

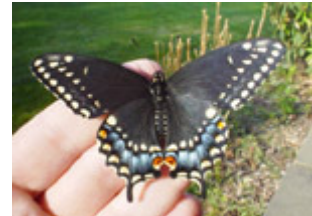
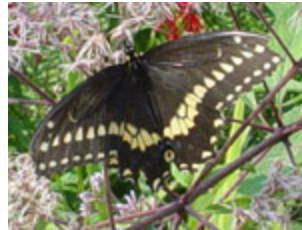
Butterflies on the Watershed Reserve

The Watershed Reserve consists of a variety of habitats that harbor an assortment of butterflies. We actually raise some of these butterfly species in the Kate Gorrie Butterfly House where we provide the appropriate native plants as nectar sources and larval food resources. Below are some brief glimpses into the lives of some of the butterflies that reside in the Butterfly House. For further information please consult the sources that are listed at the end of the page.

Black Swallowtail *Papilio polyxenes*

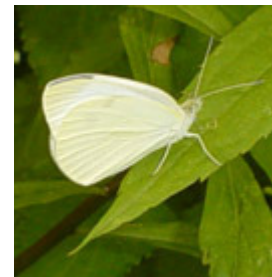
A common butterfly in much of the Eastern U.S., the Black Swallowtail is seen flying from spring through the end of summer; there are 2-3 broods a year. The last caterpillars of the summer pupate in the fall and spend the winter dormant in chrysalides.

Caterpillars feed on plants of the carrot family, including parsley and dill. They use two different color schemes to protect themselves. While young, caterpillars use cryptic coloration; they look like bird droppings. When caterpillars are larger and have built up distasteful chemicals in their bodies, aposematic coloration takes over; they are brightly colored to warn predators of their bad taste.



Cabbage White *Pieris rapae*

Abundant in spring and summer, Cabbage Whites are often seen fluttering in two's or three's high above fields and flower beds. Male and female adults can be distinguished by the spots on the forewings; males have one spot on each side, females have two spots. There are multiple broods that overlap and persist until the first killing frost in the late fall. The late fall generation overwinters as well-camouflaged chrysalides.



The Cabbage White caterpillar feeds on cabbages, mustards, and broccoli. Introduced to North America from Europe in the 1800's, the Cabbage White is now one of the most common butterflies in much of the U.S.

Clouded Sulphur *Colias philodice*

Yellow butterflies commonly seen over fields and along roadsides, adults fly in several broods from April through late fall. Clouded Sulphurs are the most common American sulphur, and range through much of North America, as far north as Alaska, but not in the far south. Caterpillars eat Clovers (*Trifolium spp*) and Alfalfa (*Medicago sativa*), then spend the winter as either larvae or in chrysalides.

Some females are pale, even white in color. It appears that these white females hybridize with Orange Sulphurs, which may be reducing the abundance of Clouded Sulphurs.

Orange Sulphur *Colias eurytheme*

Yellow butterflies with orange on the topside of the wings, easily seen when the wings are spread. Several broods of adults can be seen in flight from spring through the fall, flying over fields and roadsides. Found through much of the U.S., south into Mexico, the caterpillars feed on Clovers (*Trifolium spp*), Alfalfa (*Medicago sativa*), and Vetches (*Vicia spp.*)

Orange Sulphurs overwinter as either larvae (caterpillars) or as chrysalides. With the exception of the generation which spends the winter dormant, the average time from egg to adult is 30 days. Orange Sulphurs hybridize with Clouded Sulphurs where their ranges overlap.

Eastern Tailed Blue *Everes comyntas*

These tiny butterflies are abundant from spring to fall in New Jersey. They range throughout the eastern U.S. but are less common west of the Rockies. They are named for the tiny tails on the hind wings of males and females. Eastern Tailed Blues fly low over fields and lawns. The males commonly puddle, gathering in large groups to drink from damp spots on the ground. The dissolved salts and minerals they take in are necessary for making the sperm packets they transfer to females when they mate.

Caterpillars feed on a variety of legumes, primarily White Clover (*Trifolium repens*). They have 3 to 4 broods. The last caterpillars in the fall spend the winter dormant, then pupate in the spring, emerging as adults in April.

Spring Azure *Celastrina ladon*

Summer Azure *Celastrina ladon neglecta*

These small blue butterflies can be easily overlooked, but are fairly common in wooded areas and fields in the spring and into summer. Spring Azures are widespread, found in most of North America, and into Central America.

The Azure butterflies found in New Jersey area complex group. The official species is the Spring Azure, with many subspecies. The Summer Azure is the most recognized subspecies; it flies in June or later, while the Spring Azure flies in April and May. Some lepidopterists, scientists who study butterflies, identify 4 additional subspecies (Northern Azure, Edward's Azure, Cherry Gall Azure, and Pine Barrens Azure) based on geography, when the adults are seen flying, caterpillar food source, and small physical

differences. All subspecies spend the winter as pupae (chrysalides), but emerge at different times. Spring Azures emerge earliest and primarily eat the flower buds of Flowering Dogwood (*Cornus florida*), Viburnum species, and Wild Cherry (*Prunus serotina*). The Cherry Gall Azure emerges later, when the flower buds are no longer available, and feed on the galls that grow on the Wild Cherry leaves. Some lepidopterists argue that these differences are enough to identify them as separate species, but for now they remain as one - *Celastrina ladon*.

Great Spangled Fritillary *Speyeria cybele*

These beautiful butterflies are locally common. They range across North America from the Canadian border in the north to Georgia in the south. Adults leisurely drink nectar from flowers; they are easily observed while doing so.



Great Spangled Fritillaries have only one brood per year, but the males and females are staggered, so their numbers rise, dip, then rise again. Males emerge earlier than females, and the females last later in the season (September or so) than the males. In addition, females appear to estivate, or become inactive during the hottest part of the summer. Caterpillars feed on Violets (*Viola spp.*), and spend the winter as first-stage larvae in the leaf litter among violets.

Pearl Crescent *Phycoides tharos*

These small orange and brown butterflies are named for the silver moon shape on the underside of the hind wing. Their range includes the U.S. west to the Rocky Mountains, from the Canadian border south into Mexico. Abundant for most of the spring and summer, they can be seen on warm days as late as November. Pearl Crescents have 3 to 4 broods each year, with the latest fall brood spending the winter as caterpillars.



Males will patrol areas around the caterpillars' host plant (Asters) looking for females with which to mate. They nectar on a wide variety of flowers, but fall adults seem to prefer yellow flowers.

Baltimore Checkerspot *Euphydryas phaeton*

Baltimore Checkerspots are found in the northeastern U.S. and into the Midwest. They are often seen in marshy areas. Their numbers appear to be in decline, possibly because of loss of marshy habitats. They have one brood per year with adults flying in late spring and early summer.

Not a commonly known species, the Baltimore Checkerspot is quite interesting. Caterpillars feed on Turtlehead (*Chelone glabra*), but also seem to be adapting to use English Plantain (*Plantago lanceolata*), a weed not native to North America, but naturalized since its introduction several hundred years ago. The caterpillars live in large groups on Turtlehead, surrounded by protective webbing, an unusual habit for butterflies.

They spend the winter as caterpillars, then disperse in the spring, and continue to grow singly before becoming adults.

Question Mark *Polygonia interrogationis*

Eastern Comma *Polygonia comma*

Two similar species named for silvery markings on the underside of the hind wings; the first's looks like a question mark, the latter's like a comma. Both species have sharply angular wings, which, with the drab coloring on the underside of the wings, helps camouflage them in the leaf litter of the forest floor.

Both species are found from New England west to the Rocky Mountains, and south to Georgia. Commas have a slightly more northern distribution than Question Marks. There are 2 to 3 broods each year, with adults seen flying from March to November. The last brood spends the winter as adults, hidden and hibernating in cracks and crevices of bark or in brush piles. They can occasionally be seen flying on warm days in the winter. Adults of both species rarely nectar, instead they feed on dung, fermenting fruit, and dead animals. Caterpillars feed on Stinging Nettles (*Urtica app.*), False Nettle (*Boehmeria cylindrica*), Elms (*Ulmus spp.*), and Hops (*Humulus spp.*)

Red Admiral *Vanessa atalanta*

Found throughout North America, as well as Europe, Asia, North Africa, and New Zealand. Adults of this common species can be seen flying from April until as late as December in open areas near woodlands. Large groups will migrate north in some years, when they can be seen almost anywhere.

Caterpillars feed on Stinging Nettles (*Urtica app.*) and False Nettle (*Boehmeria cylindrica*). There are 2 broods per year. Some individuals spend the winter as chrysalides, others as hibernating adults. Adults rarely eat nectar, instead they feed on sap, fermenting fruit, and bird droppings. Males set up territories during the late afternoon and early evening. During this time, they fly at almost anything that enters it, even humans, chasing off competitors, and courting females.

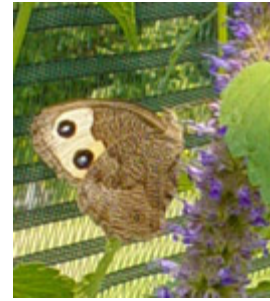
Little Wood Satyr *Megisto cymela*

Commonly seen in and around woodlands, these butterflies have a distinctive bouncing flight. They range from Maine west through the Great Plains, and south to the Gulf of Mexico and Florida. There are 2 broods per year, with adults flying from Mid May to August.

Adults rarely nectar, feeding instead on tree sap, rotting fruit, and aphid honeydew. They will often bask with their wings open in the early morning sun. Caterpillars are dormant all winter long before resuming growth in the spring, feeding on grasses such as Orchard Grass (*Dactylis glomerata*).

Common Wood Nymph *Cercyonis pegala*

Found across North America from southern Canada to Florida, but not the southwest or southern California. Adults fly from late June to September, and are common in open areas near woods. There is one brood per year, with fall caterpillars spending the winter dormant.



Like the Little Wood Satyr, the Common Wood Nymph has eyespots on the under wing. Eyespots are color patterns that resemble eyes; they confuse a potential predator into thinking they are looking at the face of a larger animal. This may make them attack towards the eyespot, which is located on the outer edge of the wing, saving the vital parts of the body.

Monarch *Danaus plexippus*

The Monarch is probably the most famous of all butterflies. Monarchs are found worldwide, in North America, South America, Africa, Europe, Asia, Hawaii, New Zealand, and Australia. Their yearly migration in North America is nothing short of amazing. Adults spend the winter in mountainous forest in Mexico before beginning their journey north. They fly as far north as Texas, mate, lay eggs, and die. Their offspring move farther north, and repeat the cycle. Successive generations leapfrog north, following the growth of Milkweed (*Asclepias* spp.) The Monarchs arrive in New Jersey in late May. There are 3 to 4 broods before adults start their journey to Mexico in September and early October. No individual makes the round trip; in fact the offspring of a New Jersey fall adult may end up in Minnesota the next year.



Monarchs are common visitors to gardens, and can also be seen in fields. In the fall, they are seen in large numbers as they migrate along the shore. Adults nectar on a variety of flowers.

Caterpillars feed on Milkweed (*Asclepias* spp.), and appear especially fond of Common Milkweed (*Asclepias syriaca*) and Swamp Milkweed (*Asclepias tuberosa*). Caterpillars extract heart damaging compounds from the plant and keep them in their bodies, making them toxic. These compounds remain in the adults' bodies. Both caterpillars and adults use aposematic coloration; their bright, bold patterns warn predators that they are toxic and to stay away.

Hoary Edge *Achalarus lyciades*

A skipper found from New England west to Minnesota, south to Florida. Adults fly from May to July, and can be seen along the edges of woods. They have a distinctive darting, "skipping" flight.

Skippers comprise the Hesperiiidae family of butterflies. This family has hooked antennae, and holds the front wings up, and the hind wings out. They are often drab in color. Hoary Edge caterpillars feed on plants on the pea family, especially Tick Trefoil

(*Desmodium paniculatum*). They fold leaves around them, and secure the leaves with silk threads. It is not known in which stage of the life cycle they spend the winter.

Peck's Skipper *Polites peckius*

These small skippers are common throughout southern Canada south to the Appalachians and southern Great Plains. In New Jersey adults can be seen in flight from May to October. They frequent almost any open area, and have adapted well to lawns and parks. Adults nectar on a wide variety of flowers.

There are 2 the 3 broods per year. Caterpillars feed on grass, primarily Rice Cut-grass (*Leersia oryzoides*) and Bluegrass (*Poa pratensis*). The last brood of the fall spends the winter as either last stage larvae or as pupae (chrysalides).

Zabulon Skipper *Poanes zabulon*

Range from southern New England west to Rocky Mountains, south to Florida. Found in a variety of open spaces including parks and woodland edges. Adults fly in 2 broods from May to October. The adults are sexually dimorphic - males and females have different coloration.

Adults nectar on a variety of flowers; caterpillars feed on Purple Top Grass (*Tridens flavus*) and other narrow-leaved grasses. It is not known how they spend the winter.

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