What is a Fern?

The technical definition of a fern is "a vascular plant with megaphylls that reproduces by spores." Vascular plants conduct fluids through special bundles in stems and veins in leaves. Megaphylls are leaves with a more complex structure than those of lower vascular plants such as clubmosses and horsetails. The most noticeable characteristics of ferns, however, are that they: a) reproduce by spores instead of seeds; and b) their leaves, or fronds, start coiled up like the scroll of a violin and slowly unfurl as they grow. Hence, the term "fiddleheads" that refers to the uncoiled fronds.

Fern Life Cycle

Cary Institute of Ecosystem Studies

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. Areas of expertise include disease ecology, forest and freshwater health, climate change, urban ecology, and invasive species.

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

Cary Institute of Ecosystem Studies

The Fern Glen

The science behind environmental solutions

The Fern Glen

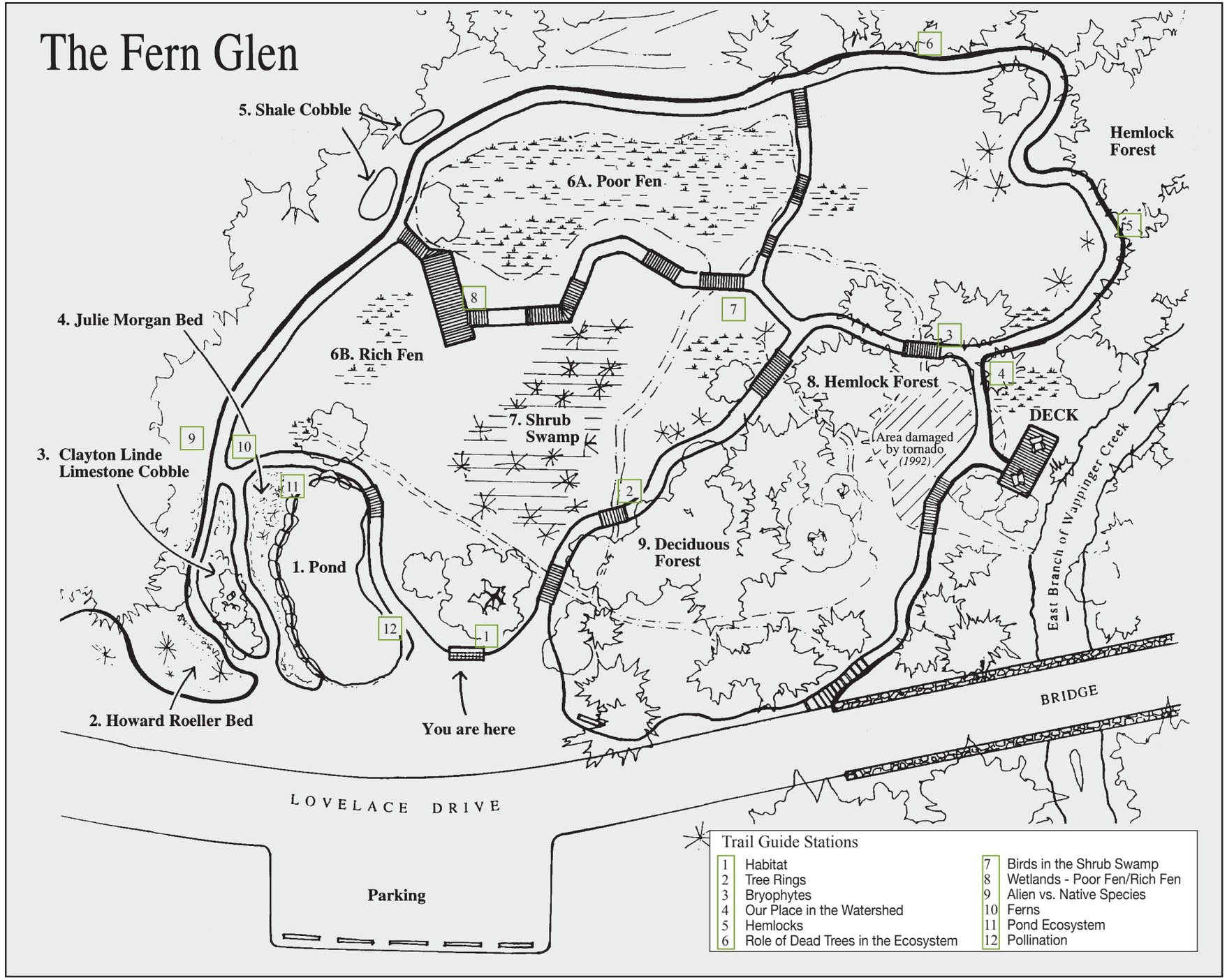
The Fern Glen is a garden devoted to the preservation and enjoyment of native plants; a primary goal is to educate the public about the ecology of native plant communities. Plants indigenous to the northeastern United States grow here in their natural habitats and communities.

When we think of native plants, the image that often comes to mind is that of wildflowers. However, the term "native plants" encompasses more than simply flowers; trees, shrubs, grasses, sedges, ferns, and mosses also fit in the category.

Top: native shrub Sheep-laurel
Bottom: native flower Turk's cap lily

An important concern when obtaining plants for the Glen is their origin. While typical garden plants can be acquired from a local nursery or a catalog, only a small percentage of the plants needed to complete the displays in the Fern Glen are available commercially from ethical growers. (Unethical collecting involves harvesting native plants from wild populations.)

All of the plants you see in the Glen were either ethically purchased from regional nurseries or were started from seeds, spores, or cuttings at the Cary Institute.



Key to Beds and Habitats

1. Pond: In addition to aquatic and emergent plants, the pond supports a balanced population of insects and amphibians.

2. Howard Roeller Bed: A variety of native shrubs and wildflowers are displayed here.

3. Clayton Linde Limestone Cobble: This habitat supports plants typically found on limestone rocks or in alkaline soil.

4. Julie Morgan Bed: Featured here are selected plants that thrive in damp to wet partially shaded sites with pH neutral soil.

5. Shale Cobble: Plants that adapt to shallow, slightly acid soil grow here.

6. Fen: A fen is a mostly herbaceous peatland that is fed by mineral rich, aerated water. Bogs, on the other hand, receive nutrients only from the atmosphere. Depending on the calcium content of the water, fens may vary from poor (acidic-low calcium) to rich (alkaline-high calcium). Area **6A** is a **Poor Fen**, dominated by a mat of sphagnum moss and featuring plants that thrive in an acid wetland. The vegetation of a poor fen is often very similar to that of a bog. Area **6B** is a **Rich Fen** that, when completed, will feature wetland plants that require high levels of calcium.

7. Shrub Swamp: This thicket includes shrubs and herbaceous plants that are adapted to wet locations.

8. Hemlock Forest: This forest type typically occurs on cool, northern slopes. The dense evergreen canopy inhibits understory growth. In July 1992 a tornado struck this area, creating gaps in the canopy. These gaps will fill with sun-loving plants, beginning anew the process of forest succession.

9. Deciduous Forest: Sunlight filtered through maples, beeches, and other trees enables some understory growth.