THE ORIGINAL VEGETATION OF VAN WERT COUNTY, OHIO

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INTRODUCTION

Ohio is an area where profound changes have taken place since the coming of the first settlers. This is true for all of Ohio but perhaps most strikingly so in the northwestern portion where this study was conducted. Many parts of the environment are involved, but clearing of the forest and drainage of the land have, perhaps, wrought the most drastic changes. According to Diller (1944), less than four percent of the land in the county remains in forest and this percentage continually declines. Those remnants of woodland which still remain are greatly different from the original forest and they continue to change. Disease has nearly exterminated the American elm. Grazing is causing a rapid deterioration of existing mature trees and the complete elimination of reproduction and the understory. Assuming that management does not change, within a few decades there may be almost no timbered tracts remaining. It seems desirable to record what information can be gathered while it is still available. The work reported here is a portion of a broader study dealing with the history of the natural resources of Van Wert County, Ohio. Van Wert County is particularly interesting, first because it is part of an area which was the last in the state to be settled and developed for agriculture. The changes, therefore, are relatively recent. Secondly, it is an intensively farmed region and, therefore, the magnitude of the change is great.

Over half of the land in the county was cleared for agriculture during the decade between 1870 and 1880. The field work for this study was done during the mid '40's. At that time a number of residents were found who had lived in the county prior to 1870 and who could recall early conditions and date changes with a fair degree of accuracy. These were most helpful.

LOCATION AND DESCRIPTION OF THE AREA

Van Wert County, Ohio, is in extreme western Ohio, adjacent to Indiana and about 50 miles south of the Ohio-Michigan line. The entire area of 405 square miles is drained by tributaries of the Maumee River, which empties into Lake Erie at Toledo slightly more than 70 miles to the northeast. Less than one-tenth of the county, comprising most of Willshire Township and small parts of Harrison and Liberty townships, is drained by the St. Mary's River and its tributaries. The remainder is drained by northeast-flowing tributaries of the Auglaize.

For the most part, the topography of the county is relatively flat. The only surface features of any prominence are the glacial Lake Maumee beach ridge and the Fort Wayne moraine. The moraine, with its more rolling terrain, lies across the southern tip of Jenning Township, the southwestern corner of Liberty Township, across Willshire Township and the southwestern corner of Harrison Township. Lake Maumee existed and the beach ridges were formed at a stage in the recession of the late Wisconsin ice sheet. The principal ridge lies across Washington, Ridge, Pleasant, the southwest corner of Union and central Tully Townships. At some places smaller secondary ridges are evident north or south of, and parallel to, the main ridge.

The soils of the county belong to two general groups: the lacustrine or glacial lake deposits north of the beach ridge, and Mississippi Valley till plain soils of the remainder of the county. These latter are mostly gray-brown podzolic soils of

the Miami Catena. A number of scattered prairie areas were present and at least some of those contained deposits of peat (Dachnowski, 1912). These were shallow deposits and have been burned and cultivated until little evidence of peaty material remains. The smaller ones have completely disappeared.

Van Wert County was originally surveyed in 1819. It was a swampy, heavily timbered area offering scant attraction to the settlers who followed the higher beach ridge across it to drier territories to the westward. The county is a portion of that part of northwestern Ohio which is called "The Black Swamp." Actually, only the lake plain was a part of the true Maumee Swamp, but the whole county was, for the most part, poorly drained. The channels of the small streams and even some of fair size were not well defined. Often they were merely sluggish currents flowing through broad willow swamps. The waters which rose after heavy rains did not recede for weeks. Water stood in woodland pools during most of the year. The county was mostly forested but in the shallow depression between the old lake beach ridge and the Fort Wayne moraine, a number of swales or wet prairies were found. Several of these were 2,000 acres or more in size. The total area of these treeless portions exceeded 12,000 acres.

METHODS

In preparing the present report, the original survey records in the office of the County Engineer were used in the manner described by Sears (1921). Witness trees at section and quarter-section corners were plotted on base maps and the description of timber and land along the section lines was carefully noted.

Numerous woodlots in every portion of the county were visited to check the composition of present-day forests against the original descriptions. As might be expected, the present-day forests are mostly quite different from those originally present. Due to drainage and the selection of certain species for cutting, new species have gained dominance and others have nearly, or in some cases, completely disappeared. Figure 1 is a map of the original vegetation based on data from the original land survey records and on notes compiled from field work in the county. Following are descriptions of the timber stands in the various forest types indicated on the map.

LAKE PLAIN FOREST

The lake plain area was covered by a phase of the elm, ash, maple, swamp forest in which maple was a minor component and beech, hickory, and basswood were prominent. According to a tally of witness trees, black ash (*Fraxinus nigra*) and white ash (*F. americana*) together made up more than 30 percent of the stand and elm (largely *Ulmus americana*) about half that amount. Beech (*Fagus grandifolia*) made up about 16 percent, shagbark hickory (*Carya ovata*) and big shellbark hickory (*C. laciniosa*) about 12 percent, and basswood (*Tilia americana*) about 10 percent. The remaining 17 percent was comprised of a variety of species in which oaks made up more than half. These oaks included Shumard's oak (*Quercus Shumardii*), white oak (*Q. alba*), bur oak (*Q. macrocarpa*), chinquapin oak (*Q. Muehlenbergii*), swamp white oak (*Q. bicolor*), and pin oak (*Q. pallustris*). Other species included silver maple (*Acer saccharinum*), sycamore (*Platanus occidentalis*), and cottonwood (*Populus deltoides*). Spicebush (*Benzoin aestivale*) and prickly ash (*Xanthoxylum americanum*) were most prominent in the undergrowth.

The land adjacent to the numerous streams where drainage was somewhat better supported a larger proportion of trees characteristic of less hydrophytic sites. These included beech, basswood, white oak, and sugar maple (*Acer saccharum*). From central Union Township to the north and west the drainage was exceedingly poor, and cottonwood, sycamore, and black ash were more prominent.

Adjacent to the Bear Swamp in northern Tully Township was an almost pure stand of black ash.

The woodlots now found in this area appear to approach the bur oak-big shellbark hickory transition (Sampson, 1930). Bur oak makes up about one-third of the stand. Ash and elm are both about as prominent as hickory and all occur about half as frequently as bur oak. White ash is infrequent, most ashes being green ash (*Fraxinus lanceolata*) or black ash. Other prominent species are Shumard's oak, swamp white oak, and basswood.

Present woodlots are so scattered and the composition varies so greatly, that it is necessary to generalize rather broadly in this case.

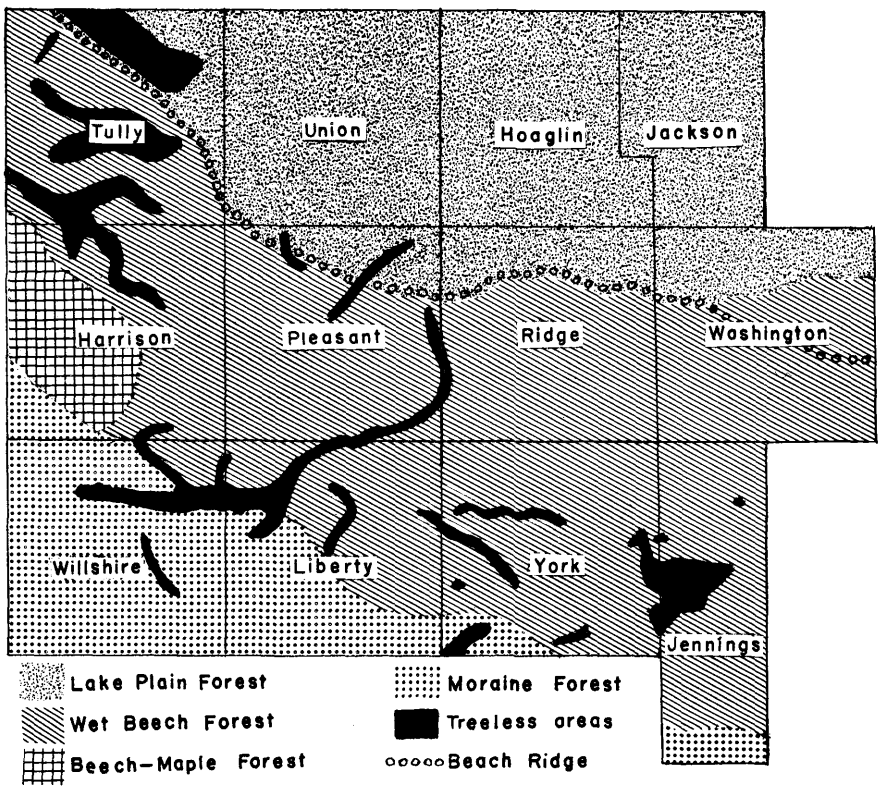

FIGURE 1. Original Vegetation of Van Wert County.

WET BEECH FOREST

That part of the county which lies between the Lake Maumee beach ridge and the Fort Wayne moraine, although quite flat, had better drainage than the lake plain. This was reflected in the forest which is probably best described by the name "wet beech." It consisted of essentially the same species as the lake plain forest, but in different proportions. A tally of witness trees in this area indicated that beech made up nearly 47 percent of the stand on the average. The ashes made up more than 18 percent, elm nearly 8 percent, and hickory between 6 and 7 percent. The remaining 20 percent included about the same minor species as were found in the lake plain and here, too, the various oaks made up about half of the total.

Microrelief, as indicated by the complex soil pattern in this area, was also reflected in the forest cover. The areas with best drainage supported some white oak and sugar maple, and down the scale through beech and basswood, elm, and white ash to swamp white oak, pin oak, black ash, and silver maple in the lower spots.

The present-day secondary forests are singularly lacking in beech, at least as compared with its former abundance. The small size of most present-day woodlots and the complexity of the soil pattern make generalizations difficult. In general, however, the more poorly drained woodlots are much like those in the lake plain area. The dominant species are bur oak and big shellbark hickory. In some of the lowest spots swamp white oak, pin oak, or silver maple is predominant. On sites with slightly better drainage an association of Shumard's oak, chinquapin oak and bur oak, with shagbark, shellbark, and bitternut hickories is found. This association is prevalent in the area.

FOREST OF THE FORT WAYNE MORAINE

In this area of more rolling topography and better drainage a third kind of forest was found. This was a transition between swamp forest and oak-hickory forest, in which red and white oaks and hickory covered the better drained ridges. Beech was the principal species on the intermediate slopes and the ash-elm swamp forest association occupied the poorly drained depressions. Over the entire area red, Shumard's, and white oaks made up more than one-third of the stand, beech made up over one-fourth, and hickory over one-fifth of the stand. Ash and elm made up about one-tenth of the stand, with ash being a little more prevalent than elm. Other species present in smaller numbers were basswood, sugar maple, bur and swamp white oaks, and scattered individuals of a number of other species.

That part of the moraine which is included in the southern part of Jennings Township was described in the original survey as being covered with scrubby red and white oak timber, and nearly all of the witness trees were of these species. The surveyor in his notes described the area and remarked that there appeared to have been a hurricane there. Quaking aspen (*Populus tremuloides*) was prominent.

In this morainal area, in addition to the spicebush and prickly ash undergrowth, hazelnut (*Corylus americana*) was frequently mentioned.

In the present-day secondary forests, most species have not changed greatly in relative dominance. Now red and white oaks make up a little less than one-third of the stand, and hickories, still about one-fifth. Sugar maple has greatly increased and, in the area checked, made up more than 17 percent of the stand, while beech occurs in very small numbers. Ash and elm in the area checked were a little more abundant than the witness tree tally indicates was originally true.

In this area Shumard's oak, which occurs almost to the exclusion of red oak in the lake plain and wet beech area, is largely replaced by this latter species. The red oak which apparently was only a little more abundant than white oak originally is now at least three times as numerous as that species. Shumard's oak was not recognized as a separate species or at least not correctly identified by the early surveyor who apparently listed it as red or black oak.

BEECH-MAPLE FOREST

An area in western Harrison Township, as indicated on the map, was covered by what can probably best be described as a wet phase of the beech-maple forest. Beech made up about one-fourth of the stand and sugar maple about half of that proportion. Ash made up about 18 percent, and white oak about 11 percent. Other prominent species were hickory, basswood, elm, and tulip tree (*Liriodendron tulipifera*). This last species was not found, except as lone individuals, in any other area of the county. Figure 2 shows the distribution of the tulip trees mentioned in the original land survey. Few were recorded outside of the area

here discussed. For the most part these records appear to be confined to the divide between the St. Mary's and the Auglaize watersheds. The area which was forested as described above corresponds fairly well with the soils area mapped as predominantly Crosby silty clay loam.

The woodlots now present contain considerable white oak. Beech is much less common than originally. Red maple (*Acer rubrum*) is fairly common and is found sparingly in only a few other areas. Flowering dogwood (*Cornus florida*) is more common here than elsewhere in the county.

TREELESS AREAS

The 12,000 acres of treeless areas were covered by a variety of shrubby and herbaceous vegetation. Willows (*Salix*) were the dominant shrubs which bordered

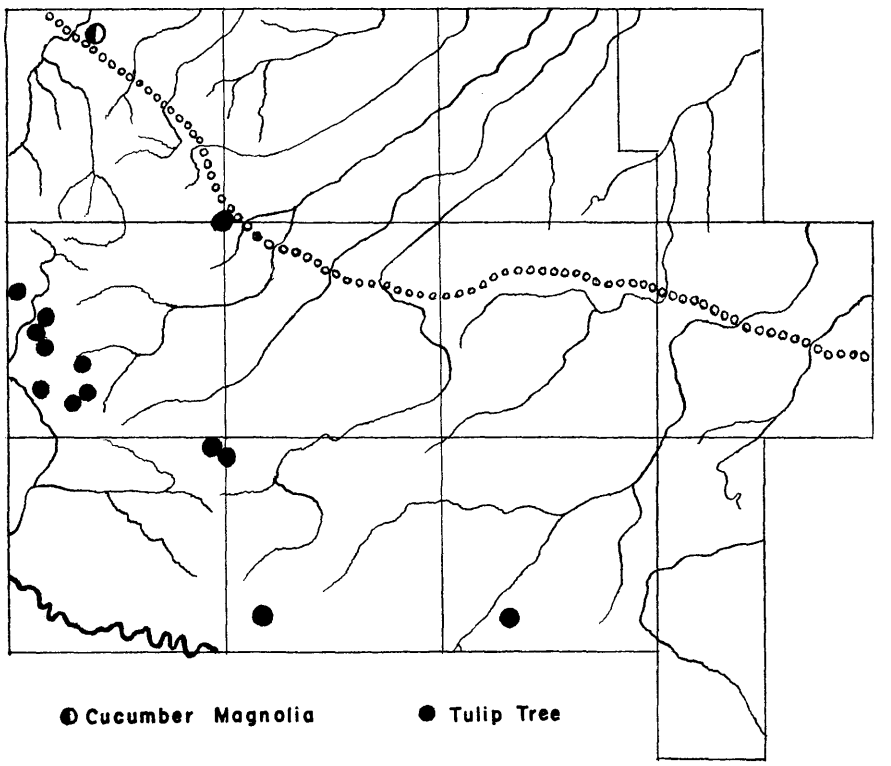

FIGURE 2. Distribution of Tulip Tree and Cucumber Magnolia.

nearly all such areas and quaking aspen was also common. Wild spirea (*Spirea alba*) can still be found in the vicinity formerly covered by the "Twenty-seven Mile Prairie" in Willshire and Harrison Townships. Buttonbush (*Cephalanthus occidentalis*) and panicled dogwood (*Cornus racemosa*) were common. Several of the areas were reported to have been covered with "a tall prairie grass' which was probably Spartina or cordgrass. A clump of this was found growing along a road in central Liberty Township. Certainly large areas were covered with sedges and large portions of some of them were muck land with bog vegetation. These areas have been drained and have been so intensively cultivated that scarcely a vestige of their original cover remains. No adequate descriptions have been

located so it is impossible to give more detailed information regarding the original condition of these "prairies."

BEACH RIDGES

The Lake Maumee beach ridge had a type of vegetation different from that of the lands adjacent to it. The name "Sugar Ridge" which the early settlers applied to it indicates that sugar maple must have been common. The Indians had sugar camps along the ridge before the first settlers came. Other trees which are known to have been common are: black walnut (*Juglans nigra*), butternut (*Juglans cinerea*), red elm (*Ulmus fulva*), beech, red oak, and chinquapin oak. All are species characteristic of moist, well-drained sites. On the ridge in the extreme northwest corner of the county the early surveyors recorded a cucumber tree (*Magnolia acuminata*) 15 in. in diameter. This locality is far to the west of its normal range. It is not a species that would be readily confused, and the sandy soils of the Lake Maumee beach ridge, unlike all other soils in this part of the state, might be favorable for its growth. It seems quite probable that at one time it may have occurred occasionally along this narrow strip of sandy soil, even as far west as the state line. No adequate description of the ridge forest has been located and no remnants are now to be found.

SUMMARY

This paper documents the information that is available concerning the nature and distribution of the original forests of Van Wert County, Ohio, and notes changes in the remnants still present. The information presented is based upon data collected from the original land surveys of the county, from field observation of remaining forested tracts and, in some small degree, upon the recollection of a number of persons old enough to remember their youth in the unsettled swamp country. The future of woodland in this region is not encouraging. Grazing and disease are rapidly destroying existing woodlots. The time may not be far distant when nothing remains to even hint at the nature of the swampy forest which appeared so inhospitable to the pioneers who pushed westward along the ridges.

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