

The Evolution of a Maple Sugaring Landscape on Lake Superior's Grand Island

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ABSTRACT

When examined within their historic context, vernacular landscapes inform us about the behaviors, beliefs, and interrelationships of ordinary people and their surroundings. Through the integration of historical research with a landscape archaeology approach, this paper examines the evolution and abandonment of a landscape of maple sugar and syrup production in the Upper Peninsula of Michigan, USA. Beginning with Native American occupation, through early Euro-American settlement, to commercial and corporate expansion by the Cleveland Cliffs Iron Company, the history and landscape evolution of the Grand Island maple sugarbush reflect changing cultural practices, settlement patterns, land use, and land tenure in a portion of the Lake Superior region. Like much of rural America, continued changes in the technology and organization of the maple sugaring industry over the last fifty years are resulting in an increasingly rapid loss or replacement of the landscape and material record of maple sugaring. With abandonment nearly fifty years ago, the Grand Island sugarbush provides an opportunity to examine historic aspects of this unique forest-based food production landscape.

INTRODUCTION

Since the 1850s, the state of Michigan has consistently been the sixth or better maple-producing state in the United States, occasionally ranking as high as third, behind the better-known maple-producing states of Vermont, New York, Pennsylvania, New Hampshire, and Ohio.¹ However, the history of maple production in Michigan begins with the state's first indigenous residents, long before the first tabulation of maple production statistics. Once an important activity in the Native American seasonal round, the tapping of maple trees and boiling of maple sap into maple sugar was carried out each spring in all parts of the state. In the nineteenth century, General Land Office surveyors throughout the state frequently noted and mapped the locations of Native American sugarbushes and sugar camps. Today, many sugarbush owners

1. Based upon an analysis of total maple sugar and maple syrup production statistics reported in the United States Census Reports for Agriculture. In the 1960s and 1970s, the state of Wisconsin crept into the top five states with the development of large scale Central Evaporator Plants (Reynolds 1998).

are quick to claim that their sugarbush was once tapped each spring by one of the local resident Native American tribes. As is shown in this study, that very continuity was the case with the sugarbush on Lake Superior's Grand Island (Figure 1), a maple production landscape that has evolved with the successive settlement and land use of the region.



FIGURE 1. Location of Grand Island in Lake Superior on the Upper Peninsula of Michigan.

Grand Island has witnessed three phases of maple sugar and syrup production. Initially, Native American Ojibwe maple sugarmakers occupied the island from at least the mid-1700s to the mid-1800s (Schoolcraft 1851).² Euro-American settlers and sugarmakers followed in 1840, beginning with the family of Abraham Williams. Later the Cleveland Cliffs Iron Company (CCI), under the direction of its president, William G. Mather, purchased the island and developed it as a private resort and game preserve complete with sugarbush from 1901 to the late 1950s (Castle 1974; Harrison 1974). During these three periods of occupation, maple sugaring was a constant springtime occupation. Today the maple sugaring landscape is recognized from the archaeological remains and features developed over 150 years of working the Grand Island sugarbush.

2. The term Ojibwe is one of many terms for the Algonquian-speaking group of Native Americans that occupy the upper Great Lakes region of northern Minnesota, northern Wisconsin, Upper Michigan, and adjacent Ontario. Other spellings and names that refer to the Ojibwe include Chippewa, Ojibwa, Ojibway, and Anishinabe.

LANDSCAPE ARCHAEOLOGY

To focus our understanding of the essentially archaeological remains of an abandoned sugarbush, this research embraces a landscape archaeology approach.³ Similar to the study of cultural landscapes, landscape archaeology as an approach considers the landscape or land-use of focus in its entirety, examining the various components and their inter and intra-relations as an integrated whole. Surface archaeology is the study of the above-ground material remains of historic cultural landscapes and sites and is an important and spatially appropriate methodological approach to study historic archaeological landscapes, particularly those of the twentieth century. In the case of a maple sugaring landscape, a more traditionally defined site-oriented approach would focus on only the sap-boiling areas as tightly defined sites. As a result, the spatial and historic context and features that connect these sites, as well as the broader matrix in which these sites are embedded (i.e., the sugarbush), is not fully recognized and integrated. Today, the traditional archaeological concept of the site, bounded and strictly defined on paper, is more of an artifact of land management needs imposed by the legal framework of historic preservation law than a useful and accurate way to think about previous human uses of space. To better understand how and why people interacted with the land in the past, such as the case with maple sugaring, it is imperative to look at the full extent of that activity and the interaction of all its components both spatially and temporally.

In the remainder of this paper we present a brief overview of historical research related to the maple industry, followed by background information on the Grand Island context, leading up to a review of the history of maple sugaring practices during each of three previous phases of land use on Grand Island. We then describe the physical features and remains that define this vernacular landscape. Finally we discuss the cultural landscape interactions that are tied to maple sugaring on Grand Island.

HISTORICAL RESEARCH

ON THE MAPLE SUGARING INDUSTRY

Romantic conceptions of a quaint sugar house nestled in the snowy woods with steam rising from the cupola abound in both image and popular literature (e.g., Campbell 1979; Lawrence and Martin 1993); however there are few examples of maple sugaring as a subject of scholarly and landscape study. Notable exceptions are Ware's (1993) historical study of the maple sugar industry in Somerset County, Pennsylvania; the work of Hinrichs (1993, 1995, 1998), which look at the sociology of maple production and its embeddedness in the rural landscapes of Quebec and Vermont; and the recognition by cultural

3. Similar to Wells's and Carter and Herman's arguments that vernacular architecture is "less a kind of building, than an approach to looking at buildings" (Wells 1986, 4; Carter and Herman 1991), to us, landscape archaeology is an approach to studying the remains of past human behavior rather than the specific remnants of landscapes, designed or vernacular.

geographers and architectural historians of the sugar house as a vernacular building form (e.g., Noble 1984; Noble and Cleek 1995; Visser 1997). Historic Native American maple sugar camps have occasionally been reported in the archaeological literature (Loftus 1977; Collins 2001; Thomas 2001), and the origins of maple sugaring were hotly debated in the 1980s and 1990s (Holman 1984; Mason 1986; Mason and Holman 2000). In the Great Lakes region, archaeological reports of abandoned maple sugar camps can be found in the abundant gray literature generated by historic preservation consultants and land management agencies. Unfortunately the remains of such camps are often very loosely recorded, written off, or ignored, with no additional research and no context on which to base such determinations of insignificance.⁴

THE GRAND ISLAND CONTEXT

The Grand Island sugarbush (Figure 2) was first recorded as two separate archaeological sites in 1990 as part of an initial inventory of cultural resources following the island's transfer to the Hiawatha National Forest (CCRG 1991; Roberts 1991). At that time the focus of the investigators was the individual sugar camps and the readily identifiable material culture on the surface. As a result, the two separate sugar camp locations were given separate site numbers without formal recognition of the larger inclusive cultural landscape feature, namely the sugarbush. More recently, the sugarbush as a complete landscape unit was the subject of a systematic study and survey.⁵

Previous studies of Grand Island landscapes explore historic patterns of cultural landscape evolution that were discerned from an examination of historic documents and ethnobotanical analyses (Ball 1993; Silbernagel 2000; Silbernagel et al. 1998). Although they include references to the location and continued use of the sugarbush by the island's successive occupants, these previous studies do not focus on the sugarbush per se; rather they provide an excellent context for more detailed study of various landscape components such as the sugarbush.

In its entirety, Grand Island covers 13,071 acres (5500 ha) of land along the southern shore of Lake Superior, approximately one-half mile (1 km) from of

4. The U.S.D.A. Forest Service in Michigan, Wisconsin, and Minnesota, as well as many Indian reservation Tribal Historic Preservation Programs have recorded dozens of maple sugaring camps in the course of their cultural resource inventories. Due to budgetary and personnel constraints, such sites are generally identified and avoided in future land use activities in the area, thus protecting the sites, but providing researchers with little additional information. In a few cases, where a proposed development was considered a priority over avoidance, additional information was collected in the form of documentary research, interviews, and limited archaeological excavation (Murray 1991; GLRA 1995; Godfrey 1995).

5. In the spring and summer of 2002, the first author revisited and systematically surveyed the entire sugarbush, identifying new features and the relationships between the various landscape components.

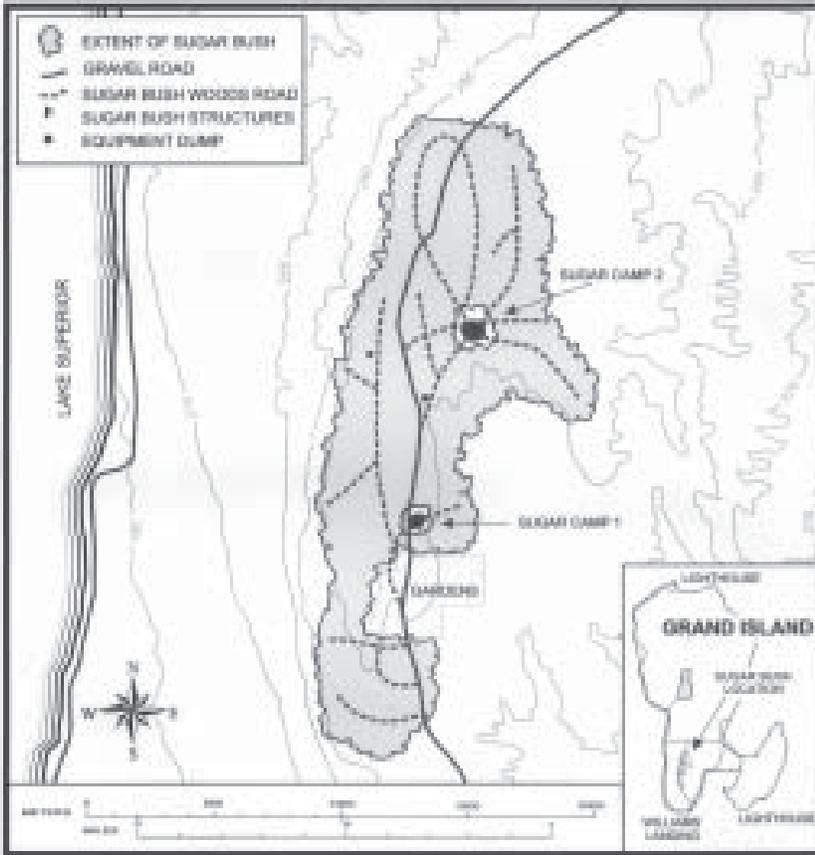


FIGURE 2. Layout of sugarbush indicating Camp 1, Camp 2, the sugarbush woods roads, and the location of the sugarbush on Grand Island.

the shore. Located near the city of Munising in Michigan's Upper Peninsula, the island's position along the lake's southern shore lends itself to summers that are relatively cool with moderate winter temperatures, especially in comparison to the nearby mainland. Also, snowfall and cloud cover in the area are higher and more common due to the greater moisture levels provided by the lake. Geologically, Grand Island is a part of the Jacobsville Sandstone formation, with high cliffs rising along the northern and western sides of the island. Bedrock exposures are found along terraces and drainages as well as at wave cut escarpments, and the island is overlain with a thin covering of glacial till. The forest cover on the island is primarily northern hardwoods, dominated by American beech (*Fagus grandifolia*) and sugar maple (*Acer saccharum*), with smaller areas of hemlock (*Tsuga canadensis*), cedar (*Thuja occidentalis*), and red

(*Pinus resinosa*) and white pine (*Pinus strobus*) (Padley 1992).

HISTORY OF THE GRAND ISLAND SUGARBUSH

Ojibwe Era (1700s–1840)

The earliest known maple sugar production on Grand Island dates to the Ojibwe occupation of the island from at least as early as 1700 and continuing to the arrival of the Euro-American Abraham Williams family in 1840, if not longer. It is not conclusively known exactly where the Ojibwe inhabitants tapped the maple trees or operated a sugar camp on the island; however the first General Land Office survey of the island in 1846 recorded a trail leading from Murray Bay north to the same area of the later sugarbushes of Abraham Williams and CCI, suggesting regular travel and use of the area of the sugarbush, probably for the purpose of making maple sugar (Silbernagel 2000).

The famed Indian agent Henry Rowe Schoolcraft reported from a census of the Chippewa on Grand Island, that a population of fifty-seven Ojibwe Indians from thirteen families were producing 3,500 pounds of maple sugar in 600 kettles (Schoolcraft 1851). Ojibwe settlement of the island reportedly peaked in the early 1800s, and by the 1850s only a few families remained. Like most Ojibwe communities at that time, the Native American families on the island appear to have been seasonally mobile, returning to the settlement along Murray Bay each spring. In the Great Lakes region, archaeological remains of eighteenth- and nineteenth-century Native American maple sugar camps are rare and notoriously difficult to find (Thomas 1999, 2001). As a result, material or landscape evidence of this period of sugaring has yet to be discovered on the island.

Based upon eighteenth- and nineteenth-century eyewitness accounts of Ojibwe maple sugar camps from the Lake Superior region, as well as other common accounts (Henry 1901; Densmore 1928, 1929; Wheeler 1844), the Grand Island Ojibwe likely tapped the maple trees by making a cut in the tree with an axe and directing the sap along cedar slats inserted into the tree below the cut. Sap was collected in small baskets formed from folded and stitched sheets of birch bark, and gathered in larger birch bark pails or mukuks that were brought to the sugar camp for storage in wooden barrels, large hollowed-out logs, or moose skin vats. Boiling was carried out in a series of copper, brass, or iron trade kettles that hung from a frame over an open fire. A maple sugaring lodge made with a sapling frame covered with birch bark, which had a large roof opening, and interior sleeping platforms may have been built over the boiling area. Sugaring equipment was likely stored in a small birch bark-covered cache in the sugarbush. The Grand Island Ojibwe's maple production was likely entirely focused on the making of granulated and molded cakes of maple sugar, which were easier for a seasonally mobile people to store and transport than the liquid maple syrup. Producing nearly two tons of maple sugar would necessitate the tapping of hundreds of trees.

Abraham Williams Era (1840–1873)

With the region opened for white settlement following the Treaty of 1836, the Abraham Williams family arrived from Indiana, settling on the island in 1840 (Castle 1974; Roberts 1991). Quickly establishing themselves as local traders, the Williams's early years were spent as the only non-Indian family on the island, where they shared space with the original, albeit seasonal, Ojibwe residents. Examining the relationship of the Williams's and their Ojibwe neighbors, historian Norene Roberts has implied that it was largely a friendship based on economic gain for the Williams family. Acting as blacksmith to the Indians, Williams also "employed them [Indians] in cutting and loading wood for the 'propellers,'⁶ sold them kettles and tools, cloths, whiskey, tobacco, salt, sugar, and helped or hired them in maple sugar making and fishing operations on the island" (Roberts 1991, 35). In contrast to their predecessors, the Williams family stayed on the island year round and made substantial changes to the landscape of the southern portion of the island. Wanting to gain income from those resources available to them, the family cleared a large garden from the forest, constructed cabins, buildings, and a dock for their trading operation along the southern tip of the island, and operated a sugarbush farther inland.

Born in Pownal, Vermont, in 1792, Abraham Williams likely learned the art of maple sugar making at an early age, later passing that knowledge on to his children. Knowing that they arrived on the island in the middle of the nineteenth century, it is nearly assured that the Williams's produced very little maple syrup, instead making cake and granulated maple sugar. Large flat pans were known to sugarmakers by the 1840s and 1850s, but the majority of people who tapped maple trees in that era boiled maple sap in a series of kettles suspended over or set upon an open wood fire.⁷ It is our assumption that in later years the Williams's improved their maple production technology and constructed a sugarhouse discussed below. Sap would have been gathered in wooden pails, hollowed out logs, or birch bark containers, and the taps or spiles would have been hollowed out from lengths of sumac branches or split cedar slats. Transported by hand and snowshoe, sap would have been hauled on shoulder yokes and in sleds through the snow and stored in large wooden barrels until boiled.

While no photos or descriptions of the sugarhouse are known from this period, the Williams's sugar house was reportedly located near the gardens, approximately one mile from the dock and landing (Heller 1959). This would place the sugar house and sugarbush in the same location as CCI's Camp 1 (see

6. "Propellers" refers to the steamships that operated on Lake Superior in the nineteenth and early twentieth centuries.

7. Little systematic research has been published regarding the specifics of the evolution of nineteenth-century maple sugaring technology (see Vidler 1979; Ware 1993). A more detailed technological progression is being developed in ongoing research through the examination of museum collections and various archival materials including agricultural journals, patent records, government reports, equipment catalogs, advertisements, photos, stereo-views, and paintings.

Figure 2). The Cleveland Cliffs Company is reported to have restored and increased the size of the Williams's sugarbush (Harrison 1974) and rebuilt the Williams's sugarhouse at the location of Camp 1 in the early years of their maple operation. Unfortunately, the degree to which the sugarhouse at CCI's Camp 1 incorporated or resembled the Williams's camp is not clear. The Williams's sugarhouse supposedly remained standing until it was burned in 1958 under the direction of the CCI insurance company (Heller 1959). As will be seen later, the reported destruction of this sugarhouse is consistent with the condition of the archaeological remains of the sugarhouse in Camp 1 of the CCI sugarbush.

In most American and Canadian sugarbushes, the construction of a sugarhouse or a structure more substantial than a lean-to or open sided shed was uncommon before the 1880s and the introduction of the commercial evaporator. The first evaporators for boiling sap and sweet liquids in compartmentalized boiling pans, with flues that increased the surface area and sat on top of brick-lined, metal fireboxes, were patented in the early 1860s, but not mass produced and commercially available until the early 1880s. Before that, undivided flat pans for evaporating sap slowly grew in use between the 1820s and 1870s while many producers were still boiling sap in kettles. With his death in 1873, it is likely that Abraham Williams never lived to see the construction of a sugarhouse at his sugarbush, and any structure that was standing and improved when CCI bought the island was built by Abraham Williams's descendents, who continued to tap the sugarbush up to the time that CCI purchased the island (*Cliffs News* 1952).

William G. Mather and the CCI Era (1908–1956)

The Cleveland Cliffs Iron Company's relationship with Grand Island began with the purchase of 17,000 acres of timberland in the Munising area in 1900, with about one-half of the island forming a large portion of the purchase. Later the same year, CCI bought up the remaining lands on the island, including most of the buildings built by the Williams family (Rakestraw et al. 1977). The purchase of the island may have initially been purely for its forest resources, which were needed to meet the continuing appetite of CCI's Upper Peninsula iron mines for large timber. Nevertheless, it didn't take William G. Mather, president of the company, long to recognize what Grand Island had to offer. Developers didn't balk at the island's potential either. Recounting the early history of the resort, Erickson noted that,

as early as 1902 commercial promoters had approached Mather with plans for a resort development on the scale of Mackinac Island. Still wanting to preserve the natural beauty of the island, Mather instead decided on a smaller scale resort development which consisted of converting the large Abraham Williams house into a ten room hotel and improving several of the trading post structures and Williams' cabins . . . the first phase of the resort opened in the summer of 1905 (Erickson 1944, cited

in Eder et al. 1976).

Mather also employed the opinion of his longtime friend and famed Boston landscape architect, Warren H. Manning, in developing a layout and planting plan for the hotel complex (Manning 1900). In 1909, CCI expanded its total accommodations to house more than 150 people, by adding more cabins and a new and larger hotel known as “The Annex” (Harrison 1974). In addition to the settlement and accommodations around Williams’ Landing and Murray Bay, Mather built cabins, boathouses, lookouts, barns, camps, and sheds scattered across the northern half of the island, all connected with newly constructed roads cut through the forest (Ball 1993). To Mather and CCI, the island not only was to be enjoyed for its natural beauty and wilds, but also for commercial purposes, as seen in the development of the hotel and resort and the commercialization of maple syrup making (Silbernagel 2000).

With the opening of its hotel, the Cleveland Cliffs Company recognized the value of the now dormant Williams family sugarbush for producing a ready supply of syrup for their guests. Sometime between 1905 and 1908, with the assistance of Peter White, a well-known Upper Peninsula state senator from Marquette, CCI invested in the tapping, gathering, and boiling equipment for a small-scale maple operation at the Williams sugarbush (Heller 1959).⁸ In 1908, Ray Brotherton, a local land looker, CCI land office engineer, amateur photographer, and friend of Mather, took a photo of the first CCI sugarhouse at what became known as Camp 1. By 1928, the work of making maple syrup had grown significantly for the island’s caretaker and director of sugar making, John Lezote and his crew of twelve to fourteen men. CCI added another evaporator, and built a second, larger sugarhouse, known as Camp 2, a little over one quarter of a mile north of Camp 1 (Harrison 1974; Cleveland Cliffs Iron Company 1928).

More than exploiting the island’s maple trees for syrup making, CCI took advantage of the romantic and picturesque draw of the sugarbush to lure vacationers to the island. Such is clear in the following text from an undated promotional brochure:

When Abraham Williams of Vermont saw the great maples on the Island he was glad . . . for here was his source of sugar and syrup. The sap-house, built in those early days, still stands and still is used each spring when the sap runs from the tapped trees and is made into the most delicious maple syrup and maple sugar. It is this syrup that you will pour over your pancakes in the great dining-room of the hotel . . . or in the privacy of your own cottage. You will wander through the sugar bush to the

8. The sugarbush was not a prominent aspect or image of the CCI resort as is evident in a 1908 article in the *Detroit News Tribune Illustrated Supplement* (Dec. 6, 1908, 1), which focused entirely on the Grand Island game preserve and makes no mention of the sugarbush. (Alger County – Grand Island Newspaper Clippings, John M. Longyear Library, Marquette County Historical Society).

sap house and your camera will be busy all the time for there are so many interesting things to record on film (Cleveland Cliffs Iron Co. n.d.).

During its primary period of commercial exploitation, the CCI sugarbush was nearly a monoculture of sugar maple trees. Although sugar maples are the dominant tree type in portions of the Upper Peninsula, their dominance on Grand Island was not entirely a result of natural processes. Rather, the sugarbush was thinned for firewood to fuel the evaporators and island homes by cutting most of the nonmaples, especially pine, cedar, and some hemlock by 1918 (Cleveland Cliffs Iron Co. 1928).

Adding a second sugarcabin to the sugarbush boosted syrup production and allowed the company to sell the surplus not needed in the hotel. Initially this surplus was sold to the patrons of the island resort to take home, but later, with the decline of the resort and the closing of the hotels in the 1940s, the emphasis shifted to the production of syrup for sale to longtime patrons around the country as well as in neighboring mainland communities. For many years Grand Island maple syrup was shipped to the Book-Cadillac Hotel in Detroit, while locally it was available in gallon, half-gallon, and quart lots in the CCI office in Negaunee (*Mining Journal* 1952). In the late 1930s the sugarbush was generating an annual profit of \$723 from a production of 618 gallons ([Erickson 1944] cited in Roberts 1991). The average yield in the 1940s was 500 gallons of syrup, while at the height of production in the mid 1950s, sap from 3000 to 4000 trees was being boiled in three evaporators to produce nearly 1000 gallons of syrup (*Mining Journal* 1952).

With the death of William Mather in 1951, preceded by the closing of the hotel, the selling of many of the island's cabins and the shift to a commercial maple sugaring operation, the new leadership of the Cleveland Cliffs Company came to see the island in a light much different from that of Mather (Erickson 1944; Harrison 1974; Eder et al. 1976). CCI was an iron mining company, not a resort and tourism bureau. Moreover, CCI was not in the business of commercial agriculture or food packaging and operating the sugarbush took valuable employees and money away from other CCI activities. By 1956, all maple production on the island had ceased and not long after the large mature maple trees that stood through three eras of maple sugaring were cut (Heller 1959).

GRAND ISLAND MAPLE SUGARING LANDSCAPE

Today, the maple sugaring landscape visible at Grand Island consists of the remains of the most recent sugaring activities carried out by the Cleveland Cliffs Iron Company. This is evident in the form of Camps 1 and 2, the network of woods roads that were used for gathering sap, two small areas where remains from the two abandoned camps were later deposited, and the sugarbush itself. Oriented along a north-south axis, the sugarbush is bisected through the center

by a two-vehicle wide gravel road (Figure 2). This road was built roughly upon the location of the trail running from the landing to the sugarbush originally recorded in the 1855 Government Land Office survey. When initially expanded for vehicular use by the Cleveland Cliffs Iron Company, the road only ran from Williams' Landing to Camp 1 and the adjacent gardens. Later this road was extended into the sugarbush and northward through the island. Throughout the sugarbush a network of woods roads extended off both sides of the main road. These secondary roads were the primary routes that the horse-drawn sap gathering sleds maneuvered through the sugarbush (Figures 2 and 6). As the destination point for the gathered sap, Camp 2 was the hub for the greatest number of these woods roads. Camp 1, on the other hand, was adjacent to and easily accessed from the main road. A five-acre garden opening interrupts the southern portion of the sugarbush, with the remains of a six-foot high wire deer fence erected around the gardens during the CCI era still visible today.

For the purposes of this study, the boundary of the sugarbush is based upon two sources of information: first, detailed timber cruise maps from the late 1920s, and later fire insurance maps from the 1940s, both of which clearly delineate the extent of tapping; second, the distribution of maple production artifacts on the surface, namely sap collection containers. Scattered finds of commercially produced, galvanized steel sap collection pails and the occasional Grimm brand metal sap can cover are found across the sugarbush, with the greatest concentrations near the two sugar camps and along the main road through the sugarbush (see Figure 2). Identifying the boundaries in the sugarbush today through the study of trees species, age, and tapping scars is not possible due to the logging that occurred in the late 1950s. In other sugarbushes that have not been recently logged, the extent of the tapping area can be determined by examining the distribution of maple trees that have tapping scars on the bark of the tree from the base approximately to breast height (Thomas 2001).

The area of the sugarbush is dominated today by the fast-growing American beech that was likely once closely dominant with sugar maple in the sugarbush area (Padley 1992) and was later removed by select cutting. Young sugar maple trees are also found in the sugarbush, but in much lower numbers.

Camp 1

At the southern end of the sugarbush, north of the garden opening, is Camp 1, the first CCI sugar camp. Camp 1 was also the location of the Williams' sugarbush and camp, and was likely the location of Ojibwe sugaring in the eighteenth and nineteenth centuries. A photograph from 1908 (Figure 3) provides an image of the earliest incarnation of the first CCI sugar house. Camp 1 consisted of a small horizontal plank, wood-sided, rectangular, gable-roofed sugar house with a small, square, louvered cupola along the roofline. At the northeastern end of the structure was a laddered platform for unloading sap from the horse-drawn sled to sap storage tanks kept above the level of the evaporator,

which allowed gravity to draw sap to the evaporator. Like the traditional form of nearly all sugar houses, the layout was organized around the placement and efficient use of the evaporator. The sap storage was found at the rear of the evaporator near the smoke stack. The wood storage was located at the front of the evaporator for easy feeding to the opening in the firebox. The cupola was centered over the top of the evaporator to emit the gallons of steam that sap boiling produces. A smaller vertical plank, gable-roofed building, in which the firewood was stored, was attached at the front or firebox end of the sugar house. It is clear from early photographs that the sugar house at Camp 1 initially contained a small evaporator, possibly even a homemade flat pan. The size of the small square cupola would have been ill equipped to remove the steam from a larger commercial evaporator, and the small smoke stack protruding from the roof face was too small in diameter and length to draw a strong enough draft to keep a large firebox fed with air.

By 1910, additional photographs show the cupola had been enlarged to a size consistent with the sugar house being equipped with a larger evaporator.



FIGURE 3. June 1908 photograph by Ray Brotherton of sugarhouse at Camp 1 (Brotherton Album A, photo 70. Photo used with permission of the John M. Longyear Research Library of the Marquette County Historical Society).

Likewise, a later undated photo (Figure 4) shows a tall and wide smoke stack of a size that corresponds to the larger cupola and larger evaporator.

Sometime before 1952 an elevated tamarack log ramp with vertical pilings was added to the rear of the sugar house for unloading the sap gathering tanks



FIGURE 4. Undated real photo postcard of sugarhouse at Camp 1, note the larger cupola, tall rectangular smoke stack, and absence of sap unloading ramp (Uncataloged Postcard. Photo used with permission of the John M. Longyear Research Library of the Marquette County Historical Society).

pulled by the horse-drawn toboggan.⁹ In addition, a gabled roof addition, likely for equipment and wood storage, was added perpendicular to eastern side of the sugar house.

Today the limited remains of Camp 1 provide a spatial reference to the layout and relationship of this sugar house to the rest of the sugarbush. At the camp one can still observe one of the front metal syrup pans and the remains of the rear flue or sap pan alongside the brick-lined metal firebox. Also present are two large rectangular sap storage tanks that sit alongside a scattering of sap pails and pail covers. There is no scrap wood or roofing material on the surface at Camp 1. The once larger clearing in which the sugar house stood is slowly submitting to the encroaching forest. A few vertical pilings remain standing, providing further evidence for the presence of a raised unloading ramp. Being located adjacent to the gravel road and closer to the area of settlement than the other sugar camp has led to post-abandonment salvaging of items such as pails and possibly timber from Camp 1.

9. The date of 1952 is given as the nearest bracketed date based on the photograph of the Camp 1 sugar house in the CCI newsletter *Cliffs News* published that year. In this same year an article in the *Mining Journal* about the sugarbush also contained a photograph of the sugar house in Camp 2, a decidedly different and clearly more recent structure. It is easy to confuse the photos of sugar houses in Camp 1 and Camp 2, but an examination of more subtle features like windows and roof lines allows one to trace their respective evolutions over time.

Camp 2

The larger and younger of the two CCI sugar camps is Camp 2, located 175 yards east of the main road along a connecting east-west woods road (see Figure 2). As the more protected of the two camps, located off the road and away



FIGURE 5. Real photo postcard of sugarhouse at Camp 2 with one cupola and sap unloading ramp at rear (Catalog Number 1969.44.2[(5)]). Photo used with permission of the John M. Longyear Research Library of the Marquette County Historical Society).

from the glance of the passing traveler, Camp 2 is in a less disturbed and less deteriorated condition. Likely built in the 1920s,¹⁰ Camp 2 originally consisted of a single evaporator inside a rectangular sugar house with an unloading ramp at the rear (Figures 5 and 6). Oriented north-south, the initial form of the sugar house was balloon framed, sided with vertical, board and batten walls, covered with a gabled wood shingle roof, and topped by a gabled shingled cupola with louvered vents along the roof line. The first five-by-fifteen-foot evaporator, made by the Champion Evaporator Company of Hudson, Ohio, was placed on a poured cement slab at the northern end of the sugar house. The southern portion of the sugar house served as a firewood and equipment storage area, with wide openings in the western and eastern elevations for draft and access to the wood storage area. In addition, cords of firewood were

10. Promotional literature from Grand Island dated to 1928 includes a map of the island that shows two sugar camps. Similar literature dated to 1910 only indicates the southern Camp 1.



FIGURE 6. Real photo postcard of sap being unloaded on ramp at Camp 2 (Catalog Number 1969.44.2[6]). Photo used with permission of the John M. Longyear Research Library of the Marquette County Historical Society).

stacked immediately outside the eastern side of the sugar house. Later in time, a second five-by-fifteen-foot Champion evaporator was added, similar to the first evaporator, with the fireboxes of the two evaporators facing each other.¹¹ The firebox of evaporator number two was built on a small cement slab, and an extension was added to the southern end with a second cupola placed over the second evaporator. Eventually, the building took on the footprint of a fifteen by forty-five foot structure, with an unattached, small rectangular gable roof storage building with board and batten siding built near the southern end of the west elevation. Sap storage tanks were placed on a platform adjacent to the sap-unloading ramp at the northern end of the sugar house (see Figure 6).

Since the mid-1950s, when the sugarbush was abandoned, the site has suffered the effects of natural decay and born witness to the frugality and adaptability of the human hand. Today, most of the walls and roof of the original sugarhouse have been salvaged, while what remains continues to deteriorate (Figure 7). The interior of one firebox has been completely emptied of its firebrick and iron grate, whereas the firebox of the southern evaporator has been untouched and is still stocked with firewood, as if waiting for the next year's maple season, which never arrived. The five large sap storage tanks have been stacked on top of the southern evaporator (Figure 8), and hundreds of sap pail covers are

11. A photo of the Camp 2 abandoned sugarhouse in its final incarnation appears in the 1973 *Cliffs News*.

scattered in a pile on the ground between the faces of the evaporators. Three of the four front syrup pans from the two evaporators lay to the side of the evaporators, and the last intact wall leans against the evaporator and storage tanks at the southern elevation (Figure 8). The smoke stack from evaporator one lies collapsed inside its gutted firebox, while milled timber from the walls, frame, and roof are strewn about the forest clearing.

The tamarack log and plank unloading ramp has held up to the elements better than the sugarhouse, but is beginning to fall in (Figure 9). Like at Camp 1, the once larger clearing marking the location of Camp 2 is closing in as young maples grow up in the center of the clearing.

The collapsed roof of a sixteen-by-thirty-foot structure lies to the west of the sugar house. The function of this building is unclear, although it possibly served as an open-sided structure for storing firewood and sugaring equipment. However, it may have been used as a hunting shack in later years. One interesting feature of the collapsed roof of this building is the way that the holes in the wooden roof were patched with metal sap pail covers.

Dozens of sap collection pails are scattered about the opening and in the adjacent woods, as are a number of rectangular metal half-gallon syrup tins with wire loop handles and metal screw on caps. In the center of the clearing rest the four sap-gathering tanks previously pulled on toboggans through the woods

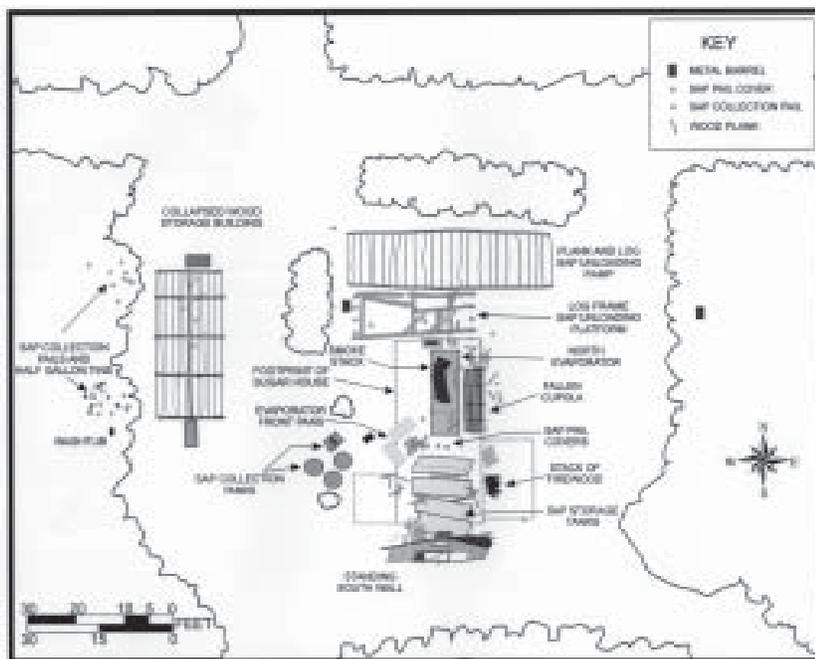


FIGURE 7. Plan view of the present remains of Camp 2.



FIGURE 8. Photograph from 2002 of sap storage tanks stacked on top of the southern evaporator at Camp 2.

and onto the unloading ramps by the horse team (Figures 6 and 10).

Today, woods roads over which fresh sap was once hauled still extend out from the clearing, while a glance into the forest provides the eye with a vision of large decomposing stumps of sugar maple trees.

DISCUSSION

Like any landscape, the landscape of maple sugaring is ever changing, a constant negotiation between a dynamic natural environment and the changing needs and desires imposed by humans. In comparison to most cultivation and food production landscapes, sugaring is unique in that it is seasonally short-lived, and its period of intensive use is at a time when the living environment is stark and largely dormant. Maple production occurs in the early spring, a critical time of relative scarcity in the subsistence patterns of eighteenth and nineteenth century Native Americans and early Euro-Americans. Geographically, maple production landscapes are unique to the areas of North America where forests of sugar maples thrive, namely, the Northeast, Great Lakes, and Upper-Midwest regions of the United States; and the adjacent Canadian provinces of Quebec, Ontario, Nova Scotia, and New Brunswick.

As a traditional image, the sugarhouse is the sentinel of the sugarbush: wood



FIGURE 9. Photograph from 2002 of the fallen remains of the log and plank sap unloading ramp at Camp 2.

framed and sided, a tall smoke stack and cupola on top, and a supply of firewood in the rear. But the maple sugaring landscape is more than the sugar house and the sugarbush is more than the trees. As in the case of Grand Island, a network of forest roads necessary to move sap and people through the woods interconnects the maple sugaring landscape of trees, sugar houses and sugar camps.

The position of Camp 1 adjacent to the gardens along the former trail and now road from the landing area is a strong reminder of its long association with the earlier island residents, namely the Grand Island Ojibwe and the Williams family. The repeated use of this space and its figurative and direct connection to the settlement around the landing to the south traces the developmental history of the island in which each successive occupant has built upon that left behind by their predecessors (Ball 1993). In contrast, Camp 2 marks a disconnect from the earlier islanders and marks the expansion of CCI and William Mather northward and into the island's interior.

The woods roads in the southern portion of the sugarbush centered on Camp 1 and the garden opening are all linked to the main road through the center, similar to branches on a tree, which is quite possibly an artifact of the reuse of the earlier Williams's sugarbush by CCI. In contrast, the northern woods roads are more carefully planned and evenly spaced, radiating out from their hub at Camp 2, the focus of the flow of sap gathering traffic (see Figure 2). Today, as

a result of past logging, the woods road through the sugarbush is even more extensive, including log landings and skid trails.

As an intensively used and managed woodlot, with the select cutting of younger maples and nonmaple species to supply the evaporators, improve tree crown size, and reduce competition, the sugarbush at Grand Island, like many sugarbushes, came to have an open park-like appearance.

In many ways the evolution of the sugarbush on Grand Island shadows the changes to the island. The CCI maple enterprise began small with the establishment of the first island hotel in the large Williams's family house. The addition of a second sugar camp and increase in the size of the sugarbush followed the expansion of the island's resort accommodations and construction of the second hotel or Annex. As part of the resort and vacation experience, in which the island resources were recreational or supportive of the recreational experience, the sugarbush was established by CCI to supply syrup to the hotel guests. As vacationing interests in the exclusive resort experience waned and the island hotels were closed in the 1930s and 1940s, CCI took a more extractive approach to the island. No longer able to draw income from vacationers, and recognizing the value of the land and timber reserves on the island, the firm began to more intensively log the island. It was also at this time that the sugarbush was at its maximum output. Sugar Camp 2 had expanded to two



FIGURE 10. Photograph from 2002 of the northern evaporator in Camp 2, note edge of cupola to left of photo and gathering tanks in the right rear of the photo.

evaporators that processed sap from nearly 5000 taps. Ultimately, the company's owners realized that the costs to operate the sugarbush in terms of labor, time, and logistics did not compare favorably to the returns, and the maple operation was discontinued, with the trees cut and sold in the late 1950s.

Like the initial CCI investment in the island, which was slowly being salvaged piece-by-piece through sales of small lots and continuous logging, remains of the abandoned sugarbush were reclaimed as island residents collected and reused portions of the buildings and sugaring equipment. Portions of the remains of the two sugar camps, including sap collection cans and covers, evaporator pans, an evaporator smoke stack, and pieces of the fire grates were displaced and deposited in two isolated dumps within the sugarbush.

Abandoned but seemingly still intact, the Grand Island sugarbush preserves key elements of the maple sugaring landscape at the middle of the twentieth century. While it has suffered the ravages of weather, time, and the scavenging activities of later island residents, its history and landscape remains present us with over 100 years of sugarbush evolution. Sugarbushes with sugar houses over fifty years in age still exist, but are surprisingly rare, and those that do remain have been modified and updated to meet the changing demands of the maple production industry.

Through the intersection of landscape interpretation, archaeological and material culture analysis, and historical research, a more complete story of the Grand Island sugarbush emerges. In a reiterative process, the historical record offers us an abstract historical context and family and corporate history of the sugaring operations. The landscape remains inform us on the spatial and material realities of the evolution of the maple landscape within a cultural landscape context and provide a ground-based record against which the written and photographic record can be organized.

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