Dysart Woods Land of Giants

OHIO UNIVERSITY 1804

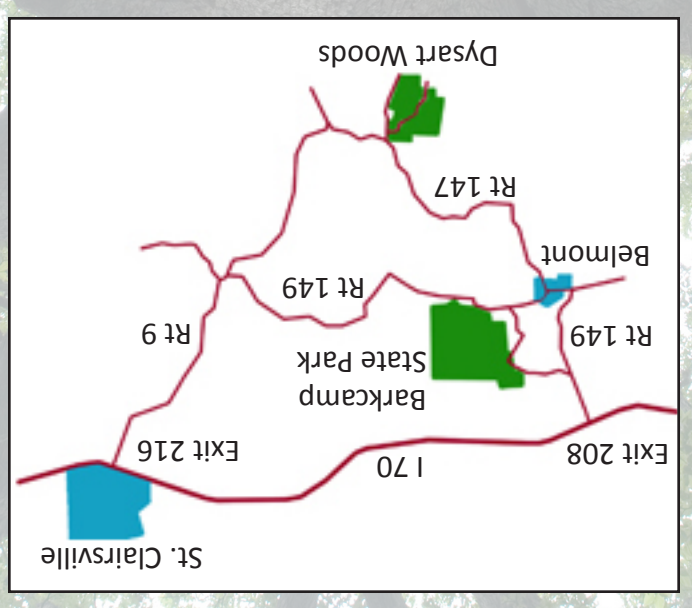
Welcome to Dysart Woods

Dysart Woods, a 50-acre tract of old-growth oak forest is the largest known remnant of the original forest of southeastern Ohio. Some of the spectacular giant oaks you will see are 400 years old, stand over 140 feet high and have a diameter of four feet. The woods is located in unglaciated southeastern Ohio. This area is characteristically hilly with local relief exceeding 200 feet. The sedimentary bedrock in the region is composed mostly of sandstone and shale with coal seams occurring variably from near the surface to hundreds of feet underground. The rainfall and temperature conditions are well suited for deciduous forests.

Dysart Woods exists today as an old-growth forest because several generations of the Dysart family kept it in its natural state. The splendor of the forest, formerly enjoyed by only a few, now has become available to many. Ohio University, by agreement with The Nature Conservancy, has undertaken the responsibility of preserving this outstanding remnant of the magnificent forests that once covered much of Ohio and eastern United States. The recognition of Dysart Woods as a National Natural Landmark by the U.S. Department of the Interior underscores the importance of preserving it. Visitors are welcome in the woods and adjacent areas which are used for continuing educational research programs.

Ohio University has preserved the woods by keeping it in its natural state. That is, no cutting of trees is permitted and fallen logs remain to decompose and thus continue the never-ending cycling of minerals through successive generations of plants. The Department of Environmental and Plant Biology conducts studies of the woods and surrounding fields to learn more about the dynamics of a mature oak ecosystem. Research is to be done in such a way as to leave intact the ecology of the forest. Through classes, guided tours, and published research, the University shares its knowledge of the forest to enable students and visitors to understand better the world in which we live.

Directions to Dysart Woods



GPS coordinates for Dysart Woods Parking Lot:
N 39° 58.932' W 80° 59.930'

To establish Dysart Woods as a site that will forever be preserved and as a natural laboratory, Ohio University has established a fund to provide operating funds for stewardship of the property. We invite you to share with us in the Dysart Woods project. Gifts of all sizes are encouraged. Checks may be made payable to Ohio University Fund - Dysart Woods Laboratory and mailed to Ohio University Fund, P.O. Box 869, Ohio University, Athens, Ohio 45701-0869.

Because natural ecosystems such as Dysart Woods are easily destroyed by carelessness, we ask your cooperation in preserving it. While visiting the woods, please remain on the trails and do not pick flowers or in any way destroy the vegetation. No smoking is permitted in the area.

For more information contact Dr. Brian McCarthy, Director Dysart Woods Laboratory at (740) 593-1615 or mccarthy@ohio.edu

Characteristics of Old-Growth

Forest Trees of Great Age. For a forest to be old-growth, there should be a number of trees of great age. Unfortunately, there is no definitive agreement as to what "great age" means, but a reasonable criterion might be trees exceeding at least 50% of the projected maximum attainable age for that species. In southeast Ohio a mixed-oak forest with trees over 150-200 years old would constitute an old-growth condition. It is important to note that great age does not have to mean great size. Local conditions will determine growth rates.

Trees of Commercial Value. The presence of large economically important tree species is usually a good indicator that the area was not selectively cut. Old-growth forests typically contain trees such as black walnut, black cherry, red oak, white oak, tulip tree, or sugar maple.

Uneven-Aged Canopy Structure. Eastern old-growth forests are generally characterized by trees of all ages and diameters

Downed Logs. Coarse woody debris of varying size and state of decomposition should be a prominent component of the forest floor.

Standing Snags. Standing dead trees are another prominent element of the old-growth forest.

Treefall Gaps. Old-growth stands typically exhibit many small blowdowns of one to several trees.

Pit and Mound Topography. When a tree falls its root mat and associated soil is ripped up from the forest floor, creating a pit or depression. As the root ball decays, the soil is loosened and falls into a mound adjacent to the pit.

Undisturbed Soils. Old-growth forests typically have a soil which is high in organic matter, with a thick organic layer and considerable numbers of ferns, mosses, and fungi.

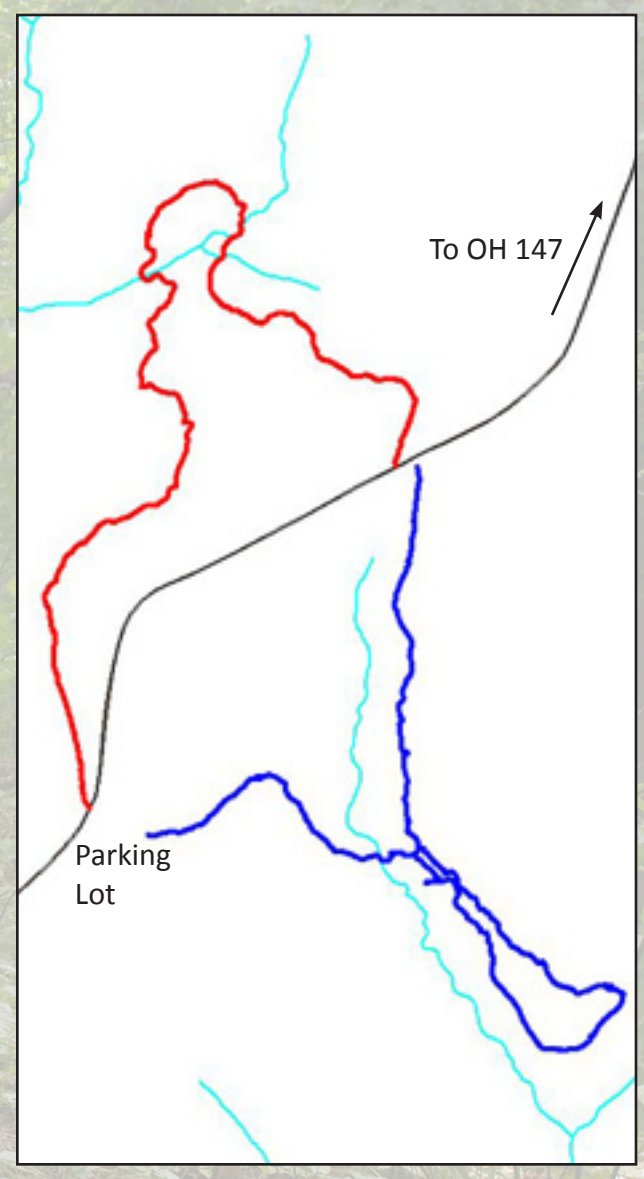
Ecosystem Stability. In most old-growth forests life and death are in balance and nutrients cycle from the dead to the living.

Diversity of Plants and Animals. In addition to plants, there may be a variety of animals which are associated with old-growth stands because of their structural elements. Certain species of salamanders, soil invertebrates, small mammals, songbirds, and black bear are often found in much greater abundance in old-growth stands compared to younger stands.

Little or No Evidence of Human Disturbance. Stands with obvious signs of logging, agriculture or homesteads are not classified as old growth.

Design: R. Mark Waters, Crystal Lorimor & Brian McCarthy

Overview of Dysart Woods Trails



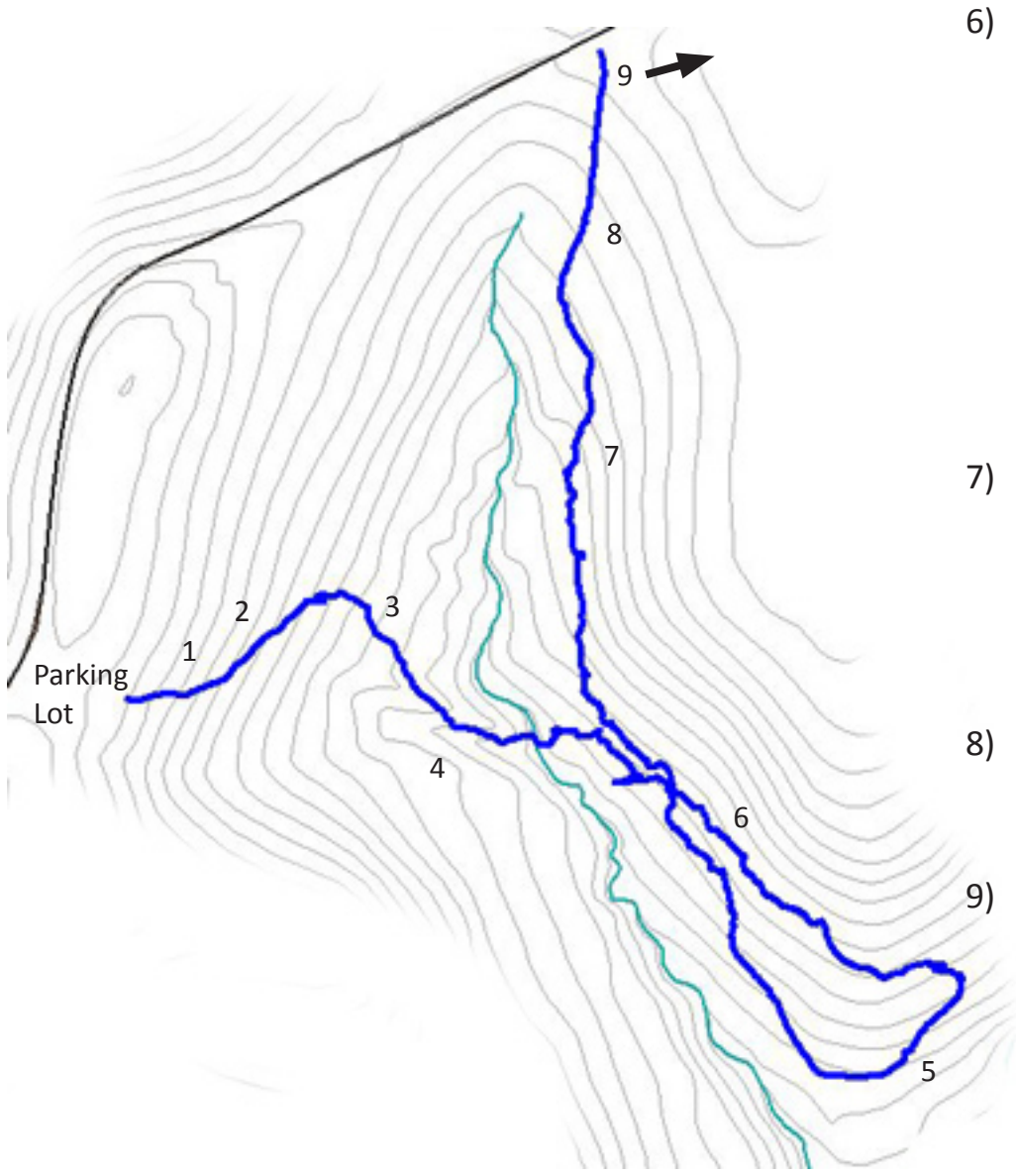
See detailed map and self-guided tour information for each trail inside brochure.

BLUE TRAIL

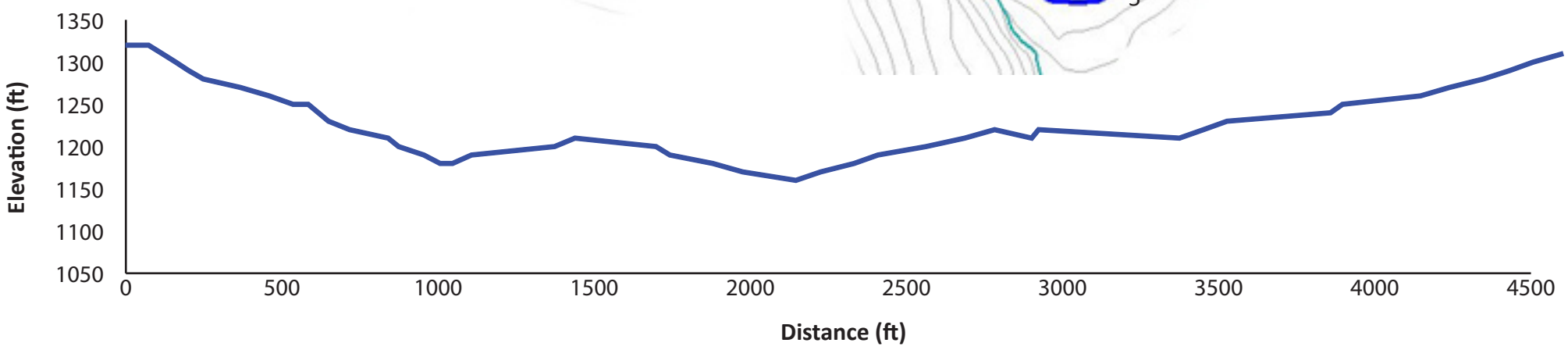
Distance: 0.9 miles
Difficulty: moderate

Blue trailhead located in parking lot

1) Notice the large Grapevines. While grape is important for wildlife, it often presents a problem for forest regeneration
2) Large black cherry tree.
3) Observe the red oak with extensive buttressing at the base of the tree. Buttressing is a common adaptation for support of large trees growing on slopes
4) This large cucumber magnolia (2 feet diameter) is an important diagnostic species of a "mixed mesophytic forest" of which Dysart Woods is the best example in Ohio.
5) Large dead white oak tree estimated at 400 years old. Died suddenly a couple of months after mining began in the area. Notice that there are no white oak seedlings or saplings in the woods. Old trees do not produce seed in the latter years of life.



6) Around the trails you will notice a number of large uprooted trees. The root systems rarely go below 3 feet and most of a tree's roots are in the top one foot of soil. Notice that the fallen large white oaks leave pits, that result is a classic "pit and mound" topography. The downed trees also leave canopy gaps that let light, water and nutrients into the area resulting in extensive new seedling growth over the following years.
7) About 40 years ago this area was a field. Over time a young second growth forest has developed dominated by cherry, ash, maple and tulip tree. Such forests are characterized by a high density of small diameter trees and shady conditions.
8) The sassafras trees you can see here are actually a single genetic clone originating from one plant and connected by underground stems.
9) American Chestnut plantation. Devistated by chestnut blight during the 20th century, new disease resistant trees are being planted in an attampt to reestablish the species.

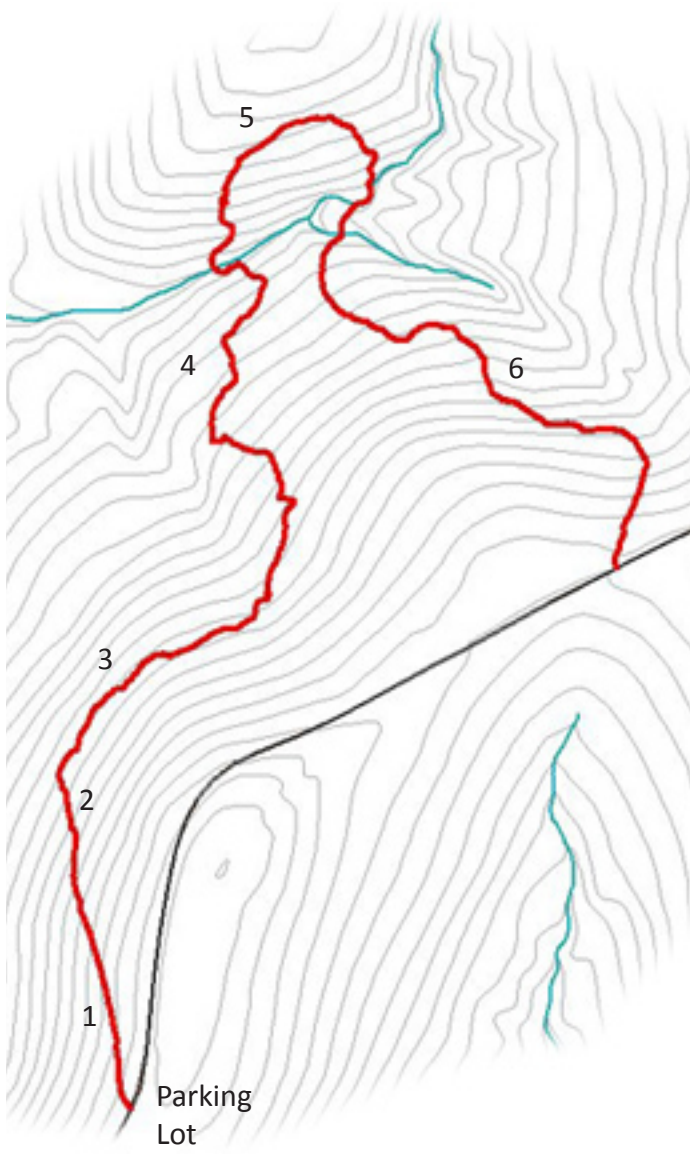


RED TRAIL

Distance: 0.8 miles
Difficulty: moderately strenuous

Red trailhead located across road from parking lot

1) Small 5 acre parcel of old-growth dominated by beech and maple trees in the overstory. Note the abundance of standing and downed timber which is typical of old-growth forests. Turn to view the second-growth maturing forest on the opposite side of the trail. Compare the structural differences between the two.
2) In contrast to old-growth, young woods are dominated by different species. Here, notice the dominance by maple, cherry, tulip, and remants of an old apple orchard
3) Here the forest opens as you approach the edge and you can observe examples of previous land use (agriculture, strip mining, old field) -- the forest is actually an island sitting in a matrix of other past and present land uses. Note the difference in the form of the large oak growing on the edge of the field and the oaks in the forest.



4) In this area note the increase in the number of large trees and the old-growth conditions. Here the forest is oak-beech-maple. Many of the oaks in this location are in excess of 400 years old.
5) Here lies the remains of what was the most famous tree in Dysart Woods. This tulip tree stood for some 400 years before it died from being struck by lighting in 2001. The tree attained a diameter of almost 6 feet which was proported to be the state record.
6) From the creek bed to the road, the forest transitions from old-growth to young forest.

Red and Blue trailhead markers are located either side of the road. If you do not wish to complete the blue trail walk along the road to the parking lot.