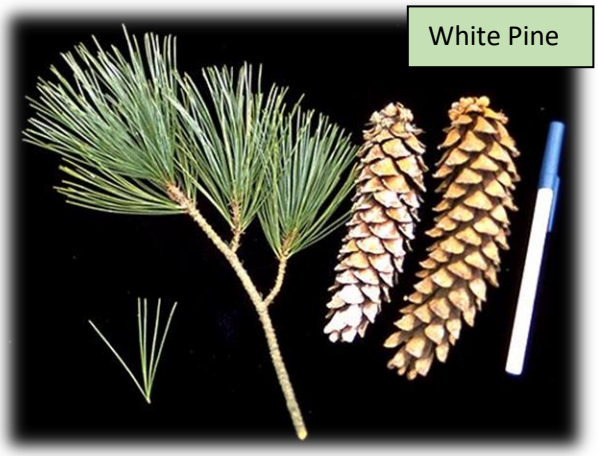
# Evergreen Trees

**Written by: Lynn Groves, Naturalist at Kittitanny State Park**

There are two basic types of trees - *deciduous*, those that lose all their leaves for p art of the year, and *coniferous*, those bearing needle-like leaves or scales year-round (our so-called *evergreens*). However, not all evergreens are conifers (American holly, palm trees) and not all conifers are evergreen (larch). Even "evergreen" needles get shaded out by new leaves above them, and some just get old. The trees discard these older leaves in the fall, just not all at once.

American Holly

Think of a leaf as a solar-powered "factory" where carbohydrates are manufactured out of carbon dioxide and water during photosynthesis. To build each leaf, the tree must draw on its limited resources. At the very least, the leaf must be kept on the tree until it has "paid back" its cost.


White Pine

The papery-thin leaves we rake off the lawn are cheap to build and capable of fast photosynthesis. By autumn, they have more than paid back their cost of construction. Because keeping them during winter would cost more (in damage) to the tree than growing new leaves in spring, they are shed.

Evergreen leaves, however, are more expensive to build and slow at photosynthesis. They take longer to pay back their cost due to special features like internal bracing to withstand heavy loads of snow and ice without breaking, oils and waxes to survive freezing and resist drying out, and chemicals to repel insects. Therefore, the tree holds onto them as long as possible.

**P.S. "Look for An Evergreen Day" is December 19!**