NATIVE FLORA

for life in Northwest Alabama

Issue 2: HERBACEOUS

AUTUMN & WINTER

This publication is brought to you by the Muscle Shoals National Heritage Area.

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Cover image: *Eupatorium perfoliatum* Common Boneset Source: USGS Bee Inventory & Monitoring Lab

IN THIS ISSUE

AUTUMN & WINTER

HERBACEOUS

Forbs: non-woody herbaceous plants with broad leaves and often flowers.

Graminoids: 'grass-like' herbaceous plants (grasses, sedges & rushes).

Vines: plants with stems that climb by tendrils, twining or creeping.

INTRO

Native What

Native : indigenous to the area, original, not introduced.

For this series, we include a selection of plants native to Northwest Alabama.

The area includes the following counties:
Colbert, Franklin, Lauderdale, Lawrence,
Limestone, Madison, & Morgan

Native Why

The interdependent nature of the ecosystem relies on diverse, nutrient rich, and safe habitats. Native plants, animals, insects and other organisms evolved together to share resources and habitats. Most native insects rely on native host plants to feed them, especially in the larval stage. Some insects have only one known plant host, like Monarch Butterflies with Milkweed. The average suburban landscape is a food desert for wildlife, dominated by a lawn and dotted with few foreign shrubs around the house.

We are fortunate in Alabama to have nature preserves and wild spaces. However, they are often isolated islands for long distance travelers. The spaces in between are occupied by us, in suburbia. There are enough of us with landscapes to serve as fueling stations for our pollinators, birds and animal friends. We can bring back pollinator populations by converting our lived in landscapes to healthy habitats, starting with native plants.

NATIVE FLORA : ISSUE 2

In the first NATIVE FLORA, we explored the vital role native plants play in Spring and Summer. In this issue, we make our way through Autumn and Winter.

As you read, consider that plants are sources of habitat (shelter) and/or nutrition (food). Every plant has numerous purposes and relationships in nature. As an exercise , let's look at the two images below.

Think of all the ways the elements in the photos provide for members of the ecosystem...

When we see Muscadine, we likely see food. A bird might see shelter and food. Obviously the house looks like shelter to us, but the coreopsis serves as shelter for a number of pollinators, as well as food when flowering.

Beyond the simplification of food and shelter, plants are interdependent with the soil food web and fungi. When we put ourselves in the role of plants and wildlife, we can see that humans are a little part of an infinite web of life. How we fit into that web is up to us. We have so much to learn from the inherent balance of the natural world. With our help, wildflower 'lawns' could become the norm!

A Goldfinch snacks on *Echinacea purpurea* seeds

AUTUMN harvest

seeds & leaves

Everyone gets pumped up about Spring blooms, but Autumn happenings lay the foundation for bounty the following year. This is a time for reproducing and filling up energy stores, as well as migrations and nest building.

Many seeds of perennial grasses and flowers mature in Autumn. A good practice for harvesting is to take no more than 1/3 of the seeds. The rest will feed songbirds, and what remains will be embedded into the soil to grow anew. Many native plants require a period of cold dormancy known as 'cold stratification'. It happens naturally when seeds fall onto the ground where they sleep over Winter until Spring conditions bring them out. So it's perfectly natural to plant seeds in Autumn. Just be sure to mark what you've planted so you know it's there. You can also plant them in pots and leave them in an uncovered area where they will be exposed to the elements. Since they will overwinter in the soil, this practice is known as 'winter sowing'.

Fallen leaves from trees provides important habitat for beneficial insects, chipmunks, salamanders, turtles and of course earth worms. These little creatures lay their eggs, eat and nest in and under the leaf layer. Leaves make amazing free mulch and improve soil health. Consider creating a plan to keep leaves on site. Rake or blow the leaves away a good distance from your house and structures into garden beds or mulch piles to be used later. You can also create a leaf mold bin to compost the leaves. There are different levels of using leaves ranging in effort. Also, municipalities often offer leaf mold for free. Keeping leaves on site and cycling the nutrients is the most sustainable option, and doesn't bring in material from unknown sources.


Charles Shapiro/Dreamstime

MONARCH MOVEMENTS

PATTERNS

Spring - Adult monarch butterflies leave their winter homes and fly north to lay their eggs on Milkweed plants (Asclepias). Caterpillars hatch from the eggs, eating the milkweed leaves until they form a chrysalis. The butterflies that emerge as the first generation of adults continue the migration North. There they lay eggs for the next generation.

Summer - The eggs laid by the second generation hatch and the third generation emerges to fly further north to continue the cycle for a total of three or four generations.

Autumn - The last generation of monarchs begin traveling south towards their winter homes. The last generation of monarchs are different from the previous ones. They are bigger, can fly longer distances and enter a reproductive pause when it's time for Autumn migration.

Winter - Monarch butterflies rest in a forest in Mexico or in California.

MYSTERIES

How are the last generation of Monarchs made differently to make the long journey? How do Monarchs know where to go in the winter? They are two or three generations away from their ancestors who would have made the journey. Some scientists say this is coded into their DNA.

THREATS

Monarch numbers are in rapid decline due to loss of habitats for breeding, migrating and overwintering. Their decline is attributed to climate change, the use of pesticides, monoculture, farming in the US, as well as logging in Mexico. As of December 2024, the US Fish & Wildlife proposed Endangered Species Act Protection for Monarchs.

Abbie Hyche

Kclarkphotography/Dreamstime

Fuel Fall Migration with Milkweed

You can see Milkweed throughout the year. Spring and Summer show stem and flower. Characteristic fuzzy tailed seed pods develop in Autumn and persist through Winter. Many Milkweeds have a long taproot - avoid digging in the wild as they likely will be damaged. Some varieties require cold stratification(or winter sowing) for seeds to germinate.

EARLY VARIETIES (MAY - AUGUST)

Asclepias variegata **White Milkweed, Redring Milkweed**
1-3 ft H x W. White flowers with tinges of red. Full sun to light shade. Well draining soil.

Asclepias amplexicaulis **Clasping Milkweed**
2.5' H x 1-1.5' W. Full sun to light shade. Pink to reddish purple flowers. The leaves 'clasp' around the stems.

Asclepias tuberosa **Butterfly Weed, Orange Milkweed**
2.5' H x 1-1.5' W. Orange flowers. Full sun. Drought tolerant, but can also handle occasional flooding in well draining soil. Great rain garden plant.

Take care not to confuse this one with Mexican Milkweed - they have orange flowers with yellow tips. This variety sends false signals to Monarchs, causing them to linger when they should be moving on to avoid cold temperatures.

Asclepias syriaca **Common Milkweed**
2.5' H x 1-1.5' W. Shades of pink and purple. Full sun. Easiest to establish and most drought tolerant.

Asclepias verticillata **Whorled Milkweed**
2' H x 1' W. White flowers on upright stems with very skinny leaves. Full to part sun.

LATE VARIETIES (JUNE - OCTOBER)

Asclepias incarnata **Swamp Milkweed, Pink Milkweed**
5' H. Deep pink flowers. Full sun to light shade. Likes the most moisture of all the milkweeds. Swamp Milkweeds don't have a long taproot, so they are easy to divide and transplant.

Matelea gonocarpos **Climbing Milkweed, Anglepod Vine** ∽ 20' long, white, yellow, green , purple , or brown flowers. Full sun to light shade. There are a couple varieties of 'Climbing Milkweed' in our area.

moist rocky woods / ravines / open woodlands

MILKWEED majesty

Top left: *Asclepias tuberosa*, Butterfly Weed; Right: *Asclepias incarnata*, Swamp Milkweed; Bottom left: *Asclepias variegata,* White Milkweed

Milkweed is the sole larval host plant for Monarch caterpillars. The flowers provide nectar and pollen to adult butterflies.

Milkweed plants support not only Monarchs, but a range of pollinators and nectar seekers.

Asclepias tuberosa **Butterfly Weed**

USGS Bee Inventory & Monitoring Lab

Milkweed seed pods are full of fuzzy tailed seeds. Seed pods develop around October and persist into winter.

Butterfly Weed in late October

Unidentified Milkweed Vine in early January

PLANTS TO SUPPORT MONARCHS & OTHER NECTAR SEEKERS

loosely organized by bloom period

Eastern Smooth Beardtongue / *Penstemon laevigatus*
Blanket-flower / *Gaillardia pulchella*
False Sunflower Eastern Oxeye / *Heliopsis helianthoides*
Narrow-leaf Mountain Mint / *Pycnanthemum tenuifolium*
Black-eyed Susan / *Rudbeckia hirta*
Blue Mistflower / *Conoclinium coelestinum*
Dense Blazing star / *Liatris spicata*
Field Thistle / *Cirsium discolor*
Giant Ironweed / *Vernonia gigantea*
Joe Pye Weed / *Eutrochium fistulosum*
Showy Goldenrod / *Solidago speciosa*
Spotted Beebalm / *Monarda punctata*
Wingstem / *Verbesina alternifolia*
Narrowleaf Sunflower / *Helianthus angustifolia*

Members of the Milkweed Family (Asclepiadaceae) are a food source for Monarch caterpillars, nymphs of Milkweed Bugs and Milkweed Tussock Moth caterpillars.

MILKWEED:

Larval host to:

Monarch (Danaus plexippus)

Queen Butterflies (Danaus gilippus)

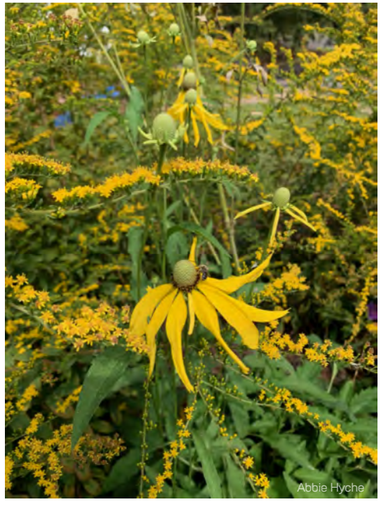
Nectar / Pollen (food source) for:

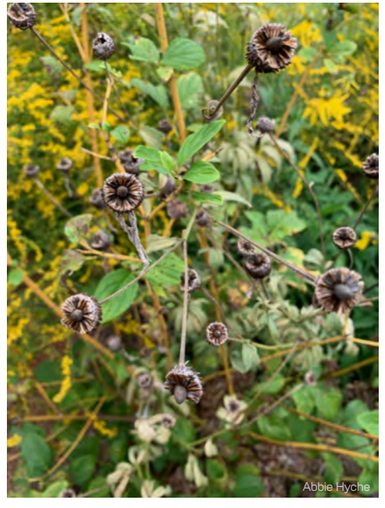
Butterflies, skippers, long-tongued bees, wasps, adult Monarchs and hummingbirds.

late **BLOOMS**

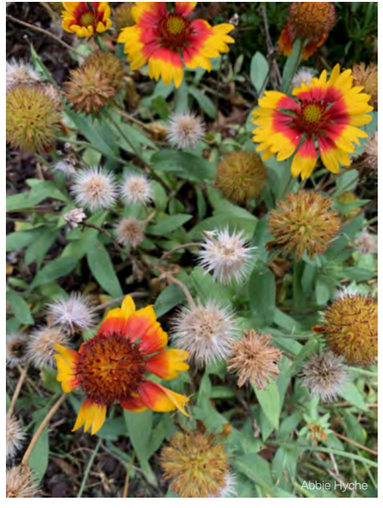
Fall flowers are important for pollinators to store up energy for winter migration or hibernation. Autumn seeds are the last call for songbirds before they become scarce. Coneflowers and Blanket flowers have incredibly long bloom periods that last until the frost arrives.

Look to these late bloomers with loads to offer.

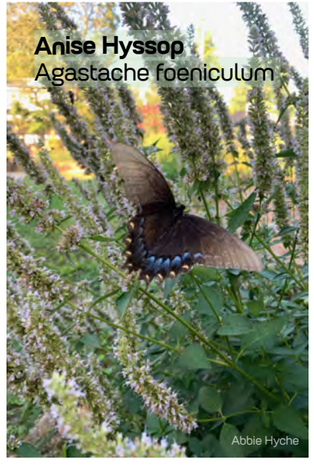




Gray Headed Coneflower / *Ratibida pinnata* in a bed with other yellows, Goldenrod and Yellow-Twig Dogwood. These two photos were taken on the same day in September. Notice how there are new flowers, even as mature seed heads have already been substantially nibbled on by birds. They are drought tolerant and prefer well draining soil. They grow 2-5' H x 2' W in full sun.



Common Blanket Flower / *Gaillardia pulchella* Another long bloomer to host flowers and seeds simultaneously. They grow 1-2' H x W in full sun and well draining soil.



late **BLOOMS**

***Eupatorium* - Bonesets, Thoroughworts, & Fennels**

Eupatorium is a mighty genus in the Asteraceae family. Eupatoriums are just getting started when other plants have finished flowering. Nectar seekers get their fill and late forming seeds supply granivorous birds in winter. *Eupatoriums* have special value for native bees and support biological control by supporting beneficial predatory insects, like blue Wing Wasps (Scolia dubia). These wasps keep beetle popoulations in check. Several species serve as host plants for moths as well. Look for *Eupatorium* between July and November.

Dry - Medium Soil / Full Sun -Part Shade

***Eupatorium hyssopifolium* / Hyssop Leaved Thoroughwort** 1-3' H.
Host plant for Clymene moth.

***Eupatorium album* / White Thoroughwort** 2-3 ' H.

***Eupatorium altissimum* / Tall Thoroughwort** 1-4' H.
Thrives only in limestone based soils.

***Eupatorium capillifolium* / Dogfennel** 3-6' H.

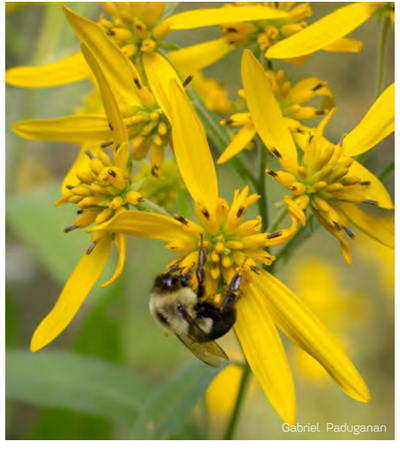
Medium - Wet Soil / *Full Sun -Part Shade*

***Eupatorium rotundifolium* / Roundleaf Thouroughwort** 2-3' H.

***Eupatorium perfoliatum* / Common Boneset** 4-6' H.

***Eupatorium serotinum* / Late Boneset** 3-5' H.

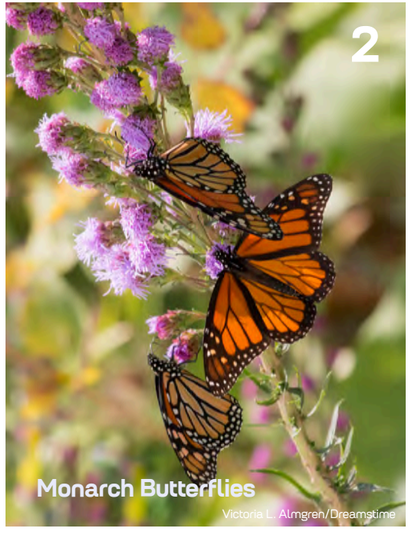
Bonesets earned their name though a history of medicinal use. They were used to treat 'breakbone' fevers, such as Dengue.



Verbesina alternifolia **Common Wingstem aka Yellow Ironweed**

Grows 6-8′ H. Prefers full sun. Shares a bloom time with Purple Ironweed (*Vernonia*), seen in the above field along with Goldenrod (*Solidago*). Serves as host plant for Summer Azures, Silvery Checkerspots and Gold Moths . This is a highly valuable plant for all bees, and should get more attention in gardens. Common Wingstem is large and reseeds heavily, so give them room to spread.

fields / rich moist woods / meadows / woodland edges



1. Dense Blazing Star *Liatris spicata* 3-6′ H.

2. Small Head Blazing Star / Appalachian Blazing Star *Liatris microcephala* 2-3′ H.

Blazing Stars prefer moist - wet, but well draining soils. The Liatris Flower Moth is worth seeing and getting to know. Their larvae feed on the flowers and seeds. The Liatris Borer Moths do what their name implies. Butterflies including Monarchs welcome Liatris nectar, as do bees, and hummingbirds.
You can propagate Liatris by digging up and dividing clumps or planting bulbs in Fall.

rich woods / meadows / riverbanks

fall **STARS** native sunflowers

Narrow-leaf Sunflower *Helianthus angustifolia* graces an urban setting.

Besides being Nature's bird feeders, Sunflowers (*Helianthus*) support bees, butterflies, ladybugs, and small mammals. They are a host plant for Silvery Checkerspot Butterflies. Of the latest and tallest blooms, look for them to shine from August - November.

***Helianthus angustifolia* / Narrow-leaf Sunflower** 3-8' H.

***Helianthus atrorubens* / Appalachian Sunflower** 2-6' H.

***Helianthus divaricatus* / Woodland Sunflower** 2-6' H.

***Helianthus resinosus* / Resindot Sunflower** 2-8' H.

GOLDENROD

Sweet Goldenrod *Solidago odora*

Photos clockwise from top left: Richard Mcguirk/Dreamstime, Gabriel Paduganan, Higuera Dreamstime, Michelle K Wood/Dreamstime

Asteracea

Solidago / Goldenrod

Bloom period: July - October
Sun: Full Sun - part sun

Supports:
Bees
Butterflies
Moths
Beetles
Songbirds
Humans

Hairy-belted Miner Bee
(Adrena hirticinata)

Wavy-lined Emerald
(Synchlora aerata)

Eastern Gray Goldenrod, Oldfield Goldenrod ***Solidago nemoralis*** 1-3' H. Native to most of Alabama.

Wreath Goldenrod ***Solidago caesia*** 1-4' H. Prefers part sun. An Eastern woodland variety.

Sweet Goldenrod ***Solidago odora*** 2-4' H. Noted for sweet anise scented aroma - used in herbal tea.

Showy Goldenrod ***Solidago speciosa*** 3-4' H. Bright golden yellow flower rods. Tolerant of drought and clay soil. Spreads easily.

Eared Goldenrod, Clasping Goldenrod ***Solidago auriculata*** 3-5 'H. Arched flower heads

Wrinkle-leaf Goldenrod ***Solidago rugosa*** 2-6' H. Arching stalks. A dwarf variety that likes water. Excellent rain garden plant.

Common Goldenrod, Tall Goldenrod ***Solidago altissima*** 3-8' H. The tallest of them all. Widespread across Alabama.

Goldenrod is a host plant for Wavy-lined Emerald moths and Goldenrod Gall Flies. Gall Fly larvae hatch and are eaten by birds throughout Fall and Winter. People have been using Goldenrod for ages in herbal medicine, and as a gorgeous natural dye.

Goldenrod was once the Alabama state flower, until it was replaced in 1959 with the Japanese Camellia. Due to confusion with allergy irritating Ragweed (Ambrosia), found blooming at the same time and place, Goldenrod was dubbed a weed.

Unfortunately, Goldenrod is often sprayed with herbicides. Because so many beneficial insects rely on Solidago plants, their chances of exposure to harmful chemicals is very high. It limits safe foraging for both insects and humans to patches that haven't been sprayed.

Photos clockwise from top left: USGS Bee Inventory and Monitoring Lab, Mercedes-Fletcher, Martina Osmy/Dreamstime

the **LATEST BLOOMS**

Late Purple Aster *Symphyotrichum patens* 2-3' H. branching arcs. Most Asters require ample sunlight, but these can grow in part shade. They are tolerant of both wet and dry soil. This Aster has special value to native bees. Can be seen blooming through December when little else is.

Blue Mist Flower, Wild Ageratum
Conoclinium coelestinum

3' H. Full-part sun. More purple than blue really. Spreads by rhizomes and self seeding, so not ideal for small areas.

A long bloom period supports bees, butterflies, moths and songbirds. Also of value to native bees.

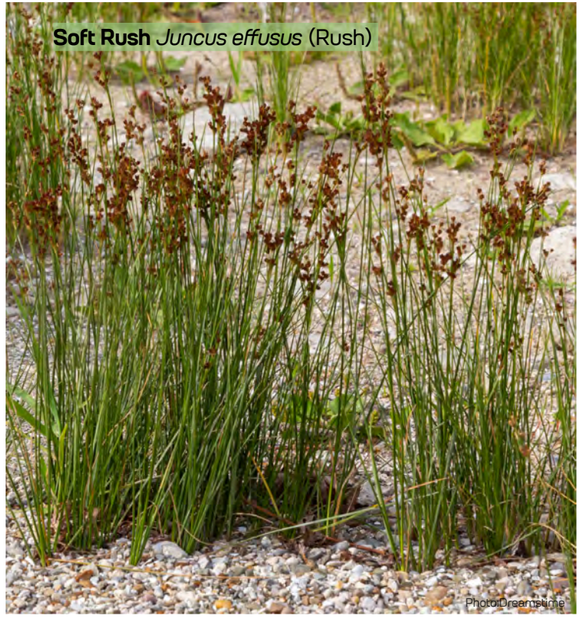
where the fairies live…

Below: Blue Wood Aster planted with Cinnamon Fern, Turk's Cap and Oakleaf Hydrangea.

GRAMINOID: fancy term for a grass-like plant

***Poaceae* (Grasses)**
***Juncaceae* (Rushes)**
***Cyperaceae* (Sedges)**

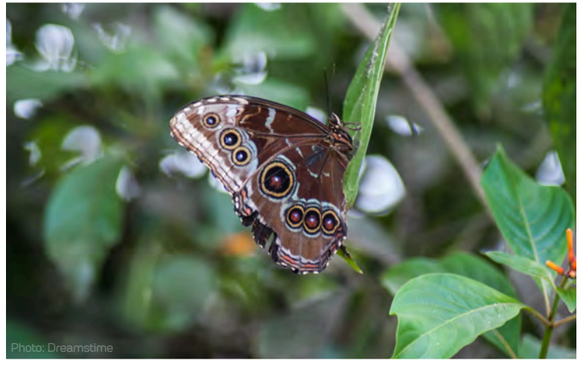
Grasses are hollow, like bamboo, which is a really large grass.
Rushes are solid and round. Usually found in moist to wet soils.
Sedges have edges (triangular). Most are cool season growers, evergreen and shade tolerant.



Pollinators don't just need flowers in the traditional sense. Grasses, sedges, and rushes provide habitat and food. Butterflies including Skippers and Northern Pearly Eyes use them as a larval host.

Grasses have flowers (and pollinators) too.

Skippers (bottom left) & Northern Pearly Eye butterfly (bottom right) are supported by grasses.



American Bison once roamed free as far south as Alabama. Today they're found mostly in farms or nature preserves. Native grasses grazed by Bison include: Big Bluestem, Little Bluestem, Indian Grass, Eastern Gamma Grass and Side Oats Grama. Like the Bison, the prairie and savannah habitats that used to cover much of Alabama, have been reduced to small patches.

THE BIG 4 PRAIRIE GRASSES

Little Bluestem *Schizachyrium scoparium June - December*

Big Bluestem, Turkey Foot *Andropogon gerardii August - October*

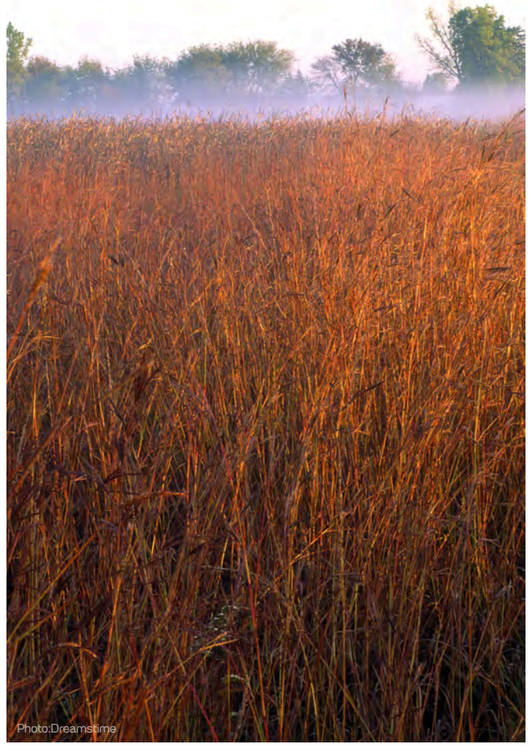
Indian Grass *Sorghastrum nutans August - October*

Switchgrass *Panicum virgatum August - November*

Above: 'Blackhawk" Big Bluestem in flower.
Left: Big Bluestem's autumn tones of copper and bronze

Big Bluestem, Turkey Foot *Andropogon gerardi*

4-8' H A favorite of Bison and Cattle. Their pronged flower heads resemble a turkey's claw.



Little Bluestem *Schizachyrium scoparium*

Wildlife value: Provides safety and overwintering habitat to small mammals, birds, and insects. Ground nesting birds, including field sparrows and common yellowthroats, build their nests in foliage just off of the ground. Food source for herbivorous insects including leafhoppers and beetles. Larval host for several skipper butterflies.

Common Wood Nymph lay eggs on Little Bluestem, and members of the *Andropogon* and *Panicum* genera.

Habitat and Form: Clumping warm season grass growing 2-4' H. Grows best in full sun in well draining soils. High drought tolerance once established. Excellent at preventing erosion. Blueish blades in summer become greener and then fade through golden yellow and reds as seed heads emerge in autumn. Bronze to tan foliage persists through winter.

Grassland habitats provide ecosystem services beyond supporting wildlife. Native grasses form extensive root systems that sequester carbon. They are essential in controlling erosion, managing stormwater, and increasing organic matter in the soil.

Prairie and savannah ecosystems have historically been maintained by fire. If we can't manage with fire, we have to manually remove trees that would shade out grasses and wildflowers. Many plant and animal species thrive in the specific conditions of grasslands. They are lost when their habitat disappears.

If you have a small space to garden, with good sun exposure, consider making a pocket prairie with native grasses and wildflowers. Milkweed, coneflower, blazing star, goldenrod, aster, and ironweed are suitable companions for year round blooms.

Additional native grass species to consider:

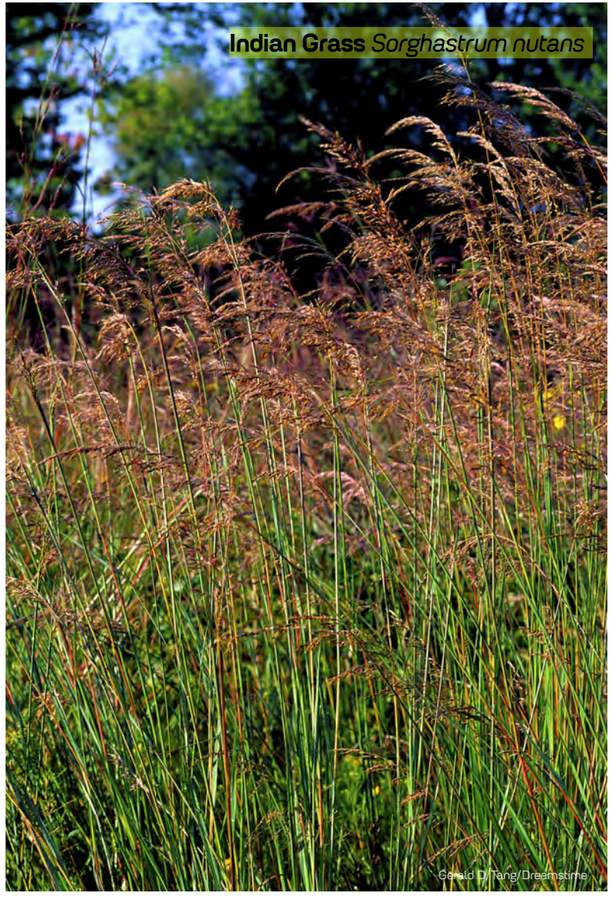
Side Oats Grama *Bouteloua curtipendula* 3' H.

Broomsedge Blustem *Andropogon virginicus* 2-4' H.

Prairie Dropseed *Andropogon virginicus* 2-4' H.

Indian Grass *Sorghastrum nutans*

4-8' H. One of the taller native grasses. Essential to prairie ecosystems.
Consumed by many herbivores including bison, deer, cattle, and rabbits.
Birds enjoy the seeds too.



Native Grasses - Habitat & food for livestock, larvae of butterflies, birds and small mammals.
Use for prairie restoration, meadow plantings, and screening along borders.

Switchgrass *Panicum virgatum 4-7' H. Green yellow culms topped with cloud-like flower plumes. Varieties include "Shenandoah Red" and "Northwind". Switchgrass is a larval host plant for skipper butterflies and wood nymph butterflies.* Seeds are eaten by songbirds and small mammals in the winter. *August - November*

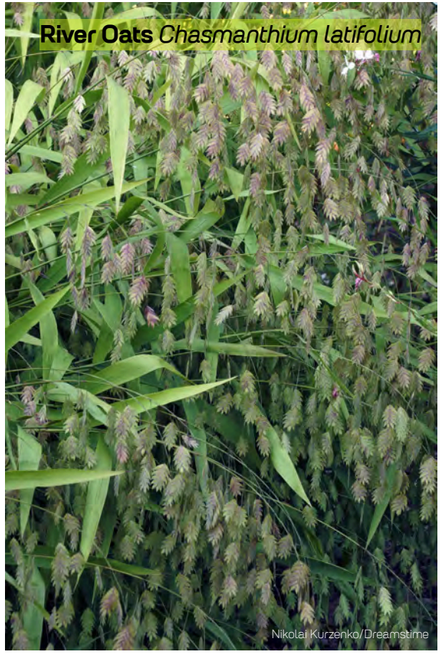
Habitat gardening tip: The dense upright columnar form of Switchgrass lends itself for use as a hedge as seen above. A native grass hedge is easy on the eyes and offers a world of benefit to wildlife.

lawn **ALTERNATIVES**

Consider replacing portions of lawn with native grasses or sedges. They work wonderfully to stabilize slopes and other areas where erosion is an issue. They aren't picky about soil, and they're drought tolerant once established, as well as able to tolerate inundation. They don't require herbicides pesticides or mowing. Return dead foliage when cut in late winter or early spring to the soil for free fertilizer. The ultimate low maintenance, highly beneficial plant. Look to others, like River Oats. They're technically not grasses, but they fulfill a similar role in adding texture and winter interest.

Chasmanthium latifolium / River Oats, Northern Sea Oats
2-5' H. Bamboo like leaves turn golden yellow in fall. Grows in sun or shade. Loves to be near water. Seeds are eaten by birds and mammals. Larval host plant for several skipper butterfly species.

White tinged Sedge *Carex albicans* part shade - shade 16" H x 1-2' W. Excellent ground cover.



For shady areas, try mass plantings of ferns with shade tolerant sedges. **Cinnamon Fern** (pictured) is a real stunner with fertile fronds that give them their name. Then they go through a gorgeous progression of color from golden yellow to orange. See pages 45 and 46 for more on ferns.

Additional shade tolerant options include: **Blue-eyed Grass** *Sisyrinchium angustifolium*, **Wild Ginger** *Asarum canadensis*, and **Moss Phlox** *Phlox subulata.*

Cinnamon Fern / *Osmunda cinnamomea* up to 6' H. Part sun - full shade. Rich, moist - wet soil.

OUR WINGED FRIENDS

Hylaeus pictipes

BEES & WASPS

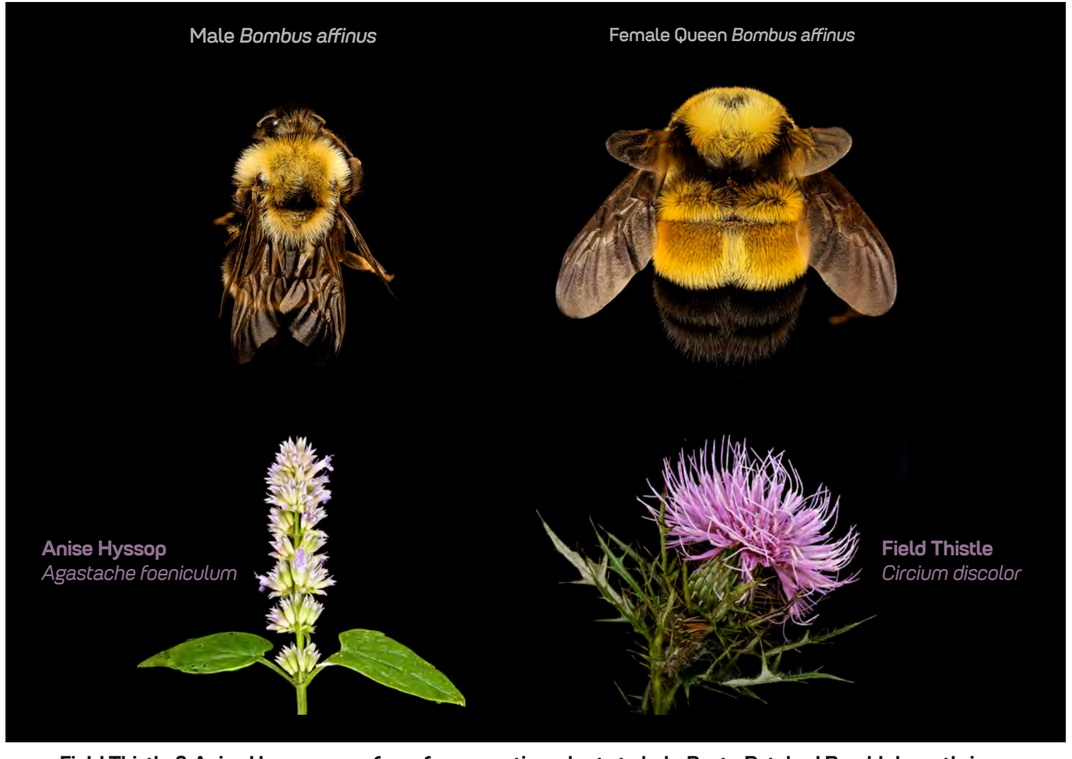
Beloved for their honey, Honeybees might be the first to come to mind, but they are an introduced species. While they are important pollinators, there are over 3,000 species of bees native to N. America. They and native plants are interdependent, as they have evolved alongside each other. Sweat bees, leaf cutter bees, miner bees, and long horned bees are some of the most common native bees in our area. In addition to being pollinators, predatory insects, like Cuckoo Wasps support biological control by keeping insect populations in check.

Another big thanks to the USGS Bee Inventory & Monitoring Lab for helping us to appreciate life at a macro level with these photos.

Bombus affinis The Rusty-Patched Bumble Bee

status: endangered

The Rusty Patched Bumblebee is a key pollinator for many native plants, especially in prairie and savannah ecosystems. Once widespread, populations have decreased dramatically, due to habitat loss, pesticide use and disease. They need diverse habitats with native plants for food sources and nesting. And of course, they need protection from pesticides.



Field Thistle & Anise Hyssop are a few of many native plants to help Rusty Patched Bumblebees thrive.

What do bees do when it gets cold?

While we usually only witness the adult stage of bees, much of their time is spent in a nest, in the egg, larval and pupa stages. Same with many butterflies and other insects. That's why the habitat role of plants is so important, and providing that in Autumn in Winter is essential to their survival.

As blooms fade and temperatures fall, bees adapt. They forage the last of the blooms and enter either dormancy or hibernation.

SOLITARY BEES

Solitary bees have varying life cycles and habits. They nest in autumn. Some lay their eggs in underground burrows or in cavities of plant stems or wood. Their offspring (larvae or pupae) enter a slowed state called diapause until they emerge in spring. A few species of solitary bees enter a state of torpor, and some make cocoons, but most of them die, leaving it up to their offspring to continue the cycle.

SOCIAL BEES

Bumblebee queens are the only members of the colony to survive winter. They dig an underground burrow where they hibernate until spring.

Honeybees cluster together around the queen in their hives to stay warm. They stay in the hive and feed on stored honey.

Threats to bees include pesticides, habitat fragmentation, climate change, and disease. Providing abundant sources of nectar and pollen (native plants) throughout the year, refraining from pesticide use, and allowing fallen plant material to be, will help them thrive. Especially in urban environments, human constructed "insect hotels" offer a dedicated place for insects to nest, lay eggs and hatch in peace.

WINTER rest

Plants enter a state of dormancy, whether they are evergreen or deciduous. Deciduous plants drop their leaves to reduce exposure to cold air. Some plants go completely underground where it's warmer. They might seem dead, but only part of them is. Plants perform some pretty amazing tasks in response to the cold. They pump water out of their cells and into their roots, as well as change the composition of their liquids to reduce freezing.

Many animals and insects hibernate or spend winters in warmer climates. The wildlife residents who remain active, are roaming in search of food, shelter and mates. We have many migratory birds with us in winter. Waterfowl move from icy or frozen waters to the South. Some pass through to refuel while others stay the whole season.

Just as we want to keep fallen leaves of trees on site in autumn, also allow the herbaceous layer (native perennials and grasses) to persist through the Winter. Bees, butterflies, and their offspring are resting in the shelter of stems and in the soil. The foliage that isn't used by birds or other animals for nesting, insulates plant roots, or falls to the ground, adding organic material to the soil. Seeds that aren't eaten by birds can go on to become new plants.

White Tailed Deer and River Otters mate in the winter months. Other winter maters include; foxes, horned owls, and cranes.

White Tailed Deer

Mfaimour/Dreamstime

North American River Otters

Mirkorosenau/Dreamstime

Important time for foliage & seed-heads to remain as food and shelter

Grasses are essential to the life cycle of bees, butterflies, and moths. Native bees nest in the thick low bases of grasses and the butterflies lay their eggs in grasses to overwinter. Ground nesting birds make their nests in the low thatch of grasses too. Letting the wild be might look messy to some folks, but it's perfect habitat. We have some work to do to change our perception of beauty.

Below: Erianthus alopecuroides Silver Plume Grass towers above Broomsedge & Bluestem.

Brandy Mcknight/Dreamstime

WINTER WETLANDS

Soft Rush
Juncus Effusus

Photo: Mlesauw//Dreamstime

While wetlands loose much of their foliage in winter, they still retain many inhabitants as well as migrants.

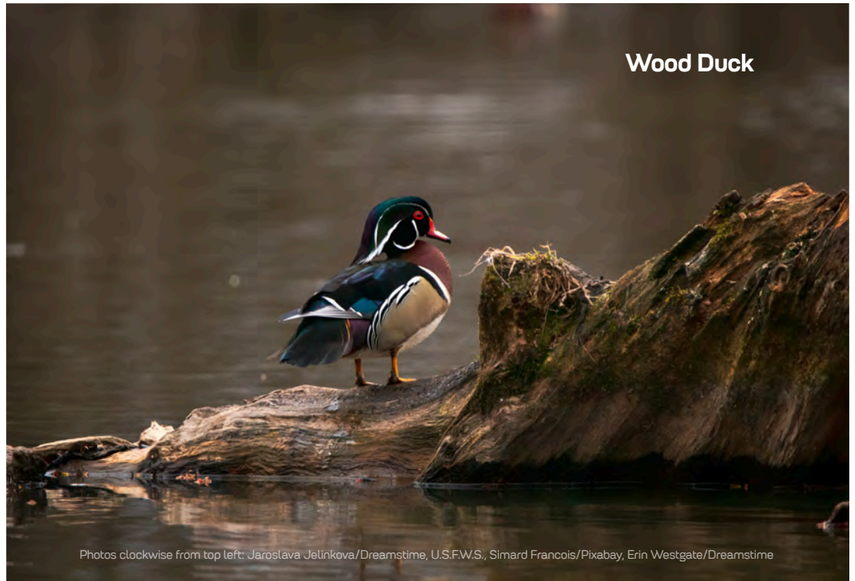
Wood Ducks are common year round, but larger numbers are present as they migrate south beginning in Autumn.

The evergreen foliage of **Soft Rush** provides habitat for Bluegill Fish to spawn. Rushes are also food and habitat for songbirds and waterfowl.

Alabama has the highest number of crayfish species, with many occurring in cave systems in Northwest Alabama. Key Cave is home to the Blind Crayfish or Phantom Crayfish. They've adapted so much to low light conditions that they've become blind. Crayfish are food for a variety of other species including fish, otters, and waterfowl.

Soft Rush

Bluegill Fish



Wood Duck

Blind Crayfish

Photos clockwise from top left: Jaroslava Jelinkova/Dreamstime, U.S.F.W.S., Simard Francois/Pixabay, Erin Westgate/Dreamstime

CANEBREAKS

Above: *Arundinaria* in Cane Creek Canyon Nature

Our Native Bamboo

Canebreaks, or thickets of native bamboo, were once abundant along riverbanks in Alabama & the wider Southeast. They were so widespread in Kentucky, that the state's name is a derivative of "Cane-tuck-ee". Colonization and further development of land wiped out canebreaks along with many species that relied on the specialized habitat they provided.

Scattered populations of **Giant River Cane** *Arundinaria gigantea,* **Switchcane** *Arundinaria Tecta, and* **Hill Cane** *Arundinaria appalachiana* can still be found today, growing along edges of rivers, streams and swamps. They are excellent at stabilizing eroding soils and sequestering carbon. The remaining canes provide shelter and food for wildlife and support other native plants.

Canebreak Specialists:
Bachman's Warbler (extinct)
Carolina Parakeet (extinct)
Florida Panther (at risk)

Several moth and butterfly species are dependent on *Arundinaria* as their larval host plant. Swainson's warbler thrives in canebreaks.

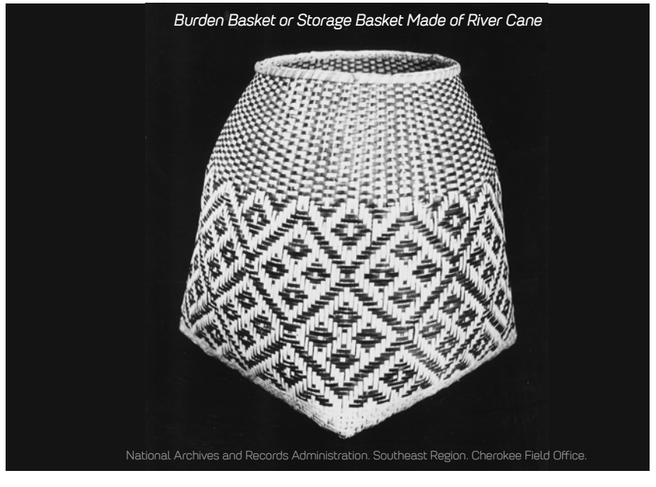
The Alabama canebreak pitcher plant relies on Canebreaks.

People and Plants - a shared story

For centuries, Native Americans cultivated and harvested River Cane, crafting intricate and functional items that reflected both their artistry and ingenuity. Baskets woven from cane were not only practical but also often held cultural significance, used in rituals, ceremonies, and as symbols of identity and craftsmanship. River Cane was essential for creating shelters, providing physical protection and a direct connection to the land.

The decline of River Cane parallels the tragic history of Native American displacement and cultural disruption. As colonization and environmental degradation took their toll, both the plant and the people who depended on it began to disappear. Loss of River Cane, once a symbol of Native ingenuity, became emblematic of the larger erosion of Indigenous knowledge and traditions.

Today, ecologists and Native communities are working together to replant and protect this important species. These initiatives serve as both ecological restoration and cultural reclamation, recognizing that the health of the land and the cultural practices of its original stewards are inseparable. By bringing River Cane back to its rightful place in the landscape, we not only restore a vital part of the ecosystem but also honor the deep cultural connection that Indigenous peoples have with this plant—a connection that has endured despite centuries of hardship.



Not a mushroom, a bamboo, or a rush ... a Horsetail. They are in a family and genus, all of their own: *Equisetum*.

Equisetum hyemale **Horsetail**

USGS Bee Inventory & Monitoring Lab

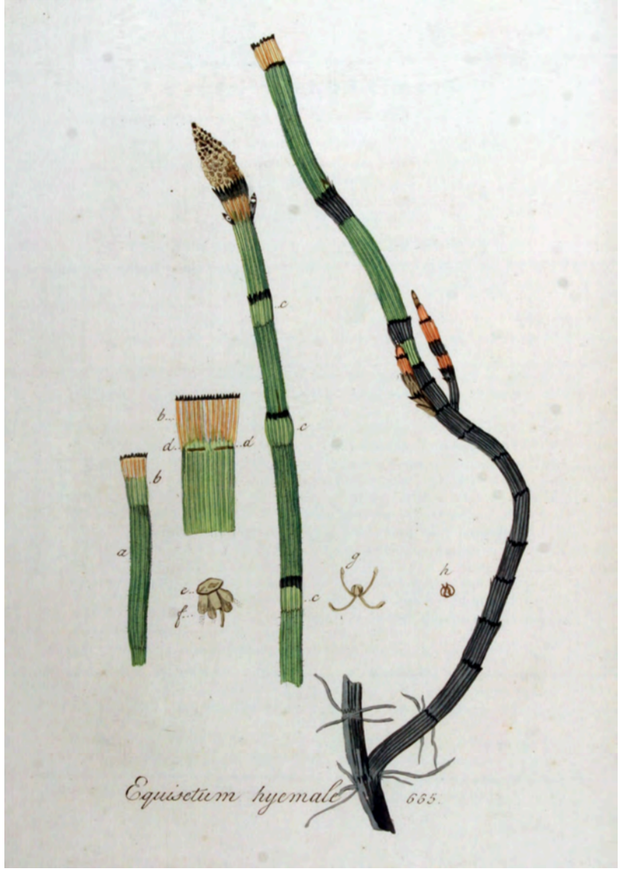
***Equisetum* Horsetail**

2-5' H. Evergreen. Full-part sun. Prefers moist, but well draining soil.

Horsetail thrives in challenging environments, such as wet, poorly-drained soils, and helps stabilize shorelines and stream banks with deep rhizomes. They are nutrient pumps, drawing up deep soil nutrients and recycling them to the surface. In wetland ecosystems, they filter pollutants and provide habitat for diverse organisms. With these superpowers, *Equisetum* is a pioneer, creating a foundation for other species to get established.

Pixabay

Illustration by Christiaan Sepp in *Flora Batava*,(1846)



wetlands / moist woods / marshes / river banks

winter **GREENS**

1. Marginal Shield Fern/ Dryopteris marginalis

2. Christmas Fern / Polystichum acrostichoides

3. Resurrection Fern / Pleopeltis polypodioides

Evergreen ferns are easily spotted in a backdrop of brown woodlands. Verdant ferns paired with chartreuses and silvers of moss and lichen are worth a chilly walk in the woods.

Evergreen or Semi-Evergreen Ferns:

Marginal Shield Fern, Marginal Wood Fern *Dryopteris marginalis* **Evergreen** 1-3' H x W.
Prefers continuous moisture in well-drained soils and partial to full shade.

Christmas Fern *Polystichum acrostichoides* **Evergreen** 1-2' H x W.
Prefers rich well-draining soil and partial to full shade.

Common Rockcap Fern *Polypodium virginianum* **Evergreen** 6"-1' H x W.
Prefers average, medium, well-drained soils in part shade to full shade.

Ebony Spleenwort *Asplenium platyneuron* **Evergreen** 1-1.5' H.
Narrow, long fronds. Prefers moist, shady, rocky spots.

Resurrection Fern *Pleopeltis polypodioides* **Evergreen** 3-6" H x 6-12" W.
Prefers well draining shallow, rocky soil in dappled sun to deep shade.
Likes to grow on wood or rocks. Appears to be dead when dry, but 'resurrects' when rain is received.

Maidenhair Spleenwort *Asplenium trichomanes* **Evergreen** 2-10" H x W.
Prefers rich, moist well-draining soil in part sun to full shade.

Royal Fern Osmunda regalis var. Spectabilis **Semi-evergreen** 3-4'H x W.
Prefers very rich, moist, well-draining soil in part sun to full shade.
Technically deciduous, but semi-evergreen in southern sites.

winter **BIRDS**

Alabama winters are too cold for some & just right for others.

Migratory Birds, such as most species of hummingbirds and warblers, spend winters further south. They rely on stopover habitats in northwest Alabama to rest and refuel during migration.

Rufous Hummingbirds travel the furthest of all the migratory hummingbirds, from western Canada and western U.S., down into Mexico.

Resident Birds, like cardinals, bluebirds, crows, and woodpeckers adapt to winter by changing their diets (eating seeds, berries, and stored food), seeking shelter, and conserving energy.

Northern Flickers are around all year, but he largest numbers are seen in winter when northern populations join the southern residents.

Wintering Migrants (birds from northern regions), including Juncos, Sparrows, and Finches, migrate to Northwest Alabama for the winter, taking advantage of milder conditions and abundant food sources.

Sandhill Cranes, for example, overwinter in Joe Wheeler State Park.

Rufous Hummingbird
Migratory Bird

U.S. Fish & Wildlife Service

Northern Flicker
Resident Bird

Pixabay

The Festival of the Cranes is an annual celebration of birds and conservation that happens in mid-January. The festival features talks, music, art, and food in Decatur, and of course, bird watching at Joe Wheeler State Park.

Sandhill Cranes
Wintering Migrant

Wirestock/Dreamstime

WHAT NOW?

We are incredibly fortunate to live in one of the top 5 most biodiverse states in the US.
It's up to us to protect our community of plants and animals.
Let's nurture nature like nature nurtures us.

Here's how.

1 Take action in your space. You can make a difference, even in the smallest of spaces.

- Start by removing invasive species like Nandina, Privet, English Ivy, Chinese Wisteria and Asian Honeysuckle.
- Adopt a native plant…or 20!
- Consider replacing portions or all of lawn spaces with native habitat.
- Protect beneficial insects - don't spray pesticides.
- Consider alternatives and know that predatory insects (like wasps) help to control other pests.
- Provide overwintering habitat and food for wildlife.
- Don't blow leaves to the street. Keep them on site as mulch in beds and around trees.
- If your space is 50-75% native habitat, get your garden on the map with homegrown National Park, or certify your garden with Wild Ones.

2 Plug-in into organizations protecting habitat by donating time or money. Check out the websites on the next page.

3 Spread the word!

MORE TO EXPLORE

WEBSITES

Alabama Audubon alaudubon.org
Alabama Butterfly Atlas alabama.butterflyatlas.usf.edu
Alabama Plant Atlas floraofalabama.org
Alabama Wildlife Federation alabamawildlife.org
Butterflies and Moths of North America butterfliesandmoths.org
Homegrown National Park homegrownnationalpark.org
Land Trust of North Alabama landtrustnal.org
Muscle Shoals National Heritage Area msnha.una.edu
North American Orchid Conservation northamericanorchidcenter.org
Paint Rock Forest Research Center paintrock.org
Tennessee Riverkeeper tennesseeriverkeeper.org
The Nature Conservancy nature.org/en-us/
USGS Bee Inventory and Monitoring Lab usgs.gov/centers/eesc/science/native-bee-inventory-and-monitoring-lab
Wild Ones wildones.org/chapters/alabama/
XERCES SOCIETY for Invertebrate Conservation xerces.org

BOOKS

Alabama Wildflowers Jan Midgley
Bringing Nature Home Douglas W. Tallamy
Gardening with Native Wildflowers Samuel B. Jones and Leonard E. Foote
Southern Wonder R. Scot Duncan
The Forest Unseen: A Year's Watch in Nature David George Haskell

PLANT INDEX

NATIVE FLORA was designed by Abbie Hyche

Cover image: *Eupatorium perfoliatum* Common Boneset Source: USGS Bee Inventory & Monitoring