenrods, and native milkweeds** can provide valuable nectar.

Host plants are equally important. **Passionflower supports Gulf Fritillaries, pawpaw supports Zebra Swallowtails, and native milkweeds support Monarch caterpillars.**

Trees and shrubs matter, too. A successful butterfly habitat can include layers of flowering trees, shrubs, perennials, grasses, and ground-level plants rather than relying on flowers alone.

Georgia: A Highway for Monarchs

One of Georgia's most remarkable butterfly stories happens twice each year when Monarch butterflies travel through the state during their extraordinary migration.

In fall, generally from late August through October, Monarchs move south through Georgia on their journey toward overwintering grounds in central Mexico. Some Monarchs may ultimately travel thousands of miles.

Georgia becomes an important refueling stop along the way.

Migrating Monarchs need tremendous amounts of energy, so **late-blooming native nectar plants are especially valuable during fall migration**. Goldenrods, asters, and other autumn flowers can provide the fuel these travelers need to continue south.

In spring, Monarchs begin moving north again. Georgia generally sees returning butterflies during April and May as successive generations continue the northward journey and females search for milkweed on which to lay their eggs.

Georgia's varied landscapes from the Coastal Plain and sandhills through the Piedmont and into the mountain foothills can provide a chain of nectar and habitat resources along this migration route.

Helping Georgia's Butterflies

You don't need acres of land to make a difference. Even a small garden can become a useful stop along a butterfly's journey.

Plant a variety of native nectar flowers from spring through fall. Include host plants for caterpillars. Leave a sunny place for basking and a little damp soil for puddling. Reduce pesticide use, and allow at least part of the garden to remain slightly wild.

You can also turn butterfly watching into citizen science. Programs such as the **Great Southeast Pollinator Census** allow Georgians to observe and count pollinators while contributing information that helps researchers better understand their populations.

Perhaps most importantly, remember that a butterfly garden isn't simply

a garden designed to attract beautiful adult butterflies.

It's a place where butterflies can eat, rest, reproduce, and complete their entire life cycle.

So when you discover a caterpillar munching away

at one of your carefully tended plants, resist the urge to reach for the spray.

You may have just discovered the next generation of butterflies growing in your garden.

Moths

Moths: Pollinators After Dark

When we think of pollinators, bees and butterflies usually get most of the attention. But as daylight fades and many daytime pollinators settle in for the night, another important group takes over: moths.

Georgia is home to an extraordinary variety of moths, and while many are active at night, some species fly and feed during the day. As they travel from flower to flower in search of nectar, moths carry pollen with them, helping native plants reproduce and adding another important shift to nature's round-the-clock pollination team.

Butterfly or Moth?

Moths and butterflies are close relatives and both belong to the insect order *Lepidoptera*, but there are a few clues that can help tell them apart.

One of the easiest is the **antennae**. Butterfly antennae generally end in a small rounded club or swelling. Moth antennae may be thin, threadlike, or beautifully feathered, but they generally do not have the clubbed tips characteristic of butterflies.

Butterflies are primarily active during the day, while many moths become active around dusk or after dark. Moths also tend to have **stouter, fuzzier bodies**, while butterflies often appear more slender and less hairy.

These are useful guidelines rather than absolute rules. Some moths fly during the day, and moths can be every bit as colorful and striking as butterflies.

The Night Shift Begins

Night-blooming flowers have developed some fascinating ways to attract pollinators when there isn't much light.

Instead of relying primarily on bright colors, many moth-pollinated flowers are white or pale colored, making them easier to see in moonlight. They may open during the late afternoon or evening and release strong, sweet fragrances that moths can detect as they search for nectar.

Plants such as evening primrose are wonderful examples of flowers adapted to nighttime visitors.

Moths can also visit many familiar daytime plants, including phlox, Joe-Pye weed, goldenrod, ironweed, and mountain mint.

Meet Some of Georgia's Pollinating Moths

- **Sphinx and Hawk Moths** These large, powerful moths are among the most impressive pollinators in the garden. Their rapid wingbeats allow them to hover in front of flowers while extending long tongues into deep, tubular blooms. At first glance, some can easily be mistaken for hummingbirds.
- **Hummingbird Clearwing Moths** These remarkable day-flying moths have partially transparent wings and hover from flower to flower much like tiny hummingbirds. They can often be spotted visiting nectar-rich garden flowers.
- **Owlet Moths** Members of this large and diverse moth family are common nighttime visitors to flowers. Their abundance makes them an important part of nighttime ecosystems.
- **Eight-Spotted Forester** Proof that moths aren't always brown or nocturnal, this handsome black, white, and orange moth is active during the day and visits flowers for nectar.

Plant a Garden for the Night Shift

A pollinator garden doesn't have to close when the sun goes down. Adding plants that appeal to moths can keep your garden buzzing—and fluttering—well into the evening.

Include **pale or white flowers** that are visible in low light and fragrant plants that release their scent during the evening. Evening primrose and other night-blooming plants are especially attractive to nocturnal visitors.

Native nectar-rich plants such as **goldenrod, ironweed, mountain mint, phlox, and Joe-Pye weed** can provide additional food for both moths and other pollinators.

And just as with butterflies, remember the caterpillars. Adult moths need nectar, but their young need **host plants**. Native trees, shrubs, grasses, and wildflowers provide food and shelter for an enormous variety of moth caterpillars.

Don't Turn Out the Welcome Mat with Too Much Light

One simple way to help moths has nothing to do with planting.

Reduce unnecessary outdoor lighting at night. Artificial light can attract and disorient nocturnal insects, interfering with their normal feeding, mating, and movement. Turning off lights when they aren't needed—or using lighting that is directed downward—can make your landscape friendlier to moths and other nighttime wildlife.

So the next time you walk through the garden after sunset,

take another look at those pale flowers glowing in the fading light.

The garden may seem quiet,

but the night shift of pollinators may just be getting started.

Beetles

Beetles: The Original Pollinators

They may not have the charm of butterflies or the reputation of bees, but beetles have an impressive claim to fame: **they are among the world's most ancient pollinators.**

“Did You Know? *Magnolias evolved before bees and their sturdy flowers reflect their ancient relationship with beetles.”*

Long before bees appeared, beetles were crawling across some of Earth's earliest flowering plants, feeding on pollen and flower parts and carrying pollen with them as they moved. Millions of years later, beetles are still doing the job including right here in Georgia.

With more than 30,000 species of beetles found in the United States, they represent an enormous and diverse group of insects. Many can be found crawling across flower heads, where they feed on pollen, nectar, or parts of the flowers themselves.

Pollination Can Be a Messy Business

Beetles don't always approach pollination with the finesse of a bee or butterfly.

Rather than carefully moving from one flower to another in search of nectar, many beetles crawl around inside flowers, eating pollen, petals, and other plant tissues along the way. Pollen sticks to their bodies and is carried to the next flower they visit.

They may even leave a few chewed petals behind.

For this reason, beetle pollination is sometimes described as **“mess and soil” pollination**. It may not always be pretty, but it has worked successfully for millions of years.

Beetles also tend to be less particular about which flowers they visit than some specialized pollinators. They may wander among different plant species, losing some pollen along the way. Even so, their sheer numbers and diversity make them an important part of the pollinator community.

Flowers Built for Beetles

Plants pollinated by beetles often have flowers that are sturdy enough to accommodate visitors that may crawl, eat, and explore while they are there.

Look for large, open, bowl-shaped, or flat flowers that provide easy landing and crawling surfaces. Their pollen-producing structures are often readily accessible.

Scent is another important attraction. Beetle-pollinated flowers may produce strong fruity, spicy, fermented, or other distinctive fragrances that beetles can detect from a distance.

Flower colors vary, but white, cream, green, and yellow are common.

One of the best-known examples is the magnolia. Magnolias belong to an ancient lineage of flowering plants, and their large, sturdy flowers are well suited to beetle visitors.

Here in the Southeast, beetles also help pollinate plants such as sweetshrub (*Calycanthus*), pawpaw, and yellow pond lilies.

Beetles You May Find Among the Flowers

You probably won't find many garden centers advertising a “beetle garden,” but take a closer look at your flowers and you may be surprised by how many beetles are already there.

- **Lady Beetles (Ladybugs)** Gardeners usually welcome these familiar beetles because many species feed on aphids and other garden pests. While moving among flowers in search of prey, they may also pick up and transfer pollen.
- **Longhorn Beetles** Recognizable by their characteristically long antennae, many adult longhorn beetles visit flowers to feed on pollen or nectar and can carry pollen as they move between blossoms.
- **Tumbling Flower Beetles** These tiny, active beetles are aptly named. They can be found scrambling across flowers and may tumble away when disturbed. Their bodies can become dusted with pollen as they move from blossom to blossom.

Other beetles encountered on flowers may also contribute to pollination simply through their normal feeding and wandering behavior.

More Than Pollinators

Beetles perform many other important jobs in a healthy landscape.

Depending on the species, they may control garden pests, break down dead plants and animals, recycle nutrients, improve soil, disperse seeds, and provide food for birds and other wildlife.

That makes beetle diversity another sign of the complicated web of life operating within a healthy garden.

Give Beetles a Place in the Garden

Supporting beetles doesn't necessarily require creating a special beetle garden. Instead, think about creating a landscape with diversity and a few less-manicured spaces.

Plant a variety of native flowering plants. Leave some fallen leaves, logs, dead wood, and natural ground cover where appropriate. Reduce unnecessary pesticide use, particularly broad-spectrum insecticides that can kill beneficial insects along with garden pests.

And before assuming every beetle nibbling on a flower is an unwanted visitor, take a moment to identify it.

That little insect wandering around your magnolia may be participating in a relationship between beetles and flowering plants that began

millions of years before humans ever planted the first garden.

Beetles may not be our most glamorous pollinators,

but they certainly deserve recognition as some of the originals.

Flies

Flies: The Pollinators We Often Overlook

Flies may not be the first insects that come to mind when we think about pollination, but they are among the most important and underappreciated pollinators in Georgia and across the Southeast.

True flies, especially **hoverflies in the family *Syrphidae***, visit a wide variety of flowers for nectar and pollen. In doing so, they help pollinate native wildflowers, orchard fruits, garden plants, and agricultural crops.

Their value becomes especially noticeable during cool, cloudy, windy, or damp weather, when many bees are less active.

Pollinators in Less-Than-Perfect Weather

One of the great strengths of flies is their ability to keep working when conditions are not ideal.

Many pollinating flies remain active on cool or overcast days, and some appear very early in spring. That makes them especially helpful around early-blooming plants and fruit trees, including crops such as apples and blueberries.

In some habitats, flies can be particularly important pollinators of small flowers growing in shady, moist, or woodland environments.

So while bees may receive most of the attention, flies help make sure pollination continues under a much wider range of conditions.

Generalists of the Flower World

Many flies are **generalist pollinators**, meaning they visit many different kinds of flowers rather than relying on just one or two plant species.

As they move from bloom to bloom, pollen clings to their bodies and is transferred to other flowers.

Plants known to attract or depend in part on flies include goldenrod, pawpaw, skunk cabbage, and members of the carrot family, including Queen Anne's lace.

Some plants have developed especially unusual relationships with flies. Flowers such as pawpaw may produce scents that imitate fermenting fruit or other organic material, attracting flies and beetles that then help move pollen between flowers.

Nature doesn't always rely on sweet floral perfume to get the job done!

Meet the Hoverflies

Among the easiest pollinating flies to notice in a garden are **hoverflies**, also called flower flies.

At first glance, many look remarkably like bees or wasps. Their yellow-and-black markings are a clever form of mimicry that may discourage predators from trying to eat them.

But hoverflies don't sting.

They are often seen hovering almost perfectly still over a flower before suddenly darting sideways and returning to feed.

Adult hoverflies visit flowers for nectar and pollen, while the larvae of some species provide gardeners with an additional benefit by feeding on aphids and other soft-bodied pests.

That makes many hoverflies valuable twice over: as pollinators and as natural pest-control helpers.

Fly, Bee, or Wasp?

A quick look can help distinguish a flower-visiting fly from a bee or wasp.

- **Look at the wings.** True flies have one pair of functional wings, while bees and wasps have two pairs.
- **Check the eyes.** Flies often have very large compound eyes that take up much of the head.
- **Notice the antennae.** Compared with bees and wasps, many flies have relatively short antennae.
- **Watch the flight.** Hoverflies can stop almost motionless in midair, then dart rapidly in another direction a distinctive flight pattern once you learn to recognize it.

Not Every Fly Is a Housefly

The word “fly” often brings to mind the familiar housefly, but the fly world is enormously diverse.

Thousands of species occupy different habitats and perform different ecological jobs. Some are pollinators, some help break down organic matter, and others serve as predators or important food sources for birds, frogs, and other wildlife.

Many flower flies are attractive insects in their own right, with metallic colors, patterned bodies, or convincing bee-like appearances.

Once you start looking closely, a patch of flowers can reveal an entirely different world of flies that most of us simply never noticed before.

Give Flies a Chance

Supporting pollinating flies is much the same as supporting other beneficial insects.

Plant a diversity of native flowers, including small, open blooms that make nectar and pollen easy to reach. Goldenrods, asters, mountain mint, and other plants with clusters of tiny flowers can attract an impressive variety of flower-visiting insects.

Avoid unnecessary pesticide use, provide some moist and natural areas in the landscape, and allow insects a little room to do their work before deciding they don't belong in the garden.

Citizen-science programs such as the **Great Southeast Pollinator Census** even count flies alongside bees, butterflies, and other pollinating insects, helping researchers better understand their role in our landscapes.

So the next time you see a tiny insect hovering over a flower,

don't automatically wave it away.

It may be one of the garden's quietest and most dependable pollinators

working on a day when many of the others stayed home.

Birds

Birds: Pollinators on the Wing

Pollination isn't just an insect's job. Birds are important **vertebrate pollinators** around the world, and here in Georgia one tiny traveler stands above the rest: the Ruby-throated Hummingbird.

Hummingbirds are specially equipped for visiting flowers. Their long bills and extendable tongues allow them to reach nectar hidden deep inside tubular blooms. As a hummingbird feeds, its head, bill, and feathers brush against the flower's pollen-producing structures. Some of that pollen then travels with the bird to the next flower.

Considering how many flowers a hungry hummingbird may visit in a single day, these tiny birds can move a surprising amount of pollen around the landscape.

Georgia's Ruby-Throated Hummingbird

The **Ruby-throated Hummingbird (*Archilochus colubris*)** is the hummingbird most commonly associated with Georgia and the eastern United States.

These remarkable birds migrate between their breeding grounds in eastern North America and wintering areas in Mexico and Central America. During their time in Georgia, gardens filled with nectar-rich native plants can provide important feeding habitat.

Hummingbirds have tremendous energy requirements and may visit hundreds or even more than a thousand flowers in a day, depending on conditions and nectar availability. As they move rapidly from plant to plant, they can also serve as effective pollen carriers.

Flowers Designed for Birds

Bird-pollinated flowers often look quite different from flowers that primarily attract bees or moths.

- **Color matters.** Hummingbirds are particularly attracted to conspicuous flowers in shades of **red, orange, and bright pink**, although they will readily visit flowers of many other colors when nectar is available.
- **Shape matters, too.** Long, tubular blossoms are especially well suited to a hummingbird's bill and tongue. As the bird reaches inside for nectar, its head or bill can come into contact with pollen.
- **Fragrance is less important.** Unlike many insect pollinators that rely heavily on scent, hummingbirds have excellent vision. Flowers adapted to bird pollination therefore often rely more heavily on color and shape than strong perfume.

And, of course, the most important reward is nectar the energy-rich food hummingbirds are seeking.

Plant a Hummingbird Garden

One of the best ways to attract hummingbirds is to provide the flowers they naturally seek rather than relying entirely on feeders.

Several beautiful native Southeastern plants are excellent choices:

- **Cardinal Flower (*Lobelia cardinalis*)** Its brilliant red tubular flowers seem almost designed with hummingbirds in mind.
- **Trumpet Creeper (*Campsis radicans*)** Large orange-red trumpet-shaped flowers provide abundant nectar, although this vigorous native vine needs plenty of room to grow.
- **Coral Honeysuckle (*Lonicera sempervirens*)** A wonderful native alternative to invasive honeysuckles, producing clusters of tubular red and coral flowers.
- **Jewelweed (*Impatiens capensis*)** Its dangling orange flowers provide nectar for hummingbirds, especially in naturally moist areas.
- Native **azaleas** are another excellent choice for Southeastern gardens, providing beautiful spring flowers that can attract hummingbirds along with other pollinators.

More Than Nectar

Although hummingbirds are famous for drinking nectar, flowers aren't their only food source.

Hummingbirds also consume tiny insects and spiders, which provide essential protein and other nutrients. A garden that supports a healthy insect population can therefore support hummingbirds in ways that a nectar feeder alone cannot.

This provides another reason to limit unnecessary pesticide use. A landscape filled with native plants and healthy insect life creates a more complete habitat for these energetic little birds.

What About Other Birds?

Hummingbirds are North America's best-known and most specialized nectar-feeding birds, but they aren't the only birds capable of moving pollen.

Orioles and some other birds occasionally visit flowers for nectar, while birds searching blossoms for insects or other food may accidentally pick up and transfer pollen.

In other parts of the United States, different relationships occur. For example, **White-winged Doves (*Zenaida asiatica*)** can help pollinate saguaro cactus flowers in the desert Southwest.

These relationships remind us that pollination can occur in many unexpected ways.

A Garden Worth Crossing Continents For

Perhaps the most remarkable thing about Georgia's hummingbirds is the journey many make each year.

A bird weighing only a few grams may travel hundreds or thousands of miles during migration. Along the way, it depends upon a succession of places where it can rest and refuel.

Our gardens can become part of that network.

By planting native flowers that bloom at different times from spring through fall, providing shrubs and trees for shelter, maintaining a healthy insect population, and reducing pesticide use, even a small garden can become a valuable hummingbird stop.

And when a Ruby-throated Hummingbird darts into the garden and disappears into a cardinal flower or coral honeysuckle, you're seeing more than a beautiful bird having lunch.

You're watching pollination take flight.

Bats

Bats: Pollinators Elsewhere, Pest Controllers in Georgia

Bats belong in a discussion about pollinators but Georgia's bats come with an

interesting twist.

Around the world, bats are important pollinators of hundreds of plant species, particularly in tropical and desert environments. Georgia's native bats, however, are insect eaters rather than nectar feeders, so they do not serve as plant pollinators here.

Instead, they perform another tremendously valuable nighttime service: **natural pest control.**

Georgia's Nighttime Insect Hunters

Georgia is home to 16 species of bats, including familiar species such as the Big Brown Bat and Eastern Red Bat.

All of Georgia's native bats feed primarily on insects. After sunset, they take to the air in pursuit of moths, beetles, mosquitoes, and other flying insects.

This appetite makes bats valuable neighbors for gardeners, farmers, and forests. Many of the insects bats consume are agricultural or landscape pests, including moths and beetles whose larvae can damage crops and plants.

So while moths may be working the garden's nighttime pollination shift, bats are patrolling the skies above them.

Bats and Agriculture

The benefits extend far beyond our backyards.

Insect-eating bats provide valuable natural pest-control services to American agriculture by consuming enormous quantities of insects that might otherwise damage crops. By naturally suppressing insect populations, bats can help reduce crop losses and potentially lessen the need for some pest-control measures.

In Georgia, their insect-hunting behavior benefits agricultural landscapes, forests, and crops such as pecans and cotton.

Their contribution is a good reminder that a healthy ecosystem requires more than pollinators. It also needs predators that help keep populations in balance.

But Some Bats Really Are Pollinators

Travel west and the story changes dramatically.

In the desert Southwest and farther south into Mexico, nectar-feeding bats such as the **Lesser Long-nosed Bat** and **Mexican Long-tongued Bat** visit flowers much as hummingbirds do.

These bats have adaptations including elongated snouts and long tongues that allow them to reach deep inside large flowers for nectar. As they feed, their faces and bodies become dusted with pollen, which they carry to the next flower.

Plants adapted for bat pollination often bloom at night and produce large, pale-colored, strongly scented flowers with abundant nectar and pollen.

Among the best-known examples are agaves and giant saguaro cacti.

Bats, Agave, and an Unexpected Connection

The relationship between bats and agaves provides a fascinating example of how wildlife, plants, and people can be connected.

As nectar-feeding bats travel between flowering agaves, they carry pollen from plant to plant, helping the plants reproduce and maintaining genetic diversity among wild populations.

Agaves, of course, are also important to people. They are used for products ranging from agave nectar to tequila and mezcal.

So in parts of the Southwest and Mexico, protecting bat populations also helps protect the ecological relationships that sustain these remarkable desert plants.

Georgia Bats Need Our Help, Too

Although our bats aren't pollinating flowers, they still deserve a welcoming place in the landscape.

Bat populations face several challenges, including habitat loss and **white-nose syndrome**, a fungal disease that has devastated some North American bat populations.

Homeowners can help by protecting mature trees and natural areas where appropriate, reducing unnecessary pesticide use, maintaining healthy insect populations, and providing suitable roosting habitat. Properly designed and installed bat houses may also provide supplemental roosting sites for some species.

The **Georgia Department of Natural Resources** monitors the state's bats and provides information about Georgia species, conservation, and ways homeowners can help.

Every Creature Has a Job

Georgia's bats teach us something important about pollinator gardening: supporting pollinators means supporting the larger ecosystem around them, too.

Our native bats don't carry pollen between Georgia's flowers. Instead, they spend their nights consuming insects and helping maintain balance in our gardens, farms, and forests.

Meanwhile, thousands of miles away, their nectar-feeding relatives are plunging their long tongues into agave and cactus flowers and carrying pollen across the desert.

Different bats. Different jobs. Both important.

So when you spot a bat darting through the Georgia evening sky,

you aren't watching a pollinator.

You're watching one of nature's nighttime pest-control specialists reporting for duty.

The Pollinator Garden Never Sleeps

Pollinator Tutorial PART 4 October 2026 Entry

A Georgia Gardener's Guide to Fall Migration, Winter Habitats & Spring Renewal

As the seasons change, our gardens have one more important job to do.

When autumn arrives in Georgia, our gardens begin their colorful transformation. Goldenrod glows in the afternoon sunshine, asters burst into bloom, and fallen leaves create a patchwork across the landscape. While gardeners may be thinking about putting their gardens to bed for winter, nature is still very much at work.

For butterflies, bees, birds, and countless beneficial insects, fall is a season of preparation, migration, and survival.

A pollinator garden is more than a summer showcase of beautiful flowers. It is a year-round sanctuary that provides food, shelter, and protection for the wildlife that depends on it.

With a few thoughtful gardening practices, we can help our pollinator friends survive the changing seasons and welcome them back when spring arrives.

The Great Monarch Migration Through Georgia

Every fall, one of nature's most extraordinary journeys takes place right above our gardens.

Monarch butterflies begin their southward migration from breeding grounds in the northern United States and Canada. Some travel as far as 3,000 miles to reach the oyamel fir forests of central Mexico, where they spend the winter.

Georgia becomes an important stop along this remarkable journey.

When Do Monarchs Visit Georgia?

Monarchs generally migrate through Georgia from late September through October, with many sightings occurring in early to mid-October. Their visits may last only a few days as they rest and replenish their energy before continuing south.

Nectar-rich flowers become essential refueling stations along their route.

Late-blooming favorites include:

- **Goldenrod:** A valuable native nectar source during fall migration.

- **Asters:** Their abundant autumn flowers provide important late-season nectar.
- **Ironweed:** Tall stems and vibrant purple blossoms attract butterflies and bees.
- **Zinnias and cosmos:** Colorful garden annuals that can provide nectar well into fall.
- **Wingstem:** A native wildflower that supports a variety of late-season pollinators.

Even a small garden filled with these flowers can become a welcome resting place for a traveling monarch.

Did You Know? Not All Monarchs Follow the Same Route

Although many eastern monarchs migrate to central Mexico, research indicates that some butterflies traveling along the eastern side of the Appalachian Mountains take a different route toward Florida.

Some may remain in Florida during winter, while others continue farther south. Researchers are still learning how these migration patterns differ.

Monarchs may also gather in clusters, called *roosts*, on trees during cool evenings or periods of unfavorable flying weather.

Whether a monarch is traveling to Mexico or Florida, Georgia's gardens can provide important nourishment along the way.

Gardener's Tip: Keep your late-blooming flowers available for as long as possible. Avoid unnecessary fall pruning while flowers are still providing nectar.

Why Fall and Winter Pollinator Gardens Matter

As temperatures cool, natural food sources become less abundant. Pollinators must find places to feed, rest, reproduce, or survive the winter.

A well-planned pollinator garden provides three essentials: **food, shelter, and protected habitat.**

1. Provide Food for Wildlife

Fall flowers help migrating butterflies and hummingbirds build energy reserves for their journeys. Native bees also depend on late-season blooms before winter arrives.

But flowers are only part of the story.

Once blooms fade, seed heads become valuable food sources for birds such as goldfinches and sparrows.

Consider leaving these plants standing through winter:

- Purple coneflower
- Black-eyed Susan
- Goldenrod
- Native asters
- Sunflowers

Native shrubs such as American beautyberry and yaupon holly also provide seasonal fruit for birds and other wildlife.

Gardener's Tip: Resist the urge to remove every dried flower head. What may look like a spent flower to us could be a winter meal for a hungry bird.

2. Leave the Leaves!

One of the easiest ways to support pollinators costs absolutely nothing.

Simply leave some of your fallen leaves where they land.

Beneath those leaves, an entire miniature world may be preparing for winter.

Butterflies and moths may overwinter as eggs, caterpillars, pupae, or adults, depending on the species. Firefly larvae shelter in moist soil and leaf litter, while mated bumblebee queens seek protected places to survive the cold.

Fallen leaves provide insulation, retain moisture, enrich the soil as they decompose, and create habitat for beneficial insects.

Instead of bagging every leaf, try gently raking leaves into garden beds, around shrubs, or beneath trees.

Gardener's Tip: Create a designated natural habitat area in your garden where leaves and plant debris can remain undisturbed until spring.

3. Let Those Stems Stand

Many native bees use hollow or soft-centered plant stems as nesting chambers.

Goldenrod, asters, sunflowers, and other perennial plants can provide valuable nesting opportunities when their stems remain standing.

Rather than cutting your entire garden to the ground in autumn, leave healthy stems through winter.

In spring, if trimming is necessary, cut some stems to varying heights and leave the remaining stalks in place. The cut stems may become nesting sites for the next generation of native bees.

Remember: A tidy garden may please the gardener, but a slightly untidy garden can be a haven for wildlife.

4. Protect the Ground Beneath Your Feet

Not all bees live in hives.

In fact, many native bee species nest underground, using small tunnels in well-drained soil.

Excessive mulching, digging, and soil disturbance can destroy these nesting areas.

Help ground-nesting pollinators by leaving a few sunny patches of undisturbed, mulch-free soil.

Natural logs, fallen branches, and small brush piles also provide habitat for beneficial insects.

5. Remember Water

Birds and other wildlife need reliable water sources even as temperatures begin to drop.

A shallow birdbath or dish with stones can provide a safe drinking place. Keep the water fresh, provide shallow landing areas for insects, and clean containers regularly.

During freezing weather, refresh water when practical and safe.

Fall Is Also a Wonderful Time to Plant

Georgia's mild autumn weather offers an excellent opportunity to establish native perennials, shrubs, and trees.

Although aboveground growth slows as temperatures fall, roots can continue developing while soil temperatures remain favorable.

Fall planting gives many plants a head start before the heat of the following summer.

Choose species native to your region and suited to your garden's sunlight, moisture, and soil conditions.

Some excellent additions to a Georgia pollinator garden include goldenrod, asters, ironweed, native milkweeds, and purple coneflowers.

Planting a variety of species that bloom from early spring through late fall creates a more dependable food supply throughout the growing season.

Winter Sowing: Planting the Seeds of Spring

Did you know that winter itself can help prepare native seeds for germination?

Many native wildflowers have evolved to experience cold, moist winter conditions before sprouting in spring.

This natural process is called **cold stratification**.

Cold stratification helps break seed dormancy, signaling that winter has passed and conditions are becoming favorable for growth.

Winter sowing is an inexpensive and rewarding way to grow native plants while working with nature's seasonal rhythms.

Native Plants to Consider for Winter Sowing

Depending on the species and seed source, these plants may benefit from winter sowing or cold stratification:

- Black-eyed Susan (*Rudbeckia hirta*)
- Goldenrod (*Solidago* species)
- Ironweed (*Vernonia* species)
- Joe-Pye weed (*Eutrochium* species)
- Purple coneflower (*Echinacea purpurea*)
- Native milkweed (*Asclepias* species)

Not all native seeds require the same treatment. Some need extended cold stratification, while others germinate readily without it. Always check the requirements for your particular species.

Tutorial: How to Winter Sow Native Seeds

What You'll Need

- Small planting pots or recycled containers with drainage holes
- Seed-starting mix or suitable potting medium
- Native wildflower seeds

- Plant labels and a waterproof marker
- Spray bottle or gentle watering can
- Dry leaves or other protective material
- Chicken wire or mesh to protect seeds from wildlife

Step 1: Prepare Your Containers

Fill your containers with moistened planting medium, leaving a little space at the top. Make sure excess water can drain freely.

Step 2: Sow Your Seeds

Scatter seeds according to their species-specific planting instructions.

Some seeds require light to germinate and should remain on or near the soil surface. Others need a light covering of soil.

Step 3: Label Everything

Write the plant name and sowing date on a weather-resistant label.

This will make it easier to identify your seedlings when spring arrives.

Step 4: Place Containers Outdoors

Choose a protected outdoor location where the containers will experience natural winter temperatures and precipitation.

Use mesh or chicken wire when necessary to prevent birds and other animals from disturbing the seeds.

Step 5: Monitor Moisture

Allow nature to provide much of the moisture, but check periodically to make sure the soil does not dry out completely or remain waterlogged.

Step 6: Watch for Spring Growth

As temperatures warm, seeds that have completed their dormancy requirements may begin to germinate.

Once seedlings develop sufficiently, gradually acclimate them to their final growing conditions before transplanting.

Gardener's Tip: Winter sowing is a wonderful project for garden clubs, schools, and families. Extra seedlings can be shared with neighbors to create more pollinator-friendly spaces throughout the community.

Eight Simple Ways to Prepare Your Pollinator Garden for Winter

You don't need a large property or an elaborate landscape to make a difference. These small actions can create meaningful habitat for wildlife.

1. **Plant native flowers and shrubs.** Choose plants adapted to Georgia's growing conditions and wildlife.
2. **Leave the leaves.** Allow natural leaf litter to protect insects and enrich the soil.
3. **Rethink heavy mulching.** Use leaf litter where appropriate and preserve some exposed soil for nesting bees.
4. **Preserve seed heads.** Let birds enjoy the seeds from your spent summer and fall flowers.
5. **Keep healthy plant stems standing.** Provide nesting and overwintering opportunities for native bees.
6. **Minimize soil disturbance.** Avoid unnecessary digging in established habitat areas.
7. **Protect newly planted perennials.** Water appropriately and provide extra protection for vulnerable plants during severe weather.
8. **Water during dry periods.** Help newly established plants enter winter with adequate soil moisture.

Welcoming the Monarchs Back in Spring

The monarch story doesn't end when the last butterfly disappears over the autumn horizon.

During spring, typically April and May in Georgia, northward-moving monarchs and their descendants begin appearing as the breeding season progresses.

Their return reminds us why native milkweed is so important.

Milkweed is the host plant for monarch caterpillars. While adult monarchs feed on nectar from many flowers, their caterpillars depend on milkweed leaves for food.

Including regionally appropriate native milkweed alongside a variety of nectar-producing flowers helps support the monarch life cycle.

By preparing our gardens in fall and protecting habitats through winter, we help create a healthier landscape for the pollinators that return in spring.

A Little Less Cleanup, A Lot More Life

Perhaps the most important lesson of fall and winter pollinator gardening is that **sometimes the best thing we can do for nature is a little less.**

Leave a few leaves beneath the trees. Allow dried flower heads to remain standing. Keep a corner of the garden natural. Plant a few native seeds and let winter work its magic.

What appears quiet and dormant above the ground may be full of life beneath it.

Every garden, no matter how small, can become part of a larger network of habitats supporting butterflies, bees, birds, and other wildlife.

And when the first warm days of spring arrive, our gardens will be ready to welcome them once again.

Happy gardening from the Marietta Daisies Garden Club!

Learn More and Explore

For additional information about Georgia pollinators, monarch migration, and winter habitat gardening, explore these educational resources:

- U.S. Fish & Wildlife Service — Monarch Butterfly Conservation in Georgia
- U.S. Fish & Wildlife Service — Winterize Your Pollinator Garden
- University of Georgia Extension — Protecting Pollinators During Fall
- Xerces Society — Where Do Pollinators Go in Winter?
- David Suzuki Foundation — Winter Sowing Native Seeds

Creating a Winter Haven

for Birds and Pollinators in Georgia

Pollinator Tutorial PART 5 November 2026 Entry

Winter is an important time for gardeners to support our local wildlife. Birds and pollinators face diminishing food supplies, limited water sources and the loss of natural habitats due to development and overly tidy landscaping. By providing food, water and shelter throughout the colder months, we can transform our gardens into welcoming winter sanctuaries while preparing for a beautiful and productive spring.

Plant with Purpose: Support Winter Food Sources

Native plants are the foundation of a healthy wildlife habitat. Although flowers may be less abundant during winter, seed heads, berries and evergreen plants provide essential nourishment and protection. Incorporating early and late-blooming plants also ensures that pollinators have access to food when other sources are scarce.

Winter-blooming plants for Georgia gardens include:

- **Camellias:** These evergreen shrubs produce beautiful pink, red and white flowers from fall through early spring, providing nectar for visiting pollinators.
- **Hellebores (Lenten Roses):** Their attractive evergreen foliage and winter blooms provide an early food source for emerging bees, particularly bumblebees.

Native plants that support winter wildlife include:

- **Yaupon Holly (*Ilex vomitoria*):** Provides year-round shelter and bright red berries that attract a variety of birds.
- **Rusty Blackhaw Viburnum (*Viburnum rufidulum*):** Produces dark blue berries that can provide nourishment during the colder months.
- **American Beautyberry (*Callicarpa americana*):** Its vibrant purple berries attract cardinals, mockingbirds and other wildlife.
- **Eastern Red Cedar (*Juniperus virginiana*):** Provides evergreen shelter and berry-like cones favored by cedar waxwings.
- **Wild Indigo (*Baptisia australis*):** Produces seed pods and provides valuable wildlife habitat.

- **Partridge Pea (*Chamaecrista fasciculata*):** Produces seeds enjoyed by mourning doves, quail and sparrows.
- **Coneflowers and Black-eyed Susans (*Echinacea* and *Rudbeckia*):** Leave their dried seed heads standing throughout winter to provide food for finches and other birds.
- **Goldenrod (*Solidago* spp.):** Even after flowering, its seeds and stems provide food and overwintering shelter for beneficial wildlife.

When planning your garden, consider planting flowers in clusters to help pollinators locate food more easily and conserve energy. Include a generous selection of evergreen trees and shrubs to provide year-round protection.

Understanding How Pollinators Overwinter

Overwintering, also known as winterizing, is the process of surviving colder temperatures and unfavorable seasonal conditions. Just as gardeners prepare their plants for winter, pollinators have their own remarkable strategies for surviving until spring.

Ground Nesters: Approximately 70 percent of native bee species nest in the ground. Sweat bees, mining bees and cellophane bees are among those that create underground burrows for nesting and raising their young.

Cavity Nesters: Approximately 30 percent of native bee species nest above ground, with many, including mason bees and leafcutter bees, seeking shelter in hollow stems, dead wood and other natural cavities.

Leaf Litter Nesters: Many butterflies, moths and other beneficial insects depend on undisturbed leaf litter for winter protection. Leaves provide insulation and shelter for eggs, caterpillars and pupae.

Many insects enter a period of suspended development known as *diapause*, allowing them to conserve energy until favorable conditions return. Dragonflies may spend winter beneath the surface of ponds as aquatic nymphs, praying mantises survive in protective egg cases, and ladybugs seek shelter beneath logs, rocks and inside tree cavities.

On warmer winter days, some insects may even emerge temporarily, while certain bumblebee species become active in early spring in search of the season's first blooms.

Provide Shelter and Nesting Opportunities

One of the most beneficial things gardeners can do during winter is resist the temptation to completely clean up their gardens. A little natural untidiness can make a tremendous difference in the survival of beneficial insects and birds.

- **Leave the leaves.** Fallen leaves provide natural insulation, enrich the soil and protect overwintering insects, caterpillars and eggs.
- **Expose some soil.** Leave sunny, well-drained patches of bare, mulch-free soil for ground-nesting bees.
- **Save the stems.** Allow dried flower stems, ornamental grasses and twigs to remain standing. Delay unnecessary pruning until late spring, and preserve some stems year-round for nesting insects.
- **Leave logs and save the snags.** Fallen branches, logs, brush piles and standing dead trees, where safe, provide valuable shelter and nesting opportunities.
- **Provide natural protection.** Dense hedges, evergreen shrubs and trees offer birds shelter from harsh weather and predators.
- **Add birdhouses and roosting boxes.** These provide additional protected spaces for birds during cold winter nights.

Consider designating a naturalized corner of your garden where leaves, stems and fallen branches can remain undisturbed throughout the year.

Don't Forget the Water

Clean, accessible water is just as important as food and shelter during winter. Natural water sources can become scarce, particularly when temperatures drop below freezing.

- **Birdbaths:** Provide a heated birdbath or regularly replenish water during freezing temperatures.
- **Shallow water dishes:** Keep birdbaths no more than two to three inches deep. Add stones or pebbles to create safe landing and drinking areas for smaller birds and insects.
- **Dripping water sources:** Even a slow-dripping container can attract birds.
- **Safe placement:** Position birdbaths in open areas where birds can watch for approaching predators, and clean and refresh the water frequently.

Plan and Prepare for Spring

Winter is also an excellent opportunity to plan next season's pollinator garden and begin growing native plants from seed.

Winter sowing is a gardening technique in which seeds are planted outdoors in containers or directly into the soil during the colder months. This mimics natural germination cycles and

allows seeds that require cold stratification to experience the necessary period of cold, moist conditions before germinating in spring.

This technique works particularly well for many native wildflowers, grasses and perennials.

Consider adding these native plants to your spring garden:

- Native milkweed
- Eastern red columbine
- Black-eyed Susan
- Native sunflowers
- Dense blazing star
- Native coneflowers
- Goldenrod

Choose a variety of plants with different blooming periods to provide a continuous supply of nectar and pollen from early spring through late fall.

Sometimes Doing Less Means Doing More

As we prepare our Georgia gardens for winter, remember that sometimes doing less means doing more for nature. Leaving fallen leaves, standing stems, seed heads and natural shelters allows our smallest garden visitors to rest, survive and prepare for another season of their vital work.

By providing food, water and shelter, we can create a thriving year-round habitat for birds, butterflies, native bees and other beneficial insects. In return, we are rewarded with birdsong, visiting pollinators, healthier gardens and a deeper connection to the natural world.

A beautiful garden is not simply one that looks beautiful to us, but one that sustains life throughout every season.

Additional Resources

- University of Georgia Extension – Attracting Birds and Pollinators to Your Winter Garden
- Georgia Department of Natural Resources – Providing Winter Habitat for Beneficial Insects
- U.S. Fish & Wildlife Service – Winterize Your Pollinator Garden

- Xerces Society – Overwintering Pollinators
- David Suzuki Foundation – How to Source Native Seeds and Plants