
THE HISTORY AND FLORA OF ENDERLIN FOREST, A
MIXED CONIFEROUS PLANTATION IN
SOUTHEASTERN OHIO^{1, 2}

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ABSTRACT

Enderlin Forest is an unmanaged conifer plantation in Athens County, Ohio. Established in 1906 by Colonel Richard Enderlin and Mr. Melvin H. Doolittle, the remaining 56-60 acre section of the plantation, now owned by the Mead Corporation, contains a mosaic of conifer and mixed conifer and deciduous plantings. The flora of the forest includes species characteristic of coniferous forests. A total of 197 species of vascular plants were collected, identified, and deposited in the Bartley Herbarium of Ohio University during a 1964-65 ecological study of the forest.

INTRODUCTION

Enderlin Forest, also known as the Doolittle Tract or York Forest, is a mixed coniferous planting located in the southwest portion of Athens County, Ohio, near the small coal-mining town of Carbondale. This plantation has been of interest to botanists for many years because it is one of the oldest unmanaged conifer plantations in southeastern Ohio. The forest is composed of a mosaic of conifer plantings with an understory of woody and herbaceous plants. The early plantings are shown on the pre-1940 map (fig. 1). The gymnosperms, with the exception of *Pinus virginiana* (Virginia pine), are not native to Athens County.

Enderlin Forest is located mostly in sections 31 and 36 of York Township, Athens County. Smaller parts of the forest are located in section 6 of Brown Township, Vinton County, and section 1 of Starr Township, Hocking County.

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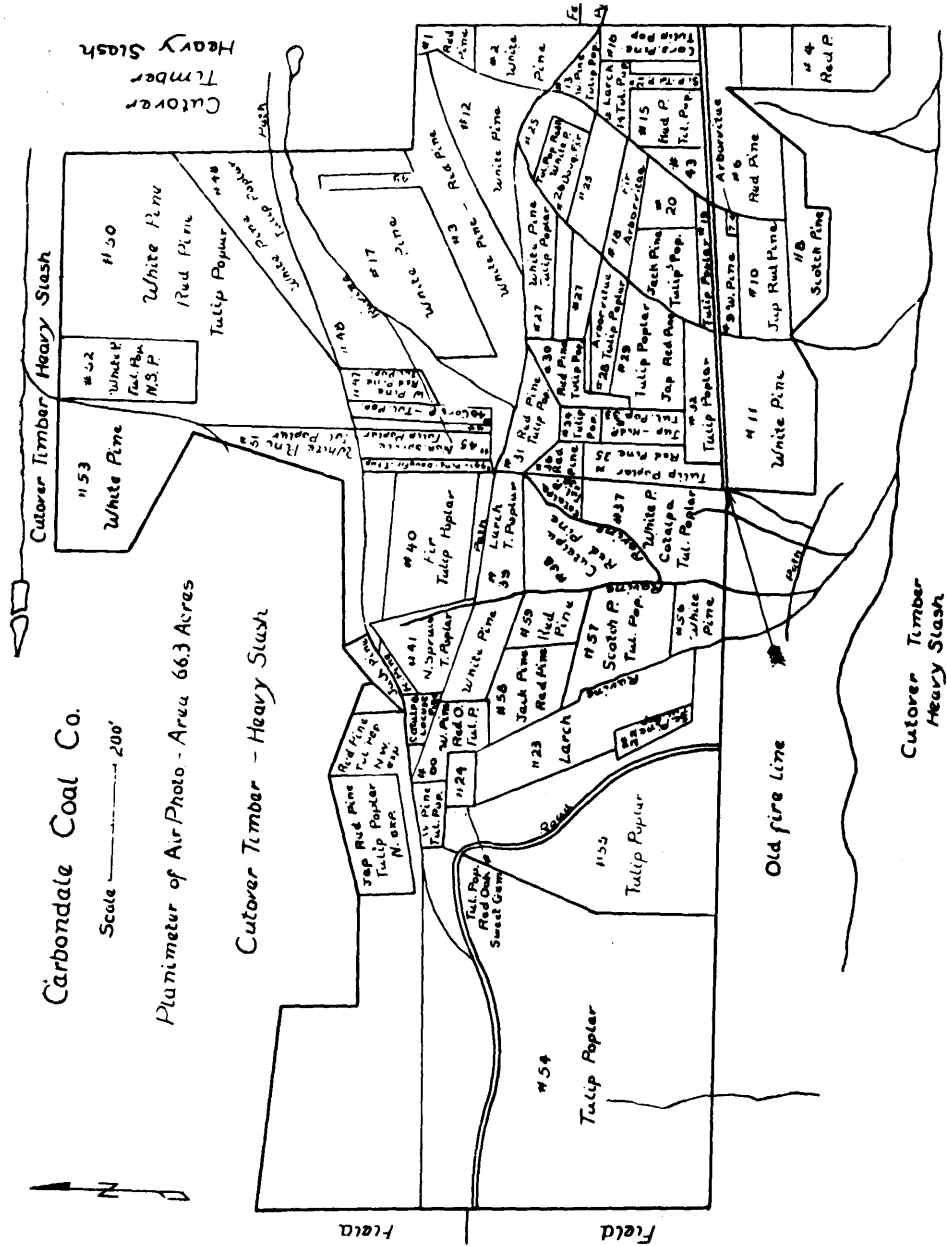


FIGURE 1. A pre-1940 Carbondale Coal Company map of plantings within Enderlin Forest. (Published with permission of the District Ranger of the U.S. Forest Service, Athens, Ohio.)

HISTORY OF ENDERLIN FOREST

The Carbondale Coal Company owned Enderlin Forest from 1906 to 1940, when the land was acquired by the Sunday Creek Coal Company and Mr. Victor Oakley of Nelsonville, Ohio. Mr. Oakley bought out the Sunday Creek ownership in 1954. Since 1964, the plantation has been the property of the Mead Corporation of Chillicothe, Ohio. Permission to study the plantation was granted to the authors by the Mead Corporation.

Most of the following information about the history of Enderlin Forest was extracted from clippings from the *Columbus Citizen Journal*, Sunday, February 5, 1934, page 8A; the *Nelsonville Tribune* Vol. 18, No. 24, June 12, 1952; and through personal communications with the second daughter of Melvin H. Doolittle, Mrs. Liola Frisby of Carbondale, Ohio, and with Mr. Emmett A. Conway, Director of Resource Development, Ohio University.

In 1906, Colonel Richard Enderlin, then president of the Carbondale Coal Company, wanted to reforest the land that provided his company with the timber used for mine posts, safety ties, and railroad ties. He assigned Melvin H. Doolittle, the mine superintendent, to direct and coordinate this reforestation project. Mr. Doolittle, who had had some forestry experience, started this reforestation and soil reclamation project on a 40-acre tract located in York Township near the Hocking-Vinton County line. The land had been used, after the original cutting, as pasture for mules and other farm animals owned by the company. The open-field nature of the site is apparent in early photographs supplied by Dr. Oliver Diller, Ohio Agricultural Research and Development Center (Butala 1966). The original planting was started by the Doolittle family, assisted by miners, in 1906. Doolittle eventually devoted 30 years to this project. *Pinus strobus* (white pine) and *P. resinosa* (red pine) seedlings were planted first and were followed by seedlings of *Larix leptolepis* (Japanese larch), *L. decidua* (European larch), and *P. sylvestris* (Scotch pine). The order of the planting of other trees is unknown. By 1916, the initial plantings of white pine had taken on the appearance of a young forest (Butala 1966). The planting of the entire forest lasted from 1906 to 1926, and took place at a rate of approximately 12,000 trees annually (Porter 1956). By 1926 about 250,000 trees had been planted on two tracts, which included more than 200 acres of land. One of the tracts adjacent to the western portion of the present plantation was subsequently cut, during the Oakley ownership. The later establishment of a powerline right-of-way through a portion of the forest further reduced the size of the plantation. Currently only about 60 acres of the original planting remain.

In the early 1930's, Professor A. W. Boetticher of Ohio University first reported Enderlin Forest as a collecting station for plants for deposition in The Ohio State University Herbarium (Porter 1956). Porter (1956), in a list of orchids from Athens County, states that *Spiranthes tuberosa* Raf., *Isotria verticellata* (Willd.) Raf., *Malaxis unifolia* Mx., and *Tipularia discolor* (Pursh) Nutt. were found within the plantation.

The plantation received state-wide recognition in 1944 at Columbus, Ohio, when the Ohio Forestry Association presented Mr. Doolittle with a plaque in recognition of the outstanding work done by Colonel Enderlin and Mr. Doolittle in the field of conservation. The plaque now is affixed to steel supports in the forest as a memorial to these men.

A list of families and species of herbs, shrubs, vines, and trees found growing in Enderlin Forest follows. Collections of plants were made from the summer of 1964 through the winter of 1965 while the senior author was engaged in an ecological study of the forest. No attempt was made to make a complete collection of all floristic elements in the forest. Thus, the list of species presented here, although the most complete list at this time, does not preclude the existence of additional vascular species within the plantation. A specimen of each species found during

this study was collected and deposited in the Bartley Herbarium of Ohio University. Nomenclature is that of *Gray's Manual of Botany*, 8th edition (Fernald 1950) or *Manual of Cultivated Plants* (Bailey 1949). The list includes 68 families and 197 species of vascular plants. The largest family represented in the list is Compositae with 22 species. This is followed in order by Rosaceae, 13; Liliaceae, 9; and Pinaceae and Fagaceae with 8 species each. Fourteen species of ferns and fern-allies are included in the list of plants found in the plantation.

A List of Species of Vascular Plants Collected within Enderlin Forest
during a 1964-65 Ecological Study

The list does not preclude the presence of additional species. Most identifications were verified by Dr. William G. Gambill, Jr., Ohio University.

Lycopodiaceae

- Lycopodium complanatum* L.
Lycopodium lucidulum Michx.

Polypodiaceae

- Botrychium virginianum* (L.) Sw.

Osmundaceae

- Osmunda cinnamomea* L.

Schizaeaceae

- Lygodium palmatum* (Bernh.) Sw.

Polypodiaceae

- Adiantum pedatum* L.
Asplenium platyneuron (L.) Oakes
Athyrium filix-femina (L.) Roth var.
asplenioides (Michx.) Fern.
Dryopteris goldiana (Hook.) Gray
Dryopteris hexagonoptera (Michx.)
Christens.
Dryopteris noveboracensis (L.) Gray
Dryopteris spinulosa (O. F. Muell.) Watt
Onclea sensibilis L.
Polystichum acrostichoides (Michx.) Schott

Pinaceae

- Larix leptolepis* Gord.
Picea glauca (Moench) Voss
Pinus resinosa Ait.
Pinus strobus L.
Pinus sylvestris L.
Pinus virginiana Mill.
Pseudotsuga taxifolia Britt.
Thuja occidentalis L.

Gramineae

- Festuca obtusa* Biehler
Holcus lanatus L.
Hystrix patula Moench
Panicum commutatum Schultes
Panicum latifolium L.

Cyperaceae

- Carex hirsutella* Mackenz.
Carex laxiculmis Schw.

Araceae

- Arisaema triphyllum* (L.) Schott

Juncaceae

- Luzula multiflora* (Retz.) Lejeune
Juncus effusus L.
Juncus tenuis Willd.

Liliaceae

- Maianthemum canadense* Desf.
Medeola virginiana L.
Polygonatum biflorum (Walt.) Ell.
Polygonatum pubescens (Willd.) Pursh
Smilacina racemosa (L.) Desf.
Smilax glauca Walt.
Smilax rotundifolia L.
Trillium flexipes Raf.
Uvularia perfoliata L.

Iridaceae

- Sisyrinchium angustifolium* Mill.

Orchidaceae

- Goodyera pubescens* (Willd.) R. Br.
Habenaria clavellata (Michx.) Spreng.
Liparis lilifolia (L.) Richard
Spiranthes gracilis (Bigel.) Beck

Salicaceae

- Populus grandidentata* Michx.

Juglandaceae

- Carya cordiformis* (Wang.) K. Koch
Carya glabra (Mill.) Sweet
Carya ovata (Mill.) K. Koch
Carya tomentosa Nutt.
Juglans cinerea L.

Coryaceae

- Carpinus caroliniana* Walt.
Corylus americana Walt.
Ostrya virginiana (Mill.) K. Koch

Fagaceae

- Castanea dentata* (Marsh.) Borkh.
Fagus grandifolia Ehrh.
Quercus alba L.
Quercus bicolor Willd.
Quercus prinus L.
Quercus robur L.
Quercus rubra L.
Quercus velutina Lam.

Ulmaceae

- Celtis occidentalis* L.
Ulmus americana L.
Ulmus rubra Muhl.

Urticaceae

- Laportea canadensis* (L.) Wedd.

- Aristolochiaceae
Asarum canadense L.
- Polygonaceae
Polygonum sagittatum L.
Rumex obtusifolius L.
- Caryophyllaceae
Dianthus armeria L.
Silene stellata (L.) Ait. f.
- Ranunculaceae
Anemone virginiana L.
Cimicifuga racemosa (L.) Nutt.
Ranunculus abortivus L.
Thalictrum dioicum L.
Thalictrum revolutum DC.
- Berberidaceae
Podophyllum peltatum L.
- Magnoliaceae
Liriodendron tulipifera L.
- Lauraceae
Lindera benzoin (L.) Blume
Sassafras albidum (Nutt.) Nees
- Papaveraceae
Sanguinaria canadensis L.
- Saxifragaceae
Heuchera americana L.
Hydrangea arborescens L.
Tiarella cordifolia L.
- Hamamelidaceae
Hamamelis virginiana L.
Liquidambar styraciflua L.
- Rosaceae
Agrimonia pubescens Wallr.
Agrimonia gryposepala Wallr.
Agrimonia parviflora Ait.
Amelanchier arborea (Michx. f.) Fern.
Aruncus dioicus (Walt.) Fern.
Potentilla canadensis L.
Potentilla recta L.
Potentilla simplex Michx.
Prunus serotina Ehrh.
Prunus virginiana L.
Rosa carolina L.
Rubus flagellaris Willd.
Rubus occidentalis L.
- Leguminosae
Desmodium nudiflorum (L.) DC.
Desmodium paniculatum (L.) DC.
Lespedeza intermedia (S. Watts) Britt.
Lespedeza repens (L.) Bart.
Medicago lupulina L.
- Oxalidaceae
Oxalis europaea Jord.
Oxalis grandis Small
- Linaceae
Linum virginianum L.
- Geraniaceae
Geranium maculatum L.
- Polygalaceae
Polygala verticillata L.
- Euphorbiaceae
Euphorbia corollata L.
- Anacardiaceae
Rhus glabra L.
Rhus radicans L.
- Celastraceae
Celastrus scandens L.
- Aceraceae
Acer rubrum L.
- Hippocastanaceae
Aesculus octandra Marsh.
- Balsaminaceae
Impatiens capensis Meerb.
- Rhamnaceae
Ceanothus americanus L.
- Vitaceae
Parthenocissus quinquefolia (L.) Planch.
Vitis aestivalis Michx.
Vitis cinerea Engelm.
Vitis riparia Michx.
- Tiliaceae
Tilia americana L.
- Guttiferae
Hypericum perforatum L.
Hypericum punctatum Lam.
- Violaceae
Viola papilionacea Pursh
- Nyssaceae
Nyssa sylvatica Marsh.
- Onagraceae
Circaea quadrisulcata (Maxim.) Franch.
and Sav.
Oenothera biennis L.
- Araliaceae
Panax quinquefolius L.
- Umbelliferae
Angelica venenosa (Greenway) Fern.
Cryptotaenia canadensis (L.) DC.
Osmorhiza claytoni (Michx.) C. B. Clarke
Sanicula canadensis L.
Sanicula gregaria Bickn.
- Cornaceae
Cornus florida L.
- Pyrolaceae
Chimaphila maculata (L.) Pursh
Monotropa uniflora L.
Pyrola rotundifolia L.

- Ericaceae
Oxydendrum arboreum (L.) DC.
Vaccinium stamineum L.
Vaccinium vacillans Torr.
- Primulaceae
Lysimachia quadrifolia L.
- Oleaceae
Fraxinus americana L.
Fraxinus americana L. var. *biltmoreana*
 (Beadle) J. Wright
Fraxinus pennsylvanica Marsh. var. *sub-*
integerrima (Vahl.) Fern.
- Gentianaceae
Sabatia angularis (L.) Pursh
- Apocynaceae
Apocynum cannabinum L.
- Asclepiadaceae
Asclepias quadrifolia Jacq.
- Convolvulaceae
Convolvulus sepium L.
- Labiatae
Collinsonia canadensis L.
Prunella vulgaris L.
Pycnanthemum flexuosum (Walt.) BSP.
Pycnanthemum tenuifolium Schrad.
Scutellaria serrata Andr.
- Solanaceae
Physalis virginiana Mill.
- Scrophulariaceae
Chelone glabra L. var. *elatior* Raf.
Gerardia tenuifolia Vahl.
Penstemon digitalis Nutt.
Veronica officinalis L.
- Phrymaceae
Phryma leptostachya L.
- Plantaginaceae
Plantago rugelii Dcne.
- Rubiaceae
Galium circaezans Michx.
Galium lanceolatum Torr.
Galium triflorum Michx.
Houstonia caerulea L.
Mitchella repens L.
- Caprifoliaceae
Symphoricarpos orbiculatus Moench
Viburnum acerifolium L.
Viburnum dentatum L.
Viburnum prunifolium L.
- Campanulaceae
Lobelia spicata Lam.
Specularia perfoliata (L.) A. DC.
- Compositae
Achillea millefolium L.
Ambrosia artemisiifolia L.
Antennaria plantaginifolia (L.) Hook.
Aster cordifolius L.
Aster divaricatus L.
Aster undulatus L.
Chrysanthemum leucanthemum L.
Erigeron annuus (L.) Pers.
Erigeron strigosus Muhl.
Eupatorium fistulosum Barratt
Hieracium scabrum Michx.
Krigia biflora (Walt.) Blake
Lactuca canadensis L.
Prenanthes altissima L.
Rudbeckia hirta L.
Senecio aureus L.
Silphium trifoliatum L.
Solidago caesia L.
Solidago graminifolia (L.) Salisb.
Solidago juncea Ait.
Solidago nemoralis Ait.
Vernonia altissima Nutt.

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