



# Spotlight

# Christmas Fern

*Polystichum acrostichoides*

*The temperature dips into the high 20's for the first time in the fall on a cold October night. Sensitive ferns wilt and die, wood frogs prepare to go into a deep freeze for the winter, and the once erect fronds of the Christmas fern fall almost flat to the forest floor. Unlike its neighboring fern cousins however, the Christmas fern has not died back. Staying green well into winter, even underneath a blanket of snow, it will continue to create food from sunlight on mild winter days if exposed to the sun. In early spring it will quickly send up fiddlehead fronds before many other plants even become active.*

## What is it?

An ancient, native plant - the Christmas fern has been synonymous with the holiday season for centuries in America, though the origins of its name are still uncertain. It likely stems from a combination of traits including that it stays green throughout December and can be used in holiday decorations, and the shape of its leaflets recall to some a stocking or a winter sleigh. They are one of the most common ferns in the eastern United States and are likely to be found on shady hillsides and wooded stream banks in all NETN parks. Their range extends from Nova Scotia west to Minnesota and south to Florida and eastern Texas. It's a hardy plant that can survive weather extremes on both ends - deep freezes in the North and high heat in the South. Typical growth form is a fountain-like clump about 2 feet tall with leathery, "lance-shaped" evergreen fronds with its signature leaflets arranged alternately along them.

Some Native American tribes used this fern to treat ailments such as chills, fevers, pneumonia, stomach pains, and rheumatism.

## Why is it important?

Common forest grazers (like deer and rabbits) do not like to eat Christmas fern because of the flavor its chemical composition imparts. This allows the Christmas

The upper leaflets on the fertile fronds of Christmas ferns are smaller and bear spore producing sporangia, an organ which helps produce new plants.



*The fiddlehead of a new Christmas fern frond.*

fern to occupy new areas where deer browse is heavy. The dense covering created over the soil surface by a cluster of Christmas ferns can help stabilize the soil and provide erosion control. Colonies of plants generate protective habitat for a variety of native ground-feeding and nesting bird species like Ruffed Grouse and Wild Turkey. The fern is also an important food source for the caterpillars of some butterfly species.

In fall after the first hard frost, the repositioning closer to the ground of its fertile fronds is a cold-weather survival strategy. Being low to the ground protects them from drying winter winds, and the warmer ground temps keep leaves warmer allowing photosynthesis to continue if exposed to sunlight on mild winter days, even as almost all of its plant neighbors have gone into winter dormancy.

## How does NETN monitor it?

Though not directly a part of NETN monitoring, Christmas ferns do show up in vegetation inventories and in the long-term forest health monitoring program in network parks. The plants are sometimes documented in the understory diversity readings that are gathered in the eight, 1m<sup>2</sup> quadrats within monitoring plots.

## How is it doing?

Christmas ferns are abundant and populations are healthy across network parks. In the parks that have a heavy amount of deer-browse pressure, such as Morristown NHP, the Roosevelt-Vanderbilt NHS, and Saratoga NHP, the fern is a major component of the forest understory community since it is generally avoided by the animals.

## For more information

See NETN's forest health monitoring protocols, reports and resource briefs available from the Forest Health page of our website.

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