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# Nineteenth-century settlement patterning in the Grand River Valley, Ottawa County, Michigan: An ecological approach.

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# NINETEENTH-CENTURY SETTLEMENT PATTERNING IN THE GRAND RIVER VALLEY, OTTAWA COUNTY, MICHIGAN: AN ECOLOGICAL APPROACH

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by

**Donald W. Linebaugh**

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## APPROVAL SHEET

This thesis is submitted in partial fulfillment of the requirements for the degree of

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## ABSTRACT

This study analyzes river landing settlements along the Grand River in Ottawa County, Michigan. The first section develops historical and locational backgrounds on the landing settlements and provides a series of site maps based on historical county maps.

A short discussion on the environment of the Grand River Basin leads into an investigation of these river settlements in relationship to their place in the environmental system. Using a broad framework provided by an ecological approach, insights are provided into the nature of the settlement system. Two major factors of the system, the transportation network provided by the stream system and the extensive timber resources of the drainage basin, are the focus of this discussion.

The model of the river landing system presented here should be useful for similar regional settlement studies and will be valuable for further archaeological investigation of these landing sites.

# INTRODUCTION

The purpose of this study is to investigate river landing settlements along the lower Grand River in Ottawa County, Michigan, during the period 1830 to 1890. River landings were docking areas for the loading and unloading of river boats. These river boats were nosed into the shore and gangplanks were run from the deck of the boat to the shore. The river landing settlements along the lower Grand River Valley represent the beginning of permanent settlement in the region.

The original research design for this study included historical research, an archaeological survey of the landing sites, and the interpretation of this data within an ecologically oriented framework. Due to financial constraints and time limitations the archaeological survey was omitted from the research design. It is hoped that the present research design will develop a model of the river landing system that will lend itself to future survey work.

The research design for this investigation includes the historical background of the landings, the ecology of the Grand River Basin, and a discussion of the river landing system utilizing an ecological approach. The major goals of the research design are twofold. The first is to document the locational and historical background of the landings and to organize this information in an attempt to isolate regular patterns of settlement. The second goal is to use this historical information along with the ecological components of the landings to develop a locational model of river settlements.

The chapter on the historical background of the landings does not profess to be a complete historical treatment of the subject, rather it provides a chronological outline of each of the landings along with pertinent locational data. The data for this chapter was

gathered primarily from historical maps and period newspapers. Many of the maps have been enlarged and are included in this chapter. This treatment of the historical background of the Grand River landings was essential to this investigation as no previous work of this type has been published on the subject.

Chapter II focuses on the ecology of the Grand River Basin. This discussion is divided into the six major components of the Basin environmental system: geology, landforms, hydrology, climate, soils, and presettlement forests. Each component is outlined separately and when appropriate, data maps of the Basin are provided. The general discussion of the environmental system presented in Chapter II leads into Chapter III, and the analysis of man's part within this ecosystem.

The ecosystem concept embraced by the discipline of ecological anthropology provides us with a conceptual framework. The research strategy of ecological anthropology has been summarized by Little and Morren (Moran 1979:54):

> We are concerned with those cultural and biological responses, factors, processes, and cycles that affect or are directly connected with the survival, reproduction, development, longevity or spatial positions of people. This set of questions rather than the traditional division of scientific labor defines the subject matter.

The ecosystem concept leads naturally to the use of systems analysis (Moran 1979:54). Systems theory has been applied to all the subfields of anthropology and is perhaps most common in archaeology. Systems theory encompasses "a holistic model of the components and interrelations of an ecosystem" and can provide us with "a broad framework for analyzing empirical reality" (Moran 1979:54).

The broad framework provided by systems theory in conjunction with the ecosystem concept can be applied to the study of river landings along the Grand River. Chapter III

investigates river landings as part of the Grand River Basin ecosystem by examining the systemic relationships between the economic development, spatial distribution, and ecological settings of the river settlements. By studying these functional connections we can derive a better understanding of man's responses to settlements in this environmental and cultural system.

## CHAPTER I

## THE RIVER LANDING ERA--HISTORICAL BACKGROUND

The period of river landings in Ottawa County encompasses about 60 years, 1835-1895. This river landing period is closely associated with the development and decline of the lumbering industry and with river and rail transportation. Two newspaper articles along with other records and maps were used to compile a list of landings along the Grand River. An article in the *Grand Rapids Daily Democrat* (Oct. 30, 1887) enumerates some of the landings:

> It might be interesting to note the landing places, which were most of them busy, bustling places in the earlier days, but many received their death blow with the doing away of lumber and the incoming of railroads. There was the plaster mills, which is still very much in evidence; Bemis Landing, Grandville, Jenison, Weatherwax Landing, Sand Creek Landing, Lowing's Landing, Blendon's mill, Bridge St. ferry, which is 10 miles from this city by road, but on account of the winding course of the river it is 18 miles by boat; Lamont, which is half way between here and the Haven; Charleston's Landing, Eastmanville, Bass River, which was a great place of the taking on of small fruit; Ottawa Center, Robinson's Landing, Spoonville, Pottowattami Bayou, Nortonville, where lumber mills were owned and operated by the Norton Brothers until destroyed by fire in 1850 and were afterwards rebuilt by White and Friant and operated for more than 30 years; Spring Lake, where the names of Cutler and Savage became famous after the Ferry family, of which Sen. Ferry was a member, and finally reaching the terminus, Grand Haven.

In 1938 an article about Frank Hedges, a river boat captain born in 1853, appeared in the *Grand Rapids Press*. The article states that:

> There were 22 landings on the river, as follows: Grand Rapids, Godfrey's plaster mill, Hovey's plaster mill, Grandville, Chillson's, Harris', John Haire's Landing, Sand Creek, Blendon Bluffs, Stoddard's, Lamont, Charleston, Eastmanville, County Home, Bass River, Ottawa Center, Spoon & Thompson's, Sisson & Lillie's, Spring Lake, Beechtree, Ferrysburg, Grand Haven.

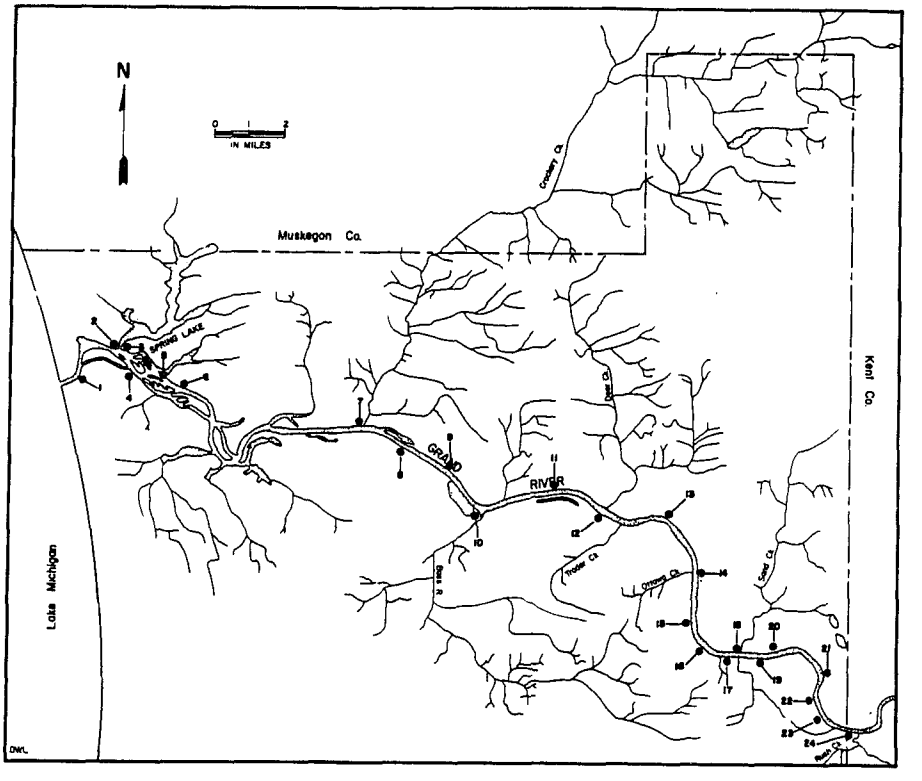
> Hedges remembers them all, as he remembers the Indians who lived in the vicinity of his early home and with whom his father traded.

A list of twenty-four landings along the Grand River in Ottawa County (Figure 1) was derived by combining the above lists along with a list compiled by Chrysler (1975:18). The landings in Figure 1 are landings that became regular stopping places for the river steamers. Virtually any spot or house along the river could have been a "landing", where the boats would nose into shore to deliver or pick up passengers and goods, but only certain spots developed into landings or settlements.

The settlement of the Grand River Valley in Ottawa County began in 1834 with the founding of Grand Haven. As land in Ottawa County opened to settlement during the 1830s and 1840s, cabins began to appear along the river. Small settlements grew as river transportation gradually improved.

In 1836 the first pole boat was built at Grand Rapids. This was followed by a second pole boat in 1837 along with the first steamboat to travel the Grand River. The first steamboat was the "Governor Mason", 84 feet long, 15 feet wide, and weighing 53 tons (Chrysler 1975:10). A second steamboat, the Owashtanong, was launched in 1837. By 1850 more than a dozen steamboats had seen service on the Grand River between Grand Rapids and Grand Haven. Charles Belknap (1922) describes a trip that he took down the Grand River in 1857:

> One spring morning in 1857, drifting away from the pier at the yellow warehouse, the steamer Olive Branch set forth for the Haven with a cargo of package freight, a top deck loaded with passengers, and Capt. Robert Collins, Pilot Tom Robbins and Cook Jim Dailey, with a full crew of husky Irishmen. We were soon winding between banks heavily wooded and bordered with wild fruit trees in full bloom--plum, cherry, crab, and thornapple --all festooned with wild grape vines.




**KEY**

1 - Grand Haven
2 - Ferrysburg
3 - Spring Lake (Mill Point)
4 - Beech Tree
5 - Sisson & Lillie's
6 - Nortonville
7 - Spoonville
8 - Robinson or Barnard's Landing
9 - Ottawa Center
10 - Bass River
11 - Eastmanville
12 - Charleston Landing
13 - Steele's Landing or Lamont
14 - Stoddard's Landing
15 - Blendon Landing
16 - Luke Lowing Landing
17 - Ohio Dock (Lowing Landing)
18 - Sand Creek Landing
19 - Haire's Landing
20 - Harris' Landing
21 - Mac's or Chilson's Landing
22 - Boynton's Farm
23 - Weatherwax Landing
24 - Jenison or Jenisonville

**FIGURE 1**
Grand River Landings in Ottawa County

At the dock of Hovey's plaster mills a hundred barrels of land plaster were taken aboard. Then angling across the river we were against the bank at Grandville, the place nature intended should be a town site. The settlement got an early start with some of the best men who came out of the east in those pioneer days. Here we left package freight and took aboard a few passengers.

At Haire's landing we gathered up a lot of maple sugar in tubs and a pile of slabwood for the boilers.

At the mouth of Sand Creek, where there had once been an Indian Village, we added a couple going to the Haven to be married. Coming down from the upper road they crossed the creek on a tree footbridge and the young lady had taken a tumble and had to swim out.

They built a fire to dry out as well as to signal the boat. Once aboard the women passengers fitted the young woman out in dry clothing and the couple were seated at the captain's table for the noon meal. The bride- to-be was game all right. She had come west to teach the Sand Creek school, but the first month she found a better job and the log shack's pupils had a vacation.

At the Blendon ,hills two families of Hollanders all wearing wooden shoes, were met by a man with a yoke of cattle. Their goods were piled high on his cart and the boat tooted a goodby as they trailed away into the forest.

It was a short run to Lamont, a beautiful place so spread along the bluffs--for every man wanted a home on the river front--that it looked four miles long and four rods wide.

There have been many changes since those days, but time cannot blot out pretty Lamont as it looked to me in my boyhood.

At Eastmanville Mr. Eastman came aboard with a party of ladies and gentlemen. The ladies were carrying many things made by the Indian women of the vicinity, beaded belts and beaded money bags; some had traveling bags of smoke- tanned buckskin ornamented with native dyes and woven designs of porcupine quills, the freight taken here consisted of many packs of ax halves shaved out of white hickory.

> The long dining table was crowded at the evening meal. Capt. Collins toasted the bride-to-be who was garbed in the best that several "carpet sacks " afforded.
>
> At the landing at Bass River Mr. Eastman took charge of the dining cabin and with song and story the Olive Branch rounded Battle point, paddling past great river bottom meadows of cattail and wild rice, from which flocks of wild duck came swirling overhead.
>
> There were many inviting channels and waterways and the pilot needed to be well informed.
>
> As we neared the Haven the sun in the golden west disclosed smoking mill stacks, forests of ship masts and drifting sand dunes.

Chrysler (1975) states that after 1870 the use of steamers on the river declined and the last boats ran until the first decade of the twentieth century. The decline of the steamboats, as well as the landings along the river, was precipitated by the coming of the railroad first to Grand Rapids and then to Grand Haven in 1858. Another factor in the decline of river traffic and landings was the exhaustion of the lumber supply in the Grand River Valley by the late 1880s.

The evolution of river landings in Ottawa County can be examined in greater detail by looking at the histories of individual landings. The following section will look at the histories of the landings.

## History of Grand River Landings

### *Grand Haven*

Grand Haven is located at the mouth of the Grand River on the south bank (Figure 1, No. 1). The history of Grand Haven has already been published in other sources so this treatment will be a summary. The first settlers of Grand Haven arrived in 1834 traveling

from Mackinac. Rev. William Ferry, his family, and friend Pierre Duvernay, along with some laborers and workmen landed at what is now the foot of Washington Street. Rev. Ferry later described the settling of Grand Haven (Lillie 1931:132).

> I then made arrangements as expeditiously as possible for my family and such help as I proposed to have employed. I chartered a small vessel of about 44 tons and if I recollect right we were three days on the passage, owning to somewhat adverse winds. On the morning of the second day of November 1834 I recollect as if but yesterday, we arrived at Grand River. It was Sabbath morning we landed, we landed none of our stores. But, making the best of the circumstances and with our wilderness home in view, we there united in solemn public worship.
>
> We had our family to get under cover. There was only a log building or shanty which Rix Robinson used to trade with the Indians. This building might be 16 ft. x 22 ft. perhaps in the interior. We got into it and there passed the winter. There were with our own family and helpers employed to erect a dwelling, and some others with us, twenty-one in number. About two-thirds of the number slept in the loft, a portion slept in a vessel that had been thrown into the harbor unexpectedly to winter there.
>
> Our nearest white neighbors were forty miles distant. There was not a solitary white settler in Ottawa County. There was a mily by the name of Butler south of us about ten miles up the Kalamazoo River. On the East, up Battle Creek, there was a mill with a family or two on the river. The first family was at the Rapids 40 miles up. North of us was the place we had left 240 miles.

In 1835 the Village of Grand Haven was platted by Rix Robinson, Proprietor. In 1836 the first frame building was constructed and used as court house, meeting house, church, and Sunday school. A sawmill was constructed in 1836.

Grand Haven continued to develop throughout the second half of the 1830s. By 1837 steamboats were running between Grand Haven and Grand Rapids. The "Governor Mason" made her trial run on July 4, 1837. A tannery was constructed on Lot 174 in Grand Haven in 1837, and the first lumber rafts were floated down the river to Grand

Haven in 1838. An assessment roll in 1838 lists a number of houses, two warehouses and wharf, and one steam mill (Lillie 1931:177).

During the 1840s the number of sawmills "increased to six, with a capacity of manufacturing about 60,000 feet of lumber per day" (Lillie 1931:232). The first census in 1845 listed a total population of about 300 (Lillie 1931:205).

In 1851 the Grand River Times was founded in Grand Haven and published its first issue on July 2nd. This first paper contained a narrative describing Grand Haven in 1851 (Lillie 1931:238-9):

> Grand Haven contains a court house, which is used also as a church, a jail, a schoolhouse, with spacious halls above and below, with a cupola and bell, a beautiful edifice which costs nearly two thousand dollars, and accommodates over one hundred scholars pursuing their various branches of education under an accomplished teacher, open to all classes of youth, including the penniless as well as the rich. There are three large public houses, well sustained, one of which, the Washington, is three stories high with a hall in the attic occupied by the odd Fellows. There are five stores, three forwarding houses, two shops, several groceries, a large tannery, a tailor shop, blacksmith and carpenter shop, and several fisheries.
>
> The principal business of the place is the manufacture and shipment of lumber. The number of steam and water mills for that purpose within the range of navigation are, and in this part of the county is, 14, five only of which are water mills, the remainder mostly double steam mills, which make an average of twenty thousand feet in twenty-four hours. The quantities of lumber shipped from this point this season will amount to nearly or quite thirty million feet besides a proportioned amount of shingles, shingle bolts, lath, wood, cedar bolts, posts, barks and so forth.
>
> Heavy shipments of wheat, flour, and plaster have been made this season and a large amount of merchandise received for this place, and at various points in Ottawa County and Ionia. On the river two steamers ply between this place and Grand Rapids, and one connects above to Ionia, making about eighty miles inland navigation toward Lansing, the capital of the state,

> from which a plank road is now completed to Detroit, and is to be extended west to Ionia and Grand Rapids. Stock is now being taken in Kalamazoo for a plank road to Grand Rapids, which improvement will facilitate travel from the east to Milwaukee.

Steamboat schedules appeared in the paper advertising trips between Chicago and Grand Haven. A marine list was also published in each issue of the Grand River Times listing arrivals, departures, cargos, and markets in Chicago and Grand Haven. By 1854 the population of Grand Haven had increased to 671.

The second half of the 1850s saw growth in the lumber industry. Approximately 45,000,000 feet of lumber was shipped from Grand Haven in 1856. In 1858 the population of Grand Haven was 1100 (Lillie 1931: 287). The Grand Haven News started publication in 1858 replacing the Grand River Times. In July of 1858 the Detroit & Milwaukee Railroad reached Grand Rapids; and by the fall of 1858, it had reached Grand Haven (Lillie 1931: 287). The tracks ran along the north shore of the Grand River, and a depot and warehouse were located opposite the foot of Washington Street. During the 1850s the number of sawmills increased to ten.

The development of Grand Haven in the 1860s can be seen by examining the U.S. Engineer's Map of 1866. Buildings can be identified on both sides of the river. On the north bank around the depot we find the: Grand Haven House, Passenger Depot, Privy, Michigan Exchange, Coal Depot, Ice House, Freight Depot, Tavern and fishing huts. Along the Grand Haven side of the river there is: Ferry & Sons steam saw-mill, Albee's store, Ferry and Son's bank, the "Arcade", and E. L. Fuller & Co. (Lillie 1931: 314). In 1867 the city limits of Grand Haven were extended east to the "Beech Tree" and west to

the D & M Depot. The fishing industry was growing and employed 70 men and 14 boats. Approximately 765,000 pounds of fish were shipped during 1867 (Lillie 1931: 317).

In 1870 the population of Grand Haven was 3,140. During the 1870s a number of mineral spring spas or hotels opened in Grand Haven and Spring Lake. The 1874 population was 4,363. A topographical map of Grand Haven was published in 1874 that lists various landmarks, churches, hotels, and manufactories.

In 1876 Grand Haven had eight saw and shingle mills that employed 258 people along with eight other manufacturing establishments that employed 158 people. Figure 2 shows the downtown area of the city viewed down its main street. Lillie (1931: 347) lists the businesses in Grand Haven in 1876: "9 hotels, 1 bank, 2 bakeries, 5 butcher shops, 5 clothing, 9 dry goods, 3 millinery, 1 hat and furnishing, 7 boot and shoe, 12 grocery, 3 queensware, 4 book, 2 furniture, 2 hardware, and 2 drug stores, as well as 30 saloons."

The height of the lumber industry in Grand Haven was reached in 1882. As the decade proceeded, lumber sales fell off and the volume of timber cut declined. By 1890 many of the mills had gone out of business. This decline was caused by the exhaustion of timber resources in the Grand River Valley.

*Ferrysburg*

The village of Ferrysburg is located on the north bank of the Grand River at the point where Spring Lake enters the Grand River (Figure 1, No. 2).

Ferrysburg was originally called Ottawa Point and later Ferry's Point. In 1841, Rev. Ferry built a sawmill in Ferrysburg. In 1850 a woodworking plant was constructed that was later (1856) moved to the north part of town and powered by steam (Kitchel 1969: 103).

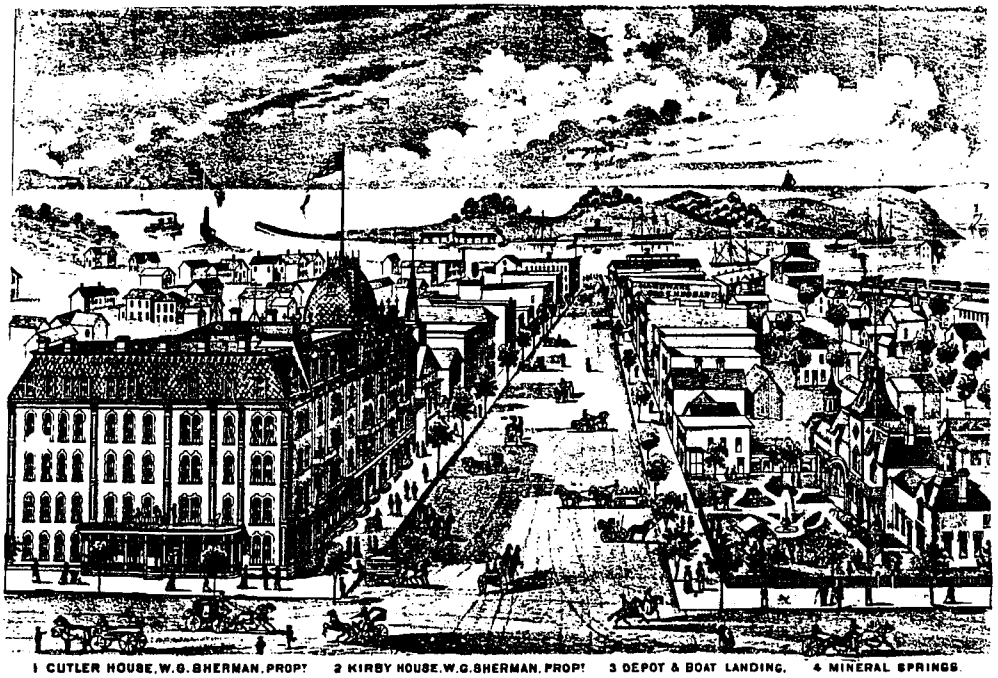



**FIGURE 2**
Woodcut of Grand Haven, 1876

The village of Ferrysburg was platted in 1857. In that year a planing mill was built in Ferrysburg and the *Grand River Times* ran a description of the town (March 18, 1857):

> A romantic point of land nearly opposite the "Ferry House" at the termination of the "sawdust road," and midway between Mill Point and Grand Haven, where one half a score of years ago stood a second class saw mill with perhaps one half a dozen dwellings, noted only for its diminutive size and want of general accommodation, now stands the flourishing village of Ferrysburg whose neat and thriving business like appearance cannot fail to make a favorable impression on the passer-by.
>
> The old mill is still visible puffing away its heated breath that drives the machinery for the manufacture of lumber that embraces in its construction the best material and pattern that the country affords and illy accords with its rough and weather-beaten exterior. But the huge cargoes of lumber that

> find their way, during the business season, by no means confirm the impression that our inferior mills in external appearance proved unprofitable investments in the hands of enterprising owners.
>
> Nearer the wharf, recently constructed by the liberal spirited proprietor, WM. M. FERRY, JR., stand the Ottawa Iron Works, owned and conducted by Mr. F., and though comparatively in the infancy of their operation, they have never the less acquired a reputation, for the number, style, and finish of steam engines, and quantity of mill gearing, iron and brass castings that weekly leave the establishment, that compares quite favorable with any similar place in the Grand River valley.
>
> Further, in the distance stands the extensive building, designed when completed, as a factory for the manufactory of pails, tubs, sap-buckets, measurers, etc., under the proprietorship of Messrs. EAMES, whose wares are highly commended in the Haven and Chicago Markets. Besides these manufacturing establishments there are a great number of neat, comfortable looking and pleasant residences.
>
> We have been informed that Ferrysburg has been recently regularly laid out, streets and lots designated, platted, and we presume the whole "incorporated."

In 1858 the Ferrysburg Hotel was built and in 1859 it was sold to Thomas Merrill. In 1859 the Thomas Trunbull Boiler Works was established. John Johnston bought Trunbull's buildings in 1864 and founded a firm that, in 1880, became Johnston Bros., Boiler Manufacturers.

A map of Ferrysburg in 1864 (Figure 3) shows the Pail and Tub Factory, Depot, dock, sawmill, Ottawa Iron Works, hotel and many houses. The sawmill shown on this map is a new steam sawmill built by Hopkin & Ferry and sold to the firm of Batchelor, Slaght & Shippey in 1871 (Kitchel 1969: 111). In 1866 H. G. Pearson opened a shipyard in Ferrysburg. The shipyard built schooners, tugs, and dump scows and was closed in 1872.

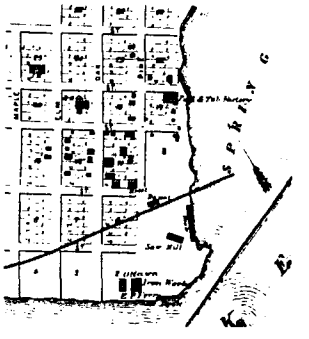


**FIGURE 3**
Map of Ferrysburg, 1864

As the lumber era ended in the 1890s, the mills closed and many residents left the area (Kitchel 1969:113).

*Spring Lake - Mill Point*

The village of Spring Lake is located on the northeast bank of the Grand River at the point where Spring Lake enters the river (Figure 1, No. 3).

The village of Mill Point (Spring Lake) was platted in 1849 by Thomas White and S. C. Hopkins. There were already a number of sawmills in Mill Point in 1849. A business directory for Mill Point appeared in the *Grand River Times* in 1851. It listed "Hopkins & Brothers, forwarding and commission merchants, general store and lumber manufacturers and dealers, L. M. S. Smith, drug and variety store and post office and Charles W. Hathaway as blacksmith" (Kitchel 1969: 115).

In 1856 the Detroit and Milwaukee Railroad reached Mill Point. Kitchel (1969:116) states that "the mills of White, Norton, Barber and Hopkins were capable of manufacturing

some 600,000 feet of lumber weekly, besides cutting large quantities of lath." A drug store and grocery store were built and began operating in 1858.

In 1859 the Mill Point business directory listed "A. VanDusen, Physician and Surgeon; American Hotel, D. Ferguson, Proprietor; Osgood & Hopkins, Groceries and Provisions ; Noah Perkins, General Merchant ; Redfield's Emporium, Cor. Barber & Park Sts; H. Savidge Lumber Mfger.; L.M.S. Smith, Druggist and Post Office" (Kitchel 1969:119).

A map of Mill Point in 1864 (Figure 4) shows the location of four steam sawmills, two blacksmiths, a hotel, and many houses. The business directory on the map lists a hotel proprietor, three lumbermen, two horticulturists, a general merchant, a shop carpenter and a "peachgrower" (Kitchel 1969:119).

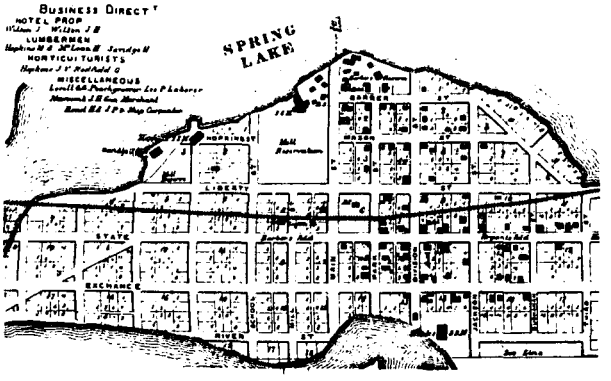



**FIGURE 4**
Map of Spring Lake, 1864

The name Mill Point was changed to Spring Lake in 1867. The firm of Munroe, Boyce & Co. built a mill in Spring Lake the same year. The " Village of Spring Lake " was incorporated in 1869.

In 1874 the population of Spring Lake had grown to 1800. Kitchel (1969:133) states that in 1874:

> Lumber mills are important in the growth of the village. There are nine sawmills in the township, some of them the largest on the Grand River. Also two planing mills and a sash and door factory. These give employment to about 50 persons. The business interests other than lumber are represented in part by two drugstores, two general stores, three groceries, two hardware, two furniture, one feed, two butcher shops, one printing office, three hotels, one livery stable, wagon and smith's shop, five churches, Presbyterian, Methodist, Baptist, Dutch Reformed, and Roman Catholic.

By 1876 Spring Lake had nine saw and shingle mills along with eleven other manufacturing firms. As the lumber industry in Spring Lake reached its peak in 1882 and began its decline, mills began to close. The numbers dwindled through the 1890s and by 1900 only one or two mills were in operation. The last of these closed in 1904.

*Beech Tree Landing*

The site of Beech Tree Landing is located on the south bank of the Grand River in the vicinity of the present intersection of Beech Tree and Fulton streets (Figure 1, No. 4). The territory in this vicinity was known as the "Beech Tree" because of a very large beech tree that stood in the area.

An 1856 map of Grand Haven, Ferrysburg, and Mill Point is the earliest to identify Beech Tree as a landing. At this time the Grand Haven city limits were well west of Beech Tree landing. During the 1860s numerous references were made about "Beech Tree" in the *Grand Haven News*. The first reference is a death notice that appeared in 1864: "Drowned--August Lemk, a young German, aged eighteen years, was drowned on Saturday evening last, at the Beech Tree Landing in this village." In 1866 a short article appeared that described "Improvements at the "Beech Tree" (Oct. 3, 1866):

> Having occasion to visit the "Beech Tree," a few days since, we could not help noticing the improvements our enterprising citizen, Mr. C. B. Albee, is making in that vicinity. He has now nearly finished seven new dwelling houses. Two of them are occupied by his workmen. When Mr. A's new tannery is completed and the sawmill that Mr. Roberts proposes to build, the coming winter, is underway business will be lively at that point.

In the same volume we read that " Mr. Richard Roberts, of Allendale, we understand, has now completed the arrangements for moving his building to Grand Haven...." Roberts was moving his buildings from Charleston Landing to Beech Tree Landing. In 1867 the move was complete and two mills were in operation at Beech Tree Landing: "Roberts' new steam sawmill, at the "Beech Tree," commenced this week. Aysdorp & Co.'s sawmill, at the same place, started on Monday last, after a thorough overhauling during the past winter." Another reference to "Beech Tree" as a landing appeared in 1867:

> We understand a brick yard is to be established on lands owned by Dr. Monroe, just above "Beech Tree" landing, provided, on trial, the day proves adapted to the successful manufacture of that article.

The Illustrated Historical Atlas of the Counties of Ottawa and Kent Michigan of 1876 (Belden 1876) shows the tannery and two sawmills in the area at the end of Washington St. One mill is on property listed as belonging to R. Roberts and the other on property belonging to R. W. Duncan. By 1876 "Beech Tree" was part of the city of Grand Haven.

An 1897 plat map (Ogle 1897) showing the area around "Beech Tree" shows the tannery, Grand Haven Leather, and property belonging to Roberts Est. and R. W. Duncan. The sawmills listed on the 1876 map are not shown on the 1897 map. By 1912 the tannery became the Eagle Tannery Co. and any evidence of "Beech Tree" landing had all but disappeared (Ogle 1912).

*Sisson & Lilley's*

The river landing known as Sisson & Lilley's was used by the lumber firm of Sisson & Lilley. Their sawmill was located on a point of land on the north bank of the river just upstream from Spring Lake (Figure 1, No. 5).

George D. Sisson came to Spring Lake in 1871. He was joined by Thomas Seymour in 1872, forming Sisson and Seymour, and erected a gang sawmill on the north bank of the river.

In 1874, Sisson became associated with Francis Lilley, who came to Michigan in 1856, to form the Sisson & Lilley Co. The sawmill built by Sisson & Seymour in 1872 was enlarged in 1876 to a capacity of 200,000 feet per day. Kitchel (1969: 87) states the reasons for the firm's success:

> Mr. Lilley was a pioneer in seeing the advantage of only loading timber once, so as the supply of timber on floatable streams was exhausted, he moved into mills which he located on railroads, so lumber could be hauled directly to the territory of the ultimate consumer in Indiana, Illinois, Ohio, etc.

Sisson & Lilley's mill was destroyed by fire in 1883 and again in 1884. A map of 1876 shows the property of Sisson & Lilley's and the mill. As the mill was destroyed by fire in 1884, an 1897 map (Ogle 1897) shows only the property of Sisson & Lilley's.

*Nortonville*

The site of Nortonville is located approximately four miles upstream from the mouth of the Grand River on the north bank (Figure 1, No. 6).

Nortonville was "founded" in 1836 when Col. Amos Norton arrived from Toronto, Canada, and began construction of a sawmill. The *Grand Haven News* describing this mill

states that (1861): "...the following year (he) completed one of the best devised and most expensive steam sawmills in the western country." This first sawmill burned in the spring of 1854 and we read that "a new and more commodious one has since been erected on its site, ranking, in point of facilities enjoyed for the manufacture of lumber, among the first mills on Grand River" (*Grand River Times*, Oct. 1, 1856).

In 1857 (*Grand River Times*, May 6, 1857) we read that:

> ...Col. Norton has leased the steam sawmill recently erected by him, at Nortonville, to the Lansingburg Company, for a term of ten years, for a consideration that bids fair to be highly remunerative to the owner.

An article titled "Our Lumbering Interest" (1860) describes the lumbering activity of Col. Norton:

> Col. Norton, is doing nothing, as we are informed, in the way of logging. The Col. has one of the best mills on the Grand River, and run it mostly the last season in the manufacture of lumber on contracts for others.

In 1866 or 1867 the mill at Nortonville was destroyed by fire. The firm of F. T. Ranney & Co. purchased interest in the Nortonville mill property in 1867 and sold it again that year to Mr. Cole of Blendon (Kitchel 1969:128).

In 1869 T. Stewart White and Thomas Friant formed a partnership to act as contractors for the rafting of logs to Grand Haven and Spring Lake and Grand Rapids mills. Kitchel (1969) states that "they built the White and Friant mill on the site of the old Norton mill." In 1877 White, Friant & Co., was formed and in 1885 they incorporated with John Rugee. This general lumber business had mills at Nortonville, Manistee, and Menominee and operated into the 1890s when logging on the Grand River ceased. During White & Friant's 20 plus years of operation some 737,956,543 feet of lumber were

delivered to Grand Rapids mills and 2,040,040,524 feet were delivered to Spring Lake and Grand Haven.

Nortonville is listed on a number of maps from 1864 to 1897. The 1864 map (Gross 1864) shows the steam sawmill (S.S.M.) of Col. Norton, a group of houses, and a school house but does not identify the area as "Nortonville." A 1873 map of Michigan (Winchell 1873) identifies Nortonville P.O. at this same spot. The 1876 map (Belden 1876) shows the location of the sawmill but shows fewer houses than in 1864. The reduction in houses is hard to account for as historic accounts indicate that the area was growing as was the firm of White and Friant. The 1897 plat map (Ogle 1897) lists the area along the river belonging to White, Friant & Co. and does not show any sawmills. Part of the area listed on earlier maps as "Nortonville" is shown on this map as J. P. Harts Subdivision.

*Spoonville (Beckerville)*

Spoonville is located on the north bank of the Grand River at the confluence of Crockery Creek (Figure 1, No. 7).

An 1864 map (Gross 1864) of Ottawa County identifies "Beckerville" at the mouth of Crockery Creek. At this time Beckerville had a number of houses, a school house, a sawmill and a steam sawmill. The land around "Beckerville" is identified as belonging to Becker, Spoon & Company. Becker, Spoon & Co. were likely the owners of one or both of the sawmills.

A reference to "Beckerville" appeared in the *Grand Haven News* in 1859 (May 4, 1859): "Below Beckerville we landed a man with three or four bags of meal, and Capt. Eastman, after he had stepped ashore, threw him two three cent pieces in change." A

reference to the firm of Becker, Spoon & Co., in the *Grand Haven News* (Jan. 25, 1860), titled "Our Lumbering Interest", appeared in 1860

> Messrs. Becker, Spoon & Thompson, proprietors of the mill near the mouth of Crockery, we understand made a contract last fall, with Mr. Griswold, of Ottawa Center, for the delivery on the bank of Grand River, nearly opposite their mill, a large quantity of logs--but as to the precise amount that will be delivered we are not informed. But Mr. Thompson, one of the proprietors, is lumbering largely on lands by him owned in the township of Ravenna, banking them on Crockery Creek, to be rafted to the mill aforesaid for manufacture into lumber. Some ten teams are busily engaged in hauling to the banking ground, a distance of from one fourth to one half mile, at present, and it is estimated that three million of feet will be thus secured for manufacture during the present season.

A commercial directory for Beckerville in the *Grand Haven Weekly Clarion* (Aug. 6, 1861) lists Thompson, Becker, & Spoon, Lumber Manuf'trs and THOMPSON, BECKER, & SPOON, Dry Goods & Prov's.

An 1873 map of the state of Michigan (Winchell 1873) locates Spoonville Station at the mouth of Crockery Creek. This map shows a railroad (C. & M. LS. RR) running north from Spoonville to Nunica and north to Robinson Station & P.O. The railroad appears to cross the river on a bridge. The 1876 plat map (Belden 1876) identifies Spoonville and shows buildings similar to the map of 1864 but does not identify any specific buildings. The C. & M. LS. Railroad is shown on this map and it is clear that no railroad bridge crosses the Grand River at Spoonville at this time. Land around Spoonville is listed as belonging to Spoon & Thompson.

An 1897 plat map (Ogle 1897) shows Spoonville and the buildings at the landing. One building is marked residence and the rest are unmarked. The C. & M. LS. Railroad is not shown on this map.

*Robinson Landing*

The site of Robinson Landing is on the south bank of the Grand River approximately two miles upstream from the mouth of Crockery Creek (Figure 1, No. 8). This is at the present intersection of Cedar Drive and 104th Ave.

The earliest reference to Robinson Landing is an article in the *Grand River Times* in 1855 (June 27, 1855) advertising a trip of the steamer Olive Branch from Grand Haven to Grand Rapids. One of the stopping places listed is Robinson Landing.

On the 1864 map of Ottawa County (Gross 1864), Robinson Landing is not listed as such, but there is a cluster of houses and a school house located on properties listed as belonging to A. Robinson and I. Robinson. This is Ira Robinson and Albert Robinson who settled in Robinson Township in 1836 (Belden 1876). This site location is verified by a reference in the *Grand Haven News*, March 14, 1866:

> The house of Mr. Harlo Hopkins, on the south side of Grand River, near Robinson's Landing, was destroyed by fire, early last week, in the absence of the family.

The house and property of an H. Hopkins is located on the 1864 map (Gross 1864) just south of the cluster of houses thought to be Robinson Landing.

The 1876 plat map (Belden 1876) shows a few houses at the same location as the 1864 map and also a cemetery. The 1897 plat map (Ogle 1897) is almost identical to the 1876 map showing a couple of houses and the cemetery.

*Ottawa Center*

Ottawa Center is located approximately two and three-fourths miles upstream from the mouth of Crockery Creek on the north bank of the Grand River (Figure 1, No. 9).

The village is located on a steep bluff that is divided by a ravine. An intermittent creek flows down the ravine into the Grand River.

The village of Ottawa Center was platted on July 23, 1855; and the plat recorded on November 9, 1855 (Lillie 1931:271). The creek is shown on the east side of the platted town. The village is referred to as Smith's Mill in a newspaper ad for the steamer Olive Branch:

> ... stopping at the following places, only: At the end of the Sawdust Road; Robinson's Landing; Smith's Mill; Eastman's Landing ... (*Grand River Times* June 27, 1855).

The order of this list places Smith's Mill between Robinson's and Eastman's landing which is correct for the location of Ottawa Center.

In 1859, an article titled "Our First Visit to Ottawa Center" appeared in the *Grand Haven News* (May 4, 1859) which describes the settlement:

> We soon reached the landing at the Center, and hastily climbed "Zion's hill", all Ottawa Center lay before us. The sight is a fine one for a town, and if we had only had our friend Benj. Smith with us, to point out the lofty towers and shining battlements of the expected Court House, and the iron bound windows of the future County jail, we might have realized all the beauties of the prospect. As it was, we made a hasty survey and took up our line of march for Judge Taylor's. We readily found his residence, a neat white cottage on the Grand River Road, just after leaving the pine lands and entering upon the beech and maple loam lands which constitute the best farming lands in Crockery ... we returned to the Center to take passage on the Olive Branch for Grand Haven.

The Farmer "Map of the Southern Part of Michigan" dated 1856 shows "Ottawa Center." Geil's Map of Ottawa County in 1864 (Gross 1864) shows some homes in the area of Ottawa Center and land belonging to Benj. Smith and Judge Taylor, between the

"River Road" and the river. A story in the *Grand Haven News* in 1860 on lumbering in Ottawa County states that:

> At Ottawa Center, nothing is doing in the way of supplying the mill formerly owned by Benj. Smith, Esg., at that place. But we are informed that the Leggat Brothers, of our village, the present lessees of the mill, have entered into contract with John Clancey, Esq., of Grand Rapids, for the manufacture of two million feet of logs, a large portion of which, will be furnished by him from his pineries, near Bass river, a short distance above Ottawa Center.

The reference to the mill formerly owned by Benjamin Smith suggests that the earlier theory for Smith's Mill as Ottawa Center might be correct.

The 1876 plat map by Belden & Co. shows seven houses at Ottawa Center but does not show the sawmill. The 1897 plat map (Ogle 1897) shows six houses at Ottawa Center.

*Bass River Landing*

Bass River Landing, as the name implies, is located at the mouth of Bass River on the south bank of the Grand River just west of Bass River (Figure 1, No. 10).

Bass River was originally platted as Warren City in 1837. Lillie (1931:163) states that, "the County Commissioners in 1840 actually located the county seat at this paper city where only a few log houses had been erected." Lillie (1931:152), referring to "paper cities" states that:

> About 1836 a mania for locating cities and villages prevailed. Men fancied they could see "millions" in some wilderness location. The locations were secured; villages were platted and mapped, and many lots in these paper cities were sold to speculators and investors in the East.

On the 1864 map of Ottawa County (Geil 1864) no village or platted city is shown at Bass River. The area is listed as belonging to M.C. French, and a house is shown on this property. There is one road from Robinson P.O. running along the Bass River and stops

at the Grand River. One house is shown next to this road where it ends at the river.

The 1876 plat map (Belden 1876) shows another road running from Robinson Landing to Bass River. There are approximately eleven houses located along this road in addition to a school house located on the road to Robinson P.O. This map also lists land around Bass River belonging to Cutler & Savage Lumber Co.

The 1897 plat map (Ogle 1897) shows sixteen houses along the road to Robinson Landing and the school house in the same location. The map labels this settlement as Bass River P.O.

*Eastmanville*

The village of Eastmanville is located on the north bank of the Grand River approximately one mile downstream from the mouth of Deer Creek, (Figure 1, No. 11) very close to the geographical center of the county.

This area was originally settled in 1835 by Dr. Scranton, I. V. Harris, Timothy Eastman, John Crockmore, and John Simmons as Scranton. An 1844 map (Van Ree & Shears 1951) shows the early settlement located along the river trail (Figure 5). The map shows the log school, cemetery, and four houses, one belonging to Dr. Eastman. The map also shows the Midway House owned by Daniel Really. This house was so named because it was approximately halfway between Grand Haven and Grand Rapids (Van Ree & Shears 1951).

Eastmanville was originally called Scranton and was also referred to as Eastman's Landing. The village of Eastmanville was platted Nov. 4, 1855. An article in the *Grand River Times* in 1855 (June 6, 1855) describes a stop in Eastmanville:

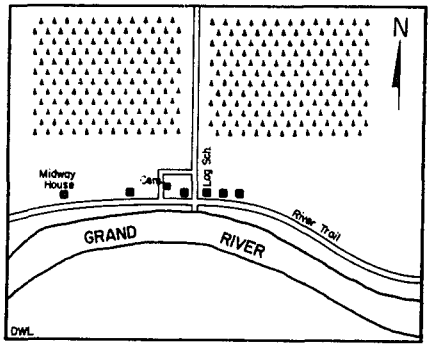



**FIGURE 5**
Map of Eastmanville, 1844

> ... we halted for a few moments of rest at Eastmanville. The spirit of improvement so visible in every portion of our county is at work here. The "Dr" in connection with his enterprising sons, has recently erected and completed an elegant store and warehouse, and we should judge is doing considerable in the way of "trade" with farmers and lumbermen in that vicinity. The grounds around the family mansion are very tastefully laid out and adorned with choice varieties of fruit trees. Some attention has been devoted to the nursery business, enabling the citizens of that section to furnish themselves with that desideratum, so necessary for the health of every family good fruit.

An 1857 map (Van Ree & Shears 1951) of Eastmanville (Figure 6) shows the growth and improvement since 1844. This map shows the Eastman's store, the Steam Saw Mill, the school and hotel, along with more houses. A ferry is shown across the River and a bridge across the bayou.

The steam sawmill and bridge are described in the following articles from the *Grand River Times* (Aug. 19, 1857):

> Mr. Geo. Eastman's new steam mill in this place is rapidly progressing to completion. The lower part was raised on Monday last, and the entire frame-work will soon be completed. The mill is to be 104 feet long, by 20 wide and two stories high. It is to stand on the same lot, and partly on the very site

occupied by the old mill which was consumed by fire, one year ago the 10th of this month.

The erection of the new building is under the superintendence of Mr. James M. Kelly, a superior workman, lately from Richmond, Maine. Mr. K. intends that this shall be a finished, model mill; and at present, appearances warrent us in believing that such will be the case.

This will be quite a large and convenient mill, capable of cutting an unusually great quantity of lumber; and when in operation will materially add to the business of our lively village.

and on the bridge:

The bridge across the bayou on the opposite side of the river is now finished. This opens to the entire south part of the county a ready and desirable route by which the people can reach this village.

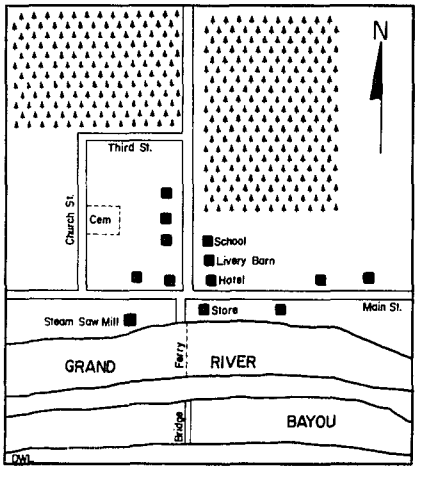



**FIGURE 6**
Map of Eastmanville, 1857

A Commercial Directory in the *Weekly Clarion*, Aug. 6, 1861, lists for Eastmanville: Galen Eastman, General Merchant. A lumbering article in the *Grand Haven News* in 1860 states that:

> At Eastmanville, Galen Eastman, Esq., is doing, as we are informed, a brisk business in supplying the excellent mill he owns at that place, with logs of pine and oak, and has teams engaged in other Township's in banking logs to be rafted to his mill, preparatory to manufacture, for Chicago and other Western markets. Mr. E., is taking measures to have banked on the Crockery a large quantity of pine logs, thirty feet in length, to be used in the manufacture of ice boats for the Mississippi trade.

An 1864 map of Ottawa County (Gross 1864) contains an enlarged map of the village of Eastmanville (Figure 7). This map shows Eastmanville as laid out in the 1855 plat of the village and contains a business directory listing a miller, engineer, shipwright, merchant, surveyor, hoemaker, doctor, and painter. The map shows the location of a sawmill, blacksmith (?), warehouse, store and P.O., hotel, and school house.

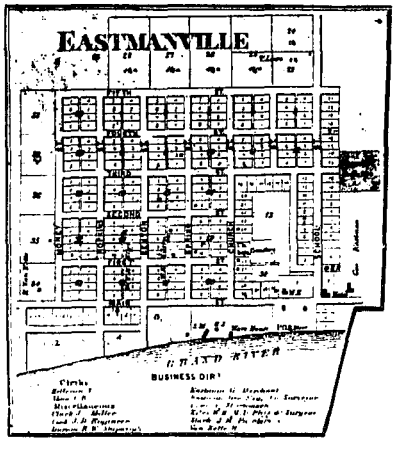



**FIGURE 7**
Map of Eastmanville, 1864

A map of Eastmanville in 1880 (Figure 8) (Van Ree & Shears 1951) shows some sixty-five buildings, houses, and businesses along with the ferry, a logboom, the river boat Barrett at the landing, and the cemetery. This was the height of the town's development. The 1890s saw the beginning of a decline in population and business.

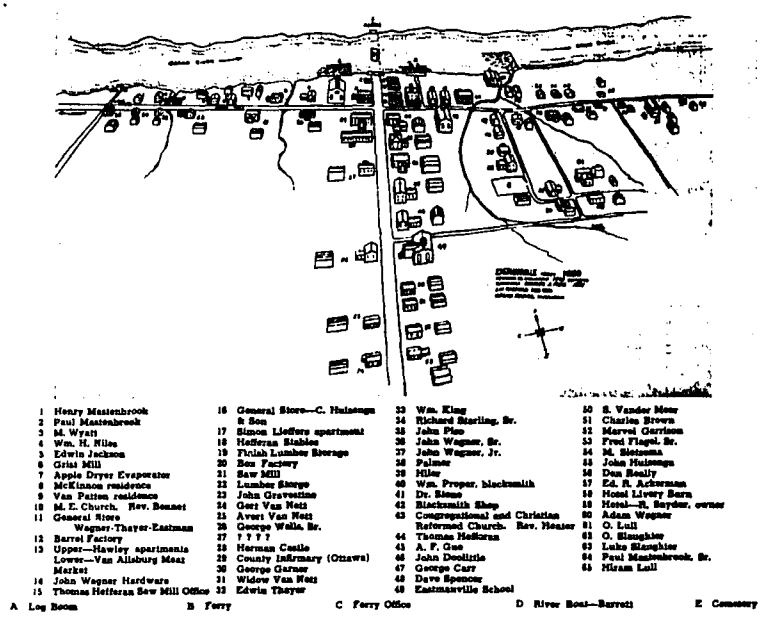



**FIGURE 8**
Map of Eastmanville, 1880

*Charleston Landing*

The site of Charleston Landing is located on the south bank of the Grand River opposite the mouth of Deer Creek (Figure 1, No. 12). This is two miles west of the town of Lamont.

Charleston Landing was platted as the Village of Charleston in 1836. Richard Roberts and his family were the first to settle at Charleston in 1842. He built a log house

that became a popular "tavern" stop on the trip between Grand Haven and Grandville (Lillie 1931:198). A guide map published in 1844 (Lillie 1931) (Figure 9) shows the location of Charleston.

**FIGURE 9**
Enlargement of Guide Map, 1844

According to Adams (1957:22) Roberts eventually built a 28 room house and the area grew into a "small settlement with a sawmill, spoke shop, blacksmith shop, store, and some cabins." The map of 1864 (Gross 1864) (Figure 10) shows this small settlement and includes a store house, steam sawmill, blacksmith, spoke mill, carpenter shop, and some other houses.

Numerous references to Charleston appeared in the *Grand River Times* and the *Grand Haven News*. In 1854 an article on new mills in Ottawa County states "... two other steam saw mills will, in a short time, be built in this county, one by Mr. Roberts, in

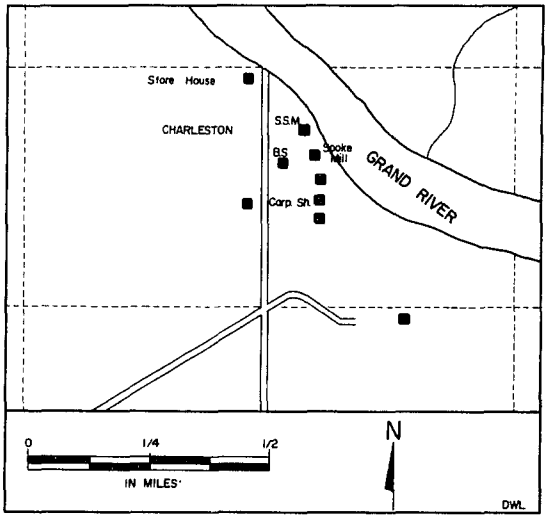



**FIGURE 10**
Map of Charleston Landing, 1864

Allendale, and one by Capt. Parks, opposite Sand Creek." An ad for the steamer Olive Branch in 1855 lists Charleston as a stopping place between Grand Haven and Grand Rapids. In 1866 the business section was moved from Charleston to Grand Haven. The *Grand Haven News* reports:

> Richard Roberts, Esq., of Allendale, recently purchased for a place of residence five acres of land on the eastern boundary of our village, which he intends to improve and fit up in good style. Mr. R. also leased, in close proximity, a valuable mill site, for a term of years, to which the removal of his steam saw mill from Charleston will take place immediately. This movement will materially add to the business and prosperity of our growing village.

On the 1876 plat map (Belden 1876) (Figure 11) "Charleston Landing" is listed but only a few buildings are shown. As the business section of the settlement was moved in 1866 only the buildings of Mr. Roberts' farm remained. An engraving in the 1876 plat book (Figure 12) (Belden 1876) shows the "Farm Res. of the late Richard Roberts, Allendale TP. Ottawa Co. Mich." This engraving shows the landing, a ferry, the Roberts' "28 room house" and the river boat, Barrett. The 1897 plat (Figure 13) (Ogle 1897) lists "Charleston Landing" and shows a few more buildings than the 1876 map. The property is listed as belonging to Mrs. R. Roberts.

*Steele's Landing or Lamont*

The site of Lamont is located on a high bluff along the north bank of the Grand River approximately two miles upstream from the mouth of Deer Creek (Figure 1, No. 13). Lamont, like Eastmanville, is one of the few landings that developed into a sizable town which still exists today.

One of the earliest references to Steele's Landing or Lamont is that in 1847 the steamer Humming Bird was built by Henry Steele at Lamont (Lillie 1931:220). Another early reference is made to Steele's Landing as one of seven post offices between Grand Rapids and Grand Haven (*Grand River Times*, Aug. 20, 1851). An article in the *Grand River Times* (June 6, 1855) describes "Steele's Landing"

> Passing onward, another hour's toil bro't us in view of Steele's Landing, the place of all others in our county worthy to be commended for its Yankee go-a-headitiveness. About twenty dwellings have been erected within a few months, besides an extensive steam sawmill. A large flouring mill, calculated for four or five run of stone, is in course of completion, and will be ready for business about the first of August next. In addition to the facilities for manufacturing flour, thus afforded, we are informed that Messrs. Steel & Hedges have recently put in

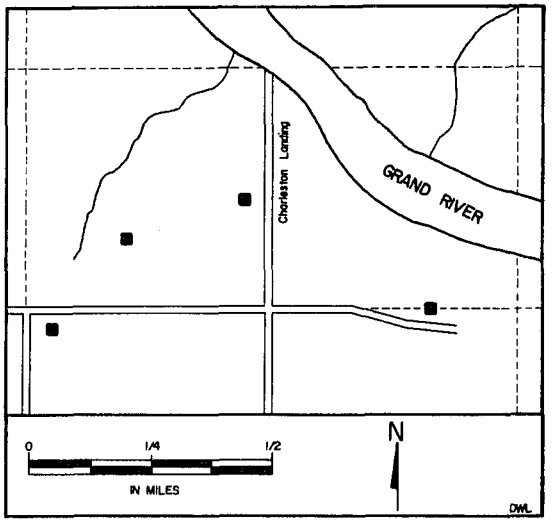



**FIGURE 11**
Map of Charleston Landing, 1876


**FIGURE 12**
Woodcut of Charleston Landing, 1876

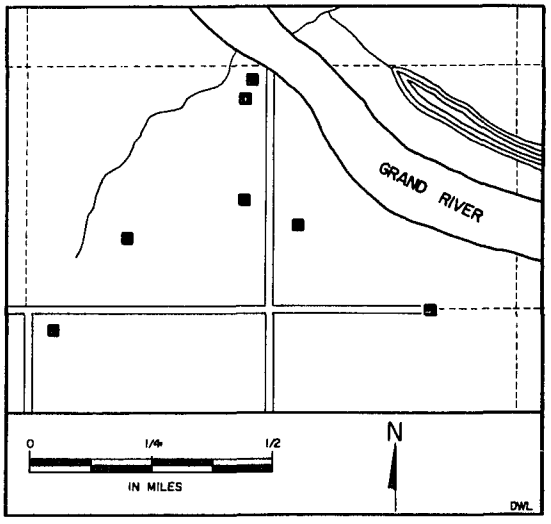



**FIGURE 13**
Map of Charleston Landing, 1897

operation in their old mill, one run of stone, propelled by steam, with the expectation of soon adding another thereto. Hither to the farmers of the Grand River Valley have suffered much inconvenience for want of suitable flouring mills. These establishments will entirely obviate the difficulty. Messrs. S. & H. are further engaged in an extensive cabinet ware business, and no doubt will find it a profitable investment; for in addition to the large number of inhabitants in that immediate vicinity, we are informed that at least four families have recently settled within a few miles around and many more are expected ere the close of navigation, who are destined to turn to some good account the many broad acres of rich soil adjacent to the river. On the bank of the river, below the Landing, a steam mill for manufacturing staves is in course of erection--a good investment no doubt, as an abundant supply of good timber for that purpose can be easily obtained in the immediate vicinity.

An extensive assortment of seasonable goods, attractive both as regards quality and price, are tastily and temptingly presented to numerous customers at the stores of Messrs. Steel & Hedges and Geo. Luther & Co.

An article in the *Grand River Times* (Aug, 29, 1855) relates more details of Steele's Landing:

> A new steam flouring mill, built by Messrs. Comstock and Co., for three run of stone, and the improvement in Steele's Mill, comprising two run of stone for flouring and turning lathe for the manufacture of bedsteads for the Chicago market, are worthy of notice. A new steam stave mill, owned by Hoyle & Son, furnishes our Illinois friends with an excellent article, and gives employment to a great many hands. Other evidences are not wanting to show the rapidly improving tendency of the river towns, and the result of careful and commendable rivalry.

An advertisement for the flouring mill mentioned in the above article appeared in the *Grand River Times* in Nov. 1855:

OTTAWA MILLS,
STEEL'S LANDING, MICH.

D. B. COMSTOCK & Co. proprietors would respectfully inform the public that the same is now in operation and is inferior to none in the State, and supplied with an experience miller, who will give strict attention to all kinds of custom work. The highest market price paid in cash for wheat delivered at said mill.

Custom work done at all times with despatch, and warranted to give satisfaction. Grits sent by boat will be taken off, ground, and put aboard again, for their proper destination without any trouble on the part the of owners.

Steele's Landing is listed on the 1856 "Map of the Southern Part of Michigan" (Farmer 1856). On April 3, 1856, the Village of Lamont was platted (Lillie 1931). The original plat states that Lamont was "formerly Steele's Landing." A commercial directory in the *Weekly Clarion* (Aug. 6, 1861) lists eight businesses in Lamont; cabinet maker, sash and door manufacturer, cabinet maker and manuf., doctor (2), general merchant (2), and stoves and tinware. A map of 1864 (Gross 1864) (Figure 14) shows the "city" of Lamont

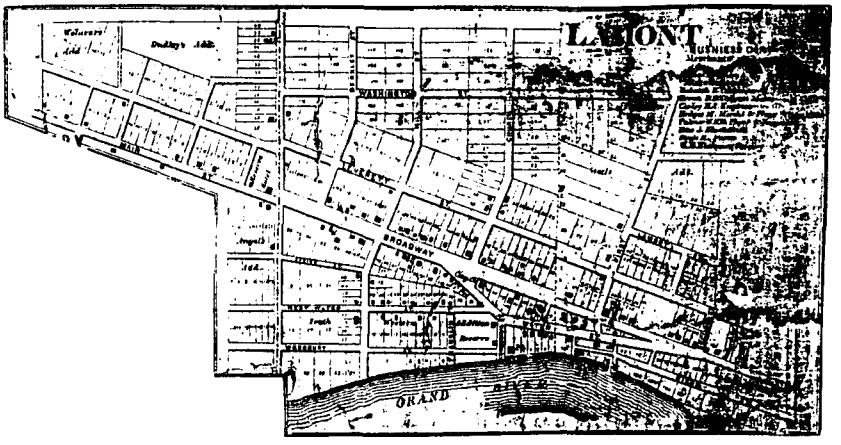



**FIGURE 14**
Map of Lamont, 1864

with the P.O., dock, 2 sawmills, blacksmith, and church. A business directory on this map lists a merchant, carpenter, cabinet maker, engineer, doctor, blacksmith, and H. Steele Farm, and grocery. Lamont P.O. is listed on the 1874 Atlas of Michigan (Winchell 1873).

The county plat maps of 1876 and 1897 show the growth of Lamont in area. The plat map of 1876 (Belden 1876) (Figure 15) shows the platted town and a bridge across the Grand River. The population of Lamont in 1876 was 400 and there were "two churches, two general stores, a sawmill, and sash and door factory" (Belden 1876). This bridge is not shown on the 1897 plat map (Ogle 1897).

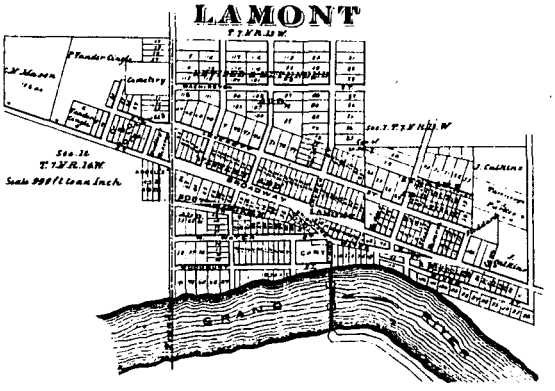



**FIGURE 15**
Map of Lamont, 1876

*Stoddard's Landing*

The site of Stoddard's Landing is located on the northeast bank of the Grand River across from the mouth of Ottawa Creek (Figure 1, No. 14).

This location is on property listed to A. Stoddard in 1864, H. A. Stoddard in 1876, and Wm. Stoddard in 1897. Chrysler (1975) lists Stoddard's Landing between Lamont and Blendon Landing. As the Stoddard property across from Ottawa Creek is the only property between Lamont and Blendon belonging to a Stoddard, this is the most likely site for Stoddard's Landing. A small Creek enters the Grand River on or very near this property, and a road from Tallmadge to Lamont runs across the land. One house is shown along this road on Stoddard's property.

*Blendon Landing*

Blendon Landing was located on the southwest bank of the Grand River on a high bluff cut with deep ravines. The landing is approximately one and one-quarter miles upstream from the mouth of Ottawa Creek (Figure 1, No. 15). Many intermittent streams flow down these ravines into the river.

Adams (1957) states that a sawmill was located at the base of the bluff along the river and describes the village:

> The village contained a large boarding house, general store, schoolhouse, blacksmith shop, a saloon and a number of cabins. From the bluff top a long stairway led down to the landing below and to the sawmill and shipyard.

A steam engine tramway ran from Blendon Landing approximately eight miles to the town of Blendon. A commercial directory in the *Weekly Clarion* (Aug. 6, 1861) lists under "Blendon Landing"; Blendon Co., Dealers in Lumber and Litchfield & Co., Manufactures of gang sawed lumber. Some four schooners were built in the shipyard at Blendon around 1864. Among them were the "Wright, Eveline, Lumberman, and Geo. W. Wescott" (Adams 1957:18).

Blendon Lumber Co. was owned by Messrs. Brainard, Leonard, and Whipple and was managed by Alvin C. Litchfield. An article in the *Grand Haven News* in 1864 (May 4, 1864) discusses the ownership of the sawmill:

> The Blendon steam sawmill, formerly owned by Lieut. Col. Litchfield, has passed into the hands of the Lansingburg Lumbering Co., and has just commenced operations under the superintendence of Capt. Noyes, agent of the Company. There is no mill in Western Michigan with a greater capacity for the manufacture of lumber than this mill with its gang, circular, and other saws in constant operation.

The "Map of the Counties of Ottawa and Muskegon... " (Cross 1864) shows Blendon Landing. It was a small settlement with numerous buildings including a schoolhouse and steam sawmill (S.S.M.). The map also shows a road connecting Blendon Landing with Ohio Dock and Haire Landing. This road grade can still be seen along the river.

The 1876 plat map (Belden 1876) shows "Blendon Landing" as a small settlement. The road connecting Blendon Landing and Ohio Dock is not shown on this map. The land around the landing no longer belongs to the Blendon Lumber Co. as it did in 1864. Adams (1957:19) states that the landing was abandoned prior to 1882:

> Mr. J. W. Reister, now eighty-two years old, who used to be a blacksmith at Allendale came from Germany with his parents in 1882, via boat to Blendon Landing, from where they walked to a place near Allendale. He remembers the buildings which were still standing at Blendon, but which, when he saw them were very old and dilapidated, and were occupied by a few Indian families and their horses.

The 1897 plat map (Ogle 1897) shows no trace of the landing or the road to Ohio Dock.

*Luke Lowing Landing or Hubbards Landing*

The site of Luke Lowing Landing is located on the south bank of the Grand River approximately one mile downstream from the mouth of Sand Creek (Figure 1, No. 16). This location is about halfway between Blendon Landing and Ohio Dock along the road connecting these landings. A creek flows into the Grand River at Luke Lowing Landing.

Luke Lowing, a brother of S. L. Lowing of Ohio Dock, came to Ottawa County in 1844 (Lillie 1931). On the 1864 map of Ottawa County (Gross 1864) there is one building shown at Luke Lowing Landing and the property belongs to S. L. Lowing.

The 1876 plat map (Belden 1876) shows the property as belonging to Luke Lowing. There are no buildings shown on this plat map. The 1897 plat map (Ogle 1897) shows part of the land belonging to L. Lowing and part to Mrs. N. Hubbard (Hubbard's Landing ?). A road runs down to the landing and one building is shown on the Hubbard property.

*Ohio Dock or Lowing Landing*

Ohio Dock is located on the south bank of the Grand River opposite the mouth of Sand Creek (Figure 1, No. 17). Lowing Landing was situated between two small creeks with Luke Lowing Landing to the west and Haire's Landing just to the east.

In 1837 Stephen L. Lowing arrived in Ottawa County from New York and purchased 80 acres of land across from Sand Creek. In 1838 he had the purchase recorded in Ionia and then returned to New York. In September of 1841 Lowing returned to the Grand River valley by boat and landed at Sand Creek. He brought with him a team of oxen, household goods, and farming and lumbering equipment (McGee 1973:40).

A letter written by E. Franklin Bosworth (McGee 1973:41-42) describes the early Lowing house:

> The nearest house is Stephen Lowing's. It is about two miles and a half there. I put my initials on a tree by the side of the road, so that I could find it again without tracing the lines, then started for Lowing's house, where we arrived about sundown. We staid there until morning. He lives in a little hut made of logs and covered with boards, with blankets for doors and windows. This is in the woods about half a mile from the river, and when I was there he had not a single tree cut except those cut to make his house and cow pen.

An excerpt from the Michigan Lowing History describes the mills and buildings at Lowing Landing (McGee 1973:42-43):

> Stephen lumbered and drew his logs hoping to earn money by selling his logs in Grand Haven, but in the 1840s logs barely brought in enough money to pay expenses, usually not more than $5.00 per M, and often less. Hoping to sell board to the settlers for their cabins, he dammed up a creek near his hut, and put in a waterwheel, to which was attached pails. These were filled from the race at the top, and made an impetus which turned the wheel, and made enough power to run the saw. It was crude. The mill-pond emptied too rapidly, but Stephen and his neighbors used it until 1846, when he built a larger mill. In 1850, he built his third mill which sawed 6,000 feet in twenty-four hours, having an eight inch bore, 26 in. stroke, and a boiler about 16 ft. by 36 in., in diameter with number 13 inch flue. At this time, Stephen had thirty or forty men working for him, so he built a lumber camp near the river, consisting of a boarding house, a store, in which he installed a Post-Office and became the first post-master in Georgetown, serving from 1850-4 when it was moved to the home of E. F. Bosworth. He built a jail, several cabins, and a large building that had so many projections that the lumbermen dubbed it the Bee Hive. For many years he did an extensive lumber business.

An enlargement of the 1864 map of Ottawa Co. (Gross 1864) shows the location of Lowing Landing, which it lists as Ohio Co. Dock (Figure 16). The map shows a group of about six buildings clustered at the end of the road running between the two creeks. A railroad is shown running down to the river and is identified as "Lumber Railroad". A road running to the left goes to Luke Lowing and Blendon Landings and a road to the right connects with Haire's Landing.

The 1876 plat map (Belden 1876) (Figure 17) shows Lowing Landing with seven buildings. A sawmill is identified on the creek to the east side of the landing and the word "landing" appears on the left or west side of the landing. The road to Blendon and Haire landings doesn't appear on this map.

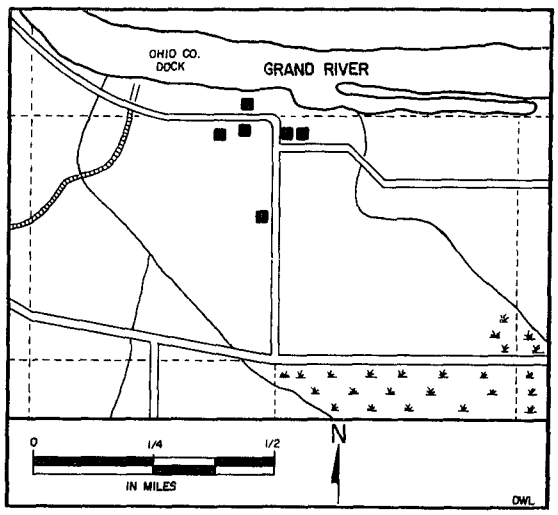



**FIGURE 16**
Map of Lowing Landing, 1864

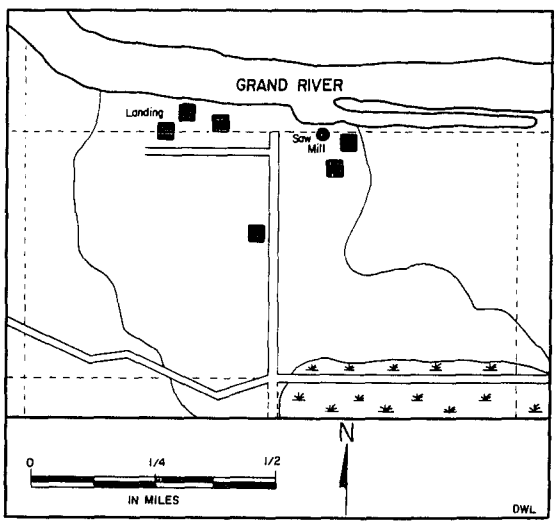



**FIGURE 17**
Map of Lowing Landing, 1876

By 1897, the plat map (Figure 18) (Ogle 1897) shows that the landing has all but disappeared as only one house is left. The roads to Blendon and Haire Landings are gone.

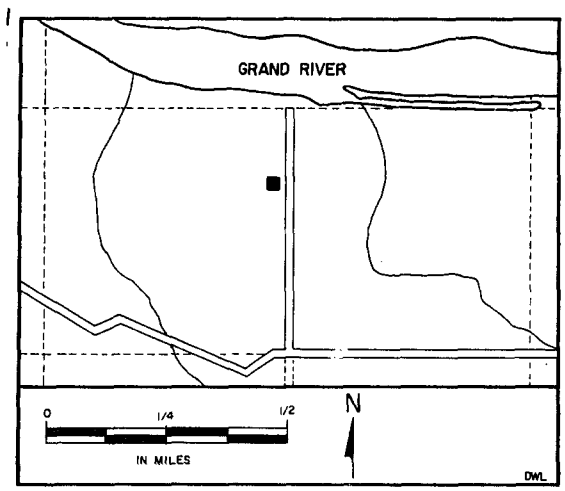



**FIGURE 18**
Map of Lowing Landing, 1897

*Sand Creek Landing*

The site of Sand Creek Landing is on the north bank of the Grand River at the mouth of Sand Creek (Figure 1, No. 18).

Two early references appeared in the *Grand River Times* about Sand Creek Landing:

> The committee on ferries and bridges reported a petition for a ferry across the Grand River, at Sand Creek, which report was accepted and the committee were directed to prepare a table of rates of ferriage, at said ferry. (Oct. 10, 1853).

and an advertisement for the steamer Olive Branch in 1855 lists Sand Creek as a stopping place on the trip from Grand Haven to Grand Rapids.

The 1864 map of Ottawa Co. (Gross 1864) shows Sand Creek Landing (Figure 19). A road runs along the creek down to the Grand River. Four buildings are shown on the map including a sawmill along the creek. This settlement is listed as Tallmadge P.O.

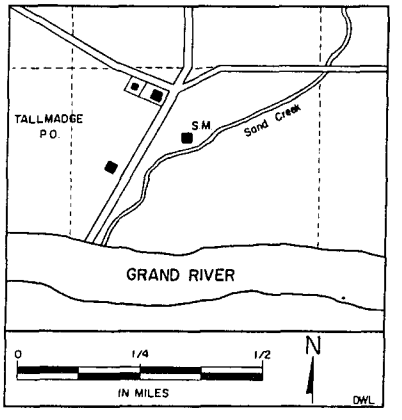



**FIGURE 19**
Map of Sand Creek Landing, 1864

The 1876 plat map (Belden 1876) (Figure 20) lists "Sand Creek Landing" at the mouth of Sand Creek. The road down to the river is shown on the 1864 map and runs along the west side of the creek. Two buildings are shown and one is the sawmill. A mill pond is shown above the sawmill along with a cemetery.

The 1897 plat map (Figure 21) (Ogle 1897) shows five buildings, a school house and the mill pond. The sawmill is no longer shown and the road still runs down to the mouth of Sand Creek.

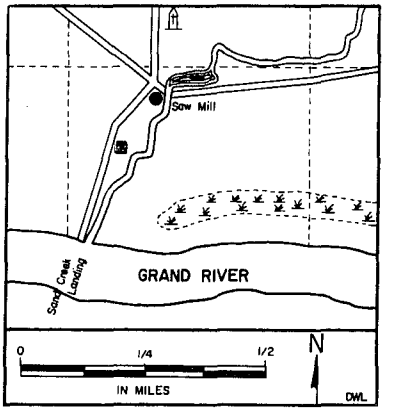



**FIGURE 20**
Map of Sand Creek Landing, 1876

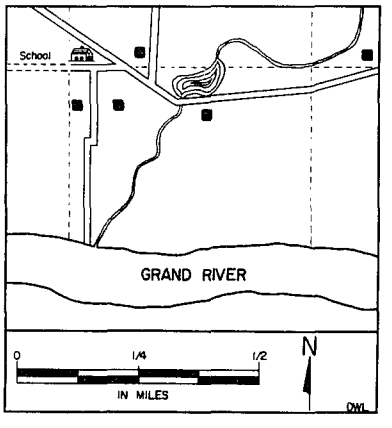



**FIGURE 21**
Map of Sand Creek Landing, 1897

*Haire's Landing*

The site of Haire's Landing is located on the south bank of the Grand River approximately one mile upstream from the mouth of Sand Creek (Figure 1, No. 19).

John Haire bought land in Sec. 3 in 1851 (McGee 1973:64). In 1856 Haire and his family built a steam sawmill. He also built a large boarding house, some tenant houses, a store, and some barns. The sawmill was destroyed by fire in 1864, rebuilt in 1872, and burned again in 1877 (McGee 1973:64). Adams (1957:20) states that at first Haire built a log cabin for his house, but he later built a large cement house with a dining room seating twenty-five people.

A commercial directory in the *Weekly Clarion* (Aug. 6, 1861) lists Haire's Landing and John Haire as General Merchant and Manufacturer of Lumber. The 1864 map of Ottawa County (Gross 1864) shows thirteen buildings, a school house, and graveyard at Haire's Landing (Figure 22). Of the thirteen buildings four are identified: a steam sawmill,

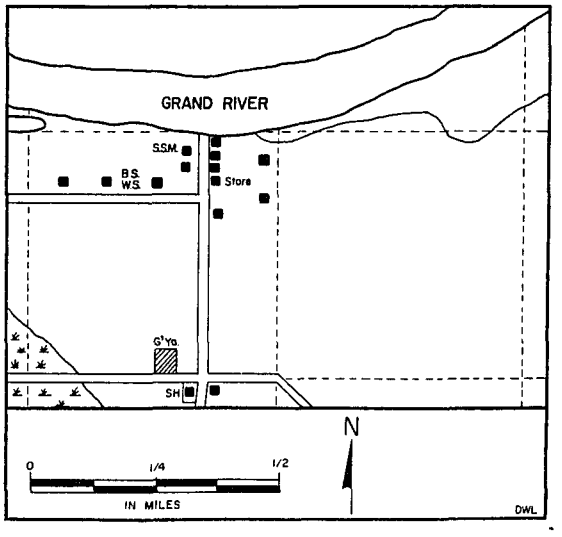



**FIGURE 22**
Map of Haire's Landing, 1864

store, blacksmith (B.S.) and wheelsmith ? (W.S.) or whitesmith (tinsmith). The map also shows the road going west to Lowing Landing or Ohio Dock.

The 1876 plat map (Belden 1876) (Figure 23) shows 14 buildings at Haire's Landing. This includes a sawmill, store, schoolhouse, and graveyard. On the 1876 map the road no longer runs to Lowing Landing. The 1876 plat book contains an engraving of the large cement house built by John Haire (Figure 24). The engraving presents the Haire's "estate" with a large cement house, fenced in grounds, and landscaping around the house, along with people playing croquet, someone gardening, and a farm worker.

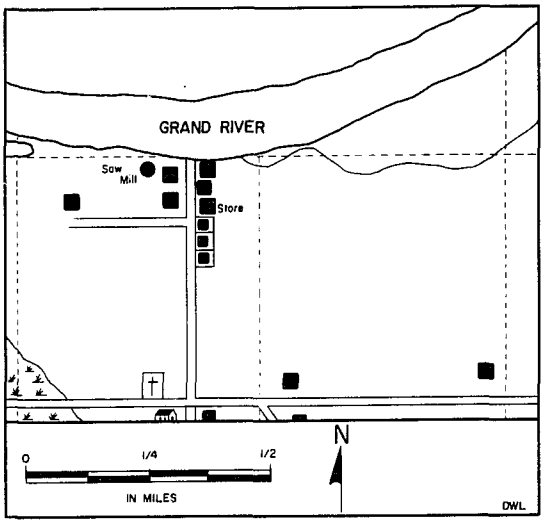



**FIGURE 23**
Map of Haire's Landing, 1876

The plat map of 1897 (Figure 25) (Ogle 1897) shows only four buildings at Haire Landing along with the school house and graveyard. The sawmill, having burned in 1877, is not shown on this map. The road to Lowing Landing or Ohio Dock is not shown on this map.


**FIGURE 24**
Woodcut of John Haire Residence, 1876

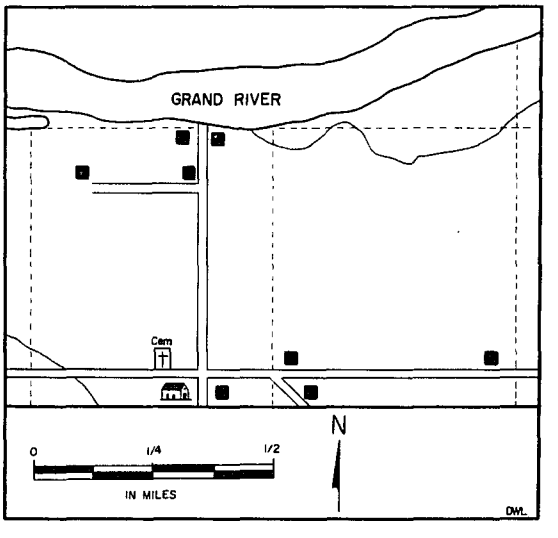



**FIGURE 25**
Map of Haire's Landing, 1897

*Harris Landing*

The site of Harris Landing is located on the north bank of the Grand River approximately one and a quarter miles upstream from the mouth of Sand Creek (Figure 1, No. 20).

Very little information is available on the history of Harris Landing. The 1864 map of Ottawa Co. (Gross 1864) shows the area of Harris Landing (Figure 26) and there is no trace of the landing. A new road down to the river appears on the 1876 plat map (Belden

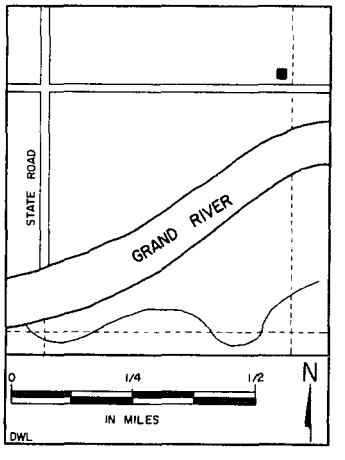



**FIGURE 26**
Map of Harris Landing, 1864

1876) (Figure 27), and a house is located along this road next to the river. The name "Harris Landing" is printed on the map at the foot of this new road. By 1896 (Figure 28) the road down to the river and the house have disappeared (Ogle 1896).

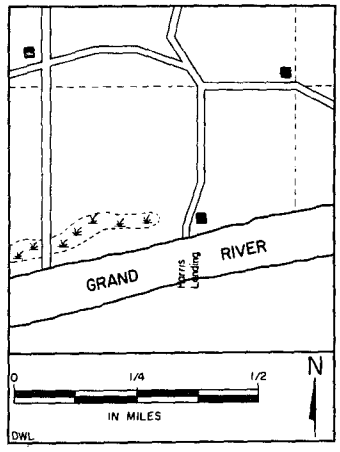



**FIGURE 27**
Map of Harris Landing, 1876

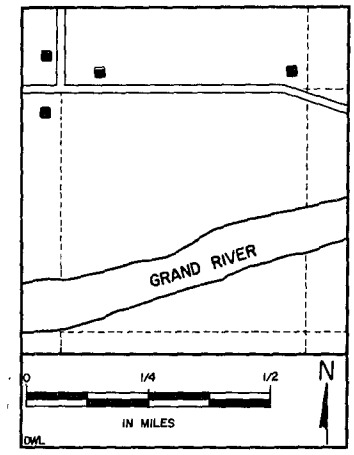



**FIGURE 28**
Map of Harris Landing, 1897

*Mac's or Chilson's Landing*

The site of Mac's or Chilson's Landing is located on the northeast bank of the Grand River approximately two and one half miles downstream from the mouth of Rush Creek (Figure 1, No. 21).

The location of Chilson's Landing is only speculation as it was not marked on any known maps, nor was the location specified in any reference. Chrysler (1975:18) states that this landing was also known as "Big Spring", as it was the location of the largest spring on the river. The 1864 map of Ottawa County (Gross 1864) shows property on the northeast bank of the river belonging to S. Chilson and next to this property there is property belonging to J. McMahon (Mac's Landing ?). A few houses and a schoolhouse are located on these properties. A road runs along the property line between these properties down to the river's edge. The current U.S.G.S. topographical map shows an area of springs and marsh at this location.

The 1876 plat map (Belden 1876) shows the properties at the landing belonging to J. McMahon and J. W. & N. Chilson. The road and houses are listed on this map similar to the 1864 map. The 1897 plat map (Ogle 1897) shows property and houses belonging to John McMahon and Henry Nelles (former Chilson property).

*Boynton's Farm*

Boynton's Farm was located on the southwest bank of the Grand River approximately one and a half miles downstream from Rush Creek (Figure 1, No. 22). Chrysler (1975:18) states that Boynton's Farm "was a favorite picnic area for excursions made by churches and the Board of Trade" from Grand Rapids.

The 1864 map of Ottawa County (Gross 1864) shows land belonging to J. H. Boynton. A road runs through the property and a house is located along this road where it stops at the river.

On the 1876 plat map (Belden 1876) this property is divided into two plats, one belonging to J. Boynton and the other to N. W. Boynton. The road and houses are the same as on the 1864 map. On the 1897 plat map (Ogle 1897) the property is further divided into three parts belonging to J. H. Boyington, E. Jones, and Everett Jones. The houses and road are the same as the 1876 and 1864 road.

*Weatherwax Landing*

The site of Weatherwax Landing is located on the south bank of the Grand River approximately one mile downstream from Rush Creek (Figure 1, No. 23).

The 1864 map of Ottawa and Muskegon counties (Gross 1864) shows the Geo. Weatherwax property with two buildings and a "Lumber R. R." railroad running down to the river. A school house is located along the river road near Weatherwax Landing.

The 1876 plat map (Belden 1876) shows the Geo. Weatherwax property between the river and the river road. A road, indicated by dashed lines, runs from the river road down to the river. A house is located next to the road and the river. The 1897 plat map (Ogle 1897) lists the property to D. H. Weatherwax and includes the road or lane, and the house at the river's edge.

*Jenison*

The site of Jenisonville or Jenison is located along the south bank of the Grand River at the mouth of Rush Creek (Figure 1, No. 24).

In 1836 Lemuel and Hiram Jenison settled in Georgetown Twp., Ottawa County, where they bought a sawmill and grist mill at JenisonvIlle (McGee 1973:33). Hiram Jenison purchased 1600 acres of pine timberland along Rush Creek and started in the lumber business. During their first year H & L Jenison Co. cut one million board feet of lumber. There were two mills at the mouth of Rush Creek, a "twenty-four gang" mill and a "mulay" mill. In 1837 a hotel was built in Jenisonville. McGee (1973:33) states that in 1843 there were two homes in Jenisonville.

On the 1864 map of Ottawa County (Gross l864) there is a "Mill Pond" on Rush Creek at Jenisonville. A grist mill and sawmill are located on Rush Creek and a few houses are shown at Jenisonville.

The 1876 plat map (Belden 1876) (Figure 29) shows the growing settlement of Jenisonville. There are nineteen buildings shown including a sawmill and grist mill. The grist mill is located next to the mill pond and the sawmill along Rush Creek closer to the Grand River. The Chicago and West Michigan Railroad runs through Jenisonville. Belden (1876) states that in 1876 Jenisonville had "an extensive sawmill and grist mill, two dry goods or general stores, and one hardware store... (and) contains 25 or 30 families.... " An engraving in the 1876 plat book (Figure 30) shows the residence and restaurant of Thomas Hardy located along the railroad in Jenisonville.

The 1897 plat map shown in Figure 29 (Ogle 1897) is an enlargement of the village of Jenison. The village in 1897 is subdivided into lots and includes a sawmill, church,

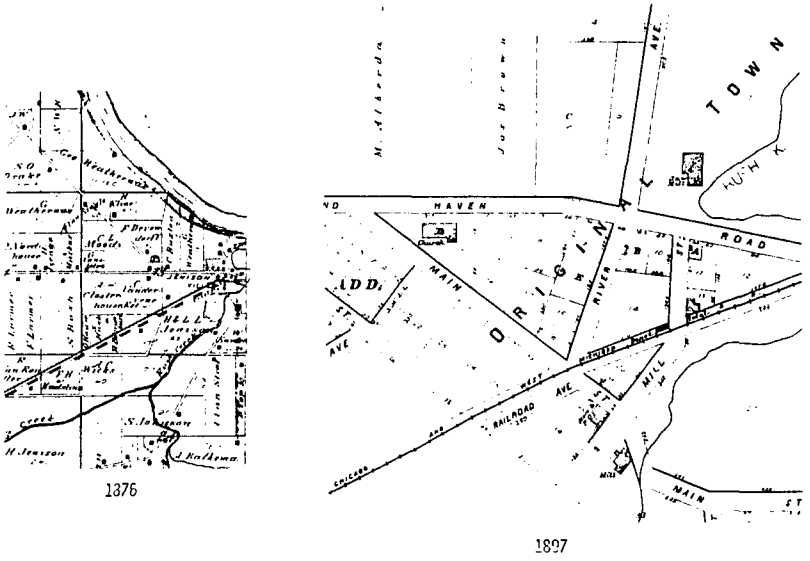



**FIGURE 29**
Map of Jenison, 1876 and 1897

depot, hotel, store & P.O., and mill. The Chicago and West Michigan railroad runs through the center of Jenison.

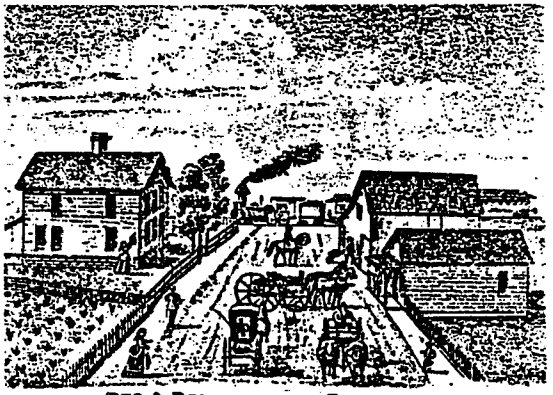



**FIGURE 30**
Woodcut of Residence and Restaurant - Jenisonville, 1876

**Summary**

The historical background as established in the preceding landing histories provides a data base for studying river landing settlement patterns along the Grand River. There has been very little published on the histories of these river landing settlements or on their locations. Due to the lack of information available on these settlements and on time available to the investigator, the backgrounds are descriptive historical sketches. This is the first historical treatment of all of the river landings in Ottawa County and for this reason is included in its entirety in this study.

The historical research on Grand River landings provided useful information for studying the settlement system. Documentary research provided the lists of landings mentioned earlier and further research particularly with period maps enabled the location of the specific landings on a base map of the county (see Figure 1). The locational map of the landings was used in the next chapter to compare the environmental variables with the landings locations.

Historical research also provided a chronological framework for the landing settlements. Many of these dates are not exact and only represent the appearance and disappearance of the sites on period maps or the dates of actual platting of the towns. Seven of the landings were settled in the 1830s: Grand Haven, Nortonville, Bass River, Eastmanville, Charleston, Ohio Dock, and Jenison. During the 1840s four more landings were settled: Ferrysburg, Mill Point, Lamont, and Luke Lowing. Six landings appear in the 1850s: Beechtree, Spoonville, Robinson, Ottawa Center, Sand Creek, and Haire's. Two landings appear in the 1860s, Stoddard's and Blendon, and two during the 1870s, Sisson & Lillie's and Harris. Due to the incomplete records available these dates represent

the decade during which the landings were most likely settled or at least recognized as a settlement.

In addition to placing the landings in time and space the historical research helped to delineate the types of activities at the various landings using lists of businesses, advertisements, and plat maps that identify stores, and other buildings. A listing of the buildings is useful prior to a discussion of the patterns of these settlements (Table 1).

Three major types of settlements can be distinguished; the first type are the larger urban centers with a wide variety of businesses and services such as Grand Haven, Spring Lake, Eastmanville, and Lamont; the second type are smaller settlements, such as Spoonville, Haire's, and Ohio Dock, that are based around one or possibly two sawmills and are involved primarily in the lumber industry and farming. These sites include support activities such as blacksmithing and small general stores. The third type of landing settlements are small groups of houses that represent farming and or logging activities. This third type of settlement did not have any sawmills. These settlements include: Bass River, Stoddard's, Luke Lowing, Harris, Mac's, and Boynton's Farm.

Using the information generated from the historical research, it is possible to investigate the environmental settings of the landings and the possible ties or patterns attributable to these settings and address the question of how the three types of landing settlements are connected to the Grand River drainage system and what these connections mean in terms of settlement behavior.

**GRAND HAVEN**

sawmills (8)
warehouses
courthouse
jail
schoolhouse
public houses (hotels)
stores
groceries
tannery
tailor shop
blacksmith shop
carpenter shop
fisheries
railroad depot
tavern
bank
bakeries
butcher shops
dry goods store
millinery shop
hat and furnishing shop
boot and shoe shop
houses
churches

**FERRYSBURG**

sawmills (2)
planning mill
iron works
pail and tub factory
hotel
shipyard
railroad depot

**MILL POINT (SPRING LAKE)**

sawmills (9)
general store
drug and variety store
blacksmith shop
physician and surgeon
hotel
groceries
general merchant
carpenter shop
peachgrower
horticulturists
hardware store
furniture store
feed store
butcher shop
printing office
stable
wagon and smith's shop
churches
houses

**BEECHTREE LANDING**

tannery
sawmills (2)
brickyard
houses

**SISSON & LILLIE'S**

sawmill

**NORTONVILLE**

sawmill
schoolhouse
houses

**SPOONVILLE**

sawmills (2)
schoolhouse
dry goods and prov's.
houses

**ROBINSON LANDING**

schoolhouse
cemetery
houses

**OTTAWA CENTER**

sawmill
houses

**BASS RIVER LANDING**

schoolhouse
houses

**EASTMANVILLE**

schoolhouse
cemetery
houses
hotel
store
miller
engineer
shipwright
surveyor
shoemaker
physician and surgeon
painter
blacksmith
warehouse
gristmill
churches
barrel factory
hardware store
stables
box factory
sawmills (2)

**CHARLESTON LANDING**

sawmill
spoke shop
blacksmith shop
store
houses
carpenter shop

**LAMONT**

sawmills (2)
gristmill (flouring mill)
houses
cabinetmaker
stave maker
sash and door factory
doctor
general merchant
stove and tinware shop
blacksmith shop
carpenter shop
grocery
engineer

**TABLE 1**
River Landing Buildings

**STODDARD'S LANDING**

house

**BLENDON LANDING**

boarding house
general store
schoolhouse
blacksmith
saloon
houses
sawmill
shipyard
lumber railroad

**LUKE LOWING LANDING**

house

**OHIO DOCK (LOWING LANDING)**

boarding house
store
jail
cabins or houses
sawmill
lumber railroad

**SAND CREEK LANDING**

sawmill
cemetery
schoolhouse
houses

**HAIRE'S LANDING**

sawmill
boarding house
store
barns
houses
blacksmith
wheelsmith or whitesmith
schoolhouse
cemetery

**HARRIS LANDING**

house

**MAC'S LANDING**

houses
schoolhouse

**BOYNTON'S FARM**

houses

**WEATHERWAX LANDING**

houses
lumber railroad

**JENISON**

sawmills (2)
gristmill
hotel
houses
drygoods store
hardware store
restaurant
churches
railroad depot

**TABLE 1**
River Landing Buildings

# CHAPTER II

## ECOLOGY OF THE GRAND RIVER BASIN

This chapter will discuss the major components of the Grand River Basin environmental system. These components will be discussed separately and include: geology, landforms, hydrology, climate, soils, and presettlement forests. The Grand River Basin system encompasses the interaction of these components and is one of dynamic equilibrium. A system in dynamic equilibrium requires "constant adjustment of system parts and even some change in structure (in response to perturbations)" (Moran 1979:57).

Most of these components, while components of the Grand River Basin system, are part of larger systems and are influenced to some extent by changes in these larger systems. We cannot understand the components by looking at just the Basin environment under study but must consider the macro system of which the Grand River Basin is just a small part. While relationships at the macro system level are considered whenever possible this discussion focuses on relationships and interactions at the micro level of the Grand River Basin.

Another major component and factor in the ecological system of the Grand River Basin is man. While man is a recent introduction to this system, in geological terms, his interaction with and part in the ecological system has been significant. The human factor in the ecological system of the Grand River Basin will be discussed at length in the next chapter. Chapter II will present an overview of the environment in the Grand River Basin as a background for discussing man's settlement and interaction with this ecological system.

**Geology**

The geologic history of the Grand River Basin can be divided into two major periods: the pre-glacial period and the glacial and post-glacial period. The pre-glacial history includes the bedrock geology of the Paleozoic and Mesozoic Eras while the glacial and post-glacial includes the events of the Wisconsin glaciation and its resulting glacial drift.

The bedrock formations of the Grand River Basin (Figure 31) are part of the bowl-like sedimentary rock formations that form the Michigan Basin. The Coldwater shale formation is the oldest (early Mississippian Period) and underlies the entire county. The Marshall sandstone formation (end of early Mississippian Period) overrides the Coldwater shale over most of the county, and the Michigan formation (late Mississippian Period) overrides the Marshall sandstone in the eastern part of the county.

The events of the glacial period are important in interpreting not only the geology of the Grand River Basin but also the topography and soils. Glaciers deposited mass amounts of glacial drift over the bedrock. This glacial drift was deposited as moraines, ground moraines, and outwash plains that were later modified by glacial stream action and by the rise and fall of the glacial Great Lakes.

The glacial history of Ottawa County has been summarized by Martin (1958) (Appendix A) and is briefly outlined here. The Lake Michigan Lobe retreated from east to west depositing the moranic hills of the eastern part of the county. At this point the Grand River was flowing south from Grand Rapids to the vicinity of the Rabbit and Kalamazoo Rivers. A ground moraine was laid down in Chester Township (Figure 32A)

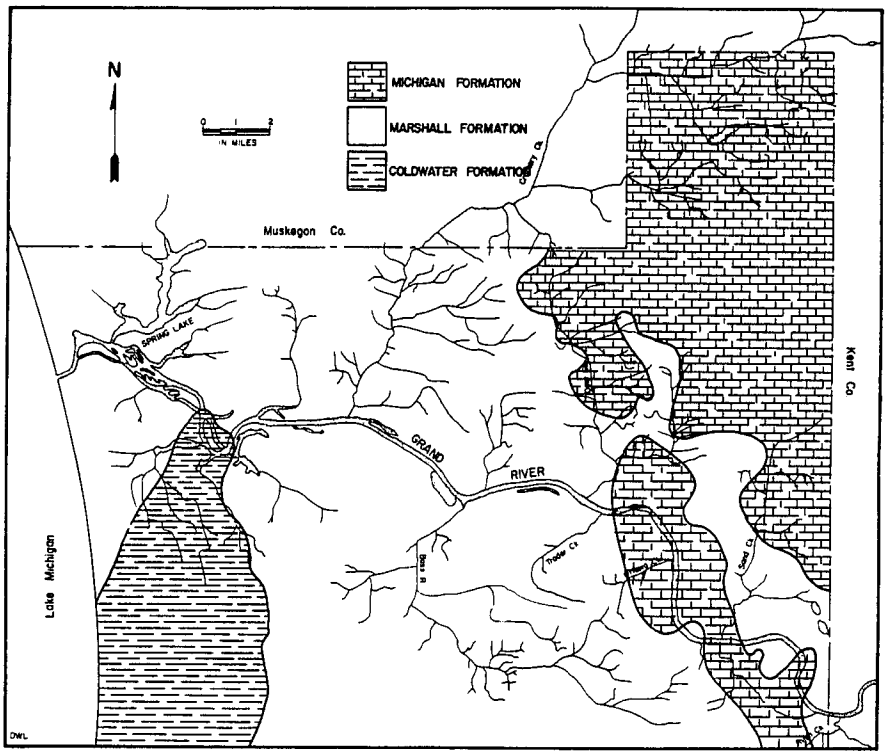



**FIGURE 31**
Geologic Map of Grand River Basin

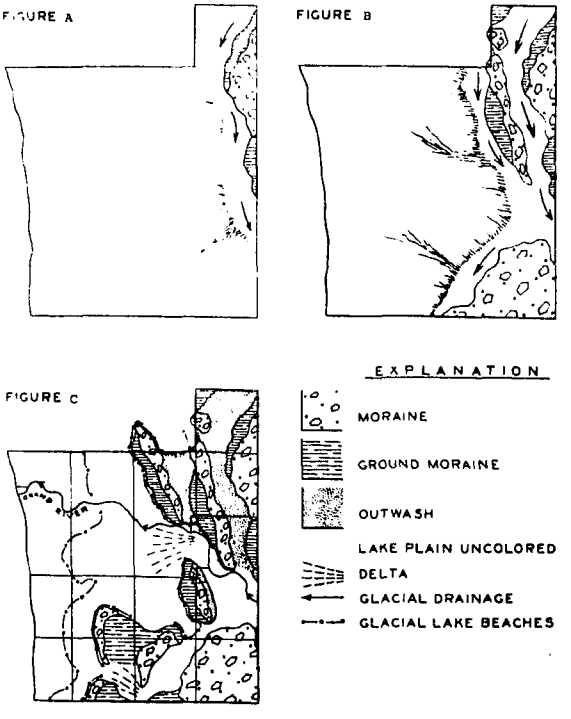



**FIGURE 32**
Glacial Evolution of Ottawa County

and the final stand of the glacier was along a line from north central Polkton Township (Figure 32B).

The last retreat of the Lake Michigan Lobe resulted in a "gently undulating ground moraine " (Martin 1958) along the eastern part of the county. The Grand River broke through the moraine at Jenison and took its present course (Figure 32C). A great delta was built across the middle of the county when the river broke through the moraine at Jenison.

As the waters of Lake Michigan receded further the sediments of western Ottawa County were laid down and dunes were built along the glacial lakeshore and later the modern shoreline. These glacial events have resulted in the present surface and subsurface landform configurations of Ottawa County.

The geology of Ottawa County is not directly tied to the river landing pattern but is indirectly related in a number of ways. Glacial events in Ottawa County are related to the current landforms, are responsible for the present course of the river, and glacial till was the base for soil development in the county. The supply of water in the county is in large part dependent on the bedrock configuration.

**Landforms**

The Grand River Basin is located in the Great Lakes Plains on the eastern shore of Lake Michigan. Surface relief is fairly uniform throughout the county. The elevation along the shore line of Lake Michigan is approximately 580 feet (ASL) and the highest elevation is approximately 800 feet (ASL). The county can be divided into three topographic sections (Figure 33): a sand dune ridge along the entire shoreline, as much

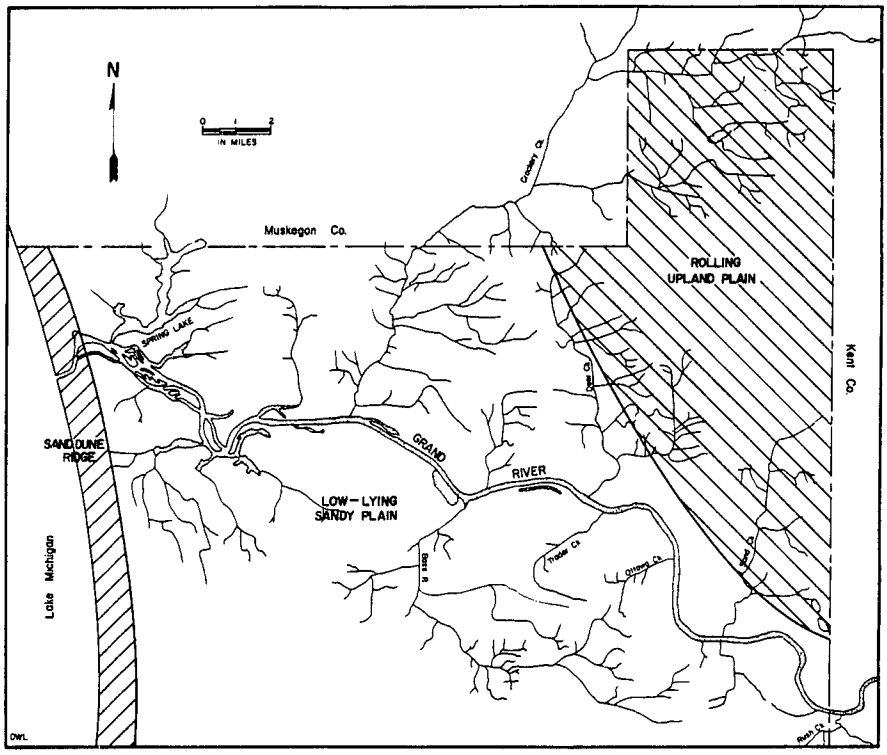



**FIGURE 33**
General Topographic Features of the Grand River Basin

as 200 feet high and half to one mile wide; "a broad, low-lying sandy plain, which occupies the western half of the county and extends eastward through the center of the county as a v-shaped area; and a gently sloping to rolling upland plain, which occupies the northeastern quarter" (Pregitzer 1972:136). The central low-lying plain represents a glacial delta and later the bed of glacial Lake Chicago. The dune ridge is the result of modern dune building forces, wind and water, and are in most places stable and covered with maple, beech, red oak, hemlock, and white pine stands, while in a few places they are barren and actively migrating.

Other topographic features of Ottawa County include: three plateau-like areas on the low-lying plain, one near Holland, one in southern Olive Township, and one near Hudsonville; two delta- like plains, one around Allendale and the other near Zeeland; and a narrow valley extending from Zeeland to Hudsonville. This valley was probably the channel of the Grand River during various glacial periods (Pregitzer 1972:137). The northeastern upland is dissected into three narrow plateaus by two valleys. The southern and southeastern parts of the county are characterized by hilly and broken topography. In relation to total land area, Ottawa County has few streams.

As the surface relief of Ottawa County is fairly uniform throughout, landform features are not intimately related to the river landing pattern. Two of the landings, Grand Haven and Ferrysburg, are incorporated into the sand dune ridge that runs along the Lake Michigan shoreline. The remainder of the landings occur in the low-lying sandy plain with a few bordering on the rolling upland plain of the northeastern part of the county.

The surface relief or topography of Ottawa County is an important factor in the soil formation of the county and will be discussed further in the section on soils. On a

very general basis the soils of Ottawa County can be divided into the same three categories as landforms: low, sandy plain soils; upland soils; and dune soils.

**Hydrology**

The major hydrologic feature of Ottawa County is the Grand River Basin. The Grand River is fed by several minor tributaries as it flows through the northern half of the county (Figure 34). These include Rush Creek (point of confluence in Kent County), Sand Creek, Deer Creek, Bass River, Crockery Creek, and Norris Creek (feeds into Spring

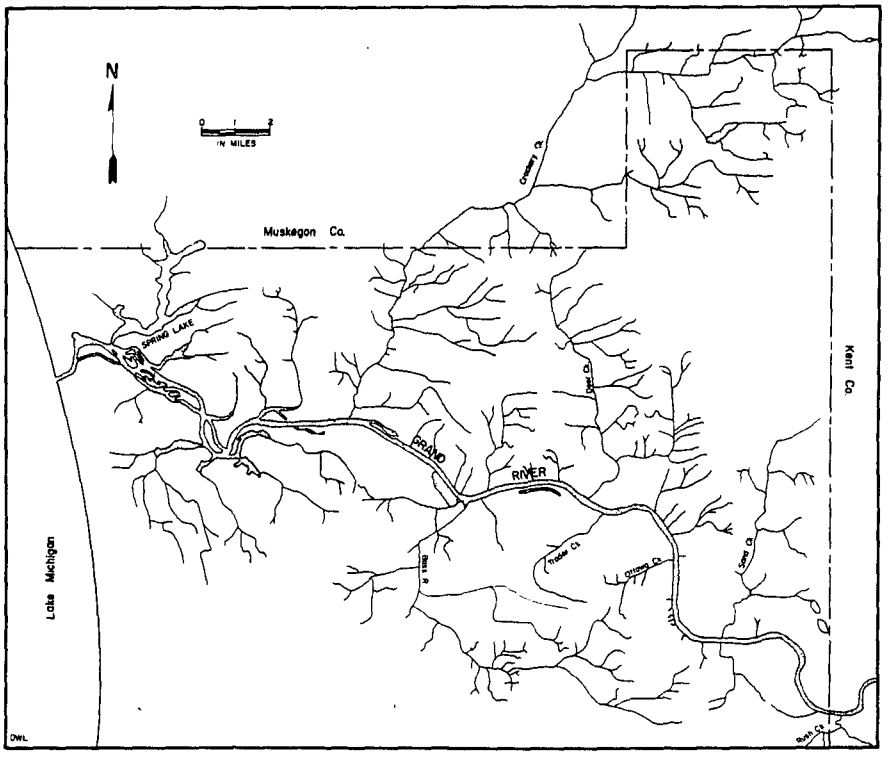



**FIGURE 34**
Grand River Basin Drainage Pattern

Lake). Spring Lake has the largest surface area of the more than 1,000 lakes in the entire Grand River Valley, approximately 1,000 acres. The lake has a maximum depth of 47 feet, and approximately 17 miles of shore line (WMSRDC 1978). Four other lakes are located within the Grand River Basin in Ottawa County; Crockery, Cranberry, Stafford, and Fennessey lakes.

The rolling upland plain of the northeastern quarter of the Basin is drained by Crockery, Deer, and Sand creeks. The low-lying sandy plain is drained by Bass River and a number of small creeks, while the southern and southeastern upland plain is drained by the Black River to Holland.

The ground water drainage pattern for the Grand River Basin is shown in Figure 35. This map shows the altitude of the ground water table (potentiometric surface) using contours. Ground water generally flows at right angles to the contours on the potentiometric surface. Comparing this map with a surface contour map we can determine the depth of the ground water table below the land surface. In most of the Grand River Basin the ground water table lies within 25 to 35 feet of the surface. The depth of the ground water table is dependent on the level of the Great Lakes which fluctuates from year to year. This system is recharged from precipitation. The depth of ground water is slightly greater in the upland plains.

The Grand River Basin has two types of ground water aquifers: glacial drift aquifers and bedrock aquifers. The availability of these aquifers varies throughout the Basin depending on the depth of glacial deposits and bedrock configurations. Of the three bedrock formations underlying the basin the Marshall Sandstone aquifer is the only one to provide sufficient quantity and quality of ground water. Use of the Marshall Sandstone

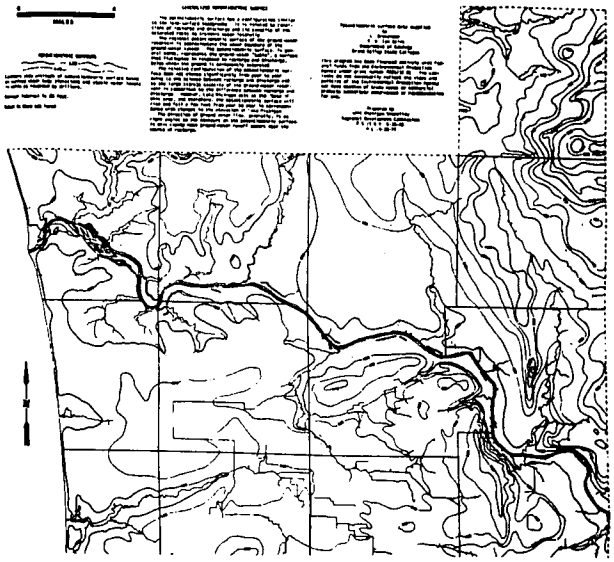


**FIGURE 35**
Generalized Potentiometric Surface Map

aquifer is limited in the eastern part of the Basin where the Michigan Formation overlaps the Marshall, and in the northern part of the county where glacial deposits are 500-600 feet thick. In most parts of the Grand River Basin, glacial deposits are usually less than 200 feet thick (WMSRDC 1977:16).

Winter snow cover and spring and fall rains recharge both the surface and subsurface water systems. The amount of melting of the snow cover along with the amount of snow and rain are major factors in the recharge of these systems. The recharge of the ground water and surface water is highly dependent on the weather.

The Grand River stream network is closely related to the location of the river landings. The river landings are all located on the main channel of the Grand River. Six river landings, Grand Haven, Ferrysburg, Mill Point, Beech Tree, Sisson & Lillie's, and Nortonville, take advantage of the natural harbor created at the confluence of the Grand River and Lake Michigan. Five of the landings, Spoonville, Bass River, Charleston, Sand Creek, and Jenison, are located at the confluence of larger tributaries to the Grand River. Seven landings are located at the confluence of smaller creeks flowing into the river.

Many of the landings are located on bluffs on the outside of bends in the river. The faster flow of water along the outside of a curve in the river creates a deeper natural channel in this location along with steeply cut banks. The location of settlements atop these bluffs reduced the risk and dangers of flooding and provided deep natural channels for the river boats to maneuver and land.

The tributaries and smaller creeks that flowed into the Grand River were not navigable but were useful for transporting logs to the mills along the Grand. The spring

thaw and resulting runoff provided these creeks with the necessary volume of water for floating the logs downstream.

The high ground water table provided abundant water for farming, in many cases, too much water. The upland plain of the northeast part of the county had a lower ground water table and also could not depend on the Marshall aquifer for its water supply. The river landings were ideally sited for obtaining water supplies for domestic and farming uses.

**Climate**

The climate of the Grand River Basin is influenced by Lake Michigan. The prevailing west wind is moderated as it crosses the lake so that extremely high and low temperatures are rare. Pregitzer (1972:135) states that:

> Spring is late, because the cold lake water chills the incoming air. After warming up during the summer, the water stays warm long enough to modify the first outbreaks of the cold weather in fall. Summer is pleasant because of the cool lake breezes. Winter temperatures are mild, but snow flurries are frequent and the average total snowfall is heavy.

The modifying effect of the lake breezes can be seen in the following "Meteorological Record" from the *Grand Haven News* (Sept. 3, 1862):

> July 3lst, at 1:15 the mercury stood at 96, the wind S.E. Before 2 p.m. the lake breeze sprang up from the N.W. and the mercury fell to 90. Such a temperature is without a precedent here.
>
> L.M.S. Smith, Mill Point, Aug. 5, 1862

As Mr. Smith points out such high temperatures are unheard of along the lakeshore. While this moderating "lake effect" is most noticeable along the western part of the Basin, its effect is felt throughout the Basin.

Temperature and precipitation data are provided in Table 2. The data is tabulated as mean monthly (temperature and inches) and mean monthly maximum and minimum (temperature and inches). The highest temperature on record is lOl° F, on July 21, 1934, and the lowest temperature of -25° F occurred on February 11, 1899. Pregitzer (1972:135) states that "on the average, temperatures of more than 90° F occur only three times in a summer and below-zero temperatures only twice in a winter." The highest mean monthly temperature on record is 76.4° F.

An average of 57 percent of the annual precipitation in the Grand River Basin falls between April and September. The heaviest average precipitation occurs in September and the lightest occurs in February. Snowfall ranges from as much as 121 inches to as little as 15 inches with a yearly average of 66 inches. The growing season for the Grand River Basin averages 160 days, with the first freeze occurring around the middle of October and the last freezing temperature occurring the middle of May.

The climate of Ottawa County is very similar throughout the county, although the "lake effect" does modify the immediate shoreline more than the rest of the county. Due to this homogeneous climate the location of the river landing settlements are not directly tied to the climate.

Precipitation in the form of rain or snowfall provided the settlements with an adequate water supply for farming, and the water stored in the snowpack provided a rapid melt for logging purposes. The deep snow cover in the winters was also important for logging, as the logs were transported to stream banks and mills using sleighs. Log sleighs were the most efficient means of transporting logs that were three to four feet in diameter and weighing thousands of pounds.

| MONTH | TEMPERATURE 1866-1967 | | | PRECIPITATION 1891-1967 | | | SNOWFALL 1895-1967 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean °F | Max. °F | Min. °F | Mean In. | Max. In. | Min. In. | Mean In. | Max. In. | Min. In. |
| January | 24.8 | 30.8 | 18.9 | 2.36 | 4.40 | 0.38 | 17.5 | 57.5 | 2.0 |
| February | 24.7 | 31.4 | 18.0 | 1.94 | 4.48 | 0.09 | 12.2 | 32.5 | 1.4 |
| March | 32.5 | 39.8 | 25.3 | 2.28 | 5.85 | 0.24 | 7.8 | 32.1 | 0.0 |
| April | 44.7 | 52.6 | 35.8 | 2.69 | 8.43 | 0.65 | 1.4 | 10.0 | 0.0 |
| May | 54.6 | 63.7 | 45.5 | 3.25 | 6.73 | 0.92 | 0.2 | 1.0 | 0.0 |
| June | 64.4 | 73.4 | 55.5 | 3.13 | 9.35 | 0.37 | 0.0 | 0.1 | 0.0 |
| July | 69.4 | 78.0 | 60.9 | 2.55 | 7.96 | 0.19 | 0.0 | 0.0 | 0.0 |
| August | 68.0 | 76.5 | 59.4 | 2.78 | 8.83 | 0.42 | 0.0 | 0.1 | 0.0 |
| September | 61.6 | 70.2 | 53.1 | 3.45 | 9.37 | 0.67 | 0.1 | 0.1 | 0.0 |
| October | 51.0 | 58.9 | 43.2 | 2.88 | 8.56 | 0.20 | 0.4 | 2.1 | 0.0 |
| November | 39.2 | 45.4 | 33.0 | 2.80 | 8.02 | 0.00 | 6.6 | 22.5 | 0.0 |
| December | 29.2 | 35.0 | 23.9 | 3.06 | 6.80 | 0.51 | 14.2 | 58.5 | 3.3 |
| Annual | 47.0 | 54.6 | 39.4 | 33.17 | 47.89 | 21.15 | 60.3 | 110.0 | 27.0 |

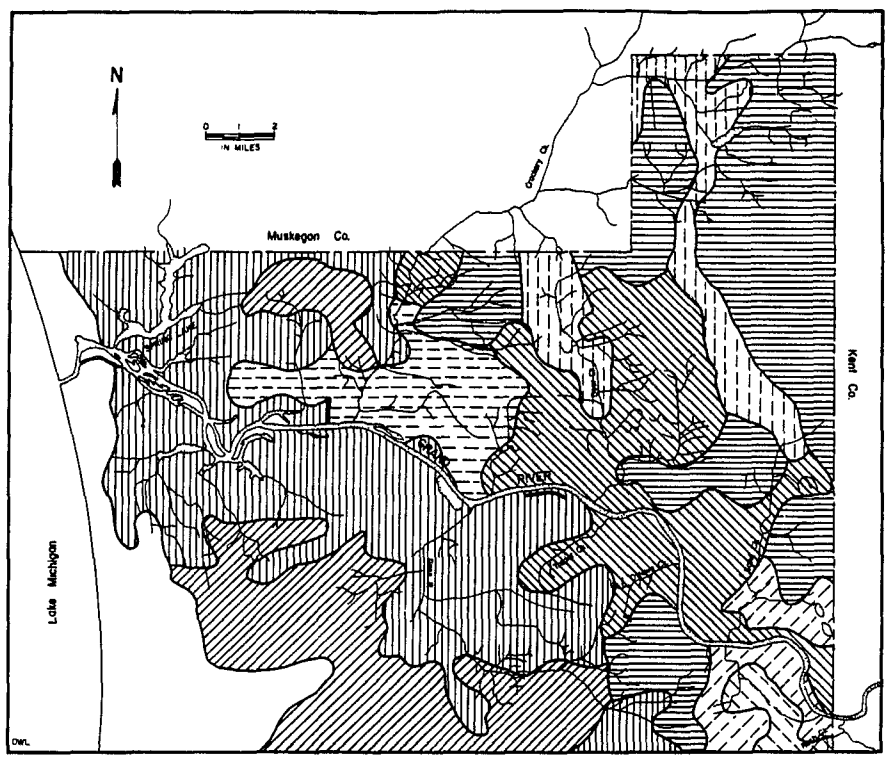
**TABLE 2**
Temperature and Precipation Data

While the growing season in Ottawa County is rather short it is long enough for growing many staples. The rather mild homogeneous climate of Ottawa County has contributed little to the soils of the county.

**Soils**

The soils of the Grand River Basin reflect and are dependent on five major soil formation factors: parent material, climate, living organisms, topography, and time. These five factors are all components of the soil formation system and interact with each other, so that climate and vegetation (living organisms) act upon the parent material to form the soil and are in turn conditioned by topography and time and also by the nature of the parent material.

Parent material is the unconsolidated material from which a soil forms. The soils of the Grand River Basin were for the most part formed from glacial materials that include: gravel, sand, loam, clay, and organic matter. Climate affects the vegetation and also the weathering of the parent material. As the climate of the Basin is mild and humid, it does not account for significant differences among the soils. The vegetation along the Lake Michigan shoreline is influenced by the "lake effect." Living organisms "are responsible for gains and losses in organic matter, nitrogen, and plant nutrients and for changes in structure and porosity" (Pregitzer 1972:132). Of the living organisms, vegetation in the Grand River Basin, namely the deciduous and coniferous trees, has played the major role in soil formation. Topography affects soil formation by influencing drainage, erosion, plant cover, and soil temperature. This affect is apparent when comparing the general soil map of Ottawa County (Figure 36) with the general topographic map (Figure 33). The




KEY

Nester-Kawkawlin-Sims association: Gently sloping to rolling, well-drained to poorly drained, loamy soils of the uplands.

Rubicon-Granby-Croswell-Au Gres association: Level and gently sloping, well-drained to very poorly drained, sandy soils of the lake plains and outwash plains.

Granby-Au Gres-Saugatuck association: Nearly level and gently sloping, very poorly drained to somewhat poorly drained, sandy soils of the lake plains.

Mancelona-Nester-Belding-Iosco association: Gently sloping to hilly, well-drained to somewhat poorly drained, sandy and loamy soils of the uplands.

Bowers-Hettinger-Nester association: Nearly level to gently sloping, well-drained, loamy soils of the lake plains.

Richter-Gilford-Gladwin association: Nearly level and gently sloping, somewhat poorly drained to very poorly drained, sandy and loamy soils of glacial drainageways.

Chelsea-Mancelona-Montcalm association: Level and gently sloping, well-drained and moderately well drained, gravelly and sandy soils of outwash plains and terraces.

Sloan-Adrian-Houghton association: Level, poorly drained bottom-land soils and organic soils.

Rubicon-Blown-out land-Deer Park association: Level to steep, well-drained, sandy soils of the dunes and plains.

**FIGURE 36**
General Soil Map of Grand River Basin

soils of the Basin can be divided into three general regions: upland soils, plains and lowland soils, and dune ridge soils. The influence of time on soil formation is reflected in the degree and distinctness of horizonation of the soil. A dark colored surface layer may be the extent of a young soil on sand dunes, while an older soil will exhibit well-defined horizons. The soils of the Grand River Basin have been forming over a wide range of years, from a few years to 10,000 years (Pregitzer 1972:132).

Figure 36, a general soil map of the Grand River Basin in Ottawa County, shows the major soil associations. As mentioned earlier, these soil associations can be correlated with the glacial features of the county. These associations are only the major soil types and do not include the many local variations. The brief descriptions of these soils, that accompanies Figure 36, lists both the land form and parent material associations of the soils. When compared to the glacial landform maps of Figure 33 the correlation is very apparent. The glacial parent material and topography are the major factors of soil formation in the Grand River Basin. These factors were and still are acted upon by climate and living organisms (vegetation). The soil formation process is not static but is an evolutionary system with many interacting and reacting factors.

Of the three general soil regions in Ottawa County the upland soils region contains the sites of approximately 13 landing settlements, six landings are located in the plains and lowland soils region, and six are located in the dune ridge soils region. The loamy soils of the uplands are among the most suitable soils in the county for farming. The soils of the low-lying plain have severe limitations for farming due to droughtiness, low fertility, and a hazard of soil blowing. The soils of the dune ridge are not suited to farming activities.

The soils of Ottawa County supported a variety of deciduous and coniferous trees that will be discussed in the next section.

Six landings, Grand Haven, Ferrysburg, Mill Point, Beech Tree, Sisson & Lillie's, and Nortonville, are located in either the dune soils region or the poor lowland soils. Spoonville, while located in the low-lying plain, is located on a loamy lake plain soil that is suitable for farming. Robinson, Bass River, and Charleston Landings are located on poorly drained sandy soil, while across the river Ottawa Center is associated with the same loamy lake plain soils as Spoonville. Eastmanville, Lamont, and the rest of the landings to Jenison are located on the loamy upland soils or well-drained gravelly and sandy soils of the outwash plains.

As mentioned earlier the deciduous and coniferous trees of the Grand River Valley played a major role in soil formation. There is a close correlation between the soil and forest types in Ottawa County.

**Presettlement Forests**

The forest cover of the Grand River Basin at the time of settlement, in the 1830s, has been postulated by two scientists. In 1942 Leslie Kennoyer published "Forest Association of Ottawa County, Michigan, at the time of the Original Survey". Kennoyer used the field books of the original land survey to develop his forest map. Surveyors in the 1820s and 1830s recorded, by type, two reference trees selected at each section corner and at the mid-point of each section boundary. Kennoyer plotted the points of these trees on a county map to reveal the presettlement forest distribution of Ottawa County. For

Ottawa County (Kennoyer 1942:49), the most frequent species identified by the surveyor are:

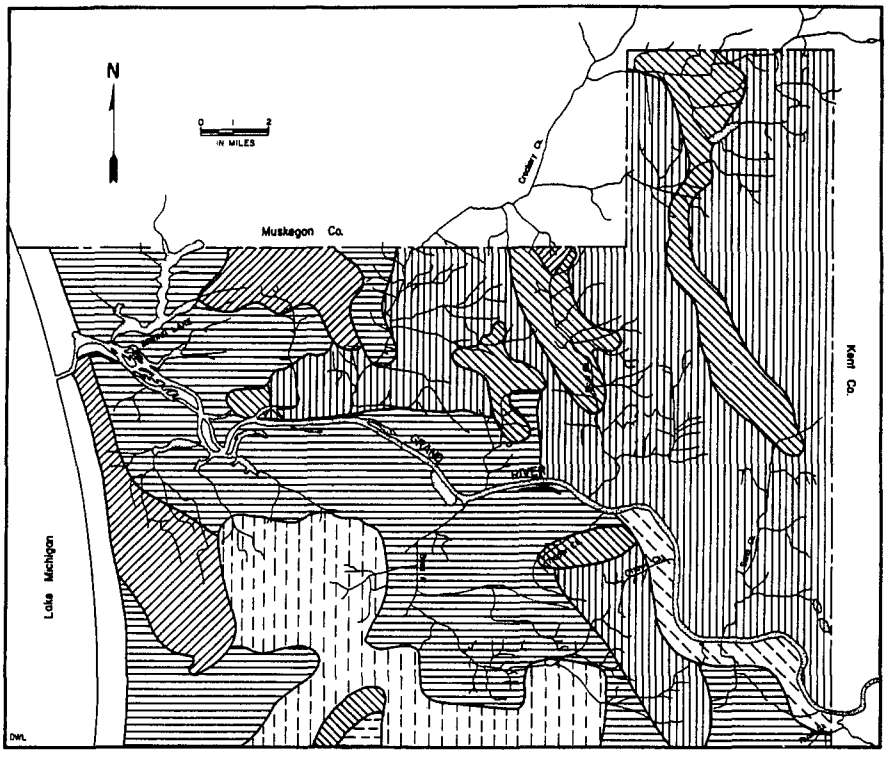
| | |
|---|---|
| Beech | 33.7% |
| Hemlock | 13.5% |
| Sugar maple | 12.5% |
| Pine (species not designated) | 8.6% |
| Black and white ash | 3.0% |
| All oaks | 5.1% |
| Soft maples | 5.0% |

Kennoyer (1942) states that five-sixths of the hemlocks and three-fourths of the pines were located in a twelve mile wide strip along the lake. A number of features of the presettlement Ottawa County forest were "the absence of grassland areas, the scarcity of oaks, and the extreme scarcity of hickories" (Kennoyer 1942:49).

J. O. Veatch's (1959) map of presettlement forests in Michigan (Figure 37) represents the distribution of natural associations of tree species based upon "accepted correlations between forest types and soil types, or natural land types" (Veatch 1959). While the map is based primarily on these correlations, Veatch (1959) used other information such as: "historical data, such as the information recorded in the General Land Office Survey; observations by early explorers; botanical publications which include lists of species present, and in some instances phytogeographic maps, for a large number of scattered areas; information obtained from county histories; and verbal and published information, supplied by many individuals, pertaining to the original forest".

E. Franklin Bosworth, whose farm was near Lowing Landing, wrote a letter with the following description (McGee 1973:42):

> The land is very heavily timbered around there for some distance. I saw some of the tallest pines that I ever saw. The young fellow with me told me that he had heard of their cutting twelve foot logs from one straight tree. They are so tall that you have to look twice to see the tops of them. There are,




KEY

SOUTHERN REGION OAKS

Oaks. Great diversity of other species, both deciduous and coniferous. Mainly dunes.

Sugar maple-beech; oaks-hickory; elm, basswood, ash

More elm, ash basswood, shagbark hickory, swamp white oak. (Sugar maple-beech occasionally)

TRANSITIONAL AND NORTHERN REGION - PINES and DECIDUOUS-CONIFEROUS

Oaks-white pine. Aspen, red maple.

SOUTHERN DECIDUOUS AND DECIDUOUS-CONIFEROUS - WET SITES

Elm, black ash, red maple, aspen, silver maple, swamp white oak, pin oak. White pine, cedar, tamarack, in more northern areas.

Elm, silver maple, ash, swamp white oak, basswood, shagbark hickory, sycamore, cottonwood, red oak, bur oak.

Elm, red maple, silver maple, ash, sycamore, cottonwood, tulip, butternut, beech.

NORTHERN-CONIFEROUS-DECIDUOUS - WET SITES AND MIXED WET-DRY

White and Norway pines (less jack pine), oaks. Mixed aspen, spruce, fir, cedar, tamarack, elm, ash, red maple, white birch, yellow birch.

**FIGURE 37**
Presettlement Forest of the Grand River Basin

> however, but few on my land. My land is near level, and the timber is of different kinds.
>
> There you will find beech and maple, oak, ash, and hickory of the largest kind, I saw white ash and hickory and white oak trees between three and four feet through, and from forty to fifty feet without limbs as straight as an arrow.
>
> The soil is black sandy loam and in some places the subtitle is of clay.

This description corresponds with Veatch's map, that lists: sugar maple-beech, oaks-hickory, elm, basswood, and ash, for this area. Figure 37 illustrates this correspondence and provides information on the forest distribution of the Grand River Basin. Forests covered the Grand River Valley at the time of settlement so that virtually all river landings were associated with an abundant timber resource. There is a close correlation between forest types and soil types (Veatch 1959) so that the pattern of forests along the Grand River Valley is very similar to that of soils.

Eleven of the river landings, Grand Haven, Ferrysburg, Mill Point, Beech Tree Landing, Sisson and Lillie's, Nortonville, Spoonville, Robinson Landing, Ottawa Center, Bass River Landing, and Charleston Landing, are located in the Transitional and Northern Region consisting of oaks, white pine, and some aspen and red maple. The landing sites from Eastmanville to Jenison are located in either the Southern Region Oaks or the Southern Deciduous and Deciduous-Coniferous Region. The Southern Deciduous sites tend to be wet sites with elm, black ash, aspen, swamp white oak, red maple, and shagbark hickory.

Accounts of the forest cover and of the types of lumber cut at various mills along the river correspond closely to the map Veatch has produced. The type of forest cover and the soil type were important factors in the siting and development of river landings.

# CHAPTER III

## THE RIVER LANDING SYSTEM

The river landings along the Grand River can be studied, within an ecological framework, by utilizing the concept of the drainage basin. The drainage basin is a natural division useful for studies of human activity on a regional scale (Smith 1971:20). This division furnishes a unit for study that is of workable size and is also large enough for a viable regional study. The concept of the drainage basin as a unit of historical development has a long tradition in the discipline of geography (Smith 1971:20).

The idea of the topographical unity of the drainage basin was presented by Philippe Buache in 1752. During the eighteenth and nineteenth centuries the topographical unity of the drainage basin was exaggerated due to the mistaken idea that watersheds had to be obviously separated from each other (Smith 1971:20). This was carried to the extreme of using map symbols, between the drainage basins, that suggested "veritable mountain chains." The concept of the watershed or drainage basin as a natural boundary was used to replace fragmented political units with concrete and natural units for geographical study (Smith 1971:20). As knowledge of the world increased and the job of mapping was carried out, it became clear that these earlier concepts were far too simplistic. In 1917, C. B. Fawcett used the drainage basin as a means of territorial division in his work on regional divisions of England (Smith 1971:22). These regional divisions or "provinces" were based on several factors: population size, presence of a regional capital, and a restriction that normal population movements should not be affected by the new boundaries (Smith 1971:22). Fawcett also based these provinces on the drainage basin, stating that (Smith 1971:22)

> Since the vital functions of local government include such matters of public health as water-supply and drainage, the making and maintenance of roads and the supply and control of trams, gas and electricity, and since the lines of these are most naturally and easily laid out along the valleys, it will be ordinarily desirable that the boundaries should be drawn near the watersheds, [though] the watershed would only mark out the general trend of a boundary and not govern its details.

Smith (1971:22-23) questions the unity attached to the drainage basin in the context of post Industrial Revolution studies and states that

> Whatever unity had formerly attached to the drainage basin as such in the days of river navigation had largely disappeared in the context of railway-building and the predominance of overland movement.

The drainage basin can be directly linked with human activity during the period between primary settlement and the Industrial Revolution. According to Smith (1971:23) these connections are of two kinds:

> ... those which are related to stream networks as water bodies, and those which are related to the existence of systematically arranged patterns of resources (soils, vegetation, local climates, for example), which are themselves organized with respect to the relief, slopes, and stream networks within drainage basins.

These connections and relationships involving the drainage basin and human activities, such as the river landing settlements, can be explored within a general systems theory framework.

River landings are part of a system that is an integral whole, and neither the landings nor any other part of the system can be understood independently from the entire system (Moran 1979:55). The drainage basin system, including the river landings, is an aggregate of an even larger system. This study will focus on river landings located along the lower Grand River. These landings are part of a system that is physically bounded by

the drainage basin of the Grand River, below the first fall line, and bounded politically by the boundaries of Ottawa County. These boundaries are useful in delineating a study area that includes the drainage basin system, while remaining a manageable size in terms of data gathering.

The components of the river basin system that will be discussed here are human activity; in this case the river landing system, the stream network as a water body, and "the systematically arranged patterns of resources," (Smith 1971:23) i.e. the environmental components. In addition, the relationships between these components vis-a-vis the river landing system as a whole and what these relationships tell us about human settlement patterns and adaptation can be considered. In presenting the functional connections of these components, human activity will be examined in conjunction with the two other components.

Using the data from the historical research and the environmental components a model of river landing settlements can be developed. The model will be a set of criteria for the location of river landing settlements along the Grand River.

In relationship to the stream network of the Grand River, landings are associated with a natural harbor such as Grand Haven and Spring Lake and are found at the confluence of larger tributaries to the river such as Spoonville, Bass River, Charleston, Sand Creek, and Jenison. Landings are also located at the confluence of smaller creeks, sometimes intermittent creeks. Such landings are Ottawa Center, Eastmanville, Lamont, Blendon, Luke Lowing, Harris, and Haire's Landing. Twelve of the twenty-four landings along the Grand River are located at the confluence of a creek and six are located at or

near the natural harbor at Lake Michigan. Landings are situated on bluffs along bends in the river that provide protection from floods and deeper channels for the riverboats.

River landing sites are usually found on the better quality soils for farming. Fifteen of the landings along the Grand River are located on soil suitable for farming, while three are located on the poorer sandy soils of the low-lying plain.

As the entire county was forested all of the landings were associated with rich timber resources. The landings from Grand Haven to Eastmanville were associated mainly with a forest of oak and white pine. From Eastmanville to Jenison the forest cover was mixed deciduous and coniferous with a variety of different species.

Of the three types of landing settlements described in Chapter I, type one landings, the larger urban centers, are located at harbors or fall lines, such as Grand Haven or Grand Rapids. They will also be centrally located, such as Eastmanville and Lamont, along the river to take advantage of resource availability and population groups. These settlements become service centers for the other small settlements of the area and the individual farms because of their central location.

The second type of landings are based around one or two saw mills and are involved in lumbering and farming. These settlements are frequently located at the confluence of a small creek and near good timber and soil resources. As land was cleared the timber was cut at the saw mills and the land became available for farming. The actual logging work was mainly carried out in the winter, leaving the summer months available for farming the newly cleared land.

The third type of landings are small groups of houses or single houses on farms. These settlements are located on poorer soils and are associated with timber resources.

These landings are also located at the confluence of small creeks. While not associated with saw mills or other industry, they were likely involved in logging and farming.

The pattern of landing settlements can be further examined as it fits into the river basin system. The Grand River and its tributaries, as a waterbody, is a component of the system that is related to human activity through three factors: the direction of primary settlement in the thickly forested basin region, river transportation, and framework for the growth of trades and towns. These three factors are closely tied to the evolution of river landings along the Grand River.

Primary settlement was directed along the banks of the river due to the accessibility afforded by the stream network, the water supply, and the concentration of resources in close proximity to the waterbody (Smith 1971:23). The stream network provided relatively easy access into the thickly forested Grand River region. As the region was penetrated via the river, the river system provided the settlers with a reliable water supply for domestic uses and for watering livestock and a water based transportation system for easy movement in the region. The concentration of resources along the stream network provided a complete supply of building materials and food resources to the early settlers. The early settlers engaged in clearing the land primarily for farming. This initial clearing activity developed into a small lumbering industry, with saw mills springing up along the river. These early entrepreneurs hoped to sell the lumber to settlers for building cabins and barns. Pole boats were soon hauling some loads of lumber to locations along the river for the new settlers.

The importance of river transportation to the settlement system cannot be overemphasized. The stream network was the only "highway" linking the settlers with the

outside. This "highway" was very similar to our modern highway system for the movement of goods and people and similar to our telephone system for moving communications. The river was the "trunk line " that connected the various "homes," and the river boats were like the electrical impulses that carried messages along the "phone lines". River transportation was important in carrying people, supplies, messages, and merchandise to and from the settlements. The river landing settlements were communication centers for the settlers along the Grand River and in many cases were the only way to ship goods to market in Grand Haven and Grand Rapids. The importance of the river transportation system can be appreciated by examining the 1855 import and export records for the port of Grand Haven (*Grand River Times*, Feb. 27, 1856) (Tables 3 and 4). Lumber and wood products were important export items while merchandise, food stuffs, and raw materials were important import items. These goods were carried on a fleet of more than 20 ships, including 5 river steamers. River transportation was also tied to the lumbering industry and will be discussed in this context later in this section.

In addition to water resources, the Grand River Basin was rich in timber resources. As mentioned in Chapter II the Grand River Basin was covered with a forest consisting of hardwoods and pines (See Figure 37). The pattern of water and timber resources in the Basin is closely related to the evolution of river landing settlements. The growth of river landings depended in part on the extraction of forest resources and their proximity to the stream network.

The lumbering industry in the Grand River Basin developed as the demand for lumber, especially in the prairie states of Illinois, Indiana, Wisconsin, and Iowa, grew at fantastic rates. Chicago became the lumber capital of the midwest, and lumber schooners

| | Amount | Valuation |
|---|---|---|
| Wheat, bushels | 76,430 | $152,860 |
| Flour, bbls. | 22,807 | 205,263 |
| Paper Rags, lbs. | 56,750 | 2,270 |
| Saleratus | 64,822 | 3,989 |
| Leather, pack. | 2,190 | 42,190 |
| Wool, lbs. | 65,972 | 32,986 |
| Plaster, bbls. | 11,646 | 11,646 |
| Stucco | 6,008 | 21,028 |
| Staves, M. | 304 | 30,400 |
| Hoops | 20 | 200 |
| Ships Knees | 250 | 1,000 |
| Mercandize, tuns. | 196 | 90,000 |
| Bags Ground Feed | 447 | 447 |
| H'lf bbls. White Fish | 1,135 | 4,540 |
| Bedsteads, doz. | 60 | 1,500 |
| Tubs | 452 | 4,000 |
| Pails | 542 | 1,355 |
| Wagon Hubs | 11,740 | 1,174 |
| Bundles Saw Staves | 2,086 | 1,000 |
| Wagon Spokes | 11,250 | 1,100 |
| Felloes, bund. | 160 | |
| Wood, cords. | 1,511 | 3,022 |
| Canal boats | 2 | 1,800 |
| Hemlock Bark, cords. | 500 | 2,000 |
| Timber, feet | 30,000 | 1,800 |
| Lath, pieces | 15,000,000 | 33,000 |
| Shingles | 40,000,000 | 100,000 |
| Lumber, feet | 45,000,000 | 450,000 |

## TABLE 3
Exports - Grand Haven - 1855

| | Amount | Valuation |
|---|---|---|
| Wheat, bushels | 78,526 | $157,052 |
| Flour, bbls. | 24,957 | 223,263 |
| Paper Rags, lbs. | 63,301 | 2,532 |
| Saleratus | 68,022 | 4,081 |
| Leather, packages | 2,190 | 42,190 |
| Wool, lbs. | 65,972 | 32,986 |
| Plaster, bbls. | 11,646 | 11,646 |
| Stucco | 6,008 | 21,028 |
| Staves, M. | 304 | 30,400 |
| Staves, bundles | 2,086 | 1,000 |
| Hoops, M. | 20 | 200 |
| Ship Knees | 285 | 1,140 |
| Tuns Merchandize | 7,158 | 1,073,700 |
| Salt, bbls. | 9510 | 19,020 |
| Steam Engines | 12 | 18,000 |
| Steam Boilers | 14 | 5,000 |
| Threshing Machines | 10 | 1,500 |
| Water Lime, bbls. | 606 | 1,515 |
| Pig Iron, tuns | 410 | 12,000 |
| Coal | 752 | 7,520 |
| Pressed Hay, do. | 625 | 5,000 |
| Wood, cords | 1,511 | 3,022 |
| Whiskey, bbls. | 890 | 14,240 |
| Wines and Liquors, do. | 720 | 30,000 |
| Pork, bbls. | 720 | 14,400 |
| Beef | 115 | 2,000 |
| Green Apples, do. | 550 | 1,375 |
| Oats, bushels | 20,593 | 6,177 |
| Corn, bushels | 5,568 | 3,340 |
| Bags Meal | 583 | 1,166 |
| Horses | 36 | 3,600 |
| Head of Cattle | 45 | 2,200 |

## TABLE 4
Imports - Grand Haven - 1855

were departing from the Grand River Valley daily for that point (*Grand River Times*, Sept. 3, 1856). This demand for lumber resulted in lumbering activities throughout the entire Grand River Basin. Logs cut in the upper basin were floated to mills in Grand Rapids and some to Grand Haven for sawing into lumber. In the lower Grand River Basin, saw mills were located to take advantage of the river system and the proximity of this system to the timber resource.

Many of the saw mills were located along the Grand River at the confluence of the tributaries. The location of saw mills along the river corresponds closely to the location of river landings (Figure 1 and Figure 38). There were a few saw mills that were not located along the river. These mills were located along the tributaries, upstream from the Grand River, and closer to the timber resource. The tributaries that flowed into the Grand River were also used for water power to run the saw mills. The early waterpowered mills were not capable of the production required by the increased demand for lumber and were soon replaced by or converted to larger, more efficient, steam powered saw mills.

The location of saw mills along the stream network of the Grand River is associated with river transportation. As timber was cut it was piled along the banks of the tributaries, and in the spring it could be floated down these creeks to the mills. After the lumber was cut at these mills it was either shipped via river streamers to Grand Haven and loaded on schooners bound for Chicago, or it was loaded at the mills onto packets bound for Chicago. These packets ran on a weekly schedule and were the smaller lake ships that could navigate up the Grand River. A large amount of lumber was floated all the way to Grand Haven where it was processed by one of the many large saw mills and then shipped out by

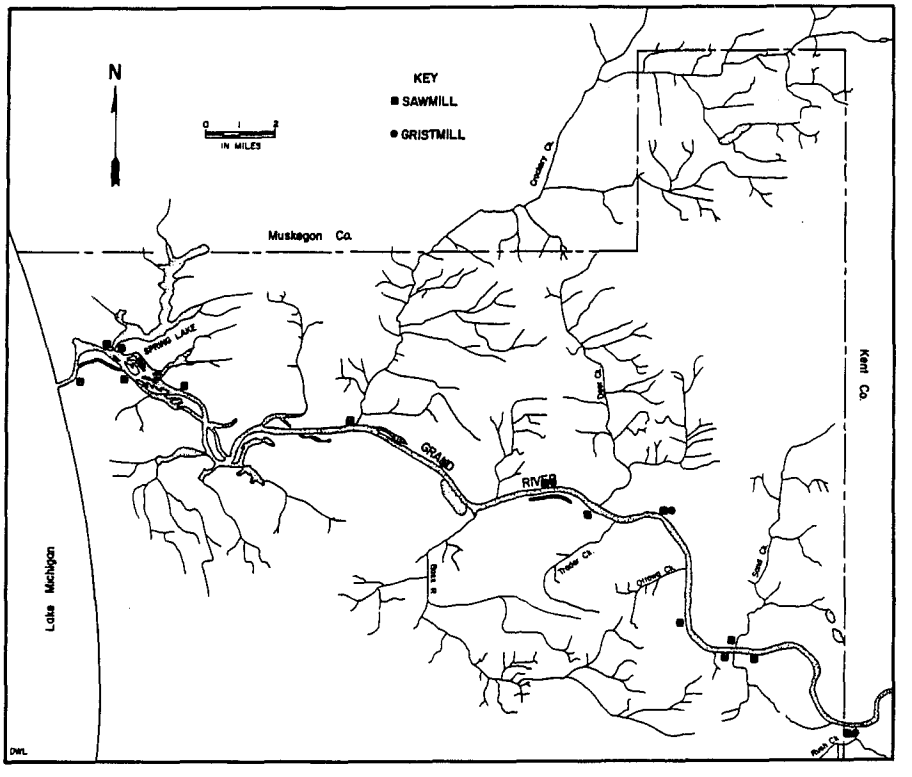



**FIGURE 38**
Sawmills and Gristmills along the Grand River

schooner. This method eliminated some of the transportation costs of moving sawed lumber to the port at Grand Haven.

The nature of the lumbering industry, or any material-oriented industry, is such that location in respect to transportation is a major economic factor. Langhorne (1971:77) in his study on "Mill Based Settlement Patterns in Schohaire County, New York" states that

> An industry will be material oriented (i.e. located at the source of its chief raw materials with gross materials ) if there is a large weight loss during manufacture and if the raw material makes up a relatively large portion of the cost of the finished product.

Based on this statement and on market oriented industries Langhorne (1971:78) developed some test implications:

> First, sawmilling and forestry is material oriented industry and a sawmill location depends upon easy access to raw materials.
>
> Since the material is gross, the sawmills should be located at its source, in or near the forest. The result of this is that saw-mills are dispersed over the landscape, in direct association with forest areas, but with no direct association with settlements. This is the typical pattern for extractive industries.
>
> Secondly, sawmills should appear first in an area (clearing land) followed by gristmills. This should be seen as a greater frequency of sawmills, to gristmills, changing over time as more land comes under cultivation as the population increases.
>
> Thirdly, sawmills should decline in absolute frequency with the depletion of the forest and with the increase in size and number of settlements in the area.
>
> Fourthly, gristmills are a market oriented industry and should be located within a market area. This results in gristmills being located in or near settlements.
>
> Fifthly, there is a type of urban agglomeration around gristmills as other industries (blacksmith, cobbler, etc.) develop to take advantage of the market resulting from people coming in to process grain at the mill.

> Finally, gristmills should be more or less permanent establishments unless drastic changes occur in the population, the market, or in agricultural production.

By applying Langhorne's model to the saw mills of the Lower Grand River Basin, its usefulness in studying similar systems and for explaining patterns of settlement in the Grand River Basin system can be tested.

The location of sawmills in the Grand River Basin provided easy access to forest resources. The mills were in or near the forest and thus close to the source material. While these saw mills were located in direct association with the forests, they were also directly associated with the river system. As mentioned earlier the saw mills are associated with the river landing settlements along the river.

Saw mills appear along and near the Grand River in the 1840s, while the few grist mills along the river appear during the l850s and later. This follows Langhorne's (1971:78) assumption that "saw mills should appear first in an area (clearing land) followed by gristmills." The saw mills along the Grand River decline with the depletion of the forest resource. This decline begins in the early 1880s and continues until the timber was exhausted in the late 1890s and early 1900s.

Grist mills in the Grand River Basin were located in or near the settlements of Eastmanville, Lamont, and Jenison (see Figure 38). These three settlements exhibit the type of urban agglomeration that Langhorne (1976) describes as the development of other industries (blacksmith, cobbler, etc.) so as "to take advantage of the market resulting from people coming in to process grain at the mill." This urban agglomeration results in an aggregation of a large number of domestic buildings around the industrial center.

Landings with only saw mills exhibit this same type of urban agglomeration on a smaller scale with a smaller percentage of domestic buildings. The saw mills at these landings are associated with some domestic activity as they are in most cases associated with school houses. Charleston, Blendon, and Haire's Landing all had saw mills and no grist mills, according to maps and records. At Charleston Landing other industries developed around the saw mill including a store, blacksmith, spoke mill, and carpenter shop; while at Blendon Landing there were several industries including a store, blacksmith, brickyard, and shipyard. At Haire's Landing, a store, blacksmith, and wheelsmith (or whitesmith) developed around the saw mill.

Finally, the settlements with grist mills along the Grand River were the larger, more permanent, establishments although these settlements did decline, to some extent, in the 1890s with the exhaustion of the forests. Unlike the landing settlements with grist mills, those landings based around saw mills disappeared with the exhaustion of the timber resources in the Grand River Valley.

Two major events took place during the l9th century that had significant impact on the river landing system. These events were the introduction of the railroad into Western Michigan and the depletion of the timber resources in the Lower Grand River Basin.

The Detroit, Grand Haven, and Milwaukee Railroad reached Grand Rapids in 1858, with the first train arriving on June 27, 1858 (Chrysler 1975:19). The first train reached Grand Haven from Grand Rapids in November of 1858. The introduction of the railroad into the Lower Grand River Basin brought the decline of river transportation and the river boats. Chrysler (1975:19) states that during the period between 1860 and 1870 there were only five steamers put into service on the Grand; and that after 1870, there were never

more than two steamers running on the Grand at any one time. Numerous attempts were made in the l890s to revive river travel, but these attempts failed.

During the planning stages of the railroad numerous towns bid for the railroad. Both Eastmanville and Lamont bid to have the railroad routed through their towns, but the railroad elected to go through Coopersville and Nunica, both located about four miles north of the river. The loss of the railroad was a deathblow to these settlements; and with the decline of river transportation, many other landings declined and disappeared. The emphasis of settlement shifted to locating industries and businesses along the railroad.

The output of lumber from the saw mills along the Grand River peaked around 1882. After this point production declined drastically, and mills began to close. By the turn of the century, the timber resources of the entire Grand River Basin were depleted. The last run of logs down the river was in the 1890s. While the coming of the railroad marked the beginning of the decline of river transportation, the depletion of timber and end of the lumber industry represented the final chapter of the river landing system and the end of the unity formally attached to the Grand River drainage basin unit.

The river basin system of settlement did not change overnight but evolved through changes in its components like those just mentioned. The river landing system was only one stage in the overall settlement system of this region. This settlement system impacted, and was impacted by, the drainage basin ecosystem as outlined in Chapter II.

The river landing system existed within the context of the drainage basin system. However, the components of these systems, examined in this Chapter, are not the entire set of components. The set of relationships between these components is also just a portion of the systemic connections that exist. An attempt has been made to look at some of the

major factors of the system and the functional connections of these components as related to river landing settlements.

# CHAPTER IV

# CONCLUSION

In Chapters I and II the historical background of river landings and their environmental setting was explored. Through historical research the landings have been identified and located in both space and time. The chapter on the background histories of these landings, while far from being a complete historical treatise on river landings in Ottawa County, is the first compilation of this data to be published. Further research needs to be carried out to construct complete histories of these landings, and due to the lack of documentary evidence much of this information will no doubt be provided by the archaeological records from future excavations at these sites.

A general typology was developed using data on buildings and activities at the landings along with the size and economic focus of the landings. As with all typologies the one constructed here will no doubt be improved upon and refined as new information is available and new ideas develop. This typology was helpful in organizing the historical data so as to determine any regular pattern of settlement along the river that might be revealed through the historical documentation. Three main types of landings were encountered: larger urban centers or service centers consisting of many different types of businesses and services, smaller settlements that developed around saw mills and farming, and small settlements or single houses that were involved in logging or farming with no saw mills present.

The landing sites were then studied within their environmental context to determine if a settlement pattern existed that was tied to specific environmental components. While

a pattern was developed using environmental components, along with the typology from Chapter I, it is rather general for a number of reasons. First, the environmental components used were quite homogenous over the entire county resulting in similar environmental conditions at most of the landings. Second, the components used were not all of the environmental components but just a set of components thought to be applicable to the settlement of the Grand River Valley system. It is possible that the components that were not investigated here are variables in determining settlement location. These, as yet uninvestigated components, could be discovered by doing a complete ecological study of each landing site, a task of greater magnitude than allowed for in the present study.

The settlement pattern developed here, regardless of its small set of locational criteria, should be tested in two ways. It should be tested further along the Grand River using archaeological data and on other river systems to determine its usefulness as a locational model in other geographic locations.

As was discussed in Chapter III, the settlement system was tied to factors other than the environment such as economic factors. Langhorne's model was tested on the Grand River landing system as it is based on an economic model of settlement. His model postulates two types of river landing settlements, the first type was dependent on the lumber industry and consisted of a saw mill or saw mills and a few supportive services such as a blacksmith, or boarding house, while the second type contained an aggregation of various industries in association with a grist mill. These settlements were larger and more permanent with more domestic structures. While the second type of settlement was also dependent on the lumbering industry to an extent, they were more diversified urban centers

reflecting a market orientation. Both types of settlements were tied in various ways to the river for transportation of goods, people, and communications.

Langhorne's model proves useful for studying sites at a regional level, such as the Grand River Valley, as it presents an economic viewpoint and orientation to the study of settlement systems. While Langhorne's model is useful, it should be used in conjunction with an ecological approach so as to include and investigate both economic and environmental factors of the system. The resource system that provided the material for the growth of the saw mills and grist mills is as important as and related to the economic utilization of the resource itself. Both of these factors, however, are controlled to some extent by the decision-making process of man.

The investigation of the historical and environmental components of this system indicates that river landing settlements are themselves components of the drainage basin system and that their interaction in this system is a reflection of the interaction of man and the environment. The interaction and unity of the river landing and basin systems was modified by the introduction of a new transportation system and the depletion of a key environmental resource.

Early settlement of man in the basin was closely related to the river system for reasons of transportation and resource availability. The demand for the timber resources of the basin resulted in the development of a large lumber industry. River locations were beneficial to this material-oriented industry. Saw mills were built along the river to take advantage of the transportation system that the river provided.

With the introduction of the railroad to this system of settlement, the system began to be transformed. The trend of settlement shifted away from the river toward the railroad

lines and the towns developing along them. The natural transportation network provided by the river system was being replaced by a man-made transportation network of steel rails. The shift of settlement away from the river was also enhanced by the depletion of the timber resources. Saw mills closed and people relocated around industries that were located along and supported by the rail system.

The unity of the drainage basin vis-a-vis human activity was gradually lost as the emphasis of settlement moved away from the river. Although it goes beyond the scope of this study, the river never lost all links to human activity. These links gradually shifted over time to reflect other interactions. This shift can be seen in the gradual transformation of the river, that was once a vital transport system for man, into a disposal system for man's waste. An apocalyptic article published in 1905 foresaw the future of the river as a waste disposal system (Chrysler 1975:49)

> **A Glimpse in the Future: 2005 A.D. Sewer Once A River**
>
> A Mr. Billjones makes one statement that, seeming almost unbelievable in many ways, is undoubtedly true. He says that the present trunk sewer which enters the city at Plainfield Station and empties into Lake Michigan at the suburb of Grand Haven was once called the Grand River and that the Village secured its water supply there. The river, a century ago, was noted for its beauty. Billjones remembers well when in 1945 it was decided to build a cement covering over the river and use it for a sewer. The exact line of the old river would be hard to find now, as great manufacturing and office buildings have been erected on it.
>
> In the early days there were factories scattered along the river bank, and bridges connected with what were known then as the East and West Side.

Using an ecological approach for this study has provided insights into the river landing settlement system. The ecological approach with its use of systems theory can be

a valuable research framework for other regional studies of historic sites. Historic sites can be investigated in relationship to various environmental factors. These environmental factors are related to various aspects of historic sites at the regional level.

The regional model of river landing settlements developed in this study should be applied to other similar sites and regional systems. The relationships that have been investigated here can be tested further by applying them to the archaeological record. This approach encourages the development of regional frameworks for researching nineteenth-century historic sites.

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## APPENDIX A
## GLACIAL HISTORY OF OTTAWA COUNTY

The retreat of the Lake Michigan Lobe was from east to west. When the ice front had retreated to the position of the Outer Lake Border moraine it deposited the moranic hills of the eastern part of the county. At that time the Grand River was flowing south from the vicinity of Grand Rapids past Fisher (Kent County) and Dorr (Allegan County) to the Rabbit River and the Kalamazoo River. Retreat with deposition of a ground moraine was halted in western Chester township (and farther north) (Figure 32A) and a line of glacial drainage carried sand and gravel between the two moraines as far south as northern Jamestown Township. The final stand of the glacier in Ottawa County (Figure 32B) was on a line from north central Polkton Township. In its melting to this stand, the melting ice had laid down a ground moraine between the earlier moraine and the line of its halt. As the glacier readvanced slightly, it pushed up a part of the ground moraine into hillier land and added more debris to it, thus building the last slender moraine. The melt waters poured along the ice front carrying the waters of Crockery Creek past Coopersville to the Grand west of Jenison and thence down the valley of the Black to Lake Chicago (the ancestor of Lake Michigan).

The last retreat of the Lake Michigan Lobe in Ottawa County was a stagnation of the ice, melting in place, and so deposition of a gently undulating ground moraine. Eventually the ice lobe retreated into the Lake Michigan Basin and the waters of Lake Chicago, the ancestor of Lake Michigan, flooded the county. The Grand River broke through the moraine at Jenison, took its present course across the inner moraine, carried morainic material, well sorted, and built the great delta (on which Allendale is located) into ancestral Lake Michigan (Figure 32C). The beaches of this lake bordered the eroded ground moraine from northwestern Polkton Township, past Lamont to the Grand River in south Talmadge Township, to the southeastern corner of Allendale Township, almost to the Black in Georgetown Township, across Blendon Township into Olive Township, and south past Holland.

Further retreat of the Lake Michigan Lobe lowered the lake to the beach crossing central Crockery, Robinson Township, then west to near Agnew and south to the Black River. On the beds of the glacial lakes the sediments of western Ottawa County were laid down. Dunes were built on the glacial lake shores and on the modern shores of Lake Michigan. The drift of the lake plains ranges in thickness from 70 to 180 feet but it is from 175 to more than 300 feet thick in the moraines.

(Martin 1958:1-3)

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