

The Lifecycle of the Red Maple

Because it is one of the most common and widespread trees in North America, red maple is a popular species for national monitoring efforts. It occurs from Florida to Canada and as far west as eastern Texas and Minnesota. Red maple begins the growing season with distinct red-to-yellow flowers, which are either male or female. Winged seeds soon emerge, followed by leaf-out. Fall foliage is bright red, dropping as trees go dormant for the winter. Collecting data on the timing of red maple's phase changes allows us to understand how the trees are adapting to climate change.



Visitor Hours

April 1st to October 31st,
our trails are open from sunrise to sunset.

Our internal roadways open at 8:30 a.m.
Gates close at 7 p.m.

About Us

The **Cary Institute of Ecosystem Studies** is a private, not-for-profit environmental research and education center. For more than thirty years, our scientists have been investigating the complex interactions that govern the natural world. Their objective findings lead to more effective policy decisions and increased environmental literacy. Focal areas include air and water pollution, climate change, invasive species, and disease ecology.

The Cary Institute is dedicated to connecting its findings to learners of all ages. To find out more about our educational offerings, public programs, and free scientific seminars, visit www.caryinstitute.org.

For general information, call: (845) 677-5343

Our **trail head** is located at:
2917 Sharon Turnpike (Rt 44)
Millbrook, New York 12545

Our **main campus** and **auditorium** are located at:
2801 Sharon Turnpike (Rt 44)
Millbrook, New York 12545

Nature's Clock

Fern Glen Phenology Trail



The science behind environmental solutions

What is the Fern Glen Phenology Trail?

What determines when flowers bloom? When butterflies emerge from their cocoons? When trees drop their leaves? Or when birds migrate? Answers to these and other questions about plant and animal lifecycle events can be found in the science of phenology.

Nature's clock is guided by three main factors: sunlight, temperature, and precipitation (rain, snow, fog). Timing matters – the health of species and ecosystems depends on lifecycle events happening during the right window.

Imagine if flowers bloomed before their pollinators emerged. Or if birds migrated to feeding grounds that lacked the fruits they were intending to forage on. The Fern Glen Phenology Trail builds on the Cary Institute's commitment to environmental monitoring, with the goal of managing healthy ecosystems.

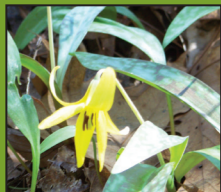
Observations are made by staff and volunteers using protocols established by the National Phenology Network. Participants submit data to the Network's database, where they can be accessed by scientists, teachers, and citizens interested in studying how lifecycle events are changing over time.

Interested in becoming a Fern Glen Phenology Trail observer? Learn more by contacting Vicky Kelly at (845) 677-7600 ext 174 or kellyv@caryinstitute.org.



Nature's Clock

Fern Glen Phenology Trail



Trout lily



Jewelweed



Red trillium



Jewelweed



Red maple



Starflower



Northern spicebush



Canada mayflower



Sharp-lobed hepatica



American witchhazel



Red maple



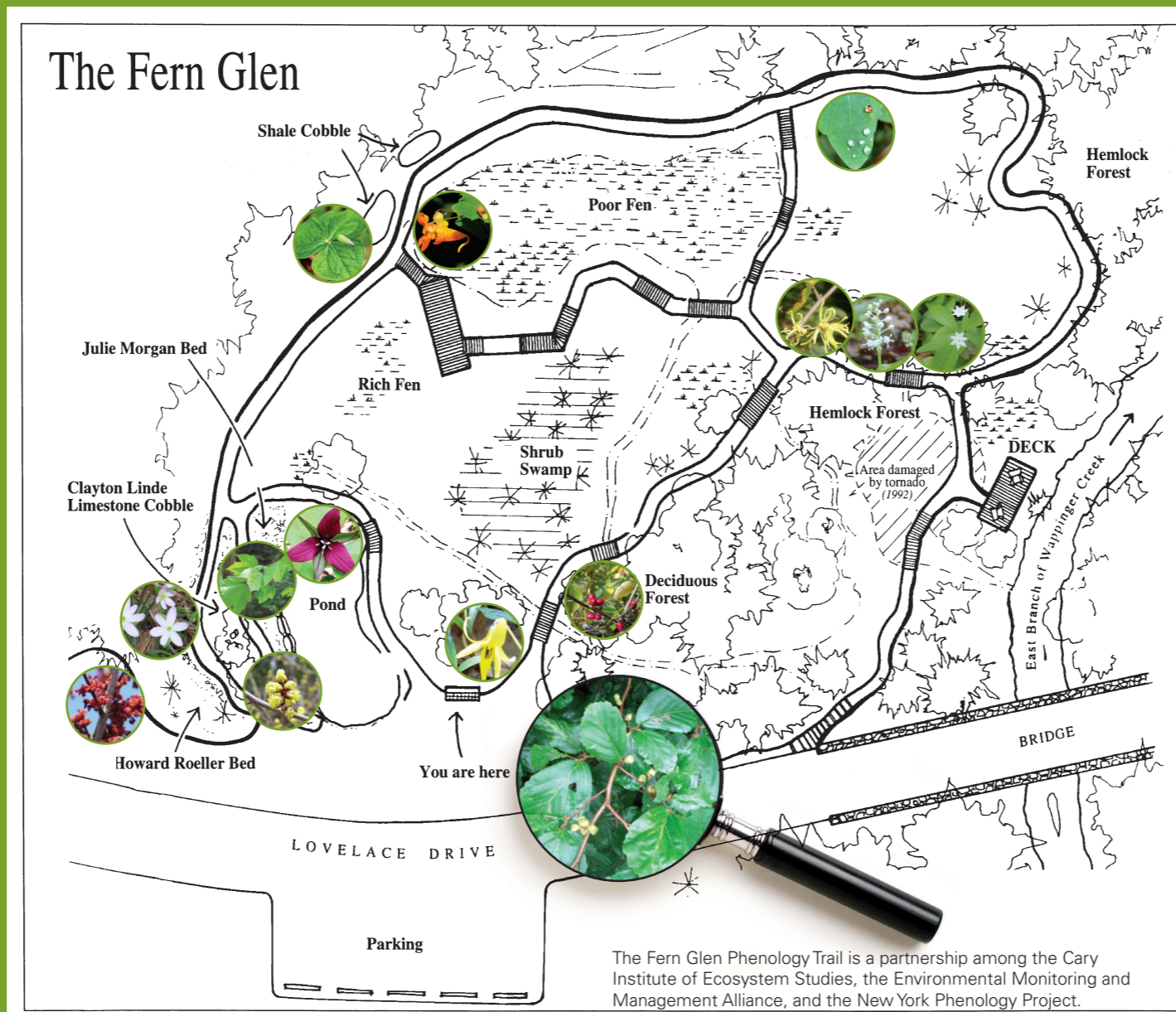
Northern spicebush



Red trillium



American witchhazel



Be a Phenology Detective!

Are you ready to tune into nature and detect small but important changes in the landscape? The map to your left shows some of the plants on our phenology trail. They are also marked with flags or nameplates.

1. Can you locate the marked plants? Which were the hardest to find? Why?
2. Can you find any red maples? Are their leaves mostly green or mostly red? If it's spring, estimate the percentage of leaves that have emerged. If it's fall, estimate the percentage that have turned red.
3. Plants go through seasonal changes – from bud, to flower, to fruit, to seed. Scientists call these lifecycle patterns 'phenophases.' Make note of the stages that you encounter and see if you notice any trends.

These are the types of questions our phenology trail monitors answer each time they visit the Fern Glen. By uploading their observations to the National Phenology Network's database, they are helping us to understand how climate change and other factors affect our native plant communities.

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