

GUIDED TOURS

Natural History Walking Tour of Squire Valleevue Farm

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Squire Valleevue Farm provides examples of geology and ecology typical of much of northeastern Ohio. The general character of the present landscape is largely a consequence of the Ice Age, when the region was overridden by glacial ice sheets several times. The ice sheets obliterated most of the details of pre-Ice Age landscapes, either by abrading them off during periods of ice advance or by filling them in with gravel, sand, and clay during periods of ice melt-back. An exception is the Chagrin Valley to the east of the Farm; it is a remnant of a pre-glacial stream valley that was straightened and broadened by glacial scouring. When the last ice melted away, about 12,000 years ago, a new landscape was laid bare. Forests quickly took hold, and runoff from meltwater and rainfall began to carve new details into the topography. All the tributary streams that drain into the Chagrin Valley came into existence at this time. Our tour will visit an example of a post-glacial stream on the north side of the Farm, where its youthful character is apparent to the discerning eye.

Erosion by this stream has exposed to view some of the ancient bedrock strata that lie beneath the landscape. These strata originated about 360 million years ago as deposits of mud and sand in shallow seas that covered the region at that time. We will see that the formation known as the Berea Sandstone is particularly notable for its tendency to form scenic cliffs and waterfalls.

The Farm contains a variety of successional stages of vegetation typical of northeast Ohio. When farmland is not perturbed, the plant community will undergo sequential and predictable changes as result of the climate and the life history of the plants. This series of changes is called succession. If the farmland is annually mowed, the invasion of wooded plants is eliminated and the plant community will be dominated by grasses and herbaceous plants. Early successional stages are characterized by fast growing species such as Buckthorn (*Rhamnus frangula*) and wild vines (*Vitis vulpina*). These species can become very abundant. They have an aggressive growth and compete well in high sunlight conditions. Intermediate successional stages in the woodlots are dominated by Tulip trees, Hickories, Black Cherry, Sassafras and Red Maple. The final stage of succession is called the climax community. In northeast Ohio, the climax community is characterized by strong dominance of American Beech (*Fagus grandifolia*) and Sugar Maple (*Acer saccharum*). Both species compete well under low light conditions and replace themselves throughout the years. All these successional stages can be observed on our walking tour. Identification of several tree species and forest composition will be addressed.