

GUIDE TO POLLINATOR AND BIRD-FRIENDLY NATIVE PLANTS

What is pollination and why is it so important?

Pollination is the **process of moving pollen from one plant to another in order to produce seeds**. The exact method of pollen transfer depends on the plant itself, with certain species being pollinated by **wind, water** or even **themselves**, but most plants depend on a variety of insects to accomplish this goal. In fact, **75% of the world's flowering plants** and **35% of the world's crops** depend on these insect pollinators.

Bees and butterflies tend to get the most credit, but many plants are pollinated by flies, ants, moths, beetles, and wasps, with some of them *exclusively* being pollinated by certain members of these groups. These insects play such a vital role in plant reproduction and other ecological services that if we were to lose them completely, it would have **negative, cascading effects for nearly every plant and animal population that can be found in nature**.

When deciding which native plants to use, it's important to consider the needs of native wildlife that you seek to provide for...

BIRD NEEDS:

1. **Clean water** (to drink, bathe, and find food in)
2. **Native plants** (support insects needed for food)
3. **Insects** (most important during the spring)
4. **Fruits and seeds** (most important late in the growing season)
5. **Nectar** (for hummingbirds and other nectar-drinking birds)
6. **Cover and nesting sites** (mature trees, tree cavities, snags, thickets, vine tangles, brush piles, evergreen trees/shrubs)

Why use native plants?

Simply put, **native plants provide for our local wildlife in more robust ways than non-native plants ever will**. A single native plant may feed wildlife with its leaves, nectar, pollen, fruits, and seeds, while a non-native plant may only provide subpar food in one of these ways. Of all of the wildlife making use of these plants, arguably the most important are butterfly and moth caterpillars, which must feed on specific species of plants (called **host plants**) in order to pupate and reach adulthood. While adult butterflies and moths may derive nectar from certain non-native "pollinator plants," without native host plants, they would have no place to lay their eggs in order to continue their life cycle. Without these caterpillars, **96% of our terrestrial bird species in North America would not be able to provide enough protein for their young in order for them to reach adulthood**.

INSECT NEEDS:

1. **Nectar/pollen** (from early spring to late fall)
2. **Native host plants** (food for immature insects)
3. **Other insects** (food for carnivores/parasitoids)
4. **Cover and nesting sites** (leaf litter, leaf undersides, brush piles, dried stems, dead wood, tree bark, open soil, etc.)
5. **Clean water** (for insects that live in and around bodies of water)



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When building native habitat from the ground up, DIVERSITY is key

As detailed on the previous page, the needs of our native insects and birds are many and can vary drastically from species to species. Therefore, **habitats that provide the most variety are going to attract the widest array of wildlife.** Consider:

1. **Species composition** (general plant species diversity, high number of host plant species)
2. **Bloom/fruiting period** (overlapping bloom periods stretching from early spring to late fall, fleshy fruits and dry seeds in the summer and fall)
3. **Bloom/fruit types** (variety in flower shape, height, color and abundance; fleshy fruit, nuts, seeds of different sizes and shapes)
4. **Structural diversity** (as many vegetation layers as possible, from native grasses/groundcovers to canopy trees; various bark textures; variety of perennial growth habits; evergreen/deciduous plants)
5. **Dead plant material** (undisturbed leaf litter, brush pile, fallen logs/branches, tree snags)

Seek to include as many high-quality host plants as possible

A breeding pair of chickadees needs to capture **6,000 to 9,000 caterpillars** in order to raise a single clutch of offspring. This is just one of many such examples among our native birds. This is why it's important to prioritize host plants when selecting native species. Below are the top twelve groups of native perennials and trees/shrubs, ranked in order of the number of insect species they may host.

Perennials

1. **Goldenrods** (*Solidago spp.*) - 115
2. **Asters** (*Symphyotrichum spp.*) - 112
3. **Sunflowers** (*Helianthus spp.*) - 73
4. **Bonesets** (*Eupatorium spp.*) - 42
5. **Morning glories** (*Ipomoea spp.*) - 39
6. **Sedges** (*Carex spp.*) - 36
7. **Honeysuckles** (*Lonicera spp.*) - 36
8. **Lupines** (*Lupinus spp.*) - 33
9. **Violets** (*Viola spp.*) - 29
10. **Geraniums** (*Geranium spp.*) - 23
11. **Black-eyed Susans** (*Rudbeckia spp.*) - 17
12. **Iris** (*Iris spp.*) - 17

Trees/Shrubs

1. **Oaks** (*Quercus spp.*) - 534
2. **Cherries** (*Prunus spp.*) - 456
3. **Willows** (*Salix spp.*) - 455
4. **Birches** (*Betula spp.*) - 413
5. **Poplars** (*Populus spp.*) - 368
6. **Crabapples** (*Malus spp.*) - 311
7. **Blueberries** (*Vaccinium spp.*) - 288
8. **Maples** (*Acer spp.*) - 285
9. **Elms** (*Ulmus spp.*) - 213
10. **Pines** (*Pinus spp.*) - 203
11. **Hickories** (*Carya spp.*) - 200
12. **Hawthorns** (*Crataegus spp.*) - 159

Note: certain members of these groups are **non-native** and even **invasive**. Always double check to make sure that a species is **native** before planting it!



Wrinkleleaf goldenrod
(*Solidago rugosa*)
Credit: Kerry Woods

Georgia aster
(*Symphyotrichum georgianum*)
Credit: Alan Cressler

White oak
(*Quercus alba*)
Credit: Edward Price

Black cherry
(*Prunus serotina*)
Credit: Suzanne Cadwell

For lists of native plants in your area, scan this QR code to be led to National Audubon's Native Plant Database:



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