

## Noble/Chambers Memorial Forest Trail

The Noble/Chambers Memorial Forest Trail in Elk State Forest is a .2-mile trail that begins at the parking area along Lincoln Road. The trail demonstrates various forest management practices.

## History

This area was DCNR lands but was leased to Curtis-Wright Corporation's in 1953 for the Atoms for Peace project which required a remote area to develop nuclear-powered jet engines and other research projects. By 1967, the projects were abandoned and the land returned to DCNR. In 1970 the area became the Quehanna Wild Area.

A wild area is defined as an extensive area which the public will be permitted to see, use, and enjoy for such activities as hiking, hunting, fishing, and the pursuit of peace and solitude.

On September 20, 1967 two foresters, Jim Noble and Lester Chambers, died in the performance of their duties, in what is now part of the Quehanna Wild Area. This memorial forest was created in their memory to study silvicultural practices in northern hardwood stands.

## Forest Management Terms

**Silviculture** – The act of tending and growing trees.

**Best Management Practices** - Proactive and often voluntary practical methods or practices used during forest management to achieve goals related to water quality, silviculture, wildlife, and biodiversity, aesthetics, and/or recreation.

**Sustainable Forest Management** - the process of managing forest to achieve one or more clearly specified objectives of management

with, regard to the production of a continuous flow of desired forest products and services without undue reduction of its inherent values and future productivity, and without undesirable effects on the physical and social environment.

## Silviculture Practices

**Shelterwood** - A harvest where loggers remove both small and some large trees - leaving larger trees to act as seed trees; favors trees that require less than full sun light.

**Crop Tree Management** - Crop trees are trees that have the potential to produce a specific desired benefit like wildlife management or timber management.

**Thinning from Below** – A harvest of smaller trees in increasingly larger diameters until 60 percent of the stand is left for growth

**Thinning from Above** – A harvest of trees that removes larger trees until about 30 percent of the stand is left.

**Improvement Cut** - Designed by a professional forester to provide income, habitat, and protect all other resources by reducing the trees according to size, species, and spacing.

**Overstory Removal** – A harvest that removes most the trees, leaving a few trees for seed, cover, and or uniqueness.

**Control** – No forest management done

## Challenges

**Deer and Elk** – Browsing of seedlings by deer and elk slows or inhibits the process of tree reestablishment, as well as other vegetation like flowers, so fencing may be needed.

**Vegetation Management** – Native invasive and non-native invasive plants may need to be removed from the site to promote tree growth.

## Care for the Land

State forests belong to all Pennsylvanians. Take time to enjoy them, but know the rules and regulations designed to protect the forests and you. Please be careful with fire, keep our forests litter free and don't damage trees and other plants.

## Dual Certified Forest

Pennsylvania's 2.2-million-acre state forest system is one of the largest dual certified forests in North America. The forest is certified under Forest Stewardship Council™ and Sustainable Forestry Initiative© standards. The FSC© is an independent organization supporting environmentally appropriate, socially beneficial, and economically viable management of the world's forests. SFI© certification focuses on protection of water quality, biodiversity, wildlife habitat, species at risk, and forests with exceptional conservation value. Dual certification ensures that Pennsylvania's state forests are managed to the highest third-party standards.



## For more information

Elk State Forest  
Forest District #13

258 Sizerville Road  
Emporium, PA 15834  
(814) 486-3353



## Noble/Chambers Memorial Forest Trail

Elk State Forest



Pennsylvania's vast state forest system comprises 2.2 million acres for you to use, enjoy, and explore. The Department of Conservation and Natural Resources Bureau of Forestry manages these forests to ensure their long-term health and to conserve native wild plants.

Elk State Forest comprises 217,000 acres in Cameron, Elk, McKean, Clinton, and Potter counties.



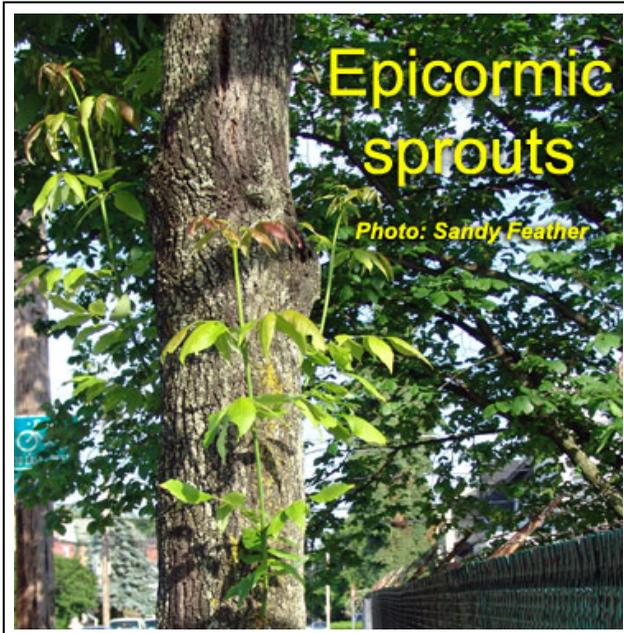
## Crop Tree Thinning and Epicormic Branching Study

One of two studies first occurred on the south side of Lincoln Road in 1970.

The study looked at the effects of opening the tree canopy with a Crop Tree Management and if this management affected epicormic branching. An epicormic branch is a branch growing from a dormant bud, which lies underneath the bark of a trunk. Epicormic branching can affect the value of trees. Crop trees have the potential to produce desired benefits. For timber management, these benefits would include: crown is large, healthy, and in or above the main canopy; no lean, no low forks, etc.

Notice the trees with the double white bands? These trees are starting points to find the permanent plot centers in each block, on both the north and south side of Lincoln Road.

The blue bands on the trees indicate the block lines and the Noble Chambers boundary line.



## Noble Chambers Blocks 1-5

### Block 1 – 2.6 acres

Historical Record - In 1972, loggers removed 2,059 trees larger than 2-inches in diameter for \$258.00, which left 40-80% of the best well-spaced trees on site in blocks 1 and 2.

In 2004 the site was left as a control (i.e. no additional work will be done in this block)

### Block 2 – 9.2 acres

Historical Record - In 1972, loggers removed 2,059 trees larger than two inches in diameter for \$258.00, which 40-80% of the best well-spaced trees on site in block 1 and 2.

In 2004 the site was left as a control (i.e. no additional work will be done in this block)

### Block 3 – 9.8 acres

Historical Record – In 1972-1973, loggers removed 2,509 larger than four inches in diameter for \$209, which left 40-80% of the best trees well-spaced on this site.

In 2005-2006, the site was not cut or treated with herbicide but just fenced to show the lack of deer impact.

### Block 4 – 9.8 acres

Historical Record – In 1972, loggers removed ,1842 trees for \$169.00, which left 40-80% of the best well-spaced trees on this site.

In 2005-2006, fern, beech, and striped maple were treated with herbicide and fenced to remove competing vegetation, which let the desirable seedlings grow and the fence protected seedlings from deer and elk browsing.

### Block 5 – 10.5 acres

Historical Record – In 1973, loggers removed ,1442 trees, which left 40-80% of the best well-spaced trees on this site.

In 2005, fern, beech, and striped maple were treated with herbicide to remove competing vegetation and let the desirable seedlings grow. The area was not fenced from deer browsing in contrast with Block 4.

