

A Report on an Ecological Inventory and Analysis of the Thiebaud Homestead was prepared by Thomas O. Swinford, a Natural Areas Biologist, to provide accurate information for the management, restoration, and interpretation of the natural features of this site. The following information and insights were drawn from the report.

Introduction

The Thiebaud property encompasses 165 acres, of which approximately 90% are forested. The site is located in Craig Township, Switzerland County, Indiana.

As a large forested site, the Thiebaud farmstead is a natural area of county and potentially regional significance. Little or no land has been set-aside in Switzerland County as a refuge for the flora and fauna typical of this region. The Thiebaud farmstead represents the opportunity to preserve a “living museum” of natural history, which will only lend additional interest and significance to its outstanding historical and cultural features. This combined cultural and natural history, along with the conversion of local greenspace into homesites, ensure that the Thiebaud farmstead will only grow in value to the citizens of Switzerland County as a chance to recreate, learn, and reflect on the true nature of our “Hoosier” roots.

Site Context: The Bluegrass Natural Region, Switzerland Hills Section

E. T. Cox, an Indiana State Geologist during the years 1871 and 1872, described the bluffs along the Ohio River near Vevay as follows:

“There is no grandeur in the view to fill the mind with awe, but there is tranquil beauty in the contour of hill and valley, there is a certain loveliness in the aspect of the river, slumbering on the bosom of the rich alluvial terraces, that inspires the mind with thoughts of peace and rest.”

The Thiebaud farm occurs in the Switzerland Hills section of Southern Indiana. This section is characterized by bedrock hills of high relief. The hillsides found at the Thiebaud farm are excellent examples of the landscape type that gave rise to this section’s name. These high bluffs of the Ohio River are found throughout the river’s course in Switzerland County. As such, this site offers an opportunity to preserve a landscape that is both familiar and beautiful.

The Switzerland Hills section falls within the larger Bluegrass Natural Region of Indiana. This area includes much of southeastern Indiana. The name “Bluegrass Natural Region” was selected due to the area’s many natural affinities to the famous Bluegrass Region of north-central Kentucky extending south from just across the Ohio River.

Geology: the basis for all life that follows.

Physiography

Switzerland County lies within the Dearborn Upland physiographic section of Indiana. It is characterized by steep slopes, sprawling dendritic ridgetops, and dissection by a maturely developed stream network. Local relief may be as great as 400 feet. These properties are mainly determined by the character of the bedrock, which is mostly shale with numerous beds of limestone. Glacial deposits representing several pre-Wisconsin glaciations are found at many places in the Dearborn Upland (Gray 2000).

Ordovician Limestone

Just below the thin soil on the hillsides of Switzerland County is found the oldest bedrock exposed in the State of Indiana: Ordovician limestone. This limestone was formed 500 million years before the present.

Historically known by the locals as *blue limestone*, Ordovician limestone was formed, like all of Indiana’s limestone, in shallow tropical seas. This was a distant time before plants had appeared on land and the only animals were marine invertebrates. The Ordovician Sea was swarming with these animals, reflected in the abundance of fossils, mostly brachiopods (clam-like) and bryozoans (coral-like) in today’s rocks.

While this limestone is an abundant resource, it is rarely found at the surface in Switzerland County. No dramatic cliffs or large outcrops were noted on the Thiebaud site. However, limestone flagstone, probably exposed through soil erosion and human activity, was noted throughout the property. While limestone surface exposures were uncommon, it was still an important building material in Switzerland County. This abundant *blue limestone* was well adapted for foundations, cellar walls and other early forms of masonry. It was noted in 1871, “few quarries are extensively worked, because the stone may be picked up from every creek, or dug out of every hillside. Large slabs of stone are selected for fireplaces. The smaller stones are much used for Macadamizing roads where gravel can not be obtained.” This same material was commonly used on the Thiebaud farm and is evident in the various structures that remain.

Above this Ordovician limestone bedrock, a thin mantle of glacial and wind-transported material (loess) was deposited by the pre-Wisconsin glaciations during the Pleistocene Ice Age that began 1 million years ago. Switzerland County was not reached by the much more recent (75,000-10,000 years before present) Wisconsin glaciations that left the much deeper deposits so characteristic of central and northern Indiana.

Most recently, the end of the great age of ice (approximately 10,000 years before present) sent enormous volumes of meltwater across the landscape. These torrents deposited additional material in the river valleys while incising the smaller drainages. This was the major land-sculpting event.

Soils

Generally speaking, only two major soil types are found onsite. These are 1) the limestone uplands, and 2) the terraces and alluvial bottomland found along the Ohio River. These soils have experienced agricultural erosion, in some cases severe. The soil associations found on the limestone uplands are known as the Eden-Switzerland association: steep, well-drained, shallow to deep clayey soils over weathered limestone. The alluvial bottom soils are known as the Huntington-Wheeling-Markland association: nearly level, well-drained silts in alluvium, and loams on sand and gravel.

Streams and Drainage

Of primary importance to the site was its close proximity to the Ohio River, the major commercial transportation route for regional traffic for much of the 19th century. This near access to heavy transportation placed great demands on the natural resources of the Switzerland Hills.

A small tributary originates in the drainage found in the northern portion of the property. This is a branch of the head of “Whiskey Hollow”. This interesting placename may offer another clue into Switzerland County’s human past. The small, unnamed drainage located in the main “hollow” found in the central portion of the property played a major role in the site’s use as a farmstead. While offering a source of water, these small intermittent streams afford the site additional drainage.

Several small structures were placed upon the farmstead’s main central drainage, apparently to serve as checkdams, to slow erosive runoff. These primitive structures were made from limestone found onsite and are scattered up and down the drainage. Today they may serve as small wildlife habitat impoundments, providing a water source to wildlife.

Recovering forests reflect past human use.

Across the Thiebaud farm it is readily evident that the forest communities are in various stages of recovering from nearly 200 years of intensive agricultural use. All corners of the property demonstrated these impacts, whether it was the grazing of livestock or the actual cultivation of rowcrops and/or hay.

Agricultural disturbance and man’s activities shift forest structure and species composition, causing some resilient species to dominate, and other more disturbance-sensitive plants and animals to decrease or to

disappear entirely. It also creates the opportunity for the introduction into our native woodlands of many weedy or invasive plants native to Europe and Asia. These impacts are evident across the site.

Although the site is obviously impacted by human activity, most of the major tree species known from the area in pre-settlement times are still found in abundance. With time and stewardship, the resilient Indiana forest community types will continue their steady progress towards more diverse and stable habitat for the many species of plants and animals typical of these woodlands.

Pre-settlement Conditions

In the early 19th century the Government Land Office (GLO) surveyed much of the State in anticipation of large-scale settlement. These early surveyors provided relatively detailed descriptions of the tree species found in the surveyed area. These “pre-settlement” notes can be valuable tools for ecological reconstruction of the pre-settlement conditions of an area.

A picture emerges of a typical stand of native Indiana hardwoods, a type of forest known as “mixed mesophytic.” This refers to the fact that the stand consists of several mixed species, none particularly dominant. Mesophytic refers to the medium moisture regime that the vegetation prefers: not too wet and not too dry.

Today, many of the exact same tree species noted by the GLO surveyor’s of the early 19th century exist onsite. White and green ash, several species of oak, sugar maple, walnut, and hackberry are all common trees onsite. Also the understory shrubs that were most frequently mentioned are still very much in evidence: spicebush (*Lindera benzoin*) and greenbriar (*Smilax spp*). Other trees and plants not mentioned in the pre-settlement notes are today well-established onsite. These are species known to thrive under grazing and other agricultural disturbance, or to invade open pasture once agriculture ceases. One of the dominant trees today is eastern red cedar, which was not mentioned in the pre-settlement notes. It has extensively re-colonized formerly open pastures on the site. Other artifacts of disturbance include osage orange and coralberry, as well as the introduced invasive herb, garlic mustard.

Land Use History

Since many of the earliest settlers first entered Indiana from the Kentucky commonwealth or from the Ohio Territory, the rugged landscape of Switzerland County was to many the first glimpse of what is today Indiana. This long history of human settlement has greatly altered the natural areas of Switzerland County. Great demand was placed, first on the woodlands, and then later on the thin soils. The abundant forests that blanketed the hillsides along the Ohio River were denuded by a huge demand for wood and were rapidly converted to agricultural usage very early in the 19th century.

The woodlands found today on the Thiebaud site bear witness to this long history of intensive human use and cultivation. The onsite vegetation itself suggests that most, if not all, of the Thiebaud farmstead was at one time entirely cleared of trees. The forests found growing on today’s site represent regrowth on abandoned pastures and other former agricultural areas. This serves as a reminder of the amazing resiliency of our native woodlands.

Local photos and anecdotal accounts demonstrate that most all of the hills around Vevay were totally devoid of timber probably by the mid-1800s. Today’s forest communities reflect that past disturbance at all levels. This disturbance is evidenced by: low herbaceous diversity; beech, oak, and hickory trees found in lower than expected numbers; and by the disturbance-loving garlic mustard plant. Yet many of the expected hardwood tree species are present, no doubt due to later re-colonization of the area from surrounding woodlots that served as a refuge.

Restoration

The restoration endpoint for the site is the gradual recovery of the plant and animal habitats to a less disturbed state more representative of presettlement conditions found in Switzerland County. Additional restoration goals for the site would include the enhancement of existing manmade wildlife habitats.

It was noted that several expected tree species were found at low densities, or in the case of the American beech, not located at all. The most disturbed areas of the property exhibited very low tree diversity. It is recommended that seedling northern red oak, white oak, black walnut and shagbark hickory be reintroduced to suitable areas of the site. These trees have high value for wildlife due to their heavy mast crop (acorns, walnuts, hickory nuts). “Weedy” trees such as the osage orange should be removed to release the seedlings from shade competition.

Beech was one of the dominant canopy trees of the Switzerland County Hills and has very high wildlife value due its abundant and nourishing beechnut mast crop. It is also valuable as a wildlife “den tree” due to its frequently being hollow or having wind damage in its crown which affords nesting cavities for woodpeckers, flying squirrel, owls, and bats, including the endangered Indiana bat.

The long ridgetops running throughout the property have become crowned with nearly solid stands of eastern red cedar with a dense understory of coralberry bush and green brier. These cedar stands offer a unique conifer habitat type onsite. Certain owls and other birds exhibit preferences for roosting in the protection afforded by these dense evergreens.

Two small former stock ponds are found perched high on the ridgetops, one on an eastern ridge, another on a western ridge. These were no doubt located to provide water for the livestock that were pastured on the ridgetops of the property. Today these ponds function as wetlands. These fishless ponds provide critical amphibian breeding habitat, as well as providing water for many of the other birds and animals found here. At the time of our visit, the eastern pond was teeming with tadpoles and Green Frogs.

On the steep, dry, west-facing slopes of the easternmost ridge on the property is an interesting area of upland forest on sharply drained soils. A smaller area within this upland exhibits many properties of a rare plant community known as a limestone glade, characterized by having a thin scattering of trees and plants due to the harsh nature of the thin, droughty and poor soils. This area adds plant and animal diversity to the macrosite and offers interpretive interest an example of a Switzerland County natural community that would have been present prior to settlement.

Many migrant songbirds are considered declining across the Midwest. The Thiebaud site represents important habitat for many of these woodland-dependent birds so important to our natural heritage. These include the Wood Thrush, the Scarlet Tanager, and the Red-Eyed Vireo. These birds require large blocks of forest for their nesting success. The recovering forests of the Thiebaud property provide a large forested block.

An interpretive and recreational trail described in the Agriculture Museum Center Master Plan offers a good opportunity to truly experience the diverse cultural and natural history features of the site. The majority of the Thiebaud Farm occupies an area with relatively large changes in elevation, rendering the trails moderate to rugged in terms of grade. A smaller trail could be developed at the lower elevations to allow for a less strenuous experience.