10. Marsh Fern (*Thelypteris palustris*)
This fern has thin delicate pale-green fronds with rounded pinnules. The lowest pair of pinnae and other pinnae are perpendicular to its rachis. Its sori are covered by the infolding margins of the pinnule that they occupy. It is characteristically known for its twisting growth form.

Photos by Danny Fernando

11. Interrupted Fern (*Osmunda claytoniana*)
Their vegetative fronds look similar to the Cinnamon Fern, but their fertile fronds are much different. The fertile fronds of Interrupted Fern have distinct “interruptions” in the center of what appears to be sterile fronds. These “interruptions” are the fertile pinnae that turn brown and release clusters of spores when developed.

Photos by Danny Fernando and Nadine Lont

12. Long Beech Fern (Northern Beech Fern)
*Thelypteris phegopteris* (*Phegopteris connectilis*)
The lowest set of pinnae point downward and taper quickly giving it a distinctly triangular shape. Lady Ferns also have their lowest pinnae pointing downward, but the lowest pinnae of Lady Ferns are smaller in comparison to the rest of its pinnae. The Long Beech Fern further differs from the Lady Fern in that it grows scattered along a rhizome. Sori grow in rows along the margin of the pinnules. The common and Latin names above can be used interchangeably.

Photos by Danny Fernando

13. Ostrich Fern (*Matteuccia struthiopteris*)
It has impressive vegetative fronds shaped like ostrich plumes. It grows in distinct clusters with a large rootstock. Fertile fronds will appear in the center of the clustered vegetative fronds. The fertile fronds are dark brown to reddish and about half the height of the vegetative fronds. This is one of the largest ferns in Central New York and the fiddleheads are the most commonly eaten in North America.

Photos by Danny Fernando and Nadine Lont

14. Maidenhair Fern (*Adiantum pedatum*)
The delicate horseshoe shaped fronds are almost parallel to the ground sitting atop long rachises. Their distinctive wire-like rachises are a shiny dark brown and their pinnae are bluish-green. These fronds were used by Native Americans to decorate woven baskets. Its indusia are elongated or round on the upper margin of the underside of the pinnule.

Photos by Nadine Lont

**References**


**Acknowledgement**
This project was made possible through a financial assistance from the SUNY-ESF Service Learning Grant, Central New York Community Foundation

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For more information on ferns of Onondaga, please check: [www.esf.edu/efb/fernando/courses.htm](http://www.esf.edu/efb/fernando/courses.htm)

**Typical Fern Structure and Terminology:**

The frond is the “leaf” of a fern. Fronds can be either fertile or sterile, having spores or no spores, respectively. **Sterile fronds** can be called “vegetative.” Each frond has **pinnae** (singular: pinna) or “leaflets.” These pinnae are then further subdivided into **pinnules** or “subleaflets.” Each **pinnule** may or may not be subdivided yet again into **pinnulets** or “lobes.” The stalk becomes the **rachis** or “axis” where the pinnae are attached. On the underside of the frond, you may or may not find **sori** (singular: sorus) which consist of an **indusium** or “protective covering” and spores.

*This trail guide represents a sample of the ferns present at Beaver Lake on April 14-15th, 2004. The numbers on the map correspond to the locations of the ferns described in this guide.*

Photos by Dan Debolt, Nadine Lont, and Katelyn Ralph

Photos by Danny Fernando
1. **Sensitive Fern** (*Onoclea sensibilis*)
   Their light-green vegetative fronds are sturdy, leather-like, broad, and triangular. When exposed to frost, these fronds will shrivel and turn brown. Fertile fronds are dark brown when mature and house spores in bead-like structures. These ferns prefer fields and moist banks.

2. **Bracken Fern** (*Pteridium aquilinum*)
   The frond, which is highly segmented into a triangular shape, sits on top of a long rigid rachis. Sori lie along the margins of the underside of the pinnules. This is one of the most common ferns in Central New York earning the nickname “weed” because it spreads quickly. Native Americans used its boiled roots in weaving.

3. **Christmas Fern** (*Polystichum acrostichoides*)
   There is a distinctly large pinnulet at the upper base of its pinnules, which makes it look similar to a Christmas stocking. Sori generally cover the entire underside of the pinnule, however, they sometimes can be seen as two rows. The name comes from its lively green color maintained during the winter.

4. **Evergreen Wood Fern & Spinulose Wood Fern** (*Dryopteris intermedia* and *Dryopteris spinulosa*)
   There are several Wood Ferns, and they are hard to distinguish between. To distinguish the Evergreen from the Spinulose Wood Fern look at the first and second set of pinnae. If the first set of pinnules is shorter than the second set, you have found the Evergreen Wood Fern. The pinnules of both are toothed with sori in two rows on the underside.

5. **Royal Fern** (*Osmunda regalis var. spectabilis*)
   This fern hardly resembles a fern at all. Its light green fronds look like the leaves of a locust tree. The fern will appear to have irregularly smaller pinniae toward the tops of some fronds. When looking closer, you’ll notice that these are the fertile fronds. Spores cases grow atop the fertile frond. This fern grows in clusters with a built up rootstock base.

6. **Cinnamon Fern** (*Osmunda cinnamomea*)
   The vegetative fronds are almost as tall as the Ostrich Fern’s fronds, but the Cinnamon Fern has brown woolly tufts at the base of the stalk near the roots. The roots are strongly embedded in the soil forming a small mound. Fertile fronds grow tall and upright and have distinct cinnamon-brown colored spore cases.

7. **Northern Lady Fern** (*Athyrium filix-foemina* subsp. *Angustum*)
   Its fronds are smooth, delicate, and can be found growing in a cluster. The lowest pairs of pinnae are small compared to the upper pinnae and they point toward the ground. Its pinnules are toothed with sori spread along the axis. Indusia (coverings over the spores) are hairy and slightly curved. The Northern Lady Fern is common in Central New York but there are also several species and sub-species of Lady Fern generally found in North America.

8. **Hay-Scented Fern** (*Dennstaedtia punctilobula*)
   These ferns are usually found in large colonies arising from underground rhizomes. As the common name states, on a dry summer day, these fern colonies tend to smell like hay. The spores are within cup-shaped indusium located on the underside margins of the pinnules (look close to see).

9. **Rattlesnake Fern** (*Botrychium virginianum*)
   This fern is the largest of the Grape Ferns. It is easily distinguishable from other *Botrychium* in that its pinnae are thin and not leathery. Like other *Botrychium*, the fronds are triangularly shaped and only 1 frond is produced per year. The stalk is long and usually pink at the base. The sporophyll (fertile leaf) grows from the stalk at the point where the vegetative part (lowest pinnae) begins.