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THE BAILLY AREA  
of  
PORTER COUNTY, INDIANA

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The Final Report of a geo-  
historical study undertaken  
on behalf of the Indiana  
Dunes National Lakeshore

by  
Sarah Gibbard Cook  
and  
Robert S. Jackson  
of

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ROBERT JACKSON & ASSOCIATES  
EVANSTON • 1978

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# THE BATTLE AREA

## POTTER COUNTY, INDIANA

The final report of a geo-  
historical study conducted  
in behalf of the Indiana  
State National Laboratory

by  
Gerald Clifford Cook

Robert S. Jackson

ROBERT JACKSON & ASSOCIATES  
EVANSTON - 1978

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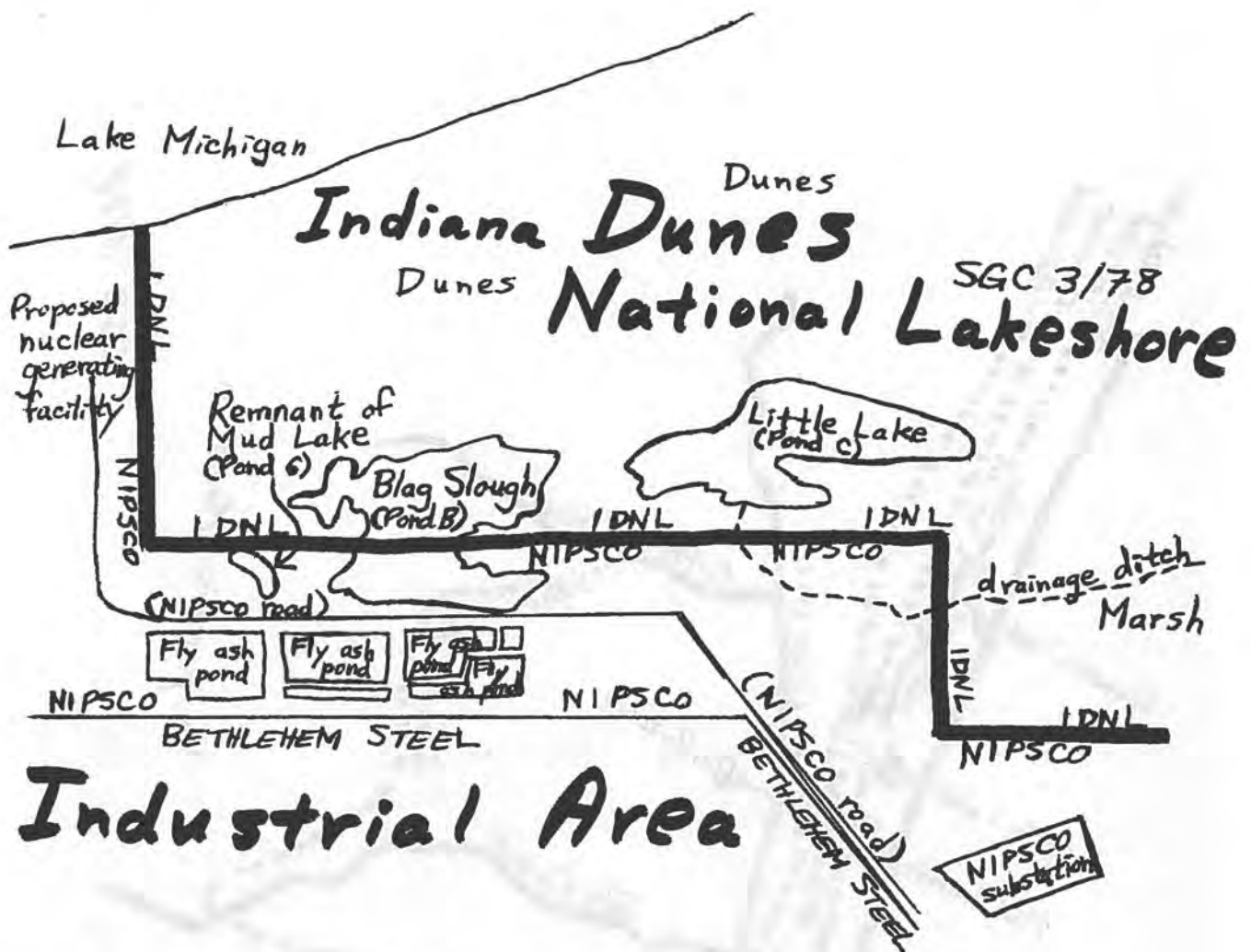
Sarah Gibbard Cook  
Robert S. Jackson

Evanston, Illinois  
June, 1978

"The landscape we see today is a collection of legacies from the past, some from geological, some from historical, times." -- H. D. Darby

See p. 5.





- A harsh industrial boundary -

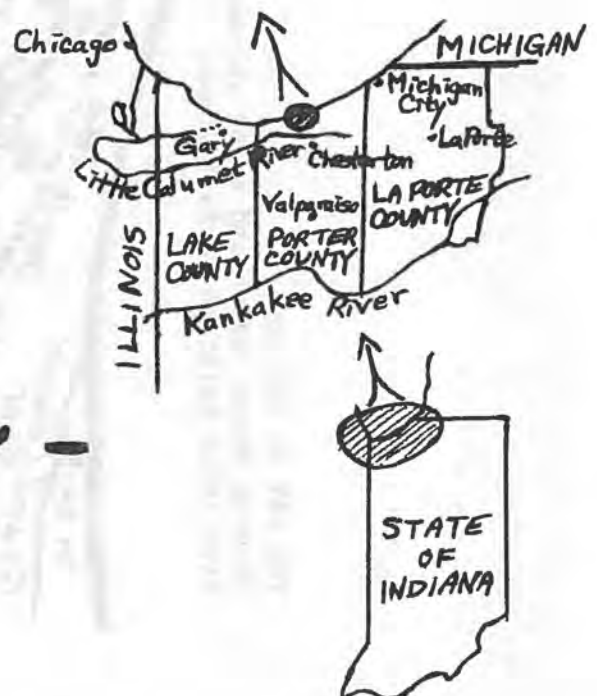


Figure 1

THE LAY OF THE LAND,  
showing beach ridges and major streams,  
with their relation to Baillytown.

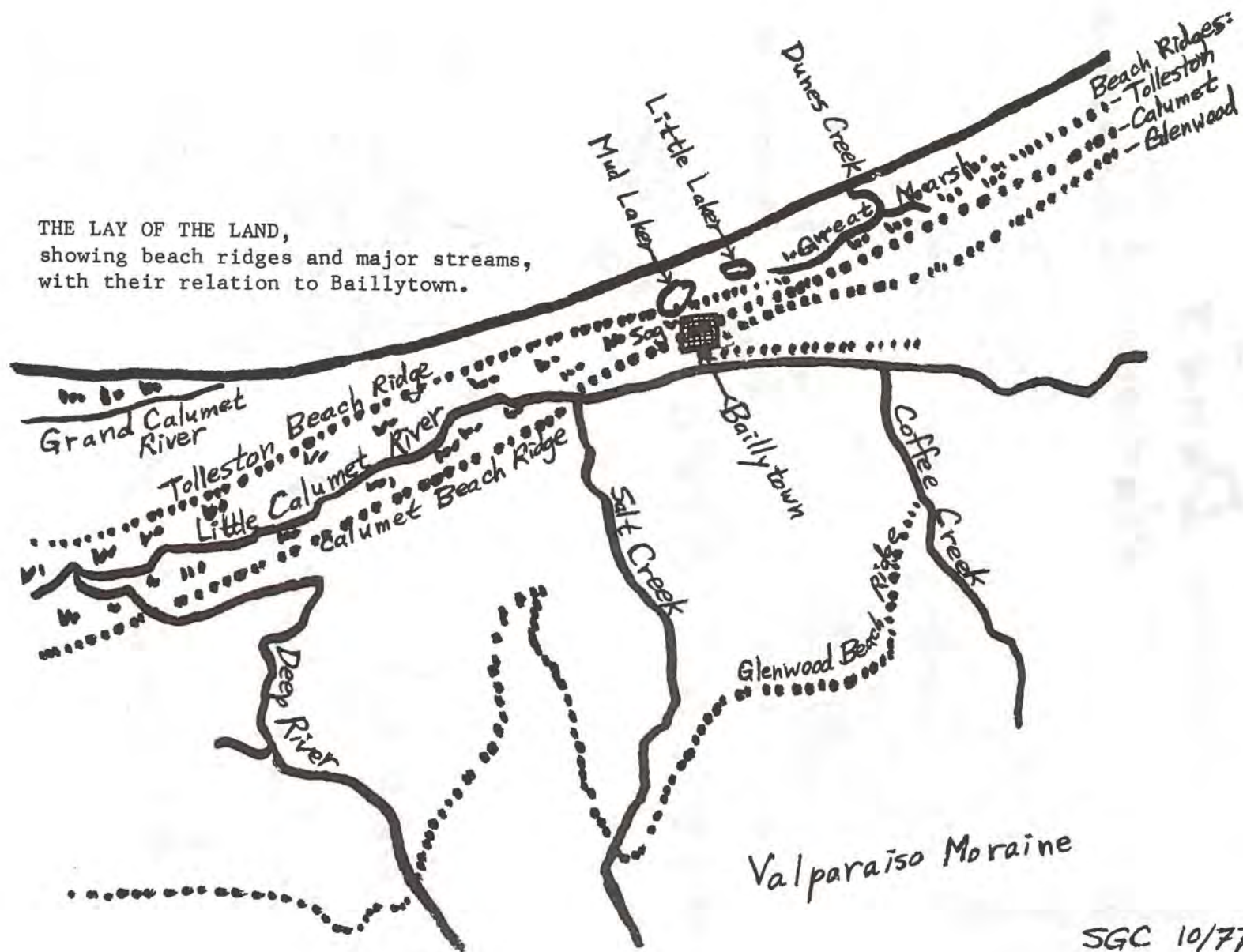


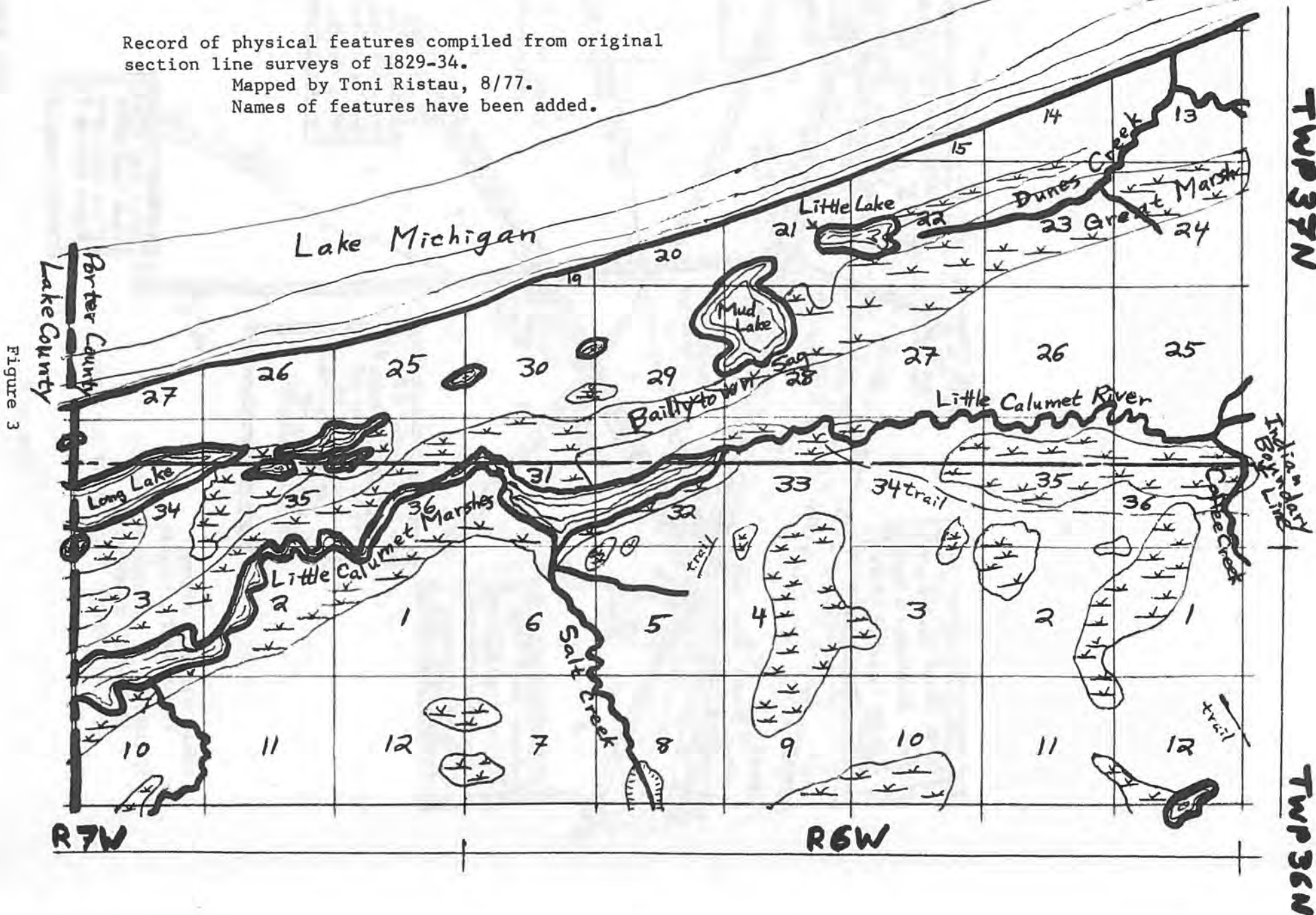
Figure 2

SGC 10/77

Record of physical features compiled from original  
section line surveys of 1829-34.

Mapped by Toni Ristau, 8/77.

Names of features have been added.





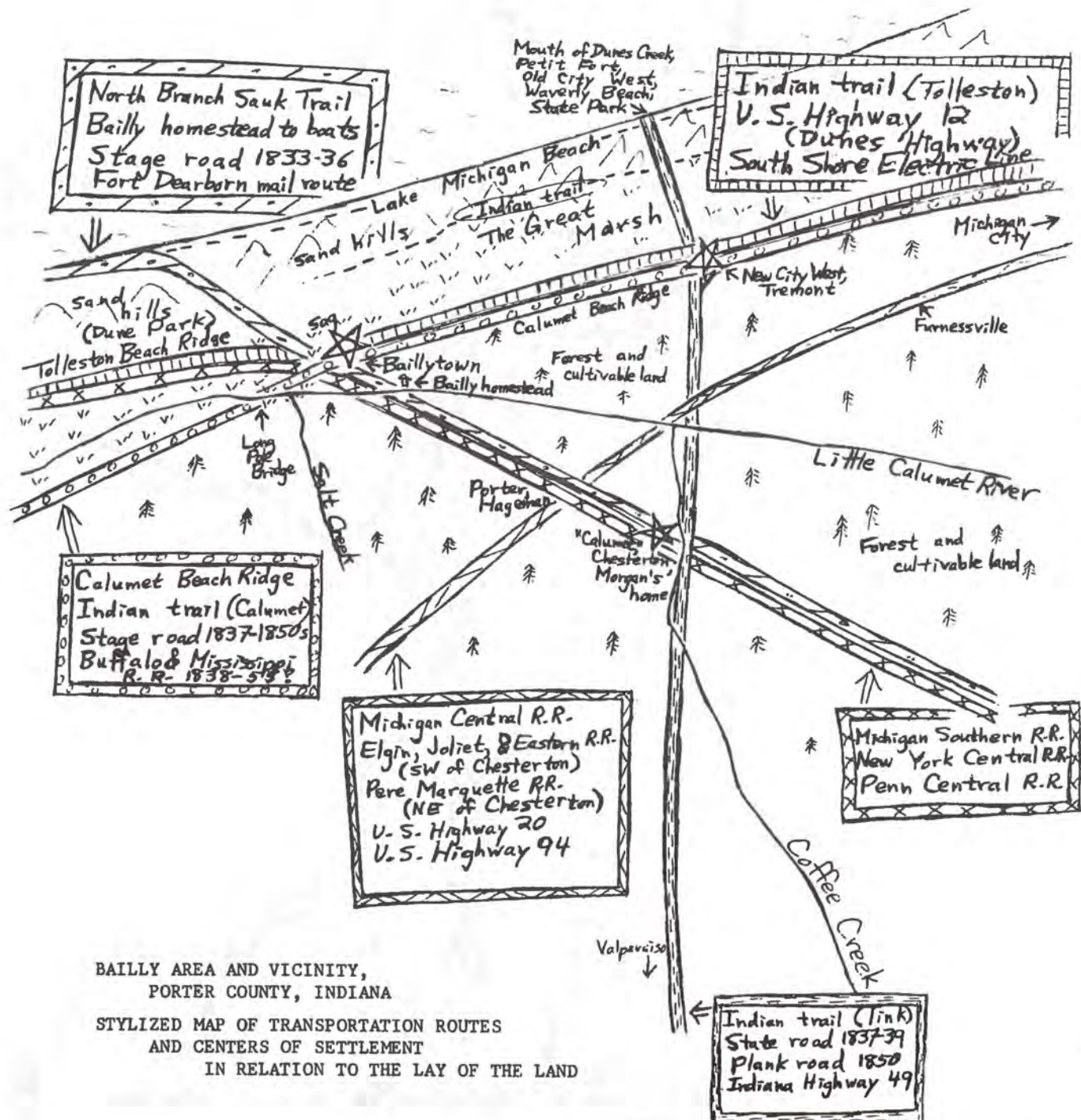


Figure 4



R.VII

RVI

R.V

Extract (northern  
portion) from Abbot's  
map of Porter County,  
1855, with mills and  
major transportation  
routes.

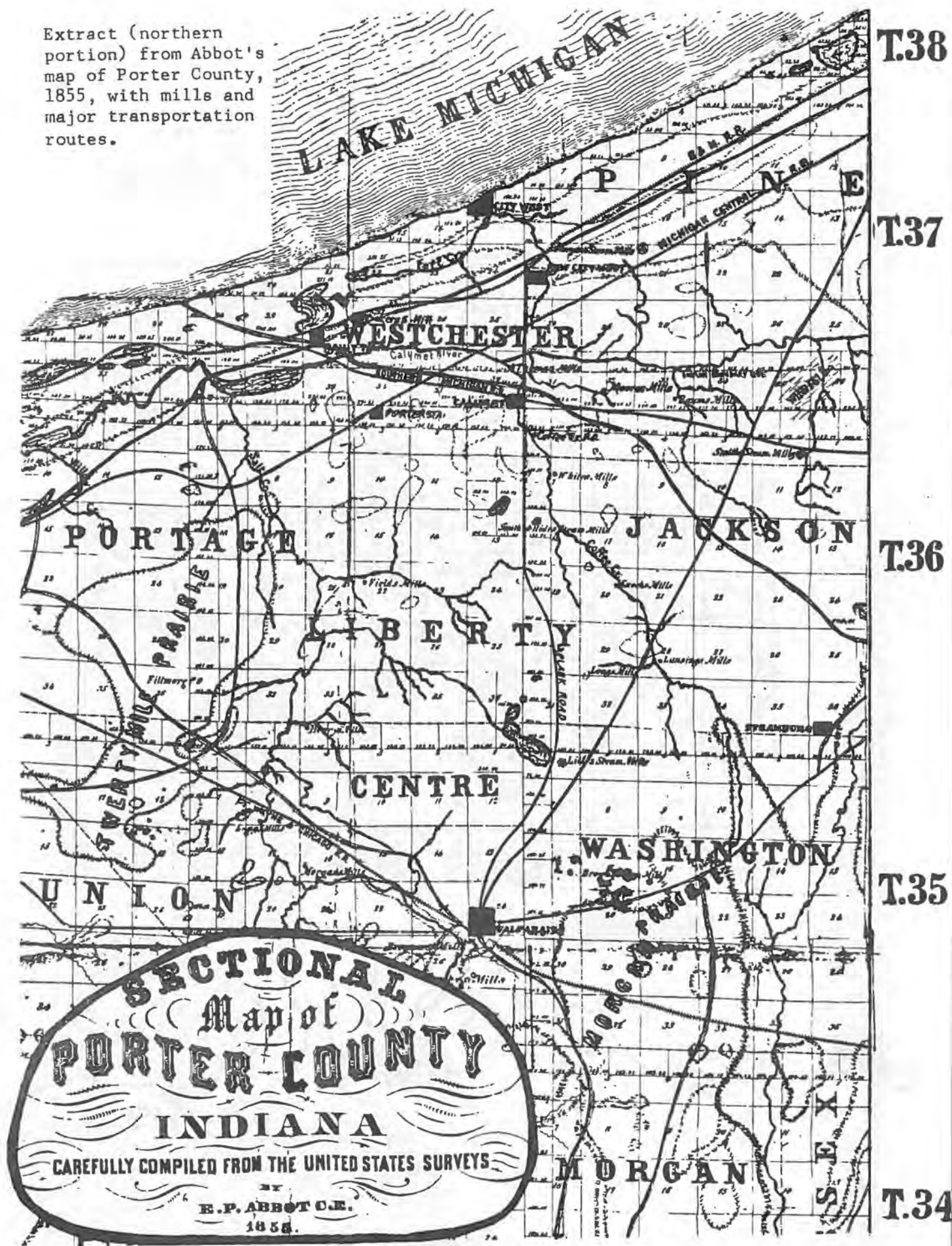
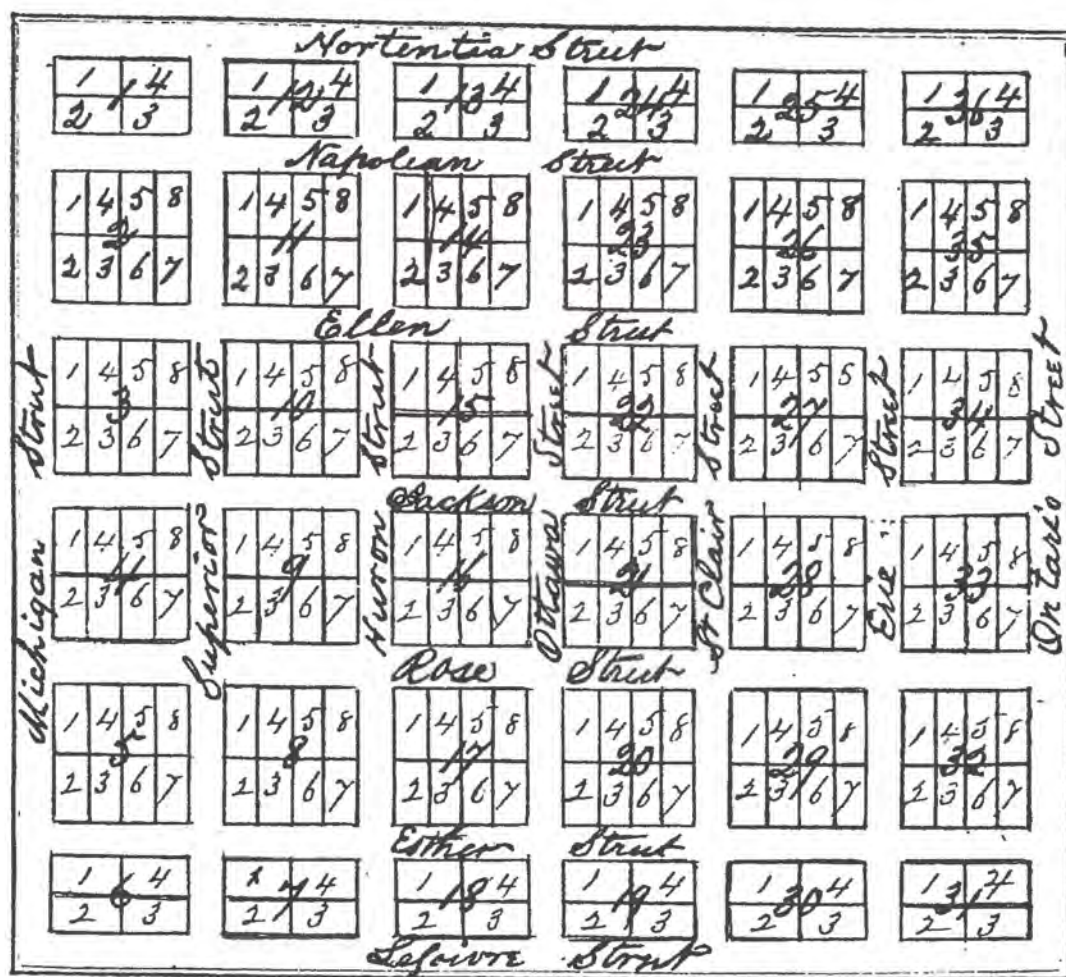


Figure 5

# PLAT OF BAILLYTOWN

Plat recorded as "Town of Bailly" by LaPorte County recorder, December 10, 1834. Description supplied by Joseph Bailly, proprietor, dated December 14, 1833: "The Village is laid out at right angles, corresponding with the great Cardinal points of the Compass, with the Magnetic Variation."



Var: 6° 6'



Figure 6



## Figure 7

WILLIAM S. TANKE  
COUNTY SURVEYOR  
REVISED OCTOBER 1979

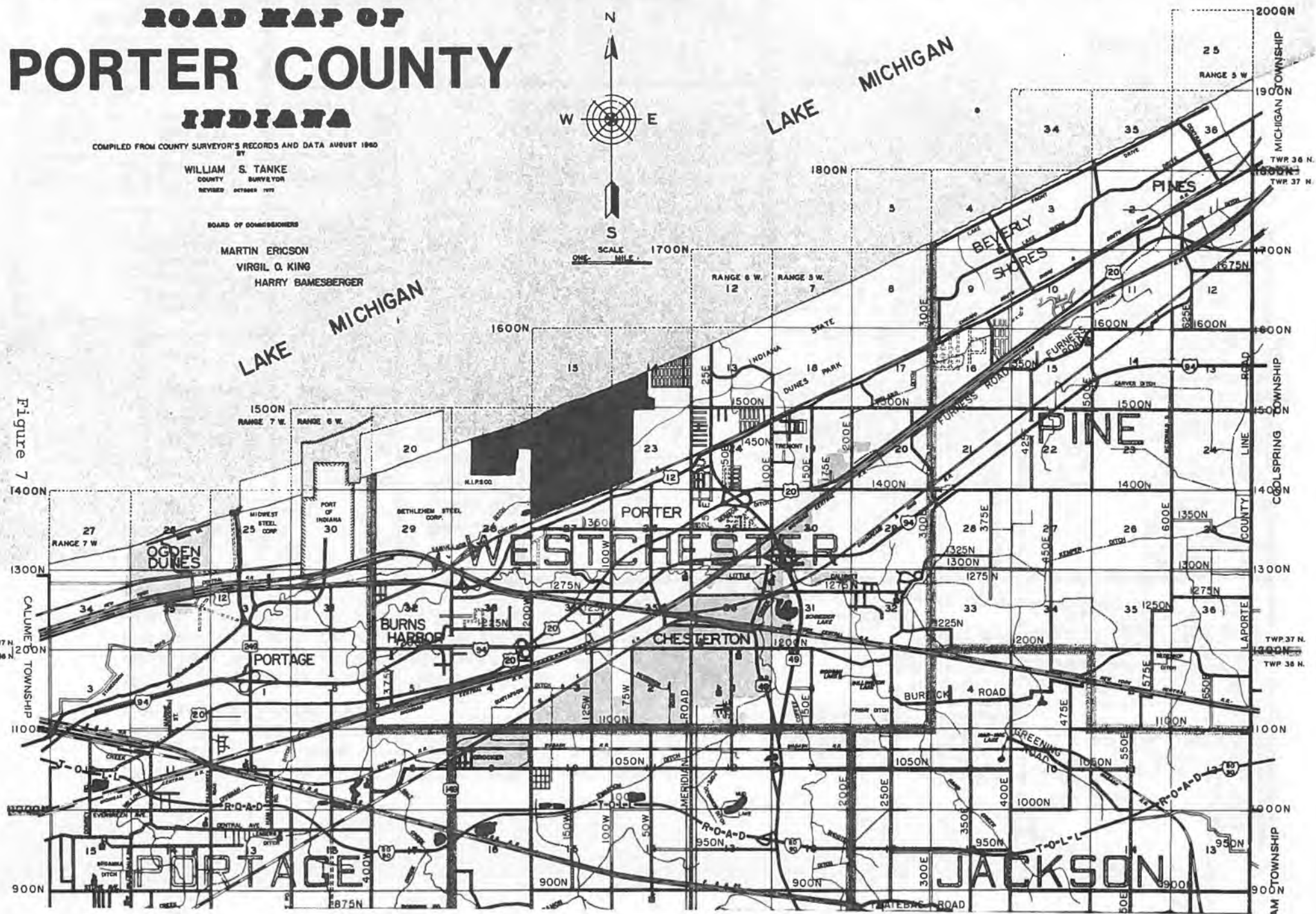
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SCALE 1700N  
ONE MILE

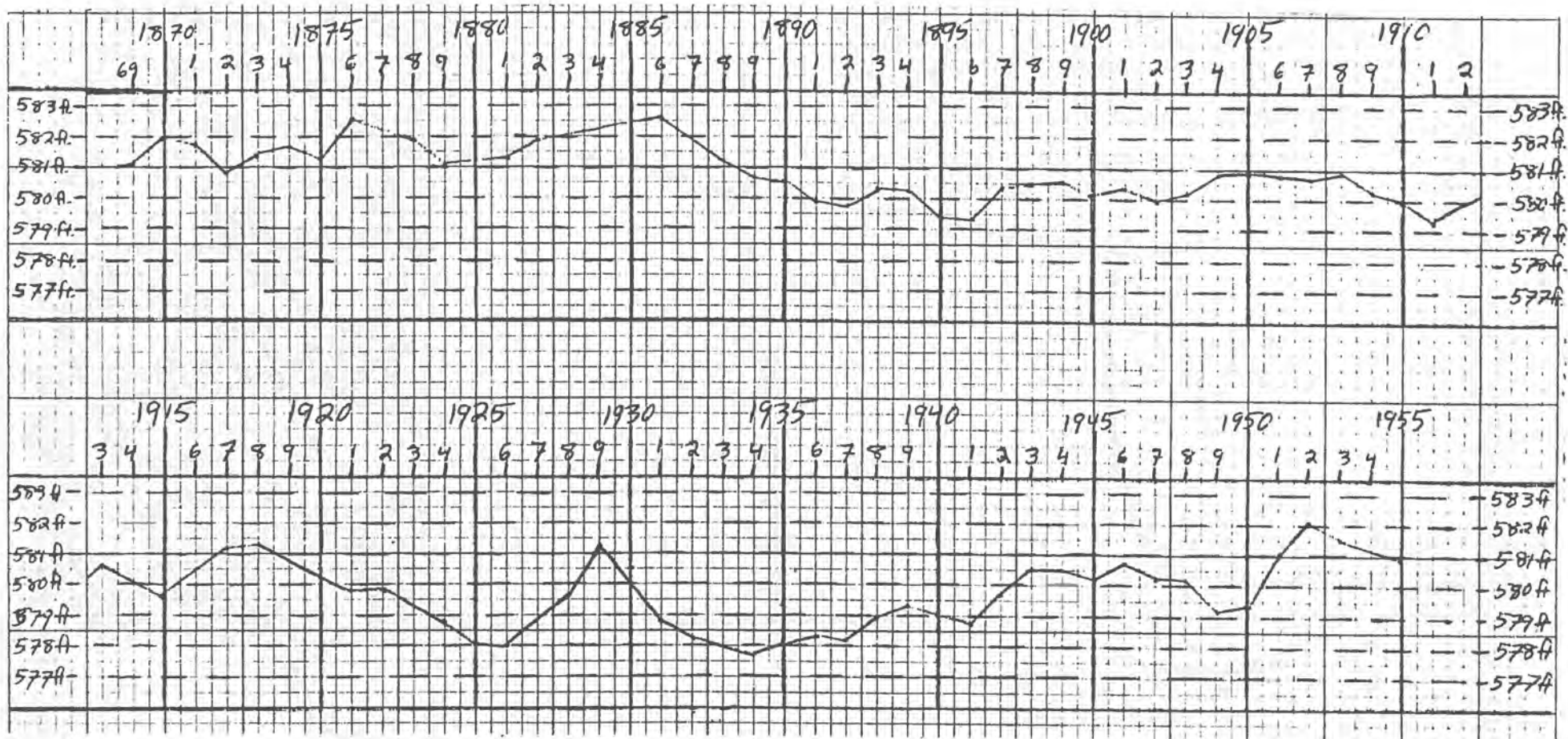
LAKE MICHIGAN











Water levels in Lake Michigan, 1869 to 1955. This graph uses yearly mean levels and does not show seasonal changes.

Based on Illinois Department of Public Works and Buildings, Division of Waterways, Interim Report for Erosion Control, Illinois Shore of Lake Michigan, 1958. Plate 5.

West boundary of Section 22

A.P. MELTON, CITY PLANNER  
1924

0 200 400 600 800 1000

SCALE IN FEET

 $1 \text{ mile} = 9 \frac{1}{4} \text{ inches}$ GENERAL PLAN OF DUNE ACRES  
TOWN OF DUNE ACRES, INDIANA (extract)

This map shows the planner's intention of draining both Little Lake and the depression south of it by ditches leading to Mineral Springs Road, leaving a small pool in the center of the Little Lake depression. The planner intended the golf course to be approached by a road from the north, coming from the residential part of Dune Acres.

NES mid. line of Sec. 22

MINERAL SPRINGS ROAD



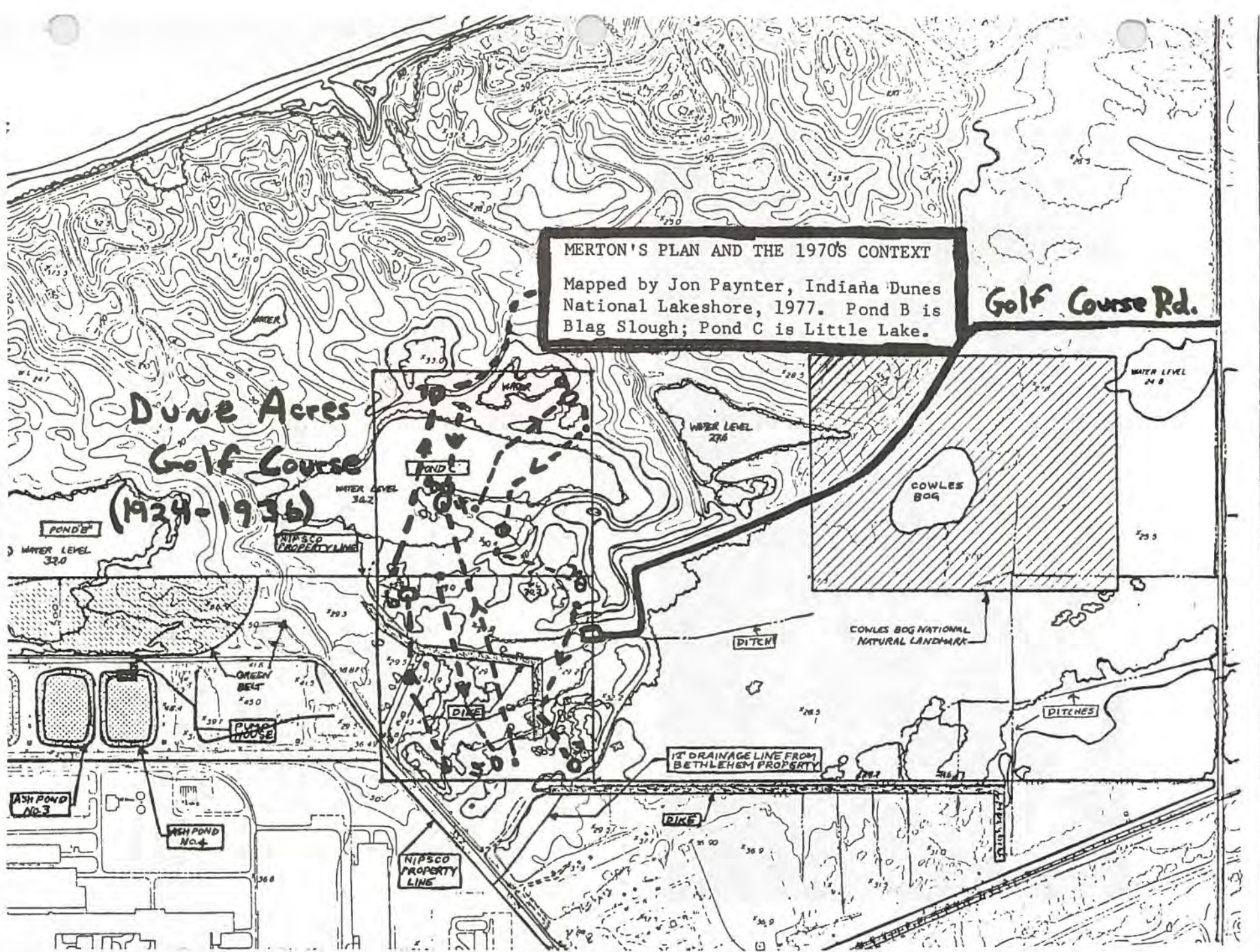


Figure 11





11/9/38 BFP-2 -- 15 1:20,000 1"=1667'

AERIAL PHOTOGRAPH TAKEN NOVEMBER, 1938

- A - Mud Lake
- B - Blag Slough
- C - Little Lake / Golf Course
- D - Cranberry Swamp / Golf Course
- E - Blag's Shack among the Sand Hills
- F - Golf Course Road / Footpath
- G - Tamaracks / Cowles Bog
- H - Golf Course Ditch
- I - State Ditch in the Great Marsh
- J - Tributary Ditches
- K - Samuelson Ditch in the Baillytown Sag
- L - Cultivation Indicated by Light Patches
- M - South Shore Tracks
- N - U. S. Highway 12 on the Calumet Beach Ridge

Mineral Springs Road is just off the photograph to the right.  
 The Town of Dune Acres is above right.  
 Pencil line indicates NIPSCO road and NIPSCO / IDNL boundary. Compare figure 1.

Figure 12



## CHAPTER I. A GEO-HISTORICAL STUDY

This document is the final report of a geo-historical study of the Bailly area of Porter County, Indiana, undertaken on behalf of the management of the Indiana Dunes National Lakeshore.

### A. Forces Directly Shaping This Work

The work was originally defined in the authors' proposal of September 12, 1977,<sup>1</sup> addressed to Mr. J. R. Whitehouse, IDNL Superintendent. The five month project was authorized on September 21, 1977, by Purchase Order number PX6000-7-0887 from the Midwest Regional Office of the National Park Service (NPS), with an effective date beginning September 28. After a series of monthly interim reports and consultations, this final report was submitted in the spring of 1978.

The proposal defining the work, which grew out of early consultations with members of the NPS staff, read in part as follows:

This letter presents a proposal for historical research into the effects of human activity on the land of the Indiana Dunes National Lakeshore (IDNL) and certain associated areas . . . . The geographical and temporal scope of this proposal is a response to our understanding of particular problems associated with the "harsh industrial boundary" between the properties of IDNL and the Northern Indiana Public Service Company (NIPSCO). . . .

The Indiana Dunes National Lakeshore lies in Indiana between Gary and Michigan City, at the southern end of Lake Michigan. In 1966, Congress first authorized the acquisition and administration of IDNL under the National Park Service, to preserve for the use of the public certain "areas of scenic, scientific, and historic interest." The statute provides "that the lakeshore shall be permanently preserved in its present state," conserving designated sites of historic interest and "the unique flora and fauna or the physiographic conditions now prevailing."

The southern shore of Lake Michigan has a unique variety of natural features. Glaciation and former Lake Michigan shorelines have left their mark in the sand dunes and wetlands. The diversity of fauna and flora reflects the shore's position as a meeting point of several quite different ecological regions. At the same time, the location has long held special attractions for human use. European-American pioneers began settling

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<sup>1</sup>The proposal is erroneously dated "1976" in the form submitted.

the area more than a century and a half ago. Lake, land, and air transport have flourished. With the growth of Chicago and neighboring cities, the surrounding area has become one of the most densely populated areas of the world. The lake-shore property for many miles south of Chicago, and bordering on the IDNL property itself, has become a highly productive and equally threatening industrial complex.

This conjunction of natural and human qualities poses many difficult questions. How are the statutory phrases of 1966 -- "in its present state," "conditions now prevailing" -- to be interpreted? Do they refer primarily to a fixed static situation or to a set of ongoing processes? How much and by what means should the Park Service attempt to protect the air, water, visual quality, etc. from alteration by humanly-created conditions outside the Park boundaries, or from the very people for whose benefit the Park was created? . . .

To formulate such questions and to reach wise and informed judgments about them requires an abundance of information, historical as well as scientific. Our proposal is aimed at providing some of this historical information, focusing as closely as possible on those questions which will be most relevant to the Park management's decision making in the near future.

According to our present understanding, this purpose would best be served by concentrating our studies on that part of the Lakeshore known as the Bailly area, and particularly on the land between Lake Michigan and the present and proposed electrical generating plants of the Northern Indiana Public Service Company (NIPSCO). This vicinity includes the town of Dunes Acres, certain NIPSCO properties . . . which have been approved or contemplated for acquisition by the Lakeshore, the Cowles Bog National Natural Landmark, and a variety of other wetlands, dunes, and beaches in and near the National Lakeshore. Here the proximity of the NIPSCO facilities, and the Bethlehem Steel plant beyond, raises this need for information in a direct and challenging form; perhaps most obviously, it is important to know how the various man-made drainage processes have functioned here. The precise scope of the geographical area to be considered as well as the precise questions to be asked of it must depend upon the information we find, and upon the character and priority of the concerns raised in our further discussions with the Park management.

At present, it appears that we would direct our attention toward when, how, and why changes were made in the shape of the land and waterways, the forest cover, the soil composition, and the expanse of wetlands, with particular reference to drainage. We would also seek evidence of the effects of trapping, fishing, logging, and agriculture in diminishing certain



plant and animal species, or introducing new ones . . . .

Members of the Lakeshore staff raised many more specific questions in the course of our work. How frequent were fires in the Bailly area? When did wolves disappear? Was any of the land north of U.S. Highway 12 ever farmed? Did cranberries grow here? When and why were the drainage ditches dug that can be seen in the earliest aerial photographs taken here in 1938? What is the history of water in the lakes near the boundary between NIPSCO and IDNL? Where were the mineral springs for which Mineral Springs Road was named? What is a corduroy road?

The brief time period available for this project limited the number of these questions we were able to answer very fully. Our raw historical data was almost all collected and presented in writing by the time of our consultation of January 6, 1978. As time ran out for this phase of our study, our sources were still yielding a high rate of return in new and pertinent information. Consequently, our historical information should not be regarded as exhaustive, nor our formulation definitive. This report offers a partial history of the area, and is "final" only as the final report contracted for by the NPS Purchase Order mentioned above.

As the work was shared between the authors of this report, Sarah Gibbard Cook was largely responsible for doing the library research, preparing the graphics, and writing most of the historical portions of our study, including chapters II through V, the bibliography, and the list of maps consulted. Robert S. Jackson was responsible for the initial contacts with IDNL and most of the continuing business consultation arrangements; he did most of the interviews with living people, constructed the list of people consulted, and was largely responsible for writing this first chapter except the original proposal (a joint effort). Each of us has examined and revised the written work of the other for this final report. We have received valuable help from many people, named in the list of people consulted. However, we take sole responsibility for this writing and its faults.

As the proposal suggests, the precise scope of our work could be laid out at its inception only in rough form; the exact formulation of a subject takes place in its final product. Among the considerations affecting the formulation were not only the particular pieces of information sought, but also definitional and organizational questions such as these: What deeper concerns motivate the work? From what perspective do the authors approach their undertaking? On what basis is the scope of the study to be determined, and how will its vocabulary be selected? By what principle will the material be ordered and grouped into chapters? As our study and reflection proceeded, certain responses to these questions took shape in our minds.

## B. Motivating Concerns

The narrow and broad concerns motivating this study are barely indicated above in the quotations from the proposal which defined the work. Certainly the struggle with NIPSCO over the seepage of water from their fly-ash ponds onto the IDNL property played a role in our consciousness -- from reminders in the daily press<sup>1</sup> at least as much as from the Park staff. The bearing of the history of water levels and drainage projects on that dispute seemed clear enough. However, it finally seemed more important to grasp the character and meaning of what lay behind the whole set of complex management concerns which depend in a measure on the history of the land, of which the NIPSCO conflict is but a specific instance.

The character of these management concerns derives from the public will expressed through our political process and expressed in various Congressional acts, including especially Public Law 89-761, 89th Congress, S. 360, of November 5, 1966, beginning: "Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to preserve for the educational, inspirational, and recreational use of the public certain portions of the Indiana dunes and other areas of scenic, scientific, and historic interest and recreational value in the State of Indiana, the Secretary of the Interior is authorized to establish and administer the Indiana Dunes National Lakeshore . . . ." In other words, the legislature in 1966 asked the executive arm of the government to "preserve" the park lands for the public "use." The permitted uses are those by which little change is exerted upon the land -- "educational, inspirational, and recreational." All other uses are specifically excluded as the legislation later makes clear -- for example, industry, commercial establishments, and most permanent settlement. The overall purpose is to provide for various uses by present and future populations in such a way that the land, to cite language used elsewhere, may be "preserved in its present state." This executive task has been placed in the hands of the National Park Service.

But in order to carry out this mandate, one must answer an apparently simple question: What in fact was the state of the land in 1966? The question is not easy to answer. The state of any tract of the earth's surface is inevitably a transitory phenomenon; its condition at any particular moment exists only as one stage in a process. Hence, we cannot drive alongside the Park today and assume that what we see is what would have been seen in 1966. Did it rain or shine during the day before our observation? Is it winter or summer? The effect of all such events, and many more, determines what we see on any particular day. How then are we to know of all such events during the years since 1966? Of greater importance yet for our study, how are we to know of all the events which preceded 1966

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<sup>1</sup> For example, Chicago Tribune, Sept. 13, 15, 24, Nov. 13, 1977.



whose sum total produced the landscape of that year? All of the epochs of the entire cosmos have produced that landscape.

Fortunately, the largest periods of time comprising that totality lie outside our purview, namely the periods of prehistoric time. Recent generations of geologists have accounted for the principal features of those periods, and others continue their work. Our concern is restricted to the relatively brief period in the recent past during which the activities of European-Americans have had an effect.

### C. Geo-History and Contemporary Consciousness

During the course of our studies, we have become aware that we are the successors of the "historico-geographic" scholarship of Alfred H. Meyer, who upon his retirement was the chairman of the Geology and Geography Department of Valparaiso University. As we take notice of our shift of focus from geological effects to those of human history, it is interesting to observe Dr. Meyer's awareness of the change of method in his own studies over the years of his activity. In 1935, he introduced his work<sup>1</sup> in terms of the need for a "scientific analysis" of certain land. Nineteen years later, in 1954, when he published the first of his two "sequent occupancy" studies of the Calumet region which form the immediate scholarly background to our own effort, he described his method as "historical geography," and in 1956 in the second of these studies he defined the "historico-geographic" principle by quoting approvingly H. D. Darby's essays "On the Relations of History and Geography": "whatever the limits be, the fact remains that the landscape we see today is a collection of legacies from the past, some from geological, some from historical, times."<sup>2</sup> Our own scholarly training is more humanistic than scientific; while Meyer's Ph.D. was in Geography, Cook's is in History and Jackson's in English Language and Literature. Because of our humanistic emphasis, we have chosen to reverse the roots of the compound and call our method "geo-historical;" the report as a whole we consider a form of "geo-history."

The interdisciplinary character of our work, and of Meyer's before us, grows out of a contemporary intellectual development which is of the greatest importance for our work and for environmental study generally. This contemporary development, referred to by some

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<sup>1</sup> Alfred H. Meyer, "The Kankakee 'Marsh' of Northern Indiana and Illinois," Papers of the Michigan Academy of Science, Arts and Letters, XXI (1935), 359-96, rpt. 1936.

<sup>2</sup> Quoted from Transactions and Papers, Institute of British Geographers, XIX (1953), 11, by Alfred H. Meyer, "Circulation and Settlement Patterns of the Calumet Region of Northwest Indiana and Northeast Illinois, Second Stage 1830-1850," Annals of the Association of American Geographers, XLVI, no. 3 (Sept. 1956), 351.

writers as "post-modern" consciousness, is a product of our own century and came to public awareness after World War II. It involves the breakdown of a rigid dualism between matter and spirit which dominated Western thought for perhaps four centuries.

In the Middle Ages, before that dualism arose, people often thought of the universe as a single coherent reality, wholly possessing its own anima or spirit, the anima mundi. People, animals, and vegetables, earth, air, fire, and water, everything was constituted with its own spiritual substance. The human and the non-human, the living and the dead, the subject and the object were not dichotomized. The earth was our mother, the heavens our father, and ourselves the progeny of their union. However hopelessly mythic or theological this might seem to some people today, such a view represented a piety toward the land which many conservationists now wish could be restored. One does not lay an ax to a tree or tear up great tracts of soil without expecting an expression of pain from our cousin or our mother when one lives with this mythic consciousness; one must at least offer the sacrifice of prayer in return.

During the Renaissance this attitude was basically changed. Matter and spirit were sundered. Human beings experienced their own spirits and were alive; most of the rest of the universe came to be regarded as spiritless and dead. This new duality became the background of the rise of "modern science," which became chiefly the study of these dead and spiritless forms. Even the study of plants and animals revolved chiefly around dead specimens in a laboratory, as though the spirit were not an essential part of their being. Since spirit was in a popular sense confined to human beings, subjects of learning were dichotomized into the spiritless natural sciences and the study of humans, the "humanities." A tree to be chopped down, a tract of earth to be torn up, had no spirit or meaning of its own; its only meaning lay in its exploitation for human use, for only humans were truly alive.

By the middle years of the twentieth century, a growing number of people became uncomfortable with this rigid dualism and values which followed from it. Basil Willey wrote as early as 1934 of the rejection of medieval learning, "We may not want these 'truths' theologically and metaphysically expressed; but we do want to be able to experience reality in all its rich multiplicity, instead of being condemned by the modern consciousness to go on 'Viewing all objects, unremittingly/In disconnection dead and spiritless.'"<sup>1</sup> With a growing popular awareness of ecological values, some of the losses of modernity indeed are being recouped. Increasingly, we realize that we live in some kind of an "ecosystem" in which everything in the environment is connected with everything else, so that

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<sup>1</sup>Basil Willey, The Seventeenth Century Background (1934; rpt. New York, 1953), 30.



we cannot blithely destroy some portion of the earth without expecting to find a backlash visited upon ourselves somehow, somewhere. We have discovered that the fruits of modern technology have been a mixed blessing, bringing pain as well as pleasure. This growing sense of interdependence is suggested by the growing interdisciplinary approach to learning, of which our study in "geo-history" is an example. We see our own humanistic approach to the land as one of the new modes of the contemporary consciousness of interrelationship which have become prominent in the past few decades.

Some people have gone further and reversed the dualism, believing that human beings represent the forces of death and destruction, while only the land holds promise of life and vitality. For this reversed myth-belief, everything non-human in the universe is innocent or "natural" and thereby better than everything human, which bears in its stink all that is artificial, depraved and corrupt.

We, the authors of this report, do not sense any radical polarity between human life and the land. We cannot affirm that only humans are alive and all else is dead and spiritless; nor do we believe the converse. We have not been able to draw any clear line between "natural" and "artificial" as we look at wolves, prehistoric mound builders, Indian trappers, halfbreed traders, European-American pioneers, twentieth century small farmers, brickmakers, industrialists, and children of any parentage playing in the marsh. For this reason, we have decided to use the terms "natural" and "artificial" as little as possible in this report, limiting their use to minor passages in which we hope the context makes their specific meanings quite clear.

#### D. Temporal and Geographical Scope

The nature of this particular research, depending on records which reflect a diversity of situations and viewpoints, sometimes by writers recollecting scenes observed years earlier, does not lend itself to a precise year-by-year picture of the land and events which influenced it. Moreover, the historical events which most interest us here, influenced by the shape of the land at least as much as by political boundaries, rarely fall within easily defined geographical boundaries. For these reasons, we do not choose to ascribe a set of apparently fixed dates and property lines to define the temporal and geographical limits of our study.

We define our temporal scope from about the time of the first recorded European-American travel and settlement in what is now Porter County, Indiana, to about the time of the establishment of IDNL. Neither date is clear-cut. The first spotty records date from the first decade of the nineteenth century; the arrival of the first settler, Joseph Bailly, said to be in 1822, left no records that we have seen; the first period of abundant records is the 1830's, when travel and settlement in the area began on a regular basis. The closing date is also unfixed: the legislation which



created the Park in 1966 was itself part of a process, completing something which had been developing for years, and at the same time merely beginning the slow process of actually bringing the Park into being.

We define our geographical scope in a similarly unfixed way, suggesting it by our use of the term "Bailly area" without strictly delineating it. The term refers loosely to all the land owned by Joseph Bailly, actively influenced by him, or associated with his name. Our area of interest centers on Baillytown, where Bailly once owned land and platted a town. It is worth noting that, although the town never came into existence as he planned it, the continual use of the term "Baillytown" on the part of mapmakers, writers, and speakers from Bailly's day to our own has legitimized it to refer (again roughly) to the approximate location now marked by the South Shore Railroad's Baillytown Station. Within a few miles' radius of Baillytown, we find the old Bailly homestead, the rivers and streams by which Bailly may have had furs brought to his door, the trail along which his carriers took the furs to his boats for shipment, and the twentieth century NIPSCO generating facility which bears the name "the Bailly site." Beyond these sites is an umbra of declining interest; the geographical range of our attention varies widely, the result of a series of pragmatic decisions about the significance of widespread or distant events for an understanding of the Bailly area of northern Porter County.

We have had to make many difficult decisions in our choice of geographical terms. Use has changed over the decades, and to avoid anachronism may be to create confusion. On the whole, we have tried to use a vocabulary stressing features of the land and water ("Calumet Beach Ridge" rather than "U.S. Highway 12," "tamarack swamp" rather than "Cowles Bog"); a vocabulary consistent with the use which prevailed over the longest time period ("Little Lake" rather than "Pond C"); a vocabulary drawn on local usage ("Blag Slough," "State Ditch"); a vocabulary likely to be familiar to the reader ("Dunes Creek," "Mineral Springs Road"); a vocabulary both internally consistent and free from anachronism. As these goals are not altogether compatible, we have violated each of these principles more than once, shamelessly using any strategy that might improve intelligibility, and often placing alternate terms in parentheses in the hope of enhancing clarity.

One important term we have invented, the "Baillytown Sag." The term refers to an area of narrowed marshland near Baillytown where a number of the most significant geological features of the Bailly area converge. The term can be defined more clearly in connection with our description of the prehistoric shape of the land.

#### E. The Prehistoric Shape of the Land

Despite the gradual action of ice, wind, and water all through the eons, and the more rapid actions of people in much shorter periods,

the topography of northern Indiana until well into the twentieth century was predominantly the relic of the prehistoric action of the glaciers in the ice ages thousands of years ago. Let us examine the effects of the glaciers more closely, beginning with the Valparaiso Moraine, the largest glacial land form in northwestern Indiana.

The Valparaiso Moraine was formed as a result of debris left by the ice age glaciers when they withdrew from their southernmost reach. After the ice withdrew far enough to the north so that water flowed through the Strait of Mackinac into Lake Huron, the Valparaiso Moraine became a subcontinental divide. Water from its southern slopes then flowed into the Kankakee River and thence to the Illinois River, the Mississippi, and finally to the Gulf of Mexico. Water from its northern slope flowed into the Little Calumet River, thence into Lake Michigan, through Mackinac, Lake Huron, the Niagara and St. Lawrence Rivers, into the Atlantic. It is visible today as a stretch of highland separating the Kankakee valley and the Lake Michigan basin. The land on the northern side of the Valparaiso Moraine is the Calumet region, within which lies the Bailly area.

The glacier retreated in several distinct stages. At each stage a large lake of melted water was left in the basin between the Valparaiso Moraine and the retreating icecap. The water of this prehistoric lake lapped the shore at successively lower levels along the slope of the Valparaiso Moraine. The result is three successive "beaches," each still extant as a ridge in the landscape of the Bailly area. To give them their present names, beginning with the one furthest south, they are the Glenwood, Calumet, and Tolleston Beach Ridges (see figure 2). Furthest north, of course, is the present Lake Michigan beach with its own ridge of dunes. The long strips of narrow land lying in the shallow valleys between these four ridges tended to collect water, forming ponds, marshes, swamps, and languid rivers.

Near the place where Joseph Bailly once tried to establish a town to be named after himself, there is an important confluence of beach ridges. West of Baillytown all three of the ancient beach ridges are clearly separate and distinct, while east of it only one is evident: the Calumet Beach Ridge. The other two effectively disappear. The Tolleston Beach Ridge simply vanishes beneath the Great Marsh. The Glenwood Beach Ridge still exists in a kind of spur east of Baillytown, but its northern rim so nearly joins the Calumet Beach Ridge that it is more convenient to consider them one single ridge which divides the marsh and sand hill to the north from the forest and arable land to the south.<sup>1</sup> Much of our discussion will be in

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<sup>1</sup>Work Projects Administration (W.P.A.), Writers' Program, The Calumet Region Historical Guide (1939; rpt. New York, 1975), 131; oral information from William Hendrickson; George A. Brennan, The Wonders of the Dunes (Indianapolis, 1923), 188, 204.



terms of the Calumet Beach Ridge, the one in evidence over the longest continuous distance, and the one of greatest significance for human travel and settlement.

North of the Calumet Beach Ridge and northeast of Baillytown lies a wetland stretching all the way to the dunes and sand hills along the present Lake Michigan beach and averaging half a mile in width. This wetland we call the Great Marsh. To the extent that the Great Marsh drains at all, it drains into Dunes Creek and thence into Lake Michigan through a channel between the dunes.

West of Baillytown and a bit to the south, the Little Calumet River ran along the northern slope of the Calumet Beach Ridge. That river was in its upper course a clearly defined stream which flowed between visible banks through forest and arable land. However, southwest of Baillytown where it pierced the Calumet Beach Ridge to run along its northern slope, the river lost its definable banks in the midst of swampy or marshy wetlands. As it continued sluggishly westward, it widened "into lake-like sheets of water" in some places as much as a mile across;<sup>1</sup> the nineteenth century surveyors labeled part of that area "impassable marsh."<sup>2</sup> In accordance with traditional usage, we will refer to this broad, wet river basin as "the marshes of the Little Calumet."

The Great Marsh east of Baillytown and the large, often "lake-like" wetland of the Little Calumet River west of Baillytown were linked by a much narrower strip of marshy wetland. We have given the name "Baillytown Sag" to this narrower portion of what we may consider a single continuous long strip of marsh lying along the northern slope of the Calumet Beach Ridge. Because the marsh was only about a quarter of a mile wide at the Baillytown Sag, a foot traveler could cross more easily here than through either the Great Marsh or the lower basin of the Little Calumet. This fact contributed to a convergence of transportation routes in the vicinity of Baillytown and influenced our decision to treat Baillytown as the geographical center of our study.

#### F. Organization of Chapters

We have chosen to organize our findings in such a way as to highlight the vital importance of the land and water to the historical questions we are asking. Rather than striving for a chronological survey of events in the Bailly area as a whole, we have tried to make geographical distinctions between different aspects of the topography.

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<sup>1</sup>Baskin, Forster & Co., pub., Illustrated Historical Atlas of the State of Indiana (Chicago, 1876), 274.

<sup>2</sup>Toni K. Ristau, "Record of Physical Features Compiled from Original Section-Line Surveys" (map, 1977, at IDNL); figure 3 shows another part of this map.

Chapter III is entitled "The Calumet Beach Ridge and the Upper Little Calumet Basin," Chapter IV "The Great Marsh and the Baillytown Sag," and Chapter V "The Sand Hills and Interdunal Wetlands." The kind of human activity which affected each of these three areas was often characteristic of that area alone. These distinctions have often served to improve our own understanding of particular causes and effects in the course of our study. They may also be well adapted to serving the needs of the IDNL managers, who may have to make at least some kinds of policy decisions acre by acre.

These geographically defined chapters are preceded by our Chapter II on "Transportation." Transportation provided the chronological link between the topography and human activity. People arrived, following the lay of the land; they settled along the routes by which they had arrived; and settling, they influenced the land in turn. Moreover, human movement linked together all the disparate portions of the Bailly area. Thus the chapter on transportation further defines the geographical and historical context in which other human influences on arable land, marsh, and sand hill were exerted.



## CHAPTER II. TRANSPORTATION

From the early nineteenth century to the present, far more people have traveled across the Bailly area than have decided to stay there. While the marshes and sand hills long discouraged settlement, their location encouraged traffic across them. Land routes between Chicago and the east were deflected by Lake Michigan to its southern shore. People developed trails, roads, and railroads along the lay of the land, staying as much as possible on the beach ridges and avoiding the wet lowlands. Settlement and industry in turn gradually came to follow the patterns set by transportation, clustering around major junctions or prospective harbor sites. Human influences on the land, from light pasturage and berry-picking to large-scale sandmining and major drainage projects, have followed the patterns of settlement and industry. Modern changes in the land and water, then, can be traced back to the prehistoric shape of the land through the effects of transportation.

### A. Early Trails and Stage Roads

The most important early trails and roads in Porter County served to carry traffic between distant rather than local points. Long before many people settled in the area, both Indians and European-Americans crossed it to go between eastern points such as Detroit and western points such as Chicago. The best drained land features -- the Valparaiso Moraine, the beach ridges, and the Lake Michigan beach -- ran generally between east and west. Thus practical long distance routes could be developed along the natural contours of the land. In general, we shall describe routes in terms of westward travel from the east.

The largest and most famous trail across northern Indiana at the beginning of the nineteenth century was the Sauk Trail. This great Indian trail crossed the continent, dividing at Omaha into the Santa Fe and Oregon Trails. In Indiana it followed the high subcontinental divide, the Valparaiso Moraine, from modern South Bend to Valparaiso and on west to Rock Island.<sup>1</sup> Thus the main Sauk Trail crossed Porter County well to the south of the Bailly area.

Other east-west Indian trails ran more or less parallel to the main Sauk Trail, between it and Lake Michigan. (See figure 4 for these trails and their approximate modern equivalents.) One trail followed the Calumet Beach Ridge, a high road broken only by the Little Calumet River. Another followed the same route as far as Baillytown; but there, instead of crossing the Little Calumet

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<sup>1</sup> Alfred H. Meyer, "Circulation and Settlement Patterns of the Calumet Region of Northwest Indiana and Northeast Illinois, First Stage -1830," Annals of the Association of American Geographers, XLIV, no. 3 (Sept. 1954), 254-60.

River, it crossed the Baillytown Sag and continued westward on the Tolleston Beach Ridge.<sup>1</sup> A branch of the Sauk Trail crossed the Bailly area diagonally; leaving the main trail at Door Prairie in LaPorte County, this north branch crossed the Little Calumet River at what was to become the Bailly homestead site, and passed through the Baillytown Sag and the sand hills to join the Lake Michigan beach.<sup>2</sup> Further north, a smaller trail ran between the Great Marsh and the sand hills; Indian artifacts have been found there, east of Mineral Springs Road.<sup>3</sup> Finally, one trail simply followed the Lake Michigan beach itself.<sup>4</sup>

North-south travel was more severely inhibited by the marshland lying in great east-west strips between the moraine and the prehistoric beach ridges. People who wished to travel long distances between Lake Michigan and the south often bypassed the region, developing land and water routes through Chicago on one side and through Michigan City or Saint Joseph on the other. The only north-south trails within Porter County were local links connecting the major east-west routes. A prominent example was the trail from Valparaiso north to Chesterton and Tremont, linking the Sauk Trail with the trail along the Calumet Beach Ridge.<sup>5</sup>

Early European-Americans followed the trails of the Indians, both because the trails were there and because they followed the contours of the land. Early nineteenth century travelers used the Lake Michigan beach almost exclusively, but over the years European-American travel shifted gradually away from the beach toward more inland routes. By the end of the 1830's, when substantial European-American settlement began, travelers through northern Indiana had switched almost entirely to inland roads along the Calumet and Tolleston Beach Ridges. Let us look more closely at the character and use of several of the more significant thoroughfares.

The beach route was an obvious choice for early European-Americans making their own way, before roads were constructed or public transportation was introduced. The beach offered a clear road for wagons and a guarantee against getting lost. The lakeshore led

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<sup>1</sup> Chicago Historical Society: Albert F. Scharf collection, box 1, folder 29b.

<sup>2</sup> Timothy H. Ball, Northwestern Indiana from 1800 to 1900 (Crown Point, Ind., 1900), 77-78; Frances R. Howe, The Story of a French Homestead in the Old Northwest (Columbus, Ohio, 1907), 63, 92.

<sup>3</sup> Oral information from Lois Howes.

<sup>4</sup> Chicago Hist. Soc.: Scharf collection, box 1, folder 29b.

<sup>5</sup> Meyer, "Circulation and Settlement -1830," 262.



Lieutenant Swearingen to Fort Dearborn in 1803 and led William Johnson there in 1809.<sup>1</sup> By the beginning of the 1830's, even though a public stagecoach carried people west from Detroit as far as Niles, Michigan, still from Niles on to Chicago travel conditions remained the same as they had been for Swearingen and Johnson. By private wagon or on foot, travelers continued along the shore, sleeping out at night on the beach or in the shelter of a sand hill.

The beach road had disadvantages as well as advantages. One traveler thought it a "most dreary road;"<sup>2</sup> to another it was "that most monotonous drive."<sup>3</sup> At night the discomfort of the mosquitoes outweighed the beauty of the Aurora Borealis. Storms on the lake made travel dangerous. On calm days in winter the hard beach offered a firm road surface, but in dry summer horses had trouble walking on the loose sand. It was customary to drive wagons at the shallow edge of the water, "actually in the lapping waves."<sup>4</sup> The inconveniences of beach travel encouraged people to shift to inland routes as adequate wagon roads gradually became available.

The first stage road through the Bailly area was a compromise between inland and beach, following the north branch of the Sauk Trail. As discussed above and illustrated in figure 4, this branch approached the Bailly area from around LaPorte, crossed the Bailly-town Sag, and joined the beach in the vicinity of modern Burns Ditch and Harbor.<sup>5</sup> The French fur trader Joseph Bailly, who had settled in 1822 where the trail crossed the Little Calumet, had had his carriers use this branch to take furs to his boats on Lake Michigan for shipment to Mackinac.<sup>6</sup> Jerry Church and his brother in 1830 had found themselves on this same route past the Bailly

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<sup>1</sup>Milo Milton Quaife, Chicago and the Old Northwest 1673-1835 (Chicago, 1913), 373-76; Shirley S. McCord, ed., Travel Accounts of Indiana 1679-1961 (Indianapolis, 1970), 57.

<sup>2</sup>Charles Joseph Latrobe, The Rambler in North America (New York, 1835), II, 139.

<sup>3</sup>Flavel Bascom, "The Autobiography of Flavel Bascom 1833-40," in William Warren Sweet, ed., Religion on the American Frontier 1783-1850 (Chicago, 1939), III, 239.

<sup>4</sup>Harriet Martineau, Society in America (London, 1837), I, 346; see also Bascom, "Autobiography," III, 239; Latrobe, Rambler, II, 142; George David, "Diary of George David," ed. by R. P. Mason in Michigan History Magazine, XVIII (winter, 1934), 53-66; Patrick Shirreff, A Tour Through North America (Edinburgh, 1835), 222.

<sup>5</sup>J. H. Colton, "Colton's New Map of Indiana, Reduced from his Large Map" (New York, 1838, in Newberry Library, Chicago).

<sup>6</sup>Howe, Story of A French Homestead, 62-63, 92.

homestead when they "took passage from Chicago in a wagon that was going to Michigan, through the Indian country, without any road."<sup>1</sup> Most of the inland part of the trail, south of a line tangent to Lake Michigan at its southern tip, officially belonged to the Pottawatomie Indians until 1832; the land north of that had been bought by the United States government six years earlier. A route for carrying mail on horseback to Fort Dearborn had been surveyed here in 1826-27 and opened in 1831, with Pottawatomie permission.<sup>2</sup> Finally in 1833, in mid-September, a stage began operation along this route from Niles, Michigan, enabling travelers to go by public transportation from Detroit all the way to Chicago.

Little was done at first to make this north branch of the Sauk Trail more suitable for travel by axle vehicles. It was already wide enough for some kind of wagon, as Jerry Church's earlier trip there demonstrates. Rather than smoothing the road surface enough for the more delicate coach, the early stage operators transferred passengers at Niles into a sturdy, long, narrow open wagon with seats.<sup>3</sup> Before the opening of the new stage route began to bring settlement to the area, no relay stations were established for changing horses; a single set of horses pulled the stage wagons all the way from Niles to Chicago.<sup>4</sup> Limited hospitality was available from two French fur traders, Bailly beside the Little Calumet and Mann on the Lake Michigan shore by the western mouth of the Grand Calumet; Bailly and Mann had built houses in the area years before, married Indian women, and adapted themselves in some degree to Indian ways of life. Between Bailly's home in Indiana and Mann's in Illinois, no inns or buildings existed.<sup>5</sup>

The stage houses and the taverns arrived in due course. About a month after the stage began operation, a scrub pine cabin for overnight stops was built on a sandy swell near the lake's edge ten or twelve miles east of Mann's.<sup>6</sup> Hannah Berry and Bennett opened

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<sup>1</sup>Jeremiah Church, Journal of Travels, Adventures, and Remarks (1845; rpt. Harrisburg, Pa., 1933), 24.

<sup>2</sup>Howe, Story of a French Homestead, 59-60; Meyer, "Circulation and Settlement 1830-1850," 318; Shirreff, Tour Through North America, 219-20; Charles Fenno Hoffman, A Winter in the West: Letters Descriptive of Chicago and Vicinity in 1833-4 (Chicago, 1882), 11.

<sup>3</sup>Shirreff, Tour Through North America, 219; John Wentworth to Lydia Wentworth, Chicago, 9 Nov. 1836, in Chicago Hist. Soc. News Review, II, no. 3 (Oct. 1943), 3; Hoffman, Winter in the West, 11; Latrobe, Rambler, II, 136-37.

<sup>4</sup>Shirreff, Tour Through North America, 220.

<sup>5</sup>Church, Journal, 26; Latrobe, Rambler, II, 139; David, "Diary," 65; Bascom, "Autobiography," III, 240.

<sup>6</sup>Hoffman, Winter in the West, 13.



taverns at different places near the beach.<sup>1</sup> Jesse Morgan opened a stage house and post office where the road crossed Coffee Creek a few miles from Bailly's house, barely southeast of modern Chesterton.<sup>2</sup> These innkeepers, who also supported themselves by farming and trade, were among the earliest settlers in the area after traders like Bailly and Mann. Many more settlers arrived after government land officially began to come on sale in 1835. Porter and Lake Counties were established in 1835-36.<sup>3</sup> Perhaps the older settlers began to feel crowded; the Bailly family had the route diverted from their front lawn to a site slightly west, probably in the intended Bailly-town area, where an inn offered the hospitality for which the Bailly household had once taken responsibility.<sup>4</sup>

In 1836 or 1837, the stage changed to an entirely inland route along the Calumet Beach Ridge. Like the earlier stage route, this followed an old Indian trail along the high ground. The attraction of this route was that it avoided the inconveniences of the beach altogether. The original disadvantage of this route, and the probable reason it had not been used for the stage in the first place, was the broad marshy nature of the Little Calumet River where it broke through the Calumet Beach Ridge. The construction of the "Long Pole Bridge" there in 1836 enabled wagons to cross the river. The new stage route across it opened soon afterward, and the old north branch of

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<sup>1</sup>W.P.A., Calumet Region Hist. Guide, 21; Leon M. Gordon II, "Settlements in Northwestern Indiana, 1830-1860," Indiana Magazine of History, XLVII, no. 1 (March 1951), 41.

<sup>2</sup>For Morgan see Weston A. Goodspeed and Charles Blanchard, eds., Counties of Porter and Lake, Indiana (Chicago, 1882), 17, 22, 156, 163; Hubert M. Skinner, "Complete History of Porter County, Indiana, Written Expressly for the Valparaiso Messenger" (15 Jan. 1878, TS in Gary Public Library), 16; Thomas H. Cannon, ed., History of the Lake and Calumet Region of Indiana (Indianapolis, 1927), I, 88; Howe, Story of a French Homestead, 65; Mary Morgan and Olga Mae Schiemann, "Coffee Creek Post Office," Indiana History Bulletin, XXX, no. 2 (Feb. 1953), 49-50; Olga Mae Schiemann, "Roads Across Old Bailly Town," Duneland Historical Society Publications, II, no. 1 (Nov. 1956), 15.

<sup>3</sup>George Pence and Nellie C. Armstrong, Indiana Boundaries: Territory, State and County (Indianapolis, 1933), 674, 676; Meyer, "Circulation and Settlement 1830-1850," 320, 325.

<sup>4</sup>Powell A. Moore, The Calumet Region, Indiana's Last Frontier (Indianapolis, 1959), 47; Gordon, "Settlements," 43; Howe, Story of a French Homestead, 91.

the Sauk Trail was abandoned.<sup>1</sup>

The kinds of development that had started along the previous stage road continued along the new one. More inns and taverns were built. In these later years, stopping places and stables to change horses were available every twelve or fifteen miles, according to one passenger who made the stage journey in a horse-drawn sleigh in the winter of 1837.<sup>2</sup> By the 1850's, passengers rode in streamlined comfort through a moderately settled countryside.<sup>3</sup> "The drivers of the stage coaches always blew a horn before they came in," Henrietta Gibson remembered from her 1850's childhood at the Gibson Inn in what later became Gary. "They ran on regular schedules like the railroads, so we knew when they would come, and watched for them. Father would have horses hitched at the barn or relay station so they could go right on to Chicago."<sup>4</sup> Many people besides the Gibsons lived along the line by that time, fifteen or twenty years after the Calumet Beach Ridge stage route first opened.

In the years of stage travel, before the arrival of the railroads, the stage roads had both an indirect and a direct effect on the land. The indirect effect was the greatest: by making the area accessible they encouraged settlement and agriculture, and by following selected routes they encouraged concentrations of settlement along those routes. The direct effect of the stage roads, their physical presence upon the land, was minimal at first; but over the years, road construction of all sorts worked more and more direct physical changes on the land. Let us now look at the ways roads have been superimposed on the sand, clay, and water of the Bailly area.

#### B. Road Construction

The direct influence of European-American road construction on the land has increased sharply over the years. In the earliest phase, trails and stage roads were simple adaptations of the Indian trails

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<sup>1</sup>Abbot's map, figure 5, shows a road going to the beach but not continuing along it in 1855; later maps do not even show a road to the beach. For the later stage route, see Meyer, "Circulation and Settlement 1830-1850," 319; Isaac Crisman, "Isaac Crisman," transcribed by J. W. Lester (18 Jan. 1921, TS in Gary Public Library in Lester's Papers by Various Hands), 109; Gordon, "Settlements," 43; Cannon, History, I, 171; Henrietta Gibson, "Reminiscences of Mrs. Henrietta Gibson," transcribed by J. W. Lester (2 Jan. 1922, TS in Gary Public Library in Lester's Papers by Various Hands), 80, 83-84; J. Calvin Smith, "Guide Through Ohio, Michigan, Indiana, Illinois, Missouri, Wisconsin & Iowa" (map, New York, 1853, in Newberry); D. C. Houston, "Calumet and Grand Calumet Rivers" (map, 1872, copied 1977, at IDNL).

<sup>2</sup>Ball, Northwestern Indiana. 359.

<sup>3</sup>Crisman, "Isaac Crisman," 109; Gibson, "Reminiscences," 83-84; Smith, "Guide Through Ohio, etc."

<sup>4</sup>Gibson, "Reminiscences," 80.



that preceded them along routes suggested by the natural contours. In a second phase, after settlement brought new patterns of local movement, local roads were cleared and leveled where none had been before. The third phase, which began in the middle of the nineteenth century and continues in the twentieth, involved paving entire roads with a variety of surface materials instead of bare packed dirt. Each phase meant an increasing level of interference with the land as it had been before the European-Americans arrived.

In the earliest phase, in the 1830's and 1840's, the technology of building a road consisted mainly of cutting down trees in its path. Stumps could be removed after they rotted. Packed dirt made an adequate road surface, provided it was not too wet. Creeks could simply be forded. At the western mouth of the Grand Calumet, where the river was twenty to thirty feet deep, fur-trader and tavern-keeper Mann ran a ferry for passengers and luggage.<sup>1</sup> Heavy wagons and large animals could ford the river by going out into Lake Michigan to a sand bar three feet beneath the water surface, taking care not to drive too close to the river where the sand was dangerously soft.<sup>2</sup> On the whole, the builders of the early roads put as little new construction into the roads themselves as possible. Frances Howe described the construction of the 1833 stage route, along the north branch of the Sauk Trail, in these terms: "Landmarks were established, a few bridges, strongly built of unhewn timbers, were thrown across some streams, a few hillsides were graded, and little else was done or needed. The trail was established upon ground naturally firm and solid."

Deep marshes, swamps, and soft marshy river beds required a firmer surface placed over them to make them passable. The solution was bridges and roads "strongly built of unhewn timbers," as Howe described them. The most famous of these was the "Long Pole Bridge" over the Little Calumet River where it interrupted the Calumet Beach Ridge road. Made in 1836 of logs laid crossways on supports, it lived on in travellers' memories as rough and terrifying; estimates of its length ranged up to a quarter mile.<sup>4</sup> As soon as sawmills came into operation locally, flat planks became available for bridge construction and pole bridges passed out of use.<sup>5</sup>

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<sup>1</sup>David, "Diary," 66; Solon Robinson, Solon Robinson, Pioneer and Agriculturist, ed. by Herbert Anthony Keller (Indianapolis, 1936), I, 60; Hoffman, Winter in the West, 14; Charles Cleaver, Early Chicago Reminiscences (Chicago, 1882) 18-21; James Luther, quoted in Ball, Northwestern Indiana, 357; Church, Journal, 26; Howe, Story of a French Homestead, 99.

<sup>2</sup>Luther, quoted in Ball, Northwestern Indiana, 357.

<sup>3</sup>Howe, Story of a French Homestead, 62.

<sup>4</sup>W.P.A., Calumet Region Hist. Guide, 138; Ball, Northwestern Indiana, 321; Moore, Calumet Region, 58-59.

<sup>5</sup>Meyer, "Circulation and Settlement 1830-1850," 342.

The ground level equivalent of the pole bridge was the corduroy road. "Corduroy" in this sense was a distinctively American term, referring to a pavement of tree trunks laid crossways over swampy or marshy ground.<sup>1</sup> Such a surface, resembling corduroy cloth, gave a far bumpier ride than firm packed dirt; it was used only for stretches where the land was so wet as to be otherwise impassable. A travelers' manual of 1832 asserted that the roads of Indiana were made entirely of clay, "except the corderoy roads as they are called, that is, roads made over swampy ground by laying small round logs or saplings close to each other across the road, so as to form really a bridge. Such roads are always rough."<sup>2</sup>

Probably corduroy roads were built where roadways crossed the Great Marsh or the Baillytown Sag; we can only guess their exact locations. The stage route of 1833-36 crossed about a quarter mile of marsh somewhere through the Baillytown Sag. Hoffman experienced this as a dangerous morass, a few weeks after the stage route first opened.<sup>3</sup> The lack of such descriptions on the part of later travelers here suggests that a firmer corduroy road may have been laid after Hoffman's trip. Another road, the inland trail southwest from Michigan City, crossed the marsh to get from the Michigan City sand hills over to the Calumet Beach Ridge. When Marriet Martineau left Michigan City for Chicago in the summer of 1836, she went four miles through woods and then came to a swamp where the "bridge" had been washed out.<sup>4</sup> As an Englishwoman, she would have used the word "bridge" for what the Americans called a "corduroy road." A third road seems to have passed somewhere through the western part of the Great Marsh, near "Cowles Tamarack Swamp," at least as late as the 1870's. Brennan wrote in 1923, "Mr. Green says that when he was a boy, fifty years ago, there was a fine corduroy road extending through that swamp, and that it was used a number of years after that."<sup>5</sup> This was probably not the packed earth trail along the old Indian route between the swamp and the sand hills, but rather a road actually passing somewhere through the marsh, where the ground was too wet for any smoother sort of cheap surface to suffice.

The spread of settlement in northern Porter County set off the second phase of road construction there, starting in the later 1830's. While the techniques of road-building and types of road surface remained as simple as before, new demands spurred the

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<sup>1</sup>Oxford English Dictionary, "corduroy."

<sup>2</sup>[Robert Baird], View of the Valley of the Mississippi: Or the Emigrant's and Traveller's Guide to the West (Philadelphia, 1832), 156; see also Hildegard Binder Johnson, Order Upon the Land: The U.S. Rectangular Survey and the Upper Mississippi Country (New York, 1976), 168.

<sup>3</sup>Hoffman, Winter in the West, 12.

<sup>4</sup>Martineau, Society in America, I, 344.

<sup>5</sup>Brennan, Wonders of the Dunes, 77.



development of roads in new locations where no Indian trails had preceded them. Instead of merely carrying long distance travelers through a wasteland, roads became important for local traffic between farms, mills, and markets. According to Ball, "the first regularly laid out road in Porter County" connected a mill on Salt Creek with one on Coffee Creek.<sup>1</sup> The new routes still gave some attention to the contours of the land, but other considerations also came into play. For instance, while settlements and markets commonly grew up along the old main transportation lines, mill sites depended more on the course of the streams. Abbot's map of 1855 (figure 5) shows many mills far away from the major Indian trails and stage lines. New roadways had to be cleared to meet the needs of farmers driving to and from these mills.

Indiana legislation of 1837 and 1839 provided for state roads, three of which were supposed to pass through northern Porter County.<sup>2</sup> One, which can be seen on Abbot's map, went north from Valparaiso to New City West by way of Thomas' Mill, where Coffee Creek flowed into the Little Calumet River. This was a straightened version of the Indian trail between the same end points; Chesterton later grew up on the west side of this road. The other two proposed roads are missing from Abbot's map and may never have materialized; one was supposed to run roughly parallel to the Valparaiso-New City West road but about a mile east of it, and another from LaPorte to New City West and westward from there to Long Lake. According to Abbot's map, the main Bailly area roads in 1855 were the state road from Valparaiso to New City West mentioned above, the original stage road along the north branch of the Sauk Trail, the later stage road along the Calumet Beach Ridge which crossed the original one at Baillytown, and a branch leading from the beach ridge southward into Twenty Mile Prairie. Twenty Mile Prairie, so named because it was twenty miles away from the market at Michigan City, was an early center of agricultural settlement; probably the branch road curving through it was an instance of a road which developed in a new location in response to the transportation needs of the new settlers.

Eventually, a system of secondary roads grew up along many section lines and half-section lines, and along the boundary line between the 1826 and 1832 land purchases from the Indians. These north-south and east-west roads, visible in the 1960 road map of Porter County (figure 7), reflect the consciousness of the surveyor rather than the local topography; on the map they contrast sharply with the winding diagonal roads whose routes followed the prehistoric shape of the land. Farmers, whose property lines were defined in terms of sections and the Indian boundary, welcomed roads along the straight edges of their homesteads.<sup>3</sup> State and county atlases as early as

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<sup>1</sup>Ball, Northwestern Indiana, 515.

<sup>2</sup>A History of Porter County, Indiana (Chicago, 1912), I, 54.

<sup>3</sup>Johnson, Order Upon the Land, 170-71.

1876 show the presence of such rectilinear, non-topographic roads as the road west from Furnessville (labeled "1500N" in figure 7), Oak Hill Road ("1350N"), the road along the Indian boundary ("1275N"), and parts of what is now called Mineral Springs Road ("100W").<sup>1</sup>

The third phase of road construction was the introduction of new kinds of pavement as an improvement over bare packed dirt. Dirt roads, uneven in any weather, became muddy and often impassable when wet. In the 1830's, Long John Wentworth had found the roads "sometimes as beautiful as man could wish, sometimes bad enough to have been created by the infernal devil himself."<sup>2</sup> As local traffic increased, farmers found that in some seasons they could not get to mills or markets at all. Beginning in the middle of the nineteenth century and accelerating in the twentieth, people experimented with a variety of paving materials to make roads passable in all weather. Planks, gravel, macadam, tar or asphalt, and concrete in turn were used to improve the quality of the Porter County roads, altering the land far more than had the early trails.

Plank roads, a short-lived fad, were an ambitious attempt to give farmers reliable, convenient, and comfortable year round access to market towns and harbors by providing roads with a smooth surface of sawed lumber. The idea came to the United States from Canada in the 1840's and swept the country. Private companies built the roads and financed them with tolls, occasionally supplemented by public subsidies. Their significance to us is in their physical impact on the land. They were the first attempt in the Bailly area to superimpose a non-dirt surface on a roadway over the entire distance between two communities. In surface material, the plank road bore the same relation to the corduroy road as a plank bridge bore to a pole bridge. Planks across the roadbed rested on two wooden rails called "stringers," which ran the length of the road, and earth was built up along the edges of the road to provide a smooth shoulder -- perhaps the first instance of a road building technique requiring the movement of earth.<sup>3</sup>

In November, 1850, the Valparaiso and Michigan City Plank Road Company asked Porter County for a right of way to build the road implied by the company's name. More or less following the state dirt road already in existence, the plank road was to go north from Valparaiso through Chesterton to New City West on the Calumet Beach Ridge (figures 4 and 5). At that point it was to turn northeast along the Calumet Beach Ridge stage road to Michigan City. The company received permission and did in fact actually plank the road

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<sup>1</sup>Baskin, Forster, Illustrated Hist. Atlas, "Porter County;" Hardsisty, Atlas of Porter County, Indiana (1876), "Westchester Township."

<sup>2</sup>Wentworth to Wentworth, 3.

<sup>3</sup>Carl Abbott, "The Plank Road Enthusiasm in the Antebellum Middle West," Indiana Magazine of History, LXVII, no. 2 (June, 1971), 95-109.



between Valparaiso and Chesterton. However, the company met problems similar to those facing plank road companies all over the country: maintenance became prohibitively expensive because wet conditions rotted the planks. After collecting tolls for only a few years, the Valparaiso and Michigan City Plank Road Company abandoned its partially finished road and passed out of existence.<sup>1</sup> Presumably, the planks rotted away and the roadbed returned to dirt.

More durable paving materials were successively introduced. Gravel surfacing came into use in Porter County in the second half of the nineteenth century.<sup>2</sup> The first macadamized road in the county was built in 1897.<sup>3</sup> By the 1920's, tar or asphalt covered the short stretch of road surface from Furnessville west to the Calumet Beach Ridge Road.<sup>4</sup> One concrete highway was completed at the end of 1922 along the Calumet Beach Ridge from Michigan City to Baillytown, across the Baillytown Sag, and westward toward Gary along the Tolleston Beach Ridge; the only concrete road of its time in Porter County north of Valparaiso, this "Dunes Highway" or U.S. Highway 12 was regarded as a major engineering feat.<sup>5</sup> In spite of macadam, tar, and concrete improvements on a few select roads, packed dirt and gravel remained the most common types of road surface in the Bailly area until well into the twentieth century.<sup>6</sup>

The development of improved roads into the marsh and sand hills north of the Calumet Beach Ridge lagged behind their development elsewhere. The marsh offered no firm surface to build on, and the sand hills led an early traveler to predict that "from the nature of the soil no regular road can ever be constructed."<sup>7</sup> As late as the 1920's, automobiles could reach the beach at only three places in Indiana: Miller, Waverly Beach at the mouth of Dunes Creek, and Michigan City.<sup>8</sup> During the same decade, Mineral Springs Road to the Town of Dune Acres was a sand road in which cars and trucks might sink to their hubs.<sup>9</sup> An unsurfaced track extended from the end of Oak Hill Road

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<sup>1</sup>History of Porter County, I, 55-57; Abbot, "Plank Road Enthusiasm," 113-14.

<sup>2</sup>History of Porter County, I, 55, 57.

<sup>3</sup>History of Porter County, I, 57-58.

<sup>4</sup>Thrift Press, pub., "Outline Map of Porter County, Indiana" (Rockford, Ill., 1928, in Porter Co. Surveyor's Office).

<sup>5</sup>Brennan, Wonders of the Dunes, 177.

<sup>6</sup>Thrift Press, "Outline Map."

<sup>7</sup>Latrobe, Rambler, II, 141.

<sup>8</sup>Thrift Press, "Outline Map;" Brennan, Wonders of the Dunes, 138.

<sup>9</sup>Oral information from Naomi Studebaker and Mildred Warner.

into the marsh as far as Mud Lake or Samuelson Ditch.<sup>1</sup> Mere foot trails and an occasional rough wagon trail led to cottages near the shore.<sup>2</sup>

As the twentieth century progressed, growing interest in the sand hills, the demands of automobile traffic, and federal highway programs combined to encourage increasing development of new roads and resurfacing of old ones. More local roads were paved. When automobiles replaced railroads as the major form of long distance land transportation, new thoroughfares were built such as U.S. Highway 20 (the "Dunes Relief Road") in the 1930's and Interstate Highway 94 in the 1970's. As new roads and road surfaces covered more of the land, they inevitably changed the shape of the land more and more from its condition at the beginning of the nineteenth century. Earth was moved, wetlands filled, embankments raised. Some local residents suspect that roadbuilding has raised the water table, for instance by raising culverts and blocking the movement of water across Ind. Highway 49.<sup>3</sup> Highway traffic interferes with the free movement of wildlife. Sophisticated road construction, particularly in the twentieth century, has helped to produce a very different landscape in northern Indiana from that which prevailed in the days of the Indian trails.

#### C. Waterways

In this section we shall look at some of the uses which have been made of rivers, canals, and Lake Michigan for human traffic in and around the Bailly area. The lakes and rivers which impede land travel may of course facilitate transport by water. Water transport, like land transport, has produced changes in both the water and the land. Let us begin with the streams and rivers of the Bailly area.

Mostly small and shallow, the Bailly area streams were well suited only to travel by canoe. Joseph Bailly, who chose a site beside the Little Calumet River for his trading post, may have had furs brought to him there by water from further inland. Salt Creek, Coffee Creek, and other Calumet tributaries flowed down from the Valparaiso Moraine, and their headwaters may have come close enough to the headwaters of the Kankakee tributaries to allow a reasonable portage. In that case Bailly may have received furs from the Kankakee valley or even further away.<sup>4</sup> Portages over the top of the

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<sup>1</sup>Oral information from Oscar Nelson.

<sup>2</sup>P.S. Goodman, "Rand McNally Map of Indiana Dunes" (1923?, at Chicago Hist. Soc.; for discussion of date, see Select Annotated List of Maps Consulted).

<sup>3</sup>Oral information from Mildred Warner and Norris Coombs.

<sup>4</sup>Speculation by Paul Petratis, Chicago Hist. Soc.



Valparaiso Moraine would have joined the Mississippi/Gulf water system with the Great Lakes/Saint Lawrence/Atlantic one.

More important portages across the subcontinental divide can be seen on early maps, both east and west of the Calumet region. On the east was a portage from the Kankakee to the Saint Joseph; on the west, one from the Des Plaines to the Chicago River.<sup>1</sup>

The most important portage for the Calumet region at the beginning of the nineteenth century joined two rivers on the north side of the Valparaiso Moraine. While both rivers were called "Calumet," they do not correspond precisely with the Little and Grand Calumet Rivers of later years. One river flowed sluggishly west past the Bailly site and on through the Lake County marshes to an area southwest of Lake Calumet, where it looped to reverse its direction, returning east about halfway back to the Bailly site before it finally flowed into Lake Michigan in the area of later Gary's Marquette Park.<sup>2</sup> Several turn of the century maps show it in this hairpin shape.<sup>2</sup> The other river emptied Lake Calumet more directly into Lake Michigan. At one point these two Calumet rivers came close enough to permit a portage.

In the first quarter of the nineteenth century, the relationship between these two rivers underwent a major and permanent change, apparently at least partly as a result of the Indian portage between them. Arrowsmith's map of 1802<sup>3</sup> marked a portage of thirty yards from one Calumet River to the other.<sup>3</sup> In 1809 a traveler along the lake-shore reported that there was an intermittent open channel along the path of the portage. "These two rivers are of the greatest consequence to the traders on the lake," he wrote. "One of them is considerably longer than the other; and there is a communication between them, which in case of storm on the lake the trader can go up one, several miles, then across into the other, and down into the lake."<sup>4</sup> A map drawn three years later by General Hull showed a canal between the Calumet Rivers as though it was a permanent feature.<sup>5</sup> No such waterway had been indicated in any of the maps made before 1803.

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<sup>1</sup>Bellin, "Partie Occidentale de la Nouvelle France ou du Canada" (map, 1755, at Newberry); Samuel Lewis, "A Map of Part of the N.W. Territory of the United States: Compiled from Actual Surveys, and the Best Information" (1796, at Chicago Hist. Soc.).

<sup>2</sup>Lewis, "Map of Part of the N.W. Territory;" Lapie, "Carte des Etats-Unis" (Paris, n.d. -- after 1776, before 1803 -- at Chicago Hist. Soc.).

<sup>3</sup>A. Arrowsmith, "A Map of the United States of North America" (London, 1802, at Chicago Hist. Soc.).

<sup>4</sup>McCord, Travel Accounts, 57.

<sup>5</sup>William Hull, map, 1812, copy in Scharf Collection, Chicago Hist. Soc. (1 Feb. 1911).

By the time surveyor John Tipton arrived in 1821, the Calumet Rivers were fixed in their new configuration and the terms "Little Calumet" and "Grand Calumet" had taken on their modern meanings. The term "Little Calumet" was used to refer only to the stream above the channel. The term "Grand Calumet" referred to the channel itself, together with the two mouths which it connected, one in Indiana and the other in Illinois. Thus the Little Calumet had become a tributary of the Grand Calumet, which emptied into Lake Michigan at both ends.

Tipton observed that the Grand Calumet River seemed to have no current.<sup>1</sup> For many years both mouths tended to become clogged with sand, refuse, and weeds. When the United States government began to develop a harbor at the Illinois mouth in 1870, the cleared channel enabled water to flow more easily in that direction, and the Indiana mouth became permanently closed.<sup>2</sup> To the extent that the changes in the course of the Calumet Rivers resulted from Indian portages and European-American harbors, these changes represent a very significant effect of human use of the waterways for transportation.

European-Americans probably made less use of the rivers for transport than did the Indians. Most streams, including the Little and Grand Calumets, were too small for larger European-American boats such as those that plied the Ohio and the Mississippi. To be sure, Bailly's plat for his proposed town of Bailly, drawn up at the end of 1834, showed a steamboat chugging along the Little Calumet (see figure 6). Solon Robinson, promoting the area a few months later, wrote that the Grand Calumet was navigable for steamboats its entire length using the Illinois mouth, and that the other mouth easily could be made navigable as well.<sup>3</sup> In spite of these grand visions, there is no evidence that steamboats actually used either river.

The 1830's and '40's were the great era of canal building across the United States. Colton, in his State of Indiana Delineated of 1838, described plans by the state to construct a Northern Canal from Lake Michigan at Michigan City to Valparaiso and back east to Fort Wayne, where it would connect with the Wabash. A branch westward from Valparaiso would cross Lake County and join the canal system of Illinois.<sup>4</sup> This canal and branch appear on an 1853 map, but we have found no other evidence that the Northern Canal ever materialized.<sup>5</sup>

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<sup>1</sup> John Tipton, The John Tipton Papers, ed. by Nellie Armstrong Robertson and Dorothy Riker (Indianapolis, 1942), I, 266, 269.

<sup>2</sup> Houston, "Calumet & Grand Calumet Rivers;" Brennan, Wonders of the Dunes, 138.

<sup>3</sup> Robinson, Solon Robinson, I, 59-60.

<sup>4</sup> J. H. Colton, The State of Indiana Delineated, Geographical, Historical, Statistical & Commercial (New York, 1838), 28, 34, 46.

<sup>5</sup> Smith, "Guide Through Ohio, etc."

If it was indeed constructed and used, it probably passed out of use with the arrival of the railroads.

The most important body of water for transportation around northwestern Indiana was Lake Michigan. Bailly and other French and Indian traders traveled the lake in canoes, and perhaps sailboats. Routes near the shore took Bailly's men to and from Mackinac and Green Bay. The first steamboat<sup>1</sup> to enter Lake Michigan came through the Strait of Mackinac in 1827. Hence, summertime travelers between Detroit and Chicago in the 1830's could travel by steamboat, although many rejected it in favor of the overland route. The missionary Flavel Bascom and his wife, in the summer of 1833, chose to go by land because of the unpleasantness of a steamboat during a storm.<sup>2</sup> A few weeks later Charles Latrobe made an autumn journey on the newly opened stage route; in another season, he wrote, he would probably have gone by boat. As Latrobe traveled the part of the stage road along the beach, he found the shore strewn with tree trunks and the remains of boats, wrecked because of the "total absence of harbors" along that part of the shoreline.<sup>3</sup>

In the 1830's, the ability to accommodate lake transport quickly made Michigan City the largest town in northwestern Indiana. At the mouth of Trail Creek in LaPorte County, Michigan City was the first Indiana town to be awarded Congressional funding for a harbor. Although a visitor at Hughes' Grog Shop in the autumn of 1833 thought Michigan City "a puny place with half a dozen houses," he found land unusually expensive "owing to the superior shipping advantages it will possess when the harbor is formed."<sup>4</sup> When the harbor was completed, Michigan City became the main port and market of the area, especially for the shipment of lumber and agricultural products. Until railroads came to the area in the 1850's, the harbor town had a virtual monopoly as a shipping point for bulky goods from LaPorte and Porter Counties. The Michigan Road, completed in 1833, connected Michigan City by land with Logansport in the interior of the state so that most of Indiana might benefit from the port.<sup>5</sup> In the later nineteenth century, a major steamboat route east from Chicago started by way of Michigan City.<sup>6</sup>

Developers hoped that other potential harbor sites might enjoy

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<sup>1</sup> Meyer, "Circulation and Settlement 1830-1850," 324.

<sup>2</sup> Bascom, "Autobiography," III, 237.

<sup>3</sup> Latrobe, Rambler, II, 136, 141.

<sup>4</sup> David, "Diary," 64.

<sup>5</sup> Cannon, History, I, 83.

<sup>6</sup> J. H. Colton, publisher, The Western Tourist and Emigrant's Guide (New York, 1853), 78; James Barnet, "The Coast Pilot Chart of Lake Michigan" (Chicago, 1863, at Chicago Hist. Soc.).



similar success. When land in Porter and Lake Counties became available for sale after 1835, optimistic investors platted City West at the mouth of Dunes Creek and Indiana City at the Indiana mouth of the Grand Calumet. Joseph Bailly may have been involved in the preliminary plans for the latter project.<sup>1</sup> The destiny of the two cities depended on Congress voting to provide them with harbors for commerce, as the structures would be too expensive for private developers to undertake. By about 1838 their hopes for Congressional support disintegrated. Unable to dock ships, both cities passed out of existence.<sup>2</sup> Their demise, in contrast to Michigan City's successful growth, demonstrates the importance of facilities for lake transport in influencing patterns of nineteenth century settlement and commerce.

Without harbors, Indiana residents west of Michigan City developed private facilities for boating on a smaller scale. Barnet's 1863 "Coast Pilot Chart of Lake Michigan" showed three docks in Indiana west of the mouth of Dunes Creek. The precise locations of the docks are not clear, but the easternmost was probably the pier from which Morgan shipped lumber in the 1860's; its remains were still visible in the early twentieth century.<sup>3</sup> No lighthouses appeared on Barnet's map between Chicago and Michigan City. By the turn of the century there was a small wooden lighthouse on a high dune roughly between modern Burns Ditch and Ogden Dunes.<sup>4</sup>

Local residents made light use of the lake for private fishing and pleasure. In the early decades of the twentieth century, at least half a dozen fishermen lived in shacks on the Knickerbocker Ice Company property between Dune Acres and Burns Ditch, and took small boats onto the lake to catch sturgeon, whitefish, salmon, and pike.<sup>5</sup> A sturgeon and whitefish industry flourished on a larger scale around Miller, near the former Indiana mouth of the Grand Calumet; Bailey's book of 1917 included a photograph of a "familiar scene" on the beach, showing a fisherman's warehouse and nets.<sup>6</sup> As the shore was developed for residential and vacation purposes in the 1920's and later, small pleasure craft became important. The developers of

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<sup>1</sup>Howe, Story of a French Homestead, 90.

<sup>2</sup>Ball, Northwestern Indiana, 309-12; 317-18; Brennan, Wonders of the Dunes, 84; Meyer, "Circulation and Settlement 1830-1850," 335-36.

<sup>3</sup>E. Stillman Bailey, The Sand Dunes of Indiana (Chicago, 1917), 162.

<sup>4</sup>Crisman, "Isaac Crisman," 111.

<sup>5</sup>Oral information from Si Charlson.

<sup>6</sup>Moore, Calumet Region, 102; Bailey, Sand Dunes of Indiana, 20.

Dune Acres built a small harbor there, but the winter storms of 1927 soon washed it away.<sup>1</sup> The motorboats moored by cottages along Burns Ditch in the 1970's presumably carried their owners out onto the lake for pleasure.

In the twentieth century the use of Lake Michigan for the transport of heavy industrial supplies has become most significant. The need for lake transport of ores and finished products -- together with the advantages of lakeside sites for cooling water, slag disposal, and growing room -- has lured steel companies and some other industries to the shore. The availability of rail transportation and cheap vacant land in the marshes and sand hills has been an additional attraction. Industries have gradually spread around the lakeshore eastward from Chicago.<sup>2</sup>

No less than the towns platted in the 1830's, these industries depended for their success on the construction of harbors. Illinois Steel's establishment in South Chicago coincided with the completion of Calumet Harbor about 1880, Inland Steel's in East Chicago with Indiana Harbor in 1901-06, U.S. Steel's in Gary with Gary Harbor in 1906. The first was financed by the United States government, the second and third by the steel companies themselves. The growth of large corporate institutions had made it possible to organize the necessary financial resources through corporate activity as well as through the persuasion of congressmen. Companies did not build plants until they were sure of harbors, even when they had invested to the extent of purchasing the land. Thus Inland Steel bought a lakeside site at the western edge of Porter County in 1919. In 1929 Midwest Steel bought land around Burns Ditch with the understanding that a harbor would be built there, but delayed plant construction for thirty years while it waited for Congressional assurance that the harbor would materialize. East of Midwest Steel, Bethlehem Steel bought a large site in 1956, but Inland and Bethlehem both waited to build on their Porter County sites until the controversial harbor issue was resolved and the Federal construction of the Port of Indiana in the 1960's assured.<sup>3</sup>

By changing the shoreline, large harbor structures have changed the shape of both the lake and the land. Together with enclosures in the lake for industrial waste disposal and land fill, the harbors transformed the industrial parts of the shoreline into the

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<sup>1</sup> Oral information from Leonard Conklin.

<sup>2</sup> John B. Appleton, The Iron and Steel Industry of the Calumet District: A Study in Economic Geography (Urbana, Il., 1925), passim.

<sup>3</sup> Appleton, Iron and Steel Industry, passim; Rutherford H. Platt, "The Open Space Decision Process: Spatial Allocation of Costs and Benefits," University of Chicago Department of Geography Research Paper No. 142 (Chicago, 1972), passim; Moore, Calumet Region, viii, 608; W.P.A., Calumet Region Hist. Guide, 68-69.

rectangular shapes of western civilization. They influenced other parts of the shore as well. While most of the shoreline was eroding somewhat in the 1970's, the beach of the Indiana Dunes National Lakeshore just west of Michigan City was wearing away especially fast because the city's harbor structures interrupted the flow of currents carrying new sand into the area.<sup>1</sup> Conversely, in the same period a beach and foredune were growing out into the lake in the part of the park just east of the Northern Indiana Public Service Company and Bethlehem Steel, where artificial protrusions encouraged the deposit of sand which would otherwise have been carried further west.<sup>2</sup> Most importantly, of course, harbors were a direct cause of all the other large changes in the duneland wrought by the construction of the massive industrial facilities which now occupy their respective places on the Indiana shoreline.

#### D. Railroads

Railroads brought a sharp change in patterns of settlement and ways of living in the second half of the nineteenth century and the opening years of the twentieth. Track construction work attracted laborers from Sweden, Germany, and Ireland to settle in the area. Railroads spurred new industries directly, by demanding their products, and indirectly by giving increased access to markets. Displacing stage coaches and steamboats as the principal means of long distance transportation for people and goods, they encouraged the growth of inland towns such as Chesterton along the rail lines. Not only were the railroad embankments and tracks themselves an intrusion on the land; the developments they encouraged in settlement and industry worked still larger changes in the Bailly area.

Prior to the great railroad era, one rail line may have passed through northern Porter County, as mysterious as the Northern Canal discussed above and dating from the same period. Colton wrote in 1838, "The Buffalo and Mississippi Rail-Road, proposed to connect the Atlantic states with the Mississippi river, has been surveyed across the northern part of the state, and will be seen on the map."<sup>3</sup> Coming from the east through Elkhart, South Bend, and LaPorte to Michigan City, this proposed B. & M. Railroad then ran alongside the stage road on the Calumet Beach Ridge through Baillytown, crossed the Little Calumet near the old pole bridge just below Salt Creek, and continued south of the Little Calumet and westward toward the Mississippi.<sup>4</sup> The location of the B. & M. was mentioned in the definition of the Valparaiso and Michigan City Plank Road Co.'s proposed route in

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<sup>1</sup> U.S. Dept. of Interior, National Park Service, Special Study: Indiana Dunes National Lakeshore (June, 1977), 26-27.

<sup>2</sup> Mark Reshkin et al., Basic Ecosystem Studies of the Indiana Dunes National Lakeshore (1975, TS at IDNI), II, 45, III, 15-16.

<sup>3</sup> Colton, State of Indiana, 48.

<sup>4</sup> Colton, "Colton's New Map of Indiana."



1850,<sup>1</sup> and the railroad appeared on Abbot's map of 1855 -- but only east of its junction with the new Michigan Southern tracks west of Baillytown (see figure 5). By 1876 all trace of the elusive line had disappeared from county maps.<sup>2</sup> Possibly the B. & M. may have been a horse-drawn or mule-drawn line, which passed out of existence after locomotive railroads entered the area; we know that Morgan's side track, the railroad that took lumber from Morgan's steam mill at Furnessville to his dock west of the mouth of Dunes Creek, was an animal-powered line of that sort.<sup>3</sup>

The great railroad era began in Porter County in the 1850's with the arrival of two locomotive rail lines: the Michigan Central Railroad, and the Lake Shore and Michigan Southern Railroad (usually called the Michigan Southern). The Michigan Central followed a route roughly parallel to the Calumet Beach Ridge, about a mile south of the stage road. The Michigan Southern came from LaPorte to Baillytown and crossed the Baillytown Sag to continue westward on the Tolleston Beach Ridge. The two rail lines intersected at modern Porter or Hageman. "Old Porter" was the station on the Michigan Central southwest of the intersection; Chesterton ("Calumet" in figure 5), the Michigan Southern station southeast of it. Both lines entered Porter County from the east about 1850 and reached Chicago in the first half of 1852.<sup>4</sup> Opportunities for employment building the tracks gave rise to a swell of immigration and the growth of railroad towns around the stations. Chesterton, "a little railroad village,"<sup>5</sup> came into being with the arrival of Swedish and Irish laborers to work on the Michigan Southern,<sup>6</sup> and Jesse Morgan's post office moved there from nearby Coffee Creek.

Most of the other rail lines which came through Porter County in the later nineteenth century went further south, through Valparaiso. An exception was the Pere Marquette line, based in Detroit, which ran northeast from Hageman just south of the Michigan Central. Another was the Elgin, Joliet, and Eastern, which went southwest from

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<sup>1</sup>History of Porter County, I, 55-57.

<sup>2</sup>Baskin, Forster, Illustrated Hist. Atlas, "Porter County;" Hardesty, Atlas of Porter County, "Pine Township," "Westchester Township."

<sup>3</sup>Brennan, Wonders of the Dunes, 118; Goodspeed and Blanchard, Counties of Porter and Lake, 163.

<sup>4</sup>History of Porter County, I, 65; William K. Ackerman, Early Illinois Railroads (Chicago, 1884), 53.

<sup>5</sup>Howe, Story of a French Homestead, 149.

<sup>6</sup>Howe, Story of a French Homestead, 139, 145, 151; Goodspeed and Blanchard, Counties of Porter and Lake, 163-64.

Chesterton. The tracks of the Baltimore and Ohio, built in the 1870's, passed through the region about halfway between Chesterton and Valparaiso. Going northwest, they crossed the tracks of the Elgin, Joliet, and Eastern at McCool in Portage Township and reached the Michigan Central about two miles further on, near Crisman<sup>1</sup> (see figure 7). A riot occurred at Crisman in the autumn of 1874 when B. & O. crews first tried to lay rails across the Michigan Central tracks there, but the crossing was successfully completed and both lines were able to run.<sup>2</sup> The arrival of the B. & O. line at Miller, in modern Gary, gave rise to a community of Swedish construction workers there similar to the one at Chesterton.<sup>3</sup> In both Miller and Chesterton, many workers remained behind after the railroads were completed and found other means of support.

In addition to creating new towns of construction workers, the building of the railroads encouraged other industries whose products were needed for the tracks: sand, timber, and iron. Sandmining for embankments was the first significant industrial use of the sand hills along Lake Michigan. Timber for ties was provided by heavy logging on the Bailly estate and elsewhere.<sup>4</sup> Finally, the demand for iron rails was an impetus for the construction of rolling mills, the beginning of the iron and steel industry which would gradually come to dominate much of the area.<sup>5</sup>

Railroads changed ways of life all along the lines. Northwestern Indiana became less isolated, and luxury goods began to be imported. Methods of agriculture were affected. With the introduction of factory-made machinery, horses replaced oxen as the principal animals for farm labor,<sup>6</sup> and the creation of milk stations encouraged an increase in dairy farming.<sup>7</sup> New industries also developed as the railroads gave them access to Chicago and other markets. Brick and tile, ice, and commercial fishing are only a few of the many varied industries which were able to grow under the impetus of rail transport for their products.

Where no trains went, the countryside remained isolated. As of 1900, there were only two stations near the Lake Michigan sand hills: Miller and Dune Park (west of Baillytown), both on the Michigan Southern. Both stations became industrial centers, Miller

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<sup>1</sup>W.P.A., Calumet Region Hist. Guide, 78.

<sup>2</sup>W.P.A., Calumet Region Hist. Guide, 138; History of Porter County, I, 68.

<sup>3</sup>W.P.A., Calumet Region Hist. Guide, 133.

<sup>4</sup>Howe, Story of a French Homestead, 138.

<sup>5</sup>Appleton, Iron and Steel Industry, 28.

<sup>6</sup>Ball, Northwestern Indiana, 127.

<sup>7</sup>W.P.A., Calumet Region Hist. Guide, 76.

for the shipment of fish and ice, Dune Park for sand mined by the Knickerbocker Ice Company. Further east where the sand hills could not be reached by train, between Baillytown and Michigan City, little industry developed; nor were many people aware of the aesthetic, scientific, or recreational possibilities of that area. There is no truth to the legend that ecologist Henry Cowles first discovered the varied plant life of the dunes by glancing out a train window near the later site of Dune Acres, by the tamarack swamp which now bears Cowles' name.<sup>1</sup> In fact, when Cowles was completing his dissertation at the University of Chicago in 1898, no train yet ran within sight of the tamarack swamp, and Cowles' many references of 1898-1901 to the vegetation of the Calumet region center on the marshes and sand hills within walking distance of the Michigan Southern stations at Miller, Dune Park, and Chesterton.<sup>2</sup>

In 1906-08, the Chicago, Lake Shore and South Bend Railway (South Shore Line) built an electric railroad line across northern Lake and Porter Counties, along the Tolleston and Calumet Beach Ridges.<sup>3</sup> The Calumet Beach Ridge portion gave the public new access to the sand hills from Baillytown to Michigan City. People could now ride beyond Miller and Wilson (Dune Park) to such stations as Mineral Springs, Tremont, or Tamarack. Cowles could now bring his students to study the plants of the marsh near Mineral Springs Road. It is no coincidence that the next decade brought a sudden surge of interest in the dunes on the part of Prairie Club members and other residents of Chicago and Gary. The movement which resulted in the Indiana Dunes State Park, the towns of Dune Acres and Beverly Shores, and eventually the Indiana Dunes National Lakeshore, was made possible by the introduction of a rail line which made a previously isolated area suddenly accessible.

According to maps of 1921 and 1948, yet another new railroad was proposed for the Bailly area: the Chicago, Indiana, and Southern.<sup>4</sup> Its

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<sup>1</sup>Jean Komaiko and Norma Schaeffer, Doing the Dunes (Beverly Shores, Ind., 1973), 27-28.

<sup>2</sup>Henry C. Cowles, "The Plant Societies of Chicago and Vicinity," Bulletin of the Geographic Society of Chicago, no. 2 (1901), 1-76 passim.

<sup>3</sup>William D. Middleton, South Shore, The Last Interurban (San Marino, Cal., 1970), 11-21.

<sup>4</sup>George A. Ogle, Standard Atlas Outline Map, Porter County, Indiana (Chicago, 1921), 7; Stacy-Ray Map Publishers, Farm Plat Book of Porter County, Indiana (Kankakee, Ill., 1948), "Westchester Township," "Pine Township."



proposed route would have run about midway between the South Shore tracks and Lake Michigan, partially along rights of way owned by the New York Central. The C.I.&S. was to go through the marsh or along the southern edge of the sand hills, through the tamarack swamp and the Indiana Dunes State Park, turning due east at Beverly Shores and joining the Michigan Central tracks about a mile west of the county line. We have not been able to learn more about this implausible project, which failed to materialize.

In this chapter we have examined some of the changes in the Bailly area brought about by the development of roadways, waterways, and railways. Now let us consider more closely the kinds of land use which characterized each of the major parts of the Bailly area: the arable land on and south of the Calumet Beach Ridge, the marsh, and the sand hills.

### CHAPTER III. THE CALUMET BEACH RIDGE AND THE UPPER LITTLE CALUMET BASIN

The Calumet Beach Ridge and the land south of it were always more fertile and attractive to settlement than were the marshes and sand hills to the north. This comparative fertility, with the land use it inspired, accounts for our treatment of the Calumet Beach Ridge and the basin of the Little Calumet River above Salt Creek as a single unit in this study. This was where people settled, logged, and farmed. When the first settlers arrived, they found the area heavily wooded. Scattered through the woods were occasional broad open meadows, such as Door Prairie near LaPorte, Morgan Prairie southeast of the Bailly area, and Twenty Mile Prairie southwest of it. Over the years most of the land was cleared by lumbering and farming activities, and the "prairies" ceased to be distinct.

The Little Calumet River was the main stream through this area. It flowed slowly westward past Chesterton and Baillytown, more clearly defined here than in the marshes further downstream. One of its main tributaries, Salt Creek, flowed down from the Valparaiso Moraine along the edge of Twenty Mile Prairie and joined the Little Calumet River just upstream from the Calumet Beach Ridge. The other major tributary in the Bailly area was Coffee Creek, which ran roughly parallel to Salt Creek further east and joined the Little Calumet near modern Chesterton. Because of the comparative fertility of the upper Little Calumet basin, the human history of the Bailly area in the nineteenth and early twentieth century was concentrated on this part of the land.

#### A. Settlement

The earliest European-American settler in northern Porter County was Joseph Bailly, the French fur trader who moved there in 1822. He built his homestead and trading post where the north branch of the Sauk Trail crossed the Little Calumet River. The river and the trail gave him access both to furs from further inland and to Lake Michigan, on which he could send the furs northward to Mackinac. A passing traveler in 1833 referred to the homestead as an Indian trading post and described it as "a sequestered, wild-looking place. The trading establishment consisted of six or eight log-cabins, of a most primitive construction, all of them gray with age, and so grouped on the bank of the river as to present an appearance quite picturesque."<sup>1</sup>

French speaking, Catholic, married to a woman of mixed French and Indian descent, doing business predominantly with local Pottawatomi Indians, Bailly represented a different culture from his later Yankee neighbors. Even after he died in 1835, his descendants

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<sup>1</sup> Hoffman, Winter in the West, 12.

continued to feel a social distance from the newcomers.<sup>1</sup> The family burial ground on the Calumet Beach Ridge, north of the homestead, remained known to some local residents as "the Indian cemetery."<sup>2</sup> It might be fair to consider the Bailly family the last remnant of a transitional European-Indian culture, rather than the first arrival of the new immigrant civilization.<sup>3</sup>

The Pottawatomis officially owned the land of northwestern Indiana at the time Bailly settled there. They hunted, gathered, fished, and perhaps cultivated some crops.<sup>4</sup> The Indians were able to live in peace in the Calumet region years later than in other parts of Indiana, which had become a state in 1816. One reason was that the low wet land was less well suited to farming than to hunting and gathering, so that European-Americans who wanted to farm found it less attractive than other areas. Another reason was that the broad marshes of the Kankakee tended to isolate the Calumet region from southern Indiana, where settlement was proceeding rapidly by the 1820's. When European-Americans did begin to settle the Bailly area in the 1830's, more of them came from New York, Ohio, and other eastern states than from the southern part of Indiana itself.

In 1826 the United States government bought from the Pottawatomis a strip of land ten miles wide across northern Indiana, between Michigan and a line drawn across the southern tip of Lake Michigan. Calvin Britian and other surveyors surveyed the ten mile purchase in 1829-30, establishing six-mile-square townships divided into one-mile-square sections, and supplying a description of the land along every section line. The government bought the land south of the Indian boundary in 1832 and had it surveyed in 1834. Porter County was created the next year. First north and then south of the Indian boundary, Porter County land began to come on sale at the regional land office at LaPorte.

Some of the first buyers already lived on the land they bought, while others came from the east to make new homesteads. Those who already lived there had been squatters with no legal title to the land; buying the land in the later 1830's secured their claim.<sup>5</sup> Newcomers bought land, often on the basis of the surveyors' descriptions, in the hope of being able to maintain a family homestead

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<sup>1</sup> Howe, Story of a French Homestead, passim.

<sup>2</sup> Oral information from Hazel Barido and Mrs. Fred Johnson.

<sup>3</sup> Francis Jennings, The Invasion of America: Indians, Colonialism, and the Cant of Conquest (Chapel Hill, N.C., 1975), passim.

<sup>4</sup> W. Fredrick Limp, "The Bailly Site: An Archaeological Study of an Early Historic Homestead in the Calumet" (TS, 1974, at IDNL); Ball, Northwestern Indiana, 23.

<sup>5</sup> Meyer, "Circulation and Settlement 1830-1850," 320.



through a combination of farming and hunting. Land purchases were defined in terms of the townships and sections laid out in the survey. A quarter section made an average homestead. Property lines ran north-south and east-west along the section and half-section lines of the survey.<sup>1</sup>

Several prominent 1830's settlers left their names on the map of Porter County. William and Walker McCool and Isaac Crisman's father settled at what became McCool and Crisman in Portage Township.<sup>2</sup> William and Isaac Morgan settled in 1833 on what became known as Morgan Prairie, some miles southeast of Chesterton. Their brother Jesse built his house the same year where the north branch of the Sauk Trail crossed Coffee Creek, near Morgan Park in modern Chesterton. The first settler after Bailly in the Bailly area, Jesse Morgan, made his house serve as school, stage house, post office, and polling place for the area. In building his house south of the Indian boundary before the government survey was completed there, Jesse Morgan was a squatter; but he presumably went to LaPorte to buy the title to his land as soon as it became available.<sup>3</sup>

Some of the land was sold, not to homesteaders, but to real estate developers investing in what they hoped were the cities of the future. They bought quarter sections or other blocks of land, platted towns, and sold lots. The three inland platted towns of the 1830's in the Bailly area were Waverly, Baillytown, and Manchester, a few miles apart along the Little Calumet River. Furthest upstream was Waverly, a short distance east of the Bailly homestead and perhaps two miles northwest of Jesse Morgan's place. William Gosset, owner, and John Foster, surveyor, laid out the proposed town in 1834 and managed to sell a few lots the next spring. They made a considerable investment in improvements, but when a forest fire destroyed the town in 1838 they did not rebuild it.<sup>4</sup> About a mile and a half downstream, below the Bailly homestead, Joseph Bailly laid out the Town of Bailly (later called Baillytown) in a plat dated December 10, 1834 (see figure 6). Baillytown lay a little north of the river, where the stage road along the north branch of the Sauk Trail crossed the Calumet Beach Ridge road in the southeastern quarter of Section 28. Bailly sold a few lots in the summer of 1835, but his

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<sup>1</sup>Meyer, "Circulation and Settlement 1830-1850," 325.

<sup>2</sup>Crisman, "Isaac Crisman," 108, 109.

<sup>3</sup>Howe, Story of a French Homestead, 65; Meyer, "Circulation and Settlement 1830-1850," 329; Morgan and Schiemann, "Coffee Creek Post Office," 49-50; Ball, Northwestern Indiana, 46, 101; History of Porter County, I, 38; Colton, State of Indiana, 66-69.

<sup>4</sup>Goodspeed and Blanchard, Counties of Porter and Lake, 162; Meyer, "Circulation and Settlement 1830-1850," 338-39; Moore, Calumet Region, 63.

death that year put an end to his plans.<sup>1</sup> Two miles further downstream, just west of Salt Creek, the town of Manchester was platted in 1837. It lay on the newly opened Calumet Beach Ridge stage road, at the site of the newly built Long Pole Bridge. Like Waverly and Baillytown,<sup>2</sup> Manchester faded out of existence after only a few lots were sold.

The quick demise of Waverly, Baillytown, and Manchester fell into the pattern of platted towns scattered all over the Calumet region in the 1830's. Other examples include the lakeside towns of City West and Indiana City, discussed above in connection with Lake Michigan transport. Specific reasons can be cited for many towns' failures: fire at Waverly, the proprietor's death at Baillytown, lack of harbors at City West and Indiana City. Surely more general causes also lay behind the failure of so many platted towns in a short time. The entire United States experienced an economic depression beginning in 1837 that made it an unpropitious era for real estate ventures. Moreover, the commerce of the Calumet region at that time was probably only sufficient to support one town. Early towns competed with each other for this commerce. The success of Michigan City in becoming a regional market and commercial center ensured the failure of its competitors such as Waverly, Baillytown, and Manchester.

One town which started in the 1840's, New City West, remained in existence for several decades at least. New City West (modern Tremont) was on the Calumet Beach Ridge stage road, where it crossed the Indian trail and state road south to Valparaiso. Alanson Green kept a tavern at the intersection, and a group of perhaps twenty houses grew up around it. New City West seems to have evolved spontaneously, rather than being a developer's platted town like its deserted namesake on the lakefront. In the 1850's and 1860's, Green's Tavern is said to have become a social center for the neighborhood, as well as providing hospitality to travelers and sheltering fugitive slaves en route to Canada by way of Detroit. In time the town developed light industry in the form of a cooper shop and a small brickyard. New City West flourished into the 1870's and remained a school site, with a small cluster of houses, for many years.<sup>3</sup>

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<sup>1</sup>Olga Mae Schiemann, "Roads Across Old Bailly Town," Duneland Historical Society Publications, II, no. 1 (Nov. 1956), 9-13; Meyer, "Circulation and Settlement 1830-1850," 337-38.

<sup>2</sup>Moore, Calumet Region, 77-78.

<sup>3</sup>Brennan, Wonders of the Dunes, 86, 116-18; Hardesty, Atlas, "Westchester Township;" Lee and Lee, Porter County Atlas (1895), "Westchester Township."

A new phase of settlement in the Bailly area, after the land purchases of the 1830's and '40's, began with the arrival of the railroads in 1850-52. Railroad construction offered immediate employment; and, as construction workers remained in the area to farm, railroad transport provided a means for obtaining farm equipment and shipping products to market. Many of the 1850's settlers in the Bailly area came from Sweden. According to one of their descendants, they were attracted by the lake and opportunities to fish.<sup>1</sup> A Swedish Lutheran church was organized at Baillytown in 1857, and a Swedish Methodist one at Chesterton in 1879.<sup>2</sup> The Carlsons, Samuelsons, Johnsons, and Petersons, whose names abound in the atlases and plat books from 1876 to the 1970's, are of Swedish descent. The area around the Bailly homestead became a busy Scandinavian agricultural settlement.<sup>3</sup> There were also enough Germans to found a German Lutheran church at Chesterton.<sup>4</sup> According to the 1870 census, about forty per cent of the population of Westchester Township was born outside the United States; the proportion for Pine and Portage Townships was about the same.<sup>5</sup>

The demography of Porter County did not change markedly between 1870 and 1970. Population increased, the town of Chesterton grew, a few commuters from Chicago and Gary settled in new residential communities, and steel mills and other industries offered increased employment opportunities. However, the Bailly area in the 1970's remained essentially rural. Many of its residents were descended from the Swedes and Germans who arrived after 1850. Some local families, such as the Crumpackers and the Morgans, traced their ancestry further back to the first wave of settlers in the 1830's. The main patterns of settlement in the Bailly area, on the Calumet Beach Ridge and in the basin of the Little Calumet, were already set in the middle decades of the nineteenth century.

#### B. Lumbering

Lumbering was one cause of permanent change to the inland landscape in the nineteenth century. In only a few decades, lumbering changed thick forest into open fields and second growth trees.

The comparatively fertile land on the Calumet Beach Ridge, and inland from it, was heavily timbered when the first European-Americans arrived. Open meadows such as Door Prairie, Morgan Prairie, and Twenty Mile Prairie varied a landscape that was basically wooded. Because the beach ridge ran southwest from Michigan City at an increasing distance from Lake Michigan, the forest on and behind the

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<sup>1</sup> Oral information from Si Charlson.

<sup>2</sup> Goodspeed and Blanchard, Counties of Porter and Lake, 160.

<sup>3</sup> Francis R. Howe to Robert Fergus, 22 April 1884, in Ackerman, Early Illinois Railroads, 121.

<sup>4</sup> Goodspeed and Blanchard, Counties of Porter and Lake, 160.

<sup>5</sup> Baskin, Forster, Illustrated Hist. Atlas, 456.



the ridge grew near the lakeshore in LaPorte County, further from it in Porter County, and some miles inland in Lake County. White pine dominated the forest in LaPorte County and in Pine Township of north-eastern Porter County, where the forest came closest to the lake. Many white pines listed in the 1830 survey in Pine Township had diameters ranging from twenty inches to two feet.<sup>1</sup> Further west, in inland Porter and Lake Counties, oak was predominant.<sup>2</sup> Oak forest originally crowned the hills around the Bailly homestead, interspersed with elm, ash, and walnut.<sup>3</sup> The road north of the homestead was "Oak Hill Road." Solon Robinson wanted to call Indiana west of LaPorte County and north of the Kankakee "Oakland County" in honor of the principal timber on it.<sup>4</sup>

In addition to pines in the east and oaks in the west, clusters of sugar maples were scattered through the forest. An Indian sugar camp stood beside the north branch of the Sauk Trail, southeast of the place where Jesse Morgan built his house.<sup>5</sup> In the 1850's, Indians came from as far as central Illinois to make sugar on Bailly property west of the homestead.<sup>6</sup> Maple sugar refining continued in the area well into the twentieth century.<sup>7</sup>

Some of the earliest settlers cut down trees to clear the land for farming, while others settled beside prairies instead. In either case, they needed processed lumber almost immediately for flat plank bridges, wagons, plows, and houses. Sawmills therefore appeared very early, along the small streams that flowed down from the Valparaiso Moraine.<sup>8</sup> Abraham Hall's sawmill on Coffee Creek and Gossett's mill on Salt Creek were both in operation before 1836.<sup>9</sup> Abbot's map of 1855 shows five water mills on Coffee Creek alone; it does not distinguish sawmills from gristmills, but the two were often combined on the same site. Mills similarly dotted other tributaries of the Little Calumet. In addition, Abbot showed steam

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<sup>1</sup> Calvin Britian, Jr., United States survey notes (MS, April 1830, copy at IDNL), 188, 192, et passim.

<sup>2</sup> Robinson, Solon Robinson, I, 51, 56,; Shirreff, Tour Through North America, 255; Toni K. Ristau, detail maps transcribed from United States survey notes of 1829-34 (1977, at IDNL), passim.

<sup>3</sup> Howe, Story of a French Homestead, 42.

<sup>4</sup> Robinson, Solon Robinson, I, 51.

<sup>5</sup> Meyer, "Circulation and Settlement 1830-1850," 315.

<sup>6</sup> Howe, Story of a French Homestead, 151; Crisman, "Isaac Crisman," 109.

<sup>7</sup> Oral information from Naomi Studebaker.

<sup>8</sup> Meyer, "Circulation and Settlement -1830," 269; Meyer, Circulation and Settlement 1830-1850, 342-43.

<sup>9</sup> Baskin, Forster, Illustrated Hist. Atlas, 274.

mills in the area by 1855, including Smith's south of the Little Calumet in Pine Township, Morgan's at Furnessville, and Wicker's northeast of Baillytown.

Lumbering was becoming a larger scale industry by the 1850's. Railroad construction meant a new demand for lumber to be used as ties. For this purpose timber was cut and sold from the Bailly estate, and probably from much of the surrounding area as well.<sup>1</sup> White pine from Pine Township and LaPorte County went to markets by water from the Michigan City harbor. Lumbering still counted as the principal industry of Pine Township as late as 1883, although there was only one sawmill left in the township by that year.<sup>2</sup>

Probably the largest lumbering operation in northern Porter County was that of Morgan, Furness and Company around 1860. The Morgan family owned much of Pine Township south of the Michigan Central tracks, as well as the land around the mouth of Dunes Creek (bought after the developers of old City West went bankrupt) and scattered parcels elsewhere.<sup>3</sup> Morgan's house and steam mill were beside the tracks, near the modern border of Pine and Westchester townships<sup>4</sup> (see figure 5). A side track led from the mill past New City West to a pier on the Morgan beach west of the Dunes Creek mouth. A horse-drawn railroad carried sawed lumber to the pier to be loaded onto boats for shipping to market. Morgan's lumbering partner was Edwin L. Furness, who had moved to the area in 1855 or 1856 and bought up several thousand acres scattered through Pine and northeastern Westchester Townships. Founding the Furnessville station and post office close to Morgan's mill and side track, Furness joined in the lumbering enterprise.<sup>5</sup>

As the amount of virgin timber diminished, the local lumbering industry declined. Possibly changing markets also contributed to

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<sup>1</sup>Howe, Story of a French Homestead, 138.

<sup>2</sup>History of Porter County, I, 159-60.

<sup>3</sup>Hardesty, Atlas, "Westchester Township," "Pine Township;" John O. Bowers, "Indiana's Lake Frontages and the Early Days of its Development" (n.d., TS in Gary Public Library in Lester's Papers by Various Hands), 160-61.

<sup>4</sup>Brennan, Wonders of the Dunes, 118, appears to be wrong in placing the mill near Hobart's mill site, much nearer the beach.

<sup>5</sup>Goodspeed and Blanchard, Counties of Porter and Lake, 163, 296; Crisman, "Isaac Crisman," 112; Brennan, Wonders of the Dunes, 118; Bailey, Sand Dunes of Indiana, 162.

the decline. Morgan, Furness and Company dissolved in 1862, and a boiler explosion destroyed Morgan's steam mill.<sup>1</sup> By the 1880's few sawmills remained in Pine and Westchester Townships.<sup>2</sup> In the twentieth century much of the area was covered with open fields or a second growth of much smaller trees. Along the Calumet Beach Ridge, and further inland in the basin of the Little Calumet River, heavy lumbering in the middle years of the nineteenth century eliminated what had once been miles of fine forest.

### C. Agriculture

From the 1830's to the 1950's the Bailly area on and south of the Calumet Beach Ridge was a rural area of small family farms. The settlers of the 1830's to '50's came here to farm, and their descendants still lived here a century later. The land was fertile enough to cultivate, although it was not outstandingly productive. Farmers raised the variety of plants and animals necessary to meet the needs of their own families. They undertook some farming for market as well, but most of their farms remained moderately small.

Although the farms were not highly specialized, fruits were especially distinctive of northern Porter County. Orchards characterized the area from the days of Joseph Bailly until the early 1950's. Bailly used imported seed to plant an extensive peach and apple orchard, to which his son-in-law added cherries, plums, and mulberries.<sup>3</sup> Naomi Studebaker's grandfather, Chelberg, planted pears and many kinds of apples on his farm. A number of peach orchards operated in the Bailly area as well as further east around Michigan City. Plums, cherries, grapes, strawberries, and red and black raspberries also grew on the many small fruit farms that dotted the landscape from Furnessville and Tremont to Baillytown and beyond.<sup>4</sup>

Many vegetables also grew in the Bailly area. Root crops -- potatoes, turnips, parsnips, beets, and carrots -- figure among the vegetables raised on Bailly area farms in the nineteenth and twentieth centuries.<sup>5</sup> Green and yellow beans were another significant crop. The Chelbergs harvested black walnuts. Some people raised pumpkins which they

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<sup>1</sup>Goodspeed and Blanchard, Counties of Porter and Lake, 296; Brennan, Wonders of the Dunes, 119.

<sup>2</sup>Goodspeed and Blanchard, Counties of Porter and Lake, 165; History of Porter County, I, 159-60.

<sup>3</sup>Howe, Story of a French Homestead, 122.

<sup>4</sup>Oral information from Naomi Studebaker, Si Charlson, Norris Coombs, and Oscar Nelson.

<sup>5</sup>Howe to Fergus, 121; oral information from Oscar Nelson, Irene Nelson, and Naomi Studebaker.



stored to feed to the cows in the winter.<sup>1</sup> Much vegetable gardening was on a small scale, to meet the food needs of the people and animals who lived on the farm. Some gardening of this sort continued into the 1970's, on the part of retired people, independent craftsmen, and steel mill workers.<sup>2</sup> One small commercial vegetable operation was the Peterson Greenhouse, which raised vegetables as well as flowers on a few acres at the corner of U.S. Highway 20 and Howe Road in the middle years of the twentieth century.<sup>3</sup>

Grains were an important crop. Wheat, oats, and corn grew on the Chelberg farm and neighboring farms. Area farmers also raised rye and buckwheat. Oats were especially well suited to higher, drier ground.<sup>4</sup> Hay could be found in the wetter lowlands, and will be discussed further in connection with the Great Marsh.

In many places cultivable land blended into marsh. Along the north slope of the Calumet Beach Ridge, for example, the border of the Great Marsh was imprecise; some crops could be raised lower on the slope than others, and cultivation extended further down the slope some years than others. South of the Calumet Beach Ridge, the survey records of 1829-34 showed many patches of marshland (see figure 3). From time to time, residents attempted to lower the water table by digging drainage ditches. Although the ditches most central to this study were in the Great Marsh and the Baillytown Sag, a county road map of 1960-72 shows a large number of county ditches south of the Calumet Beach Ridge as well; we have counted six of these inland ditches in Portage Township, six in Westchester Township, and four in Pine Township (see figure 7). Farming on the northern slope of the Calumet Beach Ridge and drainage ditches throughout the Bailly area will receive fuller discussion below in connection with the Great Marsh and the Baillytown Sag.

Animals were of secondary importance on most farms. A farm might maintain only enough livestock to do farm work and feed the people who lived there.<sup>5</sup> The earliest settlers used oxen for heavy work in the fields, but the introduction of new kinds of farm machinery

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<sup>1</sup>Oral information from Norris Coombs, Naomi Studebaker, and Si Charlson.

<sup>2</sup>Oral information from Norris Coombs and Oscar Nelson.

<sup>3</sup>U.S. Department of Interior, National Park Service, "Indiana Dunes National Lakeshore," segment 36 (map, Pittsburgh, 1969?, at IDNL); oral information from Norris Coombs.

<sup>4</sup>Oral information from Naomi Studebaker and Si Charlson; Howe to Fergus, 121.

<sup>5</sup>Oral information from Naomi Studebaker and Si Charlson.

in the later nineteenth century led to the use of horses instead, and by 1870 working oxen were almost unknown in northwestern Indiana.<sup>1</sup> The Chelberg farm in the early twentieth century kept four horses, plus enough animals for the family to slaughter perhaps four hogs and a cow each year. A smokehouse on the farm served to turn hogs into bacon and hams; the beef was fixed in brine to become corned beef. The Chelbergs also kept sheep, on the open pasture going down to the Little Calumet, and a dozen dairy cattle whose milk they shipped by railroad to the city.<sup>2</sup> Although there were a few experiments in large specialized dairy farming in the Great Marsh, dairy farming remained small in the Bailly area south of the Calumet Beach Ridge. Goats were uncommon, but some were once raised on the slope of the beach ridge near the junction of Oak Hill Road with U.S. Highway 12.<sup>3</sup>

The small farms of the Bailly area never yielded to agriculture on a large scale. The land was not productive enough to attract large agricultural investment. Although a county atlas of 1912 described the land of central Westchester Township as well adapted to agriculture, this was true only by comparison with the marshes and sand hills further north.<sup>4</sup> According to Frances Howe, the climate was adequate for vegetables and garden fruits but not good for "serious agriculture."<sup>5</sup> Residents in the 1970's say the soil is not very fertile. The farms of the early twentieth century, never highly productive, brought in diminishing profits as labor costs rose. To make matters worse, a period of hard winters in the late 1940's and early 1950's blighted the peaches. At that point most of the farmers still in business gave up, keeping only their family gardens under cultivation. By the later 1950's, few commercial farms or orchards remained in operation. Some farmland was turned over to governmental and industrial development, such as the Nike site and the U.S. Steel Goodfellow Camp; other fields simply lay fallow.<sup>6</sup>

Although agriculture was long the main activity of the Bailly area, then, it was largely abandoned in the middle years of the twentieth century. Some land was later transferred to other ownership for other uses; but it seems that most of this land had already passed out of use for farming long before it was sold, because of changed economic conditions, the climate, and the marginal productivity of the soil.

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<sup>1</sup>Ball, Northwestern Indiana, 127.

<sup>2</sup>Oral information from Naomi Studebaker.

<sup>3</sup>Oral information from Mildred Warner.

<sup>4</sup>History of Porter County, I, 85.

<sup>5</sup>Howe, History of a French Homestead, 67.

<sup>6</sup>Oral information from Norris Coombs and Oscar and Irene Nelson.

#### D. Minerals and Mineral Springs

Northern Porter County south of the Calumet Beach Ridge had two significant mineral resources: clay deposits and mineral springs. While there were not many other noteworthy minerals in the area, clay and mineral water lent themselves to commercial development in the late nineteenth and early twentieth century. Clay provided the raw material for a lively brick and tile industry. Mineral water could be bottled for sale, and also encouraged several attempts to develop the potential of the area as a health and pleasure resort.

The discovery of rich clay deposits in the vicinity of Porter and Chesterton led to the establishment of a number of factories making pressed bricks and clay drainage pipe segments, called tiles. A brickyard began operation at Hageman (Porter), where the Michigan Central Railroad crossed the Michigan Southern, in 1872. Ten years later there were two yards, employing a total of eighty or ninety workers, and an atlas writer reported that brickmaking had superceded milling lumber as the major industry of Westchester Township.<sup>1</sup> In 1890 the Chicago Hydraulic Pressed Brick Company bought the Porter brickyards. By 1912 the plant was turning out thirty five thousand bricks a day.<sup>2</sup> Other smaller brickyards were started in the vicinity in the latter part of the nineteenth century, such as the one near Green's Tavern at New City West. For a number of years before and after the turn of the century, brickyards were the major industrial employer in Chesterton and the surrounding area.<sup>3</sup>

It was also around the turn of the century that several artesian wells spouting mineral waters were found in northern Porter County. Although at least one was found among the sand hills, most of them were inland from the Calumet Beach Ridge.

The most famous of these mineral springs was discovered at Porter in the northwest quarter of Section 35, south of the Little Calumet River and east of what became known as Mineral Springs Road. In the 1890's, workers for the Chicago Hydraulic Pressed Brick Company bored a deep well at the Porter works in the hope of obtaining natural gas. Perhaps they were encouraged by the example of a small pocket of natural gas found on a farm near Furnessville in 1893. The well at the brickyard, instead of striking gas, developed into an

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<sup>1</sup>Goodspeed and Blanchard, Counties of Porter and Lake, 165.

<sup>2</sup>History of Porter County, I, 13-14; More, Calumet Region, 15, 126.

<sup>3</sup>Brennan, Wonders of the Dunes, 118; oral information from Si Charlson.



artesian well with a flow of about seventy-five gallons per minute.<sup>1</sup> J. H. Salisbury of Northwestern University analyzed the water soon after its discovery and found 324.34 grains of solids per gallon, distributed as follows: sodium chloride 208.76, calcium chloride 51.93, magnesium chloride 38.71, ammonium chloride 0.44, potassium chloride 13.18, potassium sulphate 17.08, calcium carbonate 11.14, and silica 1.10. Salisbury reported, "The water from Porter is very free from injurious organic matters. It is very useful for drinking at the well in cases which need alternative or laxative treatment; and it is also useful for baths and for sanitarium purposes."<sup>2</sup>

People quickly explored the commercial potential of the spring. For many years,<sup>3</sup> mineral water was bottled there for sale in Gary and elsewhere.<sup>3</sup> In addition, the spring's presence encouraged developers who were already showing an interest in the area. The Michigan Southern ran close enough to bring visitors from Chicago. The Chicago-Porter Home Investment Company of 1892 had platted streets and lots, and had brought potential buyers from the city on Sunday excursion trains complete with free beer and lunch.<sup>4</sup> With the discovery of the spring, developers shifted their hopes to weekend and vacation traffic. The Carlsbad Mineral Springs resort was established near the spring about 1900.<sup>5</sup> In the summers of 1912 and 1913 the Mineral Springs Jockey Club operated a racetrack about a mile southwest of the spring, in the western part of Section 34 south of the Michigan Southern tracks; the racetrack drew a wealthy crowd from Chicago for two brief seasons before it was permanently closed for illegal gambling.<sup>6</sup> A smaller attempt to attract tourists was the Carlson Planetarium on the southwest corner of Howe Road and Mineral Springs Road, between the spring and the racetrack.<sup>7</sup> By 1928 the Mineral Springs Development Association owned land close to the spring.<sup>8</sup> The memory of the artesian well has been retained in the names of The Spa, a restaurant located near the site of the spring, and Mineral Springs Road which runs north and south along the section line beside it.

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<sup>1</sup>History of Porter County, I, 13-14, oral information from Si Charlson.

<sup>2</sup>History of Porter County, I, 13-14.

<sup>3</sup>Moore, Calumet Region, 593; oral information from Naomi Studebaker and Si Charlson.

<sup>4</sup>Moore, Calumet Region, 126-27.

<sup>5</sup>Moore, Calumet Region, 129.

<sup>6</sup>Moore, Calumet Region, 593-96; aerial photographs at IDNL.

<sup>7</sup>Oral information from Norris Coombs.

<sup>8</sup>Thrift Press, "Outline Map."

County residents discovered other mineral springs too in the late nineteenth century. Some people attributed medicinal properties to a large spring discovered before 1882 on the Gaylord property between Crisman and McCool, in Portage Township.<sup>1</sup> Southeast of Chesterton, Edward Stevens' 1897 well in Jackson Township "proved to be a flowing well;" from a depth of eighty-four feet, water came up to a two inch pipe to four feet above the surface at a rate of six gallons per minute.<sup>2</sup> On the Blair property in northeastern Pine Township, in the northeast corner of Section 1 on the Calumet Beach Ridge, an 840 foot well gushed at eight gallons per minute. This was not so fast as the Porter spring, but its mineral concentration was greater: 690 grains of solids per gallon, chiefly in the form of sodium chloride, calcium bicarbonate, magnesium chloride, calcium sulphate, and potassium sulphate.<sup>3</sup> "For a time a sanitarium was maintained here for the treatment of patients, but after the death of the owner the use of the water for medical purposes has been practically abandoned."<sup>4</sup> People are said to have continued getting water there at least as late as the 1920's, though.<sup>5</sup>

The vegetable and mineral resources of the Bailly area, on the Calumet Beach Ridge and south of it in the upper basin of the Little Calumet River, offered nineteenth century residents opportunities for lumbering, farming, brickmaking, and resort development. However, all these activities faded sooner or later. The fine forest of the early nineteenth century was lumbered off in only a few decades, leaving too few large trees to sustain a lumbering industry. The marginally fertile soil and climate permitted enough cultivation of fruits and vegetables to support many families for many years, but a combination of factors discouraged most residents from continuing to farm after the 1950's. Mineral resources supported several brickyards and encouraged efforts to attract vacationers to the locations of mineral springs, in the last quarter of the nineteenth century and well into the twentieth, but these too eventually faded. By the second half of the twentieth century the geographical balance had shifted. Much of the inland part of the Bailly area outside Chesterton lay fallow and disused, while new industries, employers, residential communities, and tourist attractions began to extend their influence over the Bailly area from a base in the former wastelands nearer Lake Michigan.

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<sup>1</sup> Goodspeed and Blanchard, Counties of Porter and Lake, 214.

<sup>2</sup> History of Porter County, I, 14.

<sup>3</sup> History of Porter County, I, 14; Ogle, Standard Atlas, 7.

<sup>4</sup> History of Porter County, I, 14.

<sup>5</sup> Oral information from Norris Coombs.

#### CHAPTER IV. THE GREAT MARSH AND THE BAILLYTOWN SAG

Between the Calumet Beach Ridge and the Lake Michigan sand hills lies a broad level wetland. While patches of marsh and swamp dot the Calumet region both further inland and among the sand hills, the wetland north of the Calumet Beach Ridge is distinctive in its shape as a single continuous strip (see figure 2). Starting west from Michigan City through the Indiana Dunes National Lakeshore is the Great Marsh, which includes a northern rim of timbered swamp as well as the broader grassy wetland usually implied by the word "marsh." It centers on Dunes Creek (formerly called "Fort Creek"), which flows into Lake Michigan in what is now the Indiana Dunes State Park. The Great Marsh still exists, but most of the wetland further west is only a memory. Less than a mile west of Mineral Springs Road, the Tolleston Beach Ridge emerged from under the marsh and reduced the wetland to a narrower strip which we call the Baillytown Sag. The sag included wet grassland for most of its length and a white pine swamp near the end of Oak Hill Road.<sup>1</sup> Still further west, the wetland broadened again to hold the lower meanders of the Little Calumet River, which emerged from behind the Calumet Beach Ridge at the west end of the Baillytown Sag. Our main concern in this chapter is with the Great Marsh and the Baillytown Sag.

People have generally viewed the marsh as a hindrance to travel, settlement, and industry. Surveyor Tipton wrote of the land behind the sand hills in 1821, "the country falls off into pond and marshes that can never admit of settlement nor never will be of much service to our state."<sup>2</sup> Although wetlands have received light use for hunting, gathering, hay, and pasturage, heavier uses have consistently depended on drying the land by drainage or fill. Thus most of the Lake County wetlands near the Little and Grand Calumet Rivers have been drained and filled out of existence for urban development. Attempts to drain the northern Porter County marshes will be discussed in the last part of this chapter. First we shall consider ways people have used the wetland in its character as marsh and swamp.

##### A. Hunting and Gathering

The earliest extensive use people made of the Great Marsh and the Baillytown Sag was for its plant and small animal life. Hunting, trapping, and gathering of native plant life thrived here in the very regions where conditions prohibited travel and settlement. While we have met occasional unconfirmed references to non-living

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<sup>1</sup>Goodman, "Rand McNally Map."

<sup>2</sup>McCord, Travel Accounts, 110.



resources in the marsh, in the form of bog iron and peat, no such resources were developed.<sup>1</sup> Human use of marsh resources was largely confined to animals and plants.

Informants about animal and plant life have often failed to specify locations. A "marsh" setting may lie in the Great Marsh, the Baillytown Sag, the marshes of the Little Calumet, the small marshy depressions sprinkled among the sand hills, or small or large marshes even more distant. Furthermore, some animal and plant life flourishes equally well in a dry or moist habitat, so we cannot tell from a species where an informant may have found it. Hence, this discussion of hunting and food gathering will often represent a larger and more diffuse area than the limited wetland which lies north and northeast of Baillytown. We shall begin with a discussion of small game animals.

Small mammals of the marsh and swamp were important to the fur trade in the early years of the nineteenth century. Probably some came from the wetlands closest to the trading post Bailly operated between 1822 and 1835. In that period the cheap common muskrat was the staple, but otter and mink also figured in the fur trade. Hunting for furs early extinguished the otter in this area, but muskrat, mink, and other small wetland mammals lived on into the twentieth century to provide food and sport for area residents.<sup>2</sup> One boy who lived in the neighborhood shot squirrels and trapped muskrats, minks, raccoons, and opossums in or near the western part of the Great Marsh about 1914.<sup>3</sup> In the 1970's, muskrats remained quite common in the marsh, but minks were nearly extinct.<sup>4</sup>

The beaver has had an unusual history in the Bailly area. In the eighteenth century, long before Bailly came to northern Indiana, beavers had comprised the staple of the fur trade. Traded heavily, they commanded high prices and were killed faster than they could reproduce. By the time Bailly established his homestead, few if any beavers remained in the area.<sup>5</sup> The settlers of the 1830's "saw only

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<sup>1</sup> History of Porter County, I, 12-13; Bailey, Sand Dunes of Indiana, 135.

<sup>2</sup> Reshkin, Basic Ecosystem Studies, II, 6, III, 243-45; Ida Amanda Johnson, The Michigan Fur Trade (Lansing, Mich., 1919), passim; Ball, Northwestern Indiana, 20, 116; Brennan, Wonders of the Dunes, 257; Cannon, Hist. of Lake and Calumet Region, I, 174.

<sup>3</sup> Oral information from Si Charlson.

<sup>4</sup> Reshkin, Basic Ecosystem Studies, III, 243-45.

<sup>5</sup> Johnson, Michigan Fur Trade, 97, 115.

their works."<sup>1</sup> No beavers were seen there for over a century. Then, apparently during the 1940's, beavers were reintroduced to the Bailly area marshes -- by the State of Indiana, some residents say -- and a beaver dam in Samuelson Ditch, which ran southwest through the Baillytown Sag, caused a lake to form in the eastern part of the sag. Residents say that Bethlehem Steel workers, at the time of plant construction on the flooded property in 1963-65, removed the dam and the beavers but inadvertently let one beaver escape. A short time afterward, new dams appeared in the ditches, first a short distance west of Mineral Springs Road and then just east of it, blocking the culverts. About 1966-68, Dune Acres residents repeatedly cleared away the beaver's work so as to prevent flooding on Mineral Springs Road, and debated whether or not to remove the offending beaver. Some say that the beaver was finally trapped and killed, others that it simply disappeared.<sup>2</sup>

In addition to mammals, an abundance of wild fowl attracted hunters to the many wetlands of the Calumet region. Wild rice attracted birds to the marshes.<sup>3</sup> The Lake County marshes of the Little Calumet became especially famous for their water birds; members of the Tolleston Gun Club vied with private sportsmen for the privilege of hunting there until Burns Ditch drained the marshland in the 1920's.<sup>4</sup> The lagoons around the old Indiana mouth of the Grand Calumet also became famous for their birds, providing a resting place for migratory swans as late as the 1960's.<sup>5</sup> Although the Great Marsh and the Baillytown Sag did not achieve equal fame for their wild fowl, they too attracted nesting and migratory birds. In spite of hunting and reduced habitat, most bird species have survived in the area. The great blue heron, which was reported as "gradually being exterminated" by hunting in the 1920's, nevertheless remained common in the 1970's.<sup>6</sup> A list of birds nesting in or near the Indiana Dunes

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<sup>1</sup>Ball, Northwestern Indiana, 20.

<sup>2</sup>Oral information from Oscar and Irene Nelson, Lois Howes, Si Charlson, Naomi Studebaker, and Mildred Warner; Brennan, Wonders of the Dunes, 258; Reshkin, Basic Ecosystem Studies, III, 244; the beaver lake is visible in aerial photographs at IDNL from 1951 but not from 1938.

<sup>3</sup>Meyer, "Circulation and Settlement -1830," 268; H. S. Pepon, An Annotated Flora of the Chicago Area (Chicago, 1927), 179.

<sup>4</sup>Cannon, Hist. of Lake and Calumet Region, I, 174-79; Moore, Calumet Region, 104-08; History of Porter County, I, 9; Brennan, Wonders of the Dunes, 140.

<sup>5</sup>Brennan, Wonders of the Dunes, 140; oral information from Lois Howes.

<sup>6</sup>Brennan, Wonders of the Dunes, 267-68; Reshkin, Basic Ecosystem Studies, III, 235.

National Lakeshore in the 1970's classified more than sixty kinds of marsh or swamp fowl as "common" or "abundant."<sup>1</sup>

While many mammals and birds provided settlers with food and supplies, the marsh and surrounding areas also harbored animals the settlers considered less desirable. Mosquitoes bred in the marsh and molested both travelers and settlers; in the nineteenth century they carried malaria or ague, especially during the autumn.<sup>2</sup> Poisonous snakes were also present, and the tamarack swamps and blue joint grass marshes particularly harbored rattlesnakes.<sup>3</sup> People killed snakes to protect both themselves and their livestock. Brennan wrote in 1923 that copperheads were extinct in the area and that rattlesnakes were rapidly approaching extinction, but as late as 1942 Art Johnson killed a rattler near the tamarack swamp at the western end of the Great Marsh, and several have been seen in the 1970's.<sup>4</sup>

A variety of useful plants as well as animals characterized the Bailly area. In the early nineteenth century, Indians from the far end of Lake Michigan came here to "the home of the Indian drug trust" to gather herbs, roots, and bark for dyes and medicine. Their harvest included food and medicine (spice wood, wild pepper, sassafras, tag alder, bone set, yarrow, calamus root, and mints), poisons (poison sumac, poison ivy, briony vine, monk's hood, deadly night shade, and "other horrid spotted plants"), and dyes (fern roots, blood root, and gold thread).<sup>5</sup> Early settlers must have gathered many of these plants for similar uses.

Among the most widely used food resources of the Great Marsh and the surrounding area were wild berries. In the 1830's, the women and children of City West went into the marshes and sand hills in the early evening to gather berries for their own use. Their finds included wintergreen berries in May, abundant and tasty; "sand hill cherries" in August, less abundant but still good; and blue and black huckleberries, on both low and high bushes, from the beginning of July until the first frost.<sup>6</sup>

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<sup>1</sup> Reshkin, Basic Ecosystem Studies, III, 235-41.

<sup>2</sup> Church, Journal, *passim*; Robinson, Solon Robinson, I, 121; [Baird], View of the Valley, 160.

<sup>3</sup> Howe, Story of a French Homestead, 84; Pepoon, Annotated Flora, 130, 184.

<sup>4</sup> Brennan, Wonders of the Dunes, 315; oral information from Lois Howes, and Jon Paynter.

<sup>5</sup> Howe, Story of a French Homestead, 84-85.

<sup>6</sup> Ball, Northwestern Indiana, 316-17.



Huckleberries were the most abundant and commonly gathered berries. Settlers used the term "huckleberry" to refer to several local varieties of huckleberries and blueberries, some of which grew in the wetlands.<sup>1</sup> Children in the 1850's picked huckleberries all over the part of Lake County that later became Gary.<sup>2</sup> Many huckleberry bushes still grew in the marsh in the early twentieth century.<sup>3</sup>

Cranberry bushes also supplied settlers with large quantities of berries. Ball reported that early settlers picked hundreds of bushels of cranberries in the marshes to send to market.<sup>4</sup> Henrietta Gibson listed cranberries among her family's sources of food in the 1850's, and another pioneer, Isaac Crisman, recalled, "There used to be any amount of cranberries through the dunes here."<sup>5</sup>

Some cranberries grew thickly in a few well-defined patches. According to Pepoon, this clustering was especially characteristic of the large American cranberry, in contrast to the smaller European variety which was scattered throughout the swamps.<sup>6</sup> In 1830 surveyor Calvin Britian identified a cranberry marsh between Little Lake and the Baillytown Sag, measuring about one-sixth of a mile from north to south;<sup>7</sup> cranberries still grew there ninety years later, but they were destroyed about 1924 when that area was drained to become a golf course for the Town of Dune Acres.<sup>8</sup> The surveyor identified another much smaller cranberry marsh in northern Pine Township, on the northern rim of the Great Marsh just west of a tamarack swamp; that area was drained and developed as "Bartlett's Addition" in the late 1920's, presumably destroying any cranberries that remained.<sup>10</sup> Pepoon, writing in 1927, reported that several patches of large

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<sup>1</sup>Pepoon, Annotated Flora, 421-22; Ball, Northwestern Indiana, 316-17.

<sup>2</sup>Gibson, "Reminiscences," 85.

<sup>3</sup>John O. Bowers, "Salvation of Dunes Depends on Action To Prevent More Havoc," Gary Evening Post, Dunes Edition, 16 April 1917, 4.

<sup>4</sup>Ball, Northwestern Indiana, 16-17.

<sup>5</sup>Gibson, "Reminiscences," 84; Crisman, "Isaac Crisman," 109.

<sup>6</sup>Pepoon, Annotated Flora, 422.

<sup>7</sup>Britian, survey notes, 375.

<sup>8</sup>Oral information from Naomi Studebaker.

<sup>9</sup>Britian, survey notes, 200.

<sup>10</sup>Marcus Ward Lyon, Jr., "List of Flowering Plants and Ferns in the Dunes State Park and Vicinity, Porter County, Indiana, Supplement," American Midland Naturalist, XII, no. 2 (March 1930), 35; Thrift Press, "Outline Map."

American cranberries grew near Dune Park west of Baillytown;<sup>1</sup> since Pepoon wrote, that area has been developed industrially by Midwest Steel and Bethlehem Steel, and no trace of cranberry bushes remains. To the extent that we have been able to identify specific patches of wild cranberries, then, they appear to have been extinguished by residential and industrial development from the 1920's to the 1960's.

In the late nineteenth century, several people began to cultivate cranberries deliberately in Porter County as a cash crop. Azariah Freeman operated a successful cranberry farm south of Long Lake, on a sharecropping basis, until the cranberries were destroyed in summer fires.<sup>2</sup> Another enterprise was that of Chauncey Blair, owner of most of the Great Marsh in Pine Township to the east. Around 1880, Blair drained Fish Lake in the extreme northeastern corner of the county and turned it into a cranberry plantation.<sup>3</sup> A map made in 1897 shows another large cranberry marsh a few miles south of Blair's property which had not been there at the time of the government survey;<sup>4</sup> probably either this marsh or Blair's was meant when Ball wrote at the turn of the century that cranberries still grew for market in Pine Township.<sup>5</sup>

Although cranberries no longer characterized the marsh in the later twentieth century, other kinds of berries remained common there. The plants of Cowles Bog in the 1960's included hackberry, serviceberry, bunchberry, and red raspberry.<sup>6</sup> Blackberries and juneberries bloomed in the early spring in the neighborhood of Little Lake and the former cranberry swamp just south of it.<sup>7</sup> In the neighboring sand hills, Dune Acres residents still gather blueberries for personal use.<sup>8</sup> The gathering which had begun in the nineteenth century or earlier was still an element of human use of the Bailly area over a hundred years later.

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<sup>1</sup> Pepoon, Annotated Flora, 422.

<sup>2</sup> Meyer, "Circulation and Settlement 1830-1850," 324; Hardesty, Atlas, "Portage Township."

<sup>3</sup> Goodspeed and Blanchard, Counties of Porter and Lake, 230; Hardesty, Atlas, "Pine Township."

<sup>4</sup> G. H. Ashley, "Geological Map of Lake and Porter Counties," Department of Geology and Natural Resources of Indiana, Report, XXII (1897).

<sup>5</sup> Ball, Northwestern Indiana, 413.

<sup>6</sup> Maurice Sullivan, "A Report on Cowles Bog, Indiana" (National Park Service, n.d., TS at IDNL), 2.

<sup>7</sup> Oral information from Irene Nelson.

<sup>8</sup> Oral information from Lois Howes.

In the twentieth century, new pressures grew to preserve the plant and animal resources of the area. Aesthetic appreciation, concern for future generations, and other values underlay the movement away from exploitative uses of wildlife toward more conservative uses. Beginning about the turn of the century, writers began to note with admiration the diverse flora at this meeting point of northern and southern, eastern and western species. Cowles developed his understanding of ecological succession in this region, Lyon and Pepoon and others listed what grew here, and proponents of state and national parks argued in part from the unique variety of plant life here. The main center of attention in the marsh was the tamarack swamp west of Mineral Springs Road, which was associated with the name of Cowles at least as early as 1923.<sup>1</sup>

The growth of Dune Acres brought to the neighborhood a community which saw a positive value in preserving the marsh in its undeveloped state. In 1951-52 the townspeople bought about 150 acres along Mineral Springs Road from a Chicago realtor who was threatening to develop and congest the area. A further sale and purchase brought the new town park to about 180 acres.<sup>2</sup> The Save the Dunes Council bought the tamarack swamp at a tax sale in order to preserve it (see figure 8), and in 1965 that wetland gained official recognition as the Cowles Bog National Natural Landmark.

The proponents of conservation showed some ambivalence about plants and animals they experienced as harmful. Pepoon, who in the 1920's was appalled at the wanton picking of rare orchids, nevertheless "cut off some 5000 shoots" of poison sumac "from three acres of swamp land, using a mattock, in the hope that they might be killed out."<sup>3</sup> The Town of Dune Acres once refused to spray poison ivy, but about 1951 it did spray ragweed in the marsh just east of Mineral Springs Road.<sup>4</sup> In the later 1960's, Dune Acres residents were divided on what to do about the beaver whose dams caused repeated flooding problems on the one road into town.

A similar dilemma faces the Indiana Dunes National Lakeshore in the 1970's, in the question of whether or not to suppress fires in the marsh and elsewhere. From the time of our earliest records until well into the twentieth century, fires occurred in the Calumet region

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<sup>1</sup>Bailey, Sand Dunes of Indiana, 156; Brennan, Wonders of the Dunes, 77; Pepoon, Annotated Flora, 109, 131; Marcus Ward Lyon, Jr., "List of Flowering Plants and Ferns in the Dunes State Park and Vicinity, Porter County, Indiana," American Midland Naturalist, X (1927), 249.

<sup>2</sup>Oral information from Leonard Conklin.

<sup>3</sup>Pepoon, Annotated Flora, 130-31, 376.

<sup>4</sup>Oral information from Mildred Warner and Lois Howes.



practically every autumn and often also in the spring. On reaching the tall dry grasses of the marsh they became furious and uncontrollable, brightening the land and sky for many miles around.<sup>1</sup> The native vegetation of the Bailly area developed in the context of these annual fires, and some plants such as early-blooming blueberries and prickly sarsparilla may disappear if fires are suppressed.<sup>2</sup> Nevertheless, anxious for the safety of people and property, people from the earliest settlers to the residents of modern Dune Acres have made every effort to extinguish any fire that might start in their neighborhood.<sup>3</sup> Like mosquitoes, poison ivy, and ragweed, fires may give rise to policy disagreements among people concerned with the paradoxical goal of preserving the land for the sake of the human public.

On the whole, hunting and gathering in the nineteenth and twentieth centuries does not seem to have had much permanent effect on the marsh. Most plants and small animals were able to replenish themselves so long as only enough were killed to meet local needs. Killing for a wider market could be far more destructive, as the extinction of the beaver in the fur trade demonstrates; and killing for the sake of eliminating undesired species occasionally achieved that aim, as in the case of rattlesnakes. The many larger mammals that were extirpated in the Bailly area by hunting and loss of habitat in the nineteenth and early twentieth centuries -- elk, lynx, bear, deer, wolf -- lived predominantly on drier land rather than in the marsh.<sup>4</sup> In the twentieth century, human activity throughout the marshes and sand hills has increased markedly, but so has a spirit of deliberate conservation that has partially counteracted the increased potential for destruction. In the 1970's, the part of the marsh that has not been eliminated by industrial development is part of the Indiana Dunes National Lakeshore; and, with few exceptions, we have not seen evidence that its present animal and plant life has been substantially changed by hunting and gathering from what it was at the beginning of the nineteenth century.

#### B. Farming in the Marsh

The earliest buyers of the marshland probably bought it almost by

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<sup>1</sup>Robinson, Solon Robinson, I, 54, 119; Bailey, Sand Dunes of Indiana, 127; Bowers, "Salvation of Dunes," 4; Hoffman, Winter in the West, 13.

<sup>2</sup>Oral information from Lois Howes.

<sup>3</sup>Oral information from Gertrude Conklin, Lois Howes, and Mildred Warner.

<sup>4</sup>Brennan, Wonders of the Dunes, 249-53; Crisman, "Isaac Crisman," 110; Gibson, "Reminiscences," Ball, Northwestern Indiana, 20; Reshkin, Basic Ecosystem Studies, III, 243-45; oral information from Si Charlson and Naomi Studebaker.

accident. Because land purchases were made in rectangular units, much of the marsh was bought as an adjunct of more valuable land in the same fractional sections. In 1876 the Baillytown Sag, for example, belonged to Samuelson and other settlers who had bought the adjacent portions of the Calumet Beach Ridge. The owners of the Great Marsh near the later Mineral Springs Road had their main homesteads on the higher land to the south.<sup>1</sup> Figure 8 shows property ownership on both sides of Mineral Springs Road, north of the beach ridge, at roughly twenty year intervals from 1876 until just before the creation of the Indiana Dunes National Lakeshore.

Apart from the cranberry plantations discussed above, and victory gardens on the Dune Acres and Chelberg properties during World War II,<sup>2</sup> the only agricultural value of the marshland was for "swamp hay and pasture."<sup>3</sup> Cut and dried as hay, the tall marsh grasses served as feed; in addition, after the coming of the railroads, this hay was used to pack fruits and vegetables for shipment.<sup>4</sup> The part of the Great Marsh near Mineral Springs Road, identified in the 1830 survey as "prairie or marsh," had useful hay of some sort in the early twentieth century.<sup>5</sup> According to Pepoon, blue joint (marsh grass, sauger grass) was abundant there and was a major source of marsh hay, while blue-joint beard grass and bent grass were also wetland grasses often used as hay.<sup>6</sup> We do not know whether or not the term "swamp hay" also extended to cattail (tule-hay), such as characterizes the western part of the Great Marsh in the 1970's.

Farmers used the marsh grasses for pasture as well as hay. Samuelson in the late nineteenth century grazed about twelve cows north of what became U.S. Highway 12.<sup>7</sup> John Peterson pastured his cattle in the swamp near the tamaracks about 1890. His granddaughter kept older non-milking cows at the northern end of her property, north of the South Shore tracks.<sup>8</sup> "Pasturage is another factor in aiding in the destruction of the original flora," wrote Lyon in the 1920's.<sup>9</sup>

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<sup>1</sup> Hardesty, Atlas, "Westchester Township."

<sup>2</sup> Oral information from Lois Howes.

<sup>3</sup> Meyer, "Circulation and Settlement 1830-1850," 322, quoting W. S. Blatchley; see also Robinson, Solon Robinson, I, 54.

<sup>4</sup> Oral information from Norris Coombs.

<sup>5</sup> Britian, survey notes, 373; Bowers, "Salvation of Dunes," 4.

<sup>6</sup> Pepoon, Annotated Flora, 135, 173, 183, 184.

<sup>7</sup> Oral information from Si Charlson.

<sup>8</sup> Oral information from Naomi Studebaker.

<sup>9</sup> Lyon, "List of Flowering Plants," 246.

Experiments in dairy farming on a larger scale occurred in eastern Porter County, where a part of the Great Marsh fell into a few large estates together with the wooded sand hills. In the late nineteenth century most of it belonged to the estates of 1830's settler Ruel Starr, reputed "the wealthiest man in the county" when he died in 1875;<sup>1</sup> lumbering partners Morgan and Furness; the Wells family; and Chauncey Blair who used the Pine Township marsh for his cranberry plantation.<sup>2</sup> Two of these extensive properties temporarily became the settings for dairy farming.

One such experiment was on the Furness farm, north of the Calumet Beach Ridge in the eastern part of Westchester Township. Leigh Furness, who took over management of the farm for his father Edwin, had a keen interest in modern scientific agriculture. While he attempted to drain the western part of the farm with tiles for cultivation, on the eastern part he planned to pasture his dairy cattle. In 1890 the farm had large barns, a silo, and plans for several hundred cows.<sup>3</sup> The Furnessville stations on the Michigan Central and later on the South Shore presumably would have served as shipping points for milk. However, the effort failed and the farm was deserted about 1905 or 1910. The road through the farm north of the South Shore's Furnessville Station degenerated into a trail, and Lyon reported in 1930 that the station appeared to have been abandoned.<sup>4</sup>

The Wells family tried to transform their hundreds of acres of marsh and sand hill north of the Furness farm into "a regular English country estate" in the first decade of the twentieth century. They fenced the land and introduced a high quality of livestock; but the animals died, according to Brennan, because of wolves, poisonous snakes and plants, and poor soil. The family kept the land as a private estate but relinquished their cattle and other livestock.<sup>5</sup>

The smaller holdings in the western part of the Great Marsh gradually came to be concentrated in the hands of an old area family, the Crumpackers. Edgar Dean Crumpacker, whose grandfather had moved to Porter County in 1834, practiced law in Valparaiso and represented his district in Congress for a number of years around the turn of the

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<sup>1</sup> Skinner, "Complete History," 13; see also History of Porter County, I, 323.

<sup>2</sup> Hardesty, Atlas, "Pine Township," "Westchester Township;" Lee and Lee, Porter County Atlas, "Pine Township," "Westchester Township."

<sup>3</sup> History of Porter County, II, 747-48; Brennan, Wonders of the Dunes, 153-54.

<sup>4</sup> Brennan, Wonders of the Dunes, 153-54; Lyon, "List, Supplement," 36.

<sup>5</sup> Brennan, Wonders of the Dunes, 155-56.



century. In addition to Edgar, the family included his brother Grant, also an attorney, and Edgar's sons Owen, Frederick, and Maurice.<sup>1</sup> Between 1876 and 1906, Congressman Crumpacker came into possession of a long strip of ridge, marsh, and woodland stretching from the Calumet Beach Ridge road to the edge of a unit then designated for development as the "Lake Shore Addition to the New Stock Yards" (see figure 8, eastern part). By 1928, the Crumpackers had added a large proportion of the marsh and sand hill area further west, stretching along the border of the newly established Dune Acres to the tamarack swamp and the eastern part of Little Lake. The Crumpacker estate then also included 120 acres between Little Lake and Mud Lake, part of which had formerly been platted for development as "Lakewood;" a section line road to these Crumpacker lands and Little Lake was under construction in 1928.

The Crumpacker holdings seem to have been very different in use from the large Furness and Wells estates further east. While the Furness and Wells families lived on their estates and endeavored to farm them productively, the Crumpackers lived in Valparaiso and Washington and practiced non-agricultural occupations. Apparently they did not rent their land to farmers or hire representatives to manage their marshland agriculturally. According to local tradition, the Crumpacker purchases were made with an eye, not to current productivity, but rather to potential commercial, residential, or industrial development.<sup>2</sup> Their locations near areas under commercial or residential development seem to confirm this view, even though the "Lake Shore Addition" and "Lakewood" may not have materialized.

As undeveloped vacant land, the Crumpacker property in the heart of the marsh was available as though it was unowned for neighboring farmers to use for hay and pasturage. Perhaps a dozen cows wandered freely through the unfenced portions of the marsh in the 1920's and 1930's.<sup>3</sup> This kind of communal use is suggested by the report of a fire near the tamarack swamp about 1916 that was brought under control by "farmers at work in a meadow near the bog, fearing damage to the hay."<sup>4</sup> Thus the kinds of agricultural use made of the marshland around Mineral Springs Road in the first half of the twentieth century, before farming faded from the Bailly area, were similar to the ways in which the earliest Porter County settlers had taken advantage of the wetlands for cutting hay and grazing cattle.

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<sup>1</sup>History of Porter County, I, 38, 322, II, 375-77, 436-37; Cannon, Hist. of Lake and Calumet Region, I, 120.

<sup>2</sup>Oral information from area residents.

<sup>3</sup>Oral information from Naomi Studebaker and Norris Coombs.

<sup>4</sup>Bowers, "Salvation of Dunes," 4.

### C. Agricultural Drainage Ditches

Agricultural drainage ditches were an attempt to increase the acreage that could be brought under cultivation and enhance the productivity of marginal land. They were especially popular in northwestern Indiana in the decades just before and after the turn of the century. The line between marsh, good only for hay and pasture, and cultivable land was not sharply defined. Lowering the water table through drainage made it possible to grow crops on marginal land and to improve the quality of pasturage. While some drainage was accomplished with tiles or pipes, as on the Furness farm discussed above, open ditches were far cheaper and therefore more widespread. Some ditches deepened and straightened existing streams so they could carry water off faster; other ditches formed new channels to give stagnant water an outlet.

The idea of reclaiming wetlands for agriculture was not new in the nineteenth century, nor was it an American invention. The productive dairyland of the Netherlands and the wheat- and sugar-beet-producing fields of East Anglia had been created centuries earlier by pumping water off lowlands with windmills and levees. The dredging of the Po River had yielded the richest agricultural land in Italy. Such successful precedents encouraged people to look at the Indiana marshes as potential farmland,<sup>1</sup> especially when more easily usable alternatives were no longer available. Marshland was commonly level; once drained and cleared, it offered soft, flat land that was comparatively easy to plow and cultivate.

The great Kankakee marshes, south of the Valparaiso Moraine, had been largely drained before the end of the nineteenth century, though the process continued well into the twentieth.<sup>2</sup> As not all of America's uncultivable wetlands found buyers at the time of the original public land sales, in 1850 Congress ceded its remaining "swamp lands" to the states in which they were located. Proceeds from state sales of this land were to be used for reclamation by levees and drains. Indiana received its lands in 1851 and enacted the relevant legislation in 1852. Large, successful drainage efforts took place in the Kankakee basin. A large ditch of 1858 demonstrated that reclamation was possible there. Another major ditch followed in 1870; and in 1893, a limestone ledge in Illinois which had been retarding the Kankakee's flow was removed.<sup>3</sup> In addition to these major public projects, private landholders built ditches to improve the flow of water from their own land into the deeper, straighter river.

"So far as beauty is concerned, these large and small ditches which have cut up the entire Indiana part of the Kankakee Valley region,

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<sup>1</sup>[Baird], View of the Valley, 152; Traugott Bromme, Rathgeber für Auswanderungslustige (Stuttgart, 1846), 107.

<sup>2</sup>Meyer, "The Kankakee 'Marsh,'" passim.

<sup>3</sup>Moore, Calumet Region, 83, 93; Cannon, Hist. of Lake and Calumet Region, I, 187-89; History of Porter County, I, 62-64.

have spoiled" it, Ball wrote in 1900. "Now, nearly all is changed by the spade and the dredging machine of man's invention." Ball regretted the tendency to run water off quickly in straight lines, in order to make pasture and oat fields and cornfields "where wild-fowl, muskrats, mink, and otter used to live."<sup>1</sup> Ball's regrets were atypical, though. Most observers applauded without reservation the opening of new lands to agriculture.

At the turn of the century, when Ball saw the Kankakee already "spoiled," Porter County north of the Valparaiso Moraine was just beginning to experience its most active period of ditching. A few landholders had privately ditched their land by that time. In addition, a few "public" or "legal" ditches had been approved by the county court on the basis of a citizen petition, contracted by the county drainage commissioners, and financed by assessments on the properties which were supposed to be benefited. Let us look briefly at ditches in the Bailly area south of the Calumet Beach Ridge and then turn in more detail to those further north.

At least three major (probably public) ditches were present by 1897 in the upper basin of the Little Calumet River.<sup>2</sup> Morgan Ditch began about two miles south of the Bailly homestead and carried water west into Salt Creek. Peterson Ditch flowed from the southeast into the Little Calumet very near the Bailly homestead. In Pine Township further east, McDonald Ditch drained a cranberry marsh into the Little Calumet. A 1912 county history described McDonald as a public ditch and named two more public ditches in this area: Robbins in Portage Township south of McCool, and Tratebas south of Chesterton.<sup>3</sup> The writer's tone suggests that he was writing in the heyday of public ditching. Kemper Ditch, dredging and straightening the upper course of the Little Calumet in Pine Township, was completed in 1915.<sup>4</sup> Wieland, in Westchester and Pine Townships between U.S. Highway 12 and the Michigan Central tracks, and Munson, running behind the Calumet Beach Ridge into the eastern branch of Dunes Creek, were constructed by the county before the 1940's.<sup>5</sup> On the 1960 map in figure 7, Gustafson Ditch approximates the route of old Morgan, Carver that of McDonald, and Pope O'Connor that of Tratebas; the map shows by name the other public ditches mentioned above.

Ditches north of the Calumet Beach Ridge had a more direct bearing

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<sup>1</sup>Ball, Northwestern Indiana, 116.

<sup>2</sup>Ashley, "Geological Map."

<sup>3</sup>History of Porter County, I, 64.

<sup>4</sup>William A. Briggs, "Life History of the Calumet River," Duneland Historical Society Publications, I, no. 7 (March 1956), 4.

<sup>5</sup>Guy Stinchfield, "Porter County Ind., sheet 301" (map, Valparaiso, 1937); Guy Stinchfield, "Porter County Ind., sheet 202" (map, Valparaiso, 1937, rev. 1940, 1944).



on drainage in the Great Marsh and the Baillytown Sag. Three main agricultural ditching systems were constructed here in the late nineteenth and early twentieth centuries. From east to west, these were the ditches of northeastern Pine Township; the ditches of the Mineral Springs Road area and the Baillytown Sag; and Burns Ditch draining the lower marshes of the Little Calumet.

In the late nineteenth century, Chauncey Blair owned the eastern end of the Great Marsh in Pine Township, while Fred Voight owned several parcels of land behind the Calumet Beach Ridge just to the south.<sup>1</sup> Before 1882 Blair privately drained Fish Lake, within the marsh, to make his cranberry plantation.<sup>2</sup> By 1897, the more extensive Voight Ditch drained the land between the Michigan Central tracks and modern Beverly Shores; crossing the beach ridge, it flowed through Fish Lake and emptied into Lake Michigan, probably along the route of Blair's earlier channel.<sup>3</sup> The 1912 county history listed Voight as a public ditch.<sup>4</sup> By 1937 the ditch had several arms and bore the name "Brown Ditch,"<sup>5</sup> probably indicating that it had been reconstructed and extended by the county at least once since 1912 (see figure 7).

Ditching in the western part of the Great Marsh and the Baillytown Sag is said to have begun as early as the 1880's, the date elderly residents ascribe to what they call "State Ditch."<sup>6</sup> Constructed by John Samuelson (according to his grandson),<sup>7</sup> it went from the western end of the Great Marsh eastward along property lines to and across Mineral Springs Road, ran north along the east side of the road for a quarter mile, then turned east again to join Dunes Creek. This has remained a private and relatively unimproved channel; it was here that beaver dams blocked the culverts in the late 1960's. A westward extension of the ditch through the Baillytown Sag, on the other hand, was enlarged and superceded by the public Samuelson Ditch in the first decade of the twentieth century.

Samuelson Ditch was initiated by landowners in the sag in order to improve the drainage of their property into the Little Calumet River. In October, 1902, S. A. Samuelson and thirteen neighbors petitioned the county for a drainage ditch. Beginning at the western end of the marsh in section 27, the ditch was to flow for over three miles

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<sup>1</sup>Hardesty, Atlas, "Pine Township;" Lee and Lee, Porter County Atlas, "Pine Township."

<sup>2</sup>Goodspeed and Blanchard, Counties of Porter and Lake, 230.

<sup>3</sup>Ashley, "Geological Map."

<sup>4</sup>History of Porter County, 64.

<sup>5</sup>Stinchfield, "Porter Co. sheet 301."

<sup>6</sup>Oral information from Naomi Studebaker, Si Charlson, and Oscar and Irene Nelson.

<sup>7</sup>Oral information from Si Charlson.

westward through the lowest part of the Baillytown Sag and empty into the Little Calumet; its width was to vary from six to twenty-one feet.

When official notifications aroused no objections, the county court referred the petition to the county drainage commissioners for action. In January, having walked the proposed route, the commissioners reported that a ditch would benefit the public health and one public highway and would injure no party except the one railroad (the Michigan Southern) which would have to bridge it. Construction of Samuelson Ditch was authorized in 1903, to be financed by assessments on the affected property owners. It was completed in the spring of 1910.<sup>1</sup>

At its eastern end, at the point where it officially began, Samuelson Ditch joined the original private ditch. Hence Samuelson Ditch and old State Ditch together comprised a single channel through the Baillytown Sag and the western portion of the Great Marsh, draining westward into the Little Calumet and eastward into Dunes Creek. Si Charlson reports that as a child in 1914 he trapped along the entire length of this ditch and saw its water flowing both ways, east to Dunes Creek at some points and west to the Little Calumet at others.

State Ditch and Samuelson Ditch were beneficial chiefly to landowners south of the ditch, holders of portions of the northern slope of the Calumet Beach Ridge. Aerial photographs taken in 1938 show signs of cultivation on the beach ridge slope (see figure 12). Ruth Chelberg had ten acres of crops along the north side of the South Shore tracks.<sup>2</sup> Since we do not know how much of the slope was cultivated previously, we cannot tell whether improved drainage enabled farmers to cultivate land further down the slope than before, or whether their output was increased. The land in the Great Marsh was not cultivated as far down the slope as State Ditch itself, nor is there evidence of any attempt to cultivate the lowest, wettest part of the marsh to the north of the main ditch.

To derive the greatest benefit from the ditch at the foot of the beach ridge slope, farmers put private tributary ditches along the edges of their property to feed into the main ditch. Figure 12 shows such tributary ditches in 1938 bordering the long land holdings which came down past U.S. Highway 12 into the marsh. Years later, in 1953, the county surveyor spoke of "high ground water running into small open ditches along the property lines."<sup>3</sup> On some farms, a series of diagonal ditches fed into the property-line ditches in an

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<sup>1</sup>Porter Circuit Court records, Oct. 8, 20, Dec. 22, 1902; Jan. 6, June 11, 26, 1903; June 29, 1906; March 14, May 31, 1910.

<sup>2</sup>Oral information from Naomi Studebaker.

<sup>3</sup>William Tanke, report to Porter Circuit Court filed March 31, 1953, section 2.

attempt to drain the land further.

The tributary ditches were probably dug in the 1910's and '20's, soon after Samuelson Ditch was completed. Even though State Ditch on both sides of Mineral Springs Road remained small and private, the larger Samuelson Ditch to the west may have encouraged more effective drainage on the eastern land as well. In 1917 Bailey wrote that "along the Mineral Springs road directly north from the electric line, all the lowlands are emerging from undrained lakes into a vast swamp," and added that "the swamp itself is fast filling, so that farmers are cultivating the newly made land."<sup>1</sup> In 1923, Brennan urged that the Cowles tamarack swamp -- some four hundred yards north of State Ditch -- should be made into a park "before it is civilized off the earth through draining the marsh and cutting down the beautiful trees as is being done now."<sup>2</sup> When Brennan wrote, the tamaracks seemed threatened not only by agricultural ditching in the marsh, but also by the construction of the Town of Dune Acres and related drainage of certain interdunal wetlands in the neighboring sand hills, subjects to be discussed more fully in the next chapter.

We have kept as our final example of legal ditching the most ambitious and successful drainage project undertaken in the Calumet region, a project which reversed the direction of a large portion of the Little Calumet River. As we have seen, the Little Calumet below Salt Creek flowed westward into a long and broad marsh, or a shallow lake in the wetter seasons, and continued west by lazily meandering through a large loop in Illinois before finally discharging into the Grand Calumet. The large marsh, concentrated in Lake County, was used in the late nineteenth century for much hunting and fishing but for little else. In the early twentieth century, pressure grew to reclaim this land for more economically productive uses by giving the Little Calumet a straighter channel and a more direct outlet to Lake Michigan.

The impulse to carry out this drainage project came from Randall W. Burns, who owned 1,200 acres of the Lake County marshland he proposed to redeem. He began organizing a petition for drainage in 1906, the year Gary was established. The petition was filed in 1908, and the route for the proposed ditch was surveyed the next year. Favored by Gary civic leaders, the ditch met opposition from the farmers who would have had to help bear the cost of it, and from the Michigan Southern Railroad which would have had to build and maintain a bridge across it. During the delay caused by extended litigation, the Little Calumet marshes became even wetter because of increased flow from Kemper, Samuelson, and other ditches feeding into the river upstream. After the United States Supreme Court finally

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<sup>1</sup> Bailey, Sand Dunes of Indiana, 134-35.

<sup>2</sup> Brennan, Wonders of the Dunes, 145.



approved the project, Burns Ditch was constructed in 1924-26.<sup>1</sup>

This large engineering feat emptied the Little Calumet River into Lake Michigan in western Porter County, at a point where the native river bed lay barely a mile south of the lake. The sand hill area through which the ditch took water to the lake had been leveled by sandmining some years earlier, considerably simplifying the task of ditching. An east arm of Burns Ditch straightened and deepened the river bed from Salt Creek down to this new north-south channel, and a similar west arm came from Deep River about six and a half miles away. Through this west arm to the new mouth came the now-reversed flow of that part of the river, effectively detaching the Little from the Grand Calumet. Burns Ditch drained for settlement and farming over 20,000 acres of Lake and Porter Counties, much of which has become the city of Gary.<sup>2</sup> It may also have improved drainage in the Baillytown Sag and the western end of the Great Marsh, by giving Samuelson Ditch a faster flowing outlet. Indeed, the waterway added new land. A large delta soon grew at the mouth of Burns Ditch, so that by 1927 six hundred feet of new land were said to have been formed in Lake Michigan.<sup>3</sup> The great hunting and fishing activity in this area now came to an end.

In the middle years of the twentieth century, significant changes emerged in Porter County ditching patterns. Farming was being discontinued, as we have seen, and both public and private agricultural ditching largely came to an end. Virtually the only new ditches were those designed for residential, commercial, and industrial development. Whereas ditches for agriculture in the earlier period of small family farms had commonly benefited every farm family whose lands were affected, the benefits of ditching for development fell more specifically to particular developers.

Ditching for development in the Great Marsh began as early as the 1920's, when draining interdunal wetlands for the Dune Acres golf course involved digging a channel into the marsh and through it to join State Ditch (see figures 10 and 11). More extensive ditching affected the eastern part of the Great Marsh, of which Lyon wrote in 1929-30 that all of Bartlett's Addition (roughly, Beverly Shores) was being rapidly developed and its swamps drained.<sup>4</sup> Such private ditches, dug at the developers' expense, aroused little public

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<sup>1</sup>Cannon, Hist. of Lake and Calumet Region, I, 181-83; Briggs, "Life History of the Calumet River," 4; W.P.A., Calumet Region Hist. Guide, 70; Moore, Calumet Region, 12-13.

<sup>2</sup>Brennan, Wonders of the Dunes, 85; Cannon, Hist. of Lake and Calumet Region, I, 182; Moore, Calumet Region, 13.

<sup>3</sup>Cannon, Hist. of Lake and Calumet Region, I, 183.

<sup>4</sup>Lyon, "List, Supplement," 35.

response. The case was different with Markowitz Ditch, proposed as a public or legal ditch in 1952-53 to improve septic tank functioning for residences on Waverly Road. Markowitz was to include a branch which would deepen old State Ditch and its tributaries near Mineral Springs Road. Among the people who objected to the proposal were those who owned land near that branch and would therefore have been required to help bear the cost of constructing the ditch. Because they were no longer trying to farm the land, they saw little personal benefit to be derived from the ditch. Remonstrances<sup>1</sup> poured in to the court, and the branch was dropped from the proposal.

Not only were new proposed public ditches contested, but the old ones began to be abandoned as worthless. When former farmland lay fallow, drainage ceased to be important; and when it was converted to industrial property, filling land was seen as an alternative to drying it with ditches that would have to be continually maintained. Samuelson Ditch illustrates this transition. Maps of the 1930's showed water flowing in Samuelson;<sup>2</sup> but by 1951, with the abandonment of farming on the beach ridge slope, a beaver dam had been permitted to block the ditch so as to create a sizable lake behind it. In the 1960's, when the construction of the Bethlehem Steel plant brought massive changes to the whole area, the dam, the lake, and the beaver were all removed; but the goal was not the permanent resurrection of the ditch. In February, 1972, Bethlehem and four other companies -- the Northern Indiana Public Service Company, the South Shore Railroad, the Indiana Port Commission, and Penn Central which had taken over the old Michigan Southern -- petitioned the county to vacate the ditch officially. Witnesses testified that it served no purpose, that little water flowed in it, and that most of it had already been filled in by Bethlehem Steel in any case. In November of 1972, the Porter County Drainage Board declared the ditch vacated.<sup>3</sup>

What were the effects of agricultural ditching and its abandonment on water levels in the Bailly area wetlands -- the Baillytown Sag and the Bailly portion of the Great Marsh? Levels fluctuated markedly there from year to year: thus State Ditch is said to have been dry in May of 1934, a year of regional drought,<sup>4</sup> but in 1942

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<sup>1</sup>Tanke, report to Porter Circuit Court filed March 31, 1953, section 8; Porter Circuit Court record, 27 remonstrances filed April 7-May 7, 1953; court order of June 1, 1953.

<sup>2</sup>Stinchfield, "Porter Co. sheet 202."

<sup>3</sup>George C. Ogborn (NIPSCO) to Porter County surveyor, 1 Feb. 1972, in surveyor's office; NIPSCO et al., petition to Porter County Drainage Board, in surveyor's office; Porter County Drainage Board, minutes of Nov. 20, 1972.

<sup>4</sup>Oral information from Si Charlson.

the Cowles Bog area showed "a hundred yards of water almost as deep as now;"<sup>1</sup> and later yet, in the summer of 1951, the county surveyor reported Cowles Bog as "bone dry."<sup>2</sup> Nevertheless, residents and others believe that the water table has generally been falling in this century.<sup>3</sup> If early twentieth century ditching was a factor in the "more or less natural drainage which is slowly occurring in the lake region,"<sup>4</sup> why has the water table continued to drop -- if indeed it has -- in recent decades while the drainage ditches have been neglected? In the face of such wide variations of evidence and possible interpretation, we cannot say precisely when or to what extent State Ditch, Samuelson Ditch, their tributaries, or any other public or private ditch has had any significant effect in lowering the water table in the wetlands of the Bailly area.

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<sup>1</sup>Oral information from Lois Howes.

<sup>2</sup>Porter County Drainage Board, minutes of Oct. 19, 1970.

<sup>3</sup>Oral information from Lois Howes.

<sup>4</sup>Lyon, "List of Flowering Plants," 246.



## CHAPTER V. THE SAND HILLS AND INTERDUNAL WETLANDS

Although the sand hills of the Bailly area along the shore of Lake Michigan, together with the interdunal wetlands, were treated through most of the nineteenth century as worthless and uninteresting, in the twentieth century they became the center of national, heartfelt passions, and bitter conflict. In this chapter we shall look first at their earlier isolation and finally at the conflicting forces that more recently have grown up around them, with an interlude in the middle to consider the somewhat distinctive stories of the wet depressions that lay scattered among the sand hills.

The geographical center of interest in this chapter is the area formerly known as Dune Park (see figure 4) east of Burns Ditch and west of Mineral Springs Road. The area was identified with Dune Park Station of the Michigan Southern Railroad, on the Tolleston Beach Ridge in Portage Township about two miles west of Baillytown. The dunes here were taller than those further west in Lake County, and deeper -- extending further inland from Lake Michigan -- than those further east. "Dune Park is far the best place to study living dunes in all phases; established dunes and undrained swamps are also well displayed at this point," wrote botanist Henry Cowles in 1901.<sup>1</sup>

Because the north branch of the Sauk Trail passed here on its way north from Baillytown to the lakeshore, the dunes of Dune Park were among the first sand hills to draw European-American attention. In the later nineteenth century, the railroad made Dune Park accessible to exploitation in the form of sandmining. The railroad also brought visitors from Chicago and elsewhere, making Dune Park one of the first areas to attract attention from people with interests in conservation, recreation, and scientific investigation. In the end, Dune Park was one of the last areas to have its fate decided among these conflicting uses.

### A. The Isolation of the Sand Hills

Through most of the nineteenth century, the sand hills or dunes near Lake Michigan were isolated in two ways from the inhabited land on and south of the Calumet Beach Ridge. Geographically, the sand hills were isolated by the intervening marshland; the Great Marsh, the Baillytown Sag, and the marshes of the Little Calumet River separated the dunes from the rest of the region. In terms of human use, the dunes were also isolated by their perceived worthlessness. Most people saw little value in going into the infertile sand hills and even less value in living among them. As a result, human activity had little lasting effect on the land there. Not until the last decades of the nineteenth century did this begin to change.

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<sup>1</sup>Cowles, "Plant Societies of Chicago and Vicinity," 75.

Transportation routes in the 1830's had brought some people to the sand hills. As we have seen, the beach road and the north branch of the Sauk Trail led travelers beside or through the dunes. A hope for harbors encouraged the development of sand hill towns at the mouths of Dunes Creek (City West) and the Grand Calumet River (Indiana City). However, as the population of the Calumet Region increased, developments in transportation drew people away from the lakeshore and the dunes. The beach road and the Sauk Trail branch were abandoned in favor of the Calumet Beach Ridge road and other inland roads on which travelers stayed south of the marshes; Abbot's Porter County map of 1855 shows a road still running through the Dune Park sand hills to the shore (see figure 5), but by 1876 there was none.<sup>1</sup> Harbor development at Michigan City destroyed the ambitions of City West and Indiana City, which vanished and were succeeded in the 1840's and '50's by the inland towns of New City West and Miller respectively. Railroads created inland markets; except for Dune Park, no station in Porter County lay in or near the sand hills. An atlas of 1876 showed no houses in Porter County north of the marsh.<sup>2</sup>

Usable plant resources in the sand hills were sparse. All along the lakeshore, but especially in Dune Park where the north branch of the Sauk Trail reached Lake Michigan, the hills were "almost entirely devoid of vegetation."<sup>3</sup> The older, stable, sand hills slightly further from the lakeshore had evergreens -- jack pine, white pine, cedar, and juniper -- on their northern slopes exposed to winds from the lake. Southern slopes of the same stable dunes, and all slopes of sand hills still further from the shore, had a larger proportion of oaks, with thicker undergrowth.<sup>4</sup>

The trees of the sand hills near Lake Michigan were not large or numerous enough to encourage a substantial lumbering industry. Early travelers called the trees "stunted" and "dwarfish" and termed the slopes on which they grew "barrens." Thus William Johnson wrote in 1809, "This ridge is covered with Stunted cedars and junipers. I think there could be as much junipers gathered here as would supply the United States with that article."<sup>5</sup> Surveyor John Tipton in 1821

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<sup>1</sup> Hardesty, Atlas, "Westchester Township," "Portage Township;" Baskin, Forster, Illustrated Hist. Atlas, "Porter County."

<sup>2</sup> Hardesty, Atlas, "Pine Township," "Westchester Township," "Portage Township."

<sup>3</sup> History of Porter County, I, 8.

<sup>4</sup> Bailey, Sand Dunes of Indiana, 119; Lyon, "List of Flowering Plants," 247; Reshkin, Basic Ecosystem Studies, III, 38, 50; Tipton, John Tipton Papers, I, 270.

<sup>5</sup> McCord, Travel Accounts, 57.

found the lakeshore "covered with small pine and cedar trees, very few of Building or other use."<sup>1</sup> Surveyor Britian in 1830 considered the land "third rate swamp and sand hills -- timber pine and oak;"<sup>2</sup> he noted white pines between modern Dune Acres and Burns Ditch with diameters of five to twelve inches, as contrasted with the twenty- to twenty-four-inch diameters of white pines in Pine Township south of the Calumet Beach Ridge.<sup>3</sup>

Descriptions of the dunal woods remained essentially unchanged all through the nineteenth century. Charles Hoffman traveled in 1833 through "a mile or two of pine barrens" between the Baillytown Sag and the lakeshore.<sup>4</sup> Another traveler the same year observed, "The summits of sand hills on Lake Michigan are crowned with a few stunted pines. . . . Nearer the beach, and at a lower level than the pines, dwarfish poplars grow, two species of bent grass, and a thistle."<sup>5</sup> The stunted trees were sometimes used in cheap local construction, as in a rude scrub-pine cabin built late in 1833 behind a small sand hill between the two mouths of the Grand Calumet for an overnight stop on the stage route;<sup>6</sup> but there is no evidence that trees were ever cut in this area commercially. Morgan's pier in the 1860's shipped lumber which had been sawed behind the Calumet Beach Ridge at Furnessville, not lumber from close to the pier itself. By 1882, when much of the Calumet Beach Ridge and the Little Calumet Basin had been denuded of trees by heavy lumbering activity, an atlas description of the "wilderness of stunted pine among the sand hills and morasses at the south end of the Great Lake" seems to depict the same quality of timber Johnson, Tipton, and Hoffman had observed before settlement began.<sup>7</sup>

Huckleberries and blueberries grew on the wooded slopes of the sand hills. Tipton in 1821 found a huckleberry undergrowth there beneath the pine and burr oak.<sup>8</sup> More than a century later, Lyon in the 1920's described "an abundant floor shrub of Blueberry" among the oaks on the landward side of the dunes.<sup>9</sup> Irene Nelson picked many

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<sup>1</sup>Tipton, John Tipton Papers, I, 271.

<sup>2</sup>Britian, survey notes, 379.

<sup>3</sup>Britian, survey notes, 188, 192, 203, 373-80.

<sup>4</sup>Hoffman, Winter in the West, 12.

<sup>5</sup>Shirreff, Tour Through North America, 225.

<sup>6</sup>Hoffman, Winter in the West, 13.

<sup>7</sup>Goodspeed and Blanchard, Counties of Porter and Lake, 218.

<sup>8</sup>Tipton, John Tipton Papers, I, 272.

<sup>9</sup>Lyon, "List of Flowering Plants," 247.



blueberries around Mud Lake in the early 1950's; her mother used to sell blueberries literally by the bushel.<sup>1</sup> Dune Acres resident Lois Howes made blueberry pies from berries she picked from the late-blooming, early-blooming high-bush, and two early-blooming low-bush varieties growing among the Dune Acres sand hills; the three early-blooming varieties were especially abundant after fire, bearing few or no berries in the 1970's when fires were being suppressed.<sup>2</sup>

The animals of the wooded sand hills were probably similar to those living further inland. According to Isaac Crisman, wild turkeys lived in the sand hills about the 1860's, coming into the woods further south to get acorns and then returning to the sand hills.<sup>3</sup> Raccoons inhabited the wooded dunes from the days of the fur trade to the 1970's, when they amused<sup>4</sup> or irked residents of Dune Acres by prancing about on their roofs. Most larger mammals were hunted out of existence in the area for fur, food, or protection. Wolves,<sup>5</sup> common in the late nineteenth century, disappeared about 1920. Deer were hunted until about 1880, by which time few were left; in the 1950's or '60's they were reintroduced in the neighborhood of Dune Acres, and by the 1970's they were again quite common.<sup>6</sup>

Mineral resources in the sand hills, apart from the sand itself, were too sparse to attract much use. Attempts by the Knickerbocker Ice Company in 1906 to drill for oil among the sand hills of Dune Park proved unsuccessful and were soon abandoned.<sup>7</sup> One mineral spring or sulphur well was found a short distance southwest of Mud Lake, possibly about 1890, possibly in the course of an attempt to drill for oil. Local residents enjoyed hiking to the well to bottle water there, as well as to pick huckleberries and watch migrating hawks in the same vicinity; but -- unlike several mineral springs south of the Calumet Beach Ridge -- the well was not developed commercially.<sup>8</sup>

Land in the undeveloped, infertile sand hills was cheap. The story is told of a southern Black named Young who met a Porter County

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<sup>1</sup>Oral information from Irene Nelson.

<sup>2</sup>Oral information from Lois Howes.

<sup>3</sup>Crisman, "Isaac Crisman," 110.

<sup>4</sup>Oral information from Naomi Studebaker.

<sup>5</sup>Crisman, "Isaac Crisman," 111; oral information from Naomi Studebaker and Si Charlson; Brennan, Wonders of the Dunes, 253.

<sup>6</sup>Brennan, Wonders of the Dunes, 250; Crisman, "Isaac Crisman," 110-11; Gibson, "Reminiscences," 85; oral information from Si Charlson; Reshkin, Basic Ecosystem Studies, III, 245.

<sup>7</sup>History of Porter County, I, 229.

<sup>8</sup>Oral information from Si Charlson and Lois Howes; Goodman, "Rand McNally Map."

resident during the Civil War and expressed a wish to move to the area and start a farm there after the war; to everyone's surprise, he did show up later in Porter County, and a place was found for him among the sand hills. Another Civil War veteran named Blag lived into the twentieth century in a shack north of what became known as Blag Slough, making a local reputation as a demented hermit who wandered about with his lantern at night. A third man, born in the sand hills, felt embarrassed about the fact; his family felt a rise in status and respectability when they were able to move south onto the Calumet Beach Ridge.<sup>1</sup>

Some people deliberately sought out the sand hills because of their isolation; they were a place to hide. Runaway slaves are said to have hidden among the dunes on their way to Canada.<sup>2</sup> Horse thieves are said to have hidden themselves and their stolen horses in the "Devil's Punchbowl," a twenty foot deep depression in a dune which formerly stood on what is now the east bank of Burns Ditch.<sup>3</sup> Between perhaps 1915 and 1919, an abandoned shack in the Dune Park area housed "Diana of the Dunes," discovered and popularized under this name by contemporary journalists; this young woman lived alone, sold wild berries and animals, and bought nothing but bread and salt.<sup>4</sup> The dunes enabled all these people to flee from the forces of law and society.

The isolation of the dunes also suited occasional specific purposes. Octave Chanute, whose glider experiments at Miller Beach in 1896 drew an unwanted crowd, sought privacy for his next set of experiments that year on the beach north of Dune Park Station. The site was inaccessible by road, and he himself arrived by boat.<sup>5</sup> Some twenty years later, in 1919, a Chicago film company chose a site near Dune Park to shoot a movie entitled "Lost in the Desert." An unplanned degree of realism was achieved when the lead actor actually did get lost in the wilderness of the sand hills.<sup>6</sup>

In the first decades of the twentieth century, many people from neighboring places like Chesterton and Porter used the duneland recreationally. Frances Howe wrote in 1909 that the area at the mouth of Dunes Creek served as a camping ground for Chesterton in the summer, and that young people from Chesterton and Porter often

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<sup>1</sup>Oral information from Si Charlson.

<sup>2</sup>Brennan, Wonders of the Dunes, 124.

<sup>3</sup>William A. Briggs, "The Devil's Punchbowl," Duneland Historical Society Publications, I, no. 7 (March 1956).

<sup>4</sup>Moore, Calumet Region, 601-05.

<sup>5</sup>Moore, Calumet Region, 574-80.

<sup>6</sup>Moore, Calumet Region, 592.

built campfires of driftwood there.<sup>1</sup> What distinguished this use from later use was that it was light, local, and informal; the dunes retained enough isolation that people could simply go and use them, without having to create special structures, political movements, or legally established parks in order to protect them. The same thing can be said of shacks and cottages in the dunes. They already existed early in the century, both as permanent residences for fishermen and as summer pleasure homes for vacationers.<sup>2</sup> However, they too were informal, the work of individuals rather than developers, leaving few lasting traces; they were small, crude, and careless of land ownership, in contrast to the planned residential communities which would come into being in the 1920's.

Such informality was possible only so long as interest in the dunes was so light that no one had to compete for a place there. The turning point, when interests were to become vocal and formalized, came in the 1910's and '20's. The tragedy of "Diana of the Dunes" was that she arrived at the turning point; coming to the sand hills in the hope of true isolation, she found herself a popularized, glamorized figure to a public which was suddenly beginning to notice and value the area. The isolation was coming to an end. Before we look at the forces which put new values and pressures on the duneland in the twentieth century, let us pause for a separate look at the wetlands that lay among the dunes -- part of the duneland in terms of isolation and its loss, but distinct in their nature and thus in the effects they showed from human use.

#### B. Interdunal Wetlands

The depressions between the sand hills held pockets of wetland. Geographically part of the sand hill area, these pockets were separated by higher contours from the broad marshes of the Little Calumet River, the Baillytown Sag, and the Great Marsh to the south. Moreover, they differed from those marshes in having no flowing outlets. While water from the Great Marsh might find its way into Dunes Creek, for example, the only drainage path available to the interdunal wetlands (before European-American improvements) was to seep directly through the porous sand northwest into Lake Michigan. It seems probable that the lack of drainage gave the interdunal wetlands a different character and vegetation from the wetlands from which streams or rivers flowed.<sup>3</sup>

Human use of the interdunal wetlands has been minimal. They shared the practical disadvantages of other wetlands and the isolation of the sand hills. They were too small, inaccessible, and unpromising to be worth reclaiming, and we have found no evidence of any interdunal wetland ever having been drained for agriculture. Special cases of human activity in these pockets will be described

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<sup>1</sup>Frances R. Howe, "Effaced Footprints on the Sand of Time," Chesterton Tribune, 7 Oct. 1909, 8.

<sup>2</sup>Oral information from Norris Coombs and Oscar Nelson.

<sup>3</sup>Cowles, "Plant Societies of Chicago and Vicinity," 33, 34.



in connection with the particular depressions where they occurred.

No sharp distinction can be made between pond and marsh among the interdunal wetlands. They varied with the season and the weather, changing between wet years and dry years. In Lyon's words, "They may occur as permanent meadows, or permanent shallow ponds, or meadows which early in the season were shallow ponds. Often some of the meadows become very dry. The ponds are seldom over knee deep."<sup>1</sup> The difficulty of distinguishing meadow, marsh, swamp, and pond historically is aggravated by differences in vocabulary among observers. Thus Bailey wrote in 1917 of a small pond a few hundred feet west of Dune Park Station, complete with swamp blueberry, cranberry, alders, dwarf birch, poison sumac, and other plants;<sup>2</sup> another writer might have called it a swamp. "Back of the Oak Hill region is a chain of lakes between the high dunes, making a very attractive section," Brennan wrote in 1923;<sup>3</sup> but Goodman's detailed new map of precisely that area in the same year, while it identified more than twenty distinct pockets of marsh, showed no lakes or ponds there except Mud Lake and Little Lake.<sup>4</sup>

The interdunal wetlands grew gradually smaller and drier over a period of centuries. Once almost all lakes or ponds, they changed into marsh or even swamp through the normal progress of ecological succession.<sup>5</sup> Sometimes the process was rapid enough to be perceptible. Bailey wrote of one pond in 1917, "It is changing slowly by a filling-in process at the water's edge, and the grasses, shrubs, and trees from the higher land march steadily into the water."<sup>6</sup>

Another factor in the shrinkage of the wetlands, in the late nineteenth and early twentieth centuries, was a general lowering of groundwater levels reflecting changes in the level of Lake Michigan. About 1830, the levels of the Great Lakes rose some two feet above their average level for the previous fifteen years. Between 1830 and 1890 the level of Lake Michigan fluctuated around this higher elevation. It dropped a foot in 1890 and another foot about 1925, bringing it down to the same range as before 1830, where it hovered until about 1940 (see figure 9). A lowering of that magnitude could mean the difference between shallow standing water and

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<sup>1</sup>Lyon, "List of Flowering Plants," 248.

<sup>2</sup>Bailey, Sand Dunes of Indiana, 154.

<sup>3</sup>Brennan, Wonders of the Dunes, 145.

<sup>4</sup>Goodman, "Rand McNally Map."

<sup>5</sup>Cowles, "Plant Societies of Chicago and Vicinity," 34, 35; Reshkin, Basic Ecosystem Studies, II, 37.

<sup>6</sup>Bailey, Sand Dunes of Indiana, 127.

marsh. Lyon observed changes in the vegetation of the area between 1922 and 1927 which he attributed, in part, to "that more or less natural drainage which is slowly occurring in the lake region."<sup>1</sup> If other factors were held constant, changes in Great Lake levels should have brought about a renewal of lakes and ponds since 1940, for the level of Lake Michigan has risen sharply since then and has come to equal or exceed the levels of 1830-90.<sup>2</sup>

Nineteenth century cartographers do not provide useful information about which depressions held standing water year round. Most of them relied on the reports of 1830 surveyor Calvin Britian. Britian traveled the section lines of the Dune Park area in April, the wettest season of the year, and noted a number of small ponds among the sand hills between Dunes Creek and the Indiana mouth of the Grand Calumet. Mapmakers who copied him inadvertently depicted the same April conditions. Of the depressions which held ponds in April, many may have been fairly dry in other seasons. Only four of the pockets seem to have held standing water so consistently as to earn individual recognition as lake or slough. From west to east, these were Long Lake, Mud Lake, Blag Slough, and Little Lake.

Long Lake, on the border between Lake and Porter Counties, was the largest of the interdunal ponds. It may at one time have had a connection with the Grand Calumet River, which it approaches at its western end. The 1830's surveyors depicted Long Lake as more than three miles long -- almost five miles if one includes the marshes extending from its eastern end.<sup>3</sup> Long Lake has been subject to visible shrinkage over the years. People observed the change at least as early as the 1870's.<sup>4</sup> An 1882 atlas reported of Long Lake, "It is more marsh than lake, and can boast of no beauty of scenery or surroundings."<sup>5</sup> The growth of nearby Gary after 1906 further aggravated the reduction of the standing water area and the corresponding broadening of the shore marshes.<sup>6</sup> According to one

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<sup>1</sup>Lyon, "List of Flowering Plants," 246.

<sup>2</sup>Division of Waterways, Dept. of Public Works and Buildings, State of Illinois, Interim Report for Erosion Control, Illinois Shore of Lake Michigan (1958), 7.

<sup>3</sup>Ristau, "Record of Physical Features."

<sup>4</sup>Brennan, Wonders of the Dunes, 144.

<sup>5</sup>Goodspeed and Blanchard, Counties of Porter and Lake, 214.

<sup>6</sup>Pepoon, Annotated Flora, 107, 123, 129-30; Gibson, "Reminiscences," 84.

observer, the residue of fires was another significant factor in filling in Long Lake and allowing vegetation to encroach upon it.<sup>1</sup>

Long Lake may have supplied ice to commercial ice harvesters in the late nineteenth and early twentieth centuries. Nearby Miller (now part of Gary), on the Michigan Southern Railroad, was a major ice shipping center in the years before mechanical refrigeration became widespread. Harvesters used horsedrawn tools to cut ice from inland lakes and ponds in winter, stored it in large icehouses to minimize melting, and shipped it by railroad to Chicago and other cities in the summer. By the turn of the century, the Knickerbocker Ice Company of Chicago had absorbed most of its competitors to become the leading ice supplier for the Chicago area. Knickerbocker advertised its three-block-long ice house at Wolf Lake, on the Indiana-Illinois border, as the largest in the world, and also shipped large amounts of ice from Clark and Miller stations further east in Lake County.<sup>2</sup> Some of the Miller ice may have come from Long Lake just half a mile away. We do not know how large a part Long Lake played in the industry, however, or what effects ice harvesting might have had upon the lake.

Mud Lake, also known as Goose Lake or Lake Walker, lay a few miles further east in Porter County, just northwest of the place where Joseph Bailly platted his town (see figure 12). Surveyor Britian found Mud Lake separated from the Baillytown Sag by 120 yards of drier land,<sup>3</sup> and modern contour maps show a band of higher land between the two wetlands. Mud Lake remained relatively untouched by direct human activity before 1959. No railroad tracks or automobile roads approached it, although footpaths and wagon trails ran beside it on their way to the shore.<sup>4</sup> The Knickerbocker Ice Company, which held the lake and surrounding land as a real estate investment through most of the first half of the twentieth century, made no effort to harvest ice or mine sand there. Local residents<sup>5</sup> could walk to the lake to watch or shoot ducks, geese, and cranes. "Various-leaved pondweed" grew there in abundance.<sup>6</sup> Lyon wrote in

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<sup>1</sup> Bailey, Sand Dunes of Indiana, 127-28.

<sup>2</sup> Richard O. Cummings, The American Ice Harvests (Berkeley, Cal., 1949), 76, 86-90; Moore, Calumet Region, 101; Ball, Northwestern Indiana, 411; oral information from Si Charlson.

<sup>3</sup> Britian, survey notes, 377.

<sup>4</sup> Goodman, "Rand McNally Map;" oral information from Si Charlson.

<sup>5</sup> Oral information from Oscar and Irene Nelson, Lois Howes, and Si Charlson.

<sup>6</sup> Pepoon, Annotated Flora, 169.



1929-30, "The country north of Baileytown and about Walker [Mud] Lake is still in almost unchanged and primitive condition, probably due to its inaccessibility by motor car."<sup>1</sup>

Mud Lake has shown marked changes in size. The survey records of April, 1830, suggest perhaps 160 acres of standing water, and Pepoon saw the lake in 1895 "showing 'white caps' wave action and a clear water reach of a mile or more by half a mile." When Pepoon returned in 1915, the lake had become so dry that he could walk on the bottom without wetting his shoes.<sup>2</sup> In 1926-27 he described the lake as "now generally dry except in spring," or "almost converted into a marsh."<sup>3</sup> In the dry years of the early 1950's, the lake bottom showed large cracks and people could again walk out onto it; according to Lois Howes, the area of actual water in that period was no larger than her sitting room.<sup>4</sup> It is hard to distinguish short-term fluctuations from shrinkage caused by ecological succession, falling Lake Michigan levels, or possibly the influence of Samuelson Ditch in the Baillytown Sag drawing groundwater away from the pond. Mud Lake remained at least enough of a wetland to attract water birds. Beginning in 1960, Mud Lake was drained and filled to make way for construction by the Northern Indiana Public Service Company and Bethlehem Steel. Of the original lake a tiny fragment, recently termed "Pond 6," remains.

Blag Slough ("Pond B") lay just northeast of Mud Lake across a low ridge. It was named for Civil War veteran George Blag, who lived around the turn of the century as a hermit in a shack along the trail between the slough and Lake Michigan. The slough and the wild rice that grew nearby attracted ducks and geese, hunted by people living in that area.<sup>5</sup> The term "slough" suggests a shallow, grassy wetland, midway between marsh and pond. Aerial photographs taken in 1938 and 1951 show some water in the Blag Slough depression; but, among the pre-1960 maps we have seen, only the Dune Acres Planning Commission maps of 1955 and 1959 show Blag Slough as a pond. The industrial development that eliminated Mud Lake in the 1960's had the opposite effect on Blag Slough. The slough, situated on the boundary between the Indiana Dunes National Lakeshore and the Northern Indiana Public Service Company with its fly ash ponds, filled with water in 1967 and became a year round standing pond.<sup>6</sup>

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<sup>1</sup>Lyon, "List, Supplement," 35.

<sup>2</sup>Pepoon, Annotated Flora, 129-30, and photograph of Mud Lake on page 120.

<sup>3</sup>Pepoon, Annotated Flora, 107, 169.

<sup>4</sup>Oral information from Oscar and Irene Nelson and Lois Howes.

<sup>5</sup>Oral information from Si Charlson and Oscar Nelson.

<sup>6</sup>Aerial photographs at IDNL.

Finally, Little Lake ("Pond C") -- just east of Blag Slough, near the western end of the Great Marsh -- was, until about 1924, "a very interesting little pond."<sup>1</sup> South of it was another depression, triangular in shape, distinguished as a large wild cranberry swamp<sup>2</sup> (see figure 12). In 1924 or 1925 both Little Lake and the triangular cranberry swamp were drained and converted into a nine hole golf course for the newly developed Town of Dune Acres. Figures 10 and 11 show the plan of the golf course. It was approached by a road leading along the edge of the marsh from Mineral Springs Road, where there had long been a trail; a trail still follows this route westward from the Dune Acres gate house. Townspeople played golf back and forth between the low sand ridges that lined the wetlands of the former Little Lake and the former cranberry swamp, from 1925 until 1936, when under the pressures of the Great Depression the course was abandoned.<sup>3</sup>

The drainage of Little Lake and the cranberry swamp is an early instance of ditching for non-agricultural development. One ditch ran south from Little Lake into the triangular depression. There it joined another ditch from the southern part of the triangle, and the combined ditch cut eastward through higher land into the Great Marsh where it joined old State Ditch. The ditch was abandoned together with the golf course, but since it was not closed off, some drainage continued. In 1968-69, a year or two after Blag Slough became a broad standing pond and presumably for the same reasons, Little Lake too became a year round pond as it had been before 1924. It was changed, however, in that it now had a direct outlet into the Great Marsh; this change in drainage is likely to have affected the water composition and vegetation.<sup>4</sup> About the same time, NIPSCO constructed a dike across the northern and eastern parts of the triangular depression, just south of the drainage ditch, and began using most of the former cranberry swamp as industrial pools.

The interdunal wetlands thus shared in the nineteenth century isolation and the twentieth century development of the sand hills. Few people showed direct interest in the depressions among the dunes, even after the dunes themselves began to attract widespread attention; but the wetlands showed the side effects of development in the

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<sup>1</sup> Lyon, "List of Flowering Plants," 248.

<sup>2</sup> Britian, survey notes, 375; oral information from Naomi Studebaker.

<sup>3</sup> Oral information from Leonard Conklin, Naomi Studebaker, and Lois Howes; Lyon, "List of Flowering Plants," 248; Lyon, "List, Supplement," 35; the road under construction in 1928 along part of the western edge of the course, from U.S. Highway 12 to about the protrusion of the ditch across the section line, seems unrelated to the course; Thrift Press, "Outline Map."

<sup>4</sup> Cowles, "Plant Societies of Chicago and Vicinity," 33, 34.

sand hills and along the lakeshore. Thus the growth of Gary probably contributed to the shrinkage of Long Lake; industrial fill eliminated Mud Lake; recreational development for the sand hill Town of Dune Acres emptied Little Lake and eliminated the cranberries to the south; and the NIPSCO dike and fly ash ponds, raising the water table of the immediate area, made the triangular depression a dammed pool, while Blag Slough and Little Lake became large standing ponds known by the impersonal names of "B" and "C." Such side effects illustrate the complexity of the issues that have arisen in the twentieth century, when the proponents of both industry and conservation have become intensely interested in the potential of the sand hills for differing kinds of human use.

### C. Industry and Conservation

During the twentieth century, two forces have grown to compete for the use of the sand hills: industry and conservation. Land which was formerly isolated and devalued began to draw new appreciation of conflicting sorts around the turn of the century. Tension between proponents of industry and conservation/recreation became acute by the 1960's, when Congress arranged an uneasy compromise creating both the Port of Indiana and the Indiana Dunes National Lakeshore.

Three factors stimulated both industrial and recreational interest in the dunes. The presence of Lake Michigan held special attractions for both steel corporations and swimmers. The growth of cities nearby, particularly Gary and Chicago, left a diminishing amount of open land available for either plant construction or personal refreshment. Finally, sand itself was found to have both commercial and recreational values.

None of these factors allows for compatible use by the competing interests. A given portion of the lakeshore cannot be developed simultaneously for slag fill, harbor, and swimming beach. Land used for plant construction is no longer available for personal refreshment, and conversely parks exclude factories. The commercial value of sand depends on its removal to other sites; its recreational value rests on its presence in the form of dunes. Every victory for one category of use is a defeat for the other.

Industrial development of the Porter County sand hills began in the last decades of the nineteenth century and intensified in the twentieth. An atlas of 1882 reported, of Portage Township, "many large manufacturing establishments have started already in the wilderness of stunted pine among the sand hills and morasses at the south end of the Great Lake, and the indications are that there are many more to follow."<sup>1</sup> Early twentieth century writers echoed this impression, again without indicating what kind of manufacturing was taking place. According to a county history of 1912, "the excellent

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<sup>1</sup>Goodspeed and Blanchard, Counties of Porter and Lake, 218.



transportation facilities offered in Portage Township lead many to believe that this portion of Porter County will in the near future become a great manufacturing district;"<sup>1</sup> and in 1923 Brennan wrote, "In traveling through the Dune district one is struck with the tremendous number of isolated plants, with switches leading to them, seemingly lost in the Dunes or marshes."<sup>2</sup>

The earliest specific industrial use of the sand hills which we can identify was sandmining. Sand was in demand for fill, to make the local and Chicago wetlands firm enough for railroads and other construction. From Miller to Michigan City, dunes were removed to be used elsewhere as a base for urban, commercial, and railroad development. The site of the 1893 Columbian Exposition, now part of Chicago's Hyde Park, was prepared with sand from just east of Miller. Of the two hundred foot "Hoosier Slide" once existing at Michigan City, Brennan wrote in 1923, "now a small desert plain remains."<sup>3</sup>

The hills of sand were regarded as private property, which the owners might dispose of as they pleased. Sand under Lake Michigan, on the other hand, was considered public property in the sense of belonging to nobody in particular, and was thus freely available to anyone who wanted to take it. Some sand was therefore mined by barges from the bottom of the lake, not because of a desire to spare the dunes, but because no landowners had to be paid for it.<sup>4</sup> Before the proponents of conservation began to gain power, neither private nor public ownership of the sand ensured that sand would be left undisturbed.

Private ownership and mining of the Portage Township sand hills was originally shared among several companies. In 1895 a large block of land west of Dune Park Station belonged to the Chicago Mutual Sand and Gravel Company, while neighboring properties belonged to the Shedd family which was active in ice and related industries.<sup>5</sup> Before the turn of the century, however, the Chicago-based Knickerbocker Ice Company bought some of the Shedd interests and perhaps twenty other companies, to become the leading Chicago-area shipper of sand as well as ice.<sup>6</sup> In addition, between 1906 and 1912,

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<sup>1</sup>History of Porter County, 169.

<sup>2</sup>Brennan, Wonders of the Dunes, 135.

<sup>3</sup>Brennan, Wonders of the Dunes, 156.

<sup>4</sup>Moore, Calumet Region, 100.

<sup>5</sup>Lee and Lee, Porter County Atlas, "Portage Township."

<sup>6</sup>Cummings, American Ice Harvests, 89-90.

Knickerbocker acquired land on three sides of Dune Park Station, extending their holdings east beyond Mud Lake and north to Lake Michigan.<sup>1</sup> By the 1920's Knickerbocker owned more than two thousand acres in Porter County.<sup>2</sup>

Dune Park Station, on the Tolleston Beach Ridge at the edge of the sand hills, was the major center for shipping sand by railroad. In 1898 more than three hundred cars were loaded there with sand for shipment each day, allegedly making Dune Park the most profitable freight station on the Michigan Southern between Elkhart and Chicago.<sup>3</sup> Sand hill after sand hill was carried away. In 1917 Bailey wrote that Knickerbocker's steam dredges had "made sad ravages here."<sup>4</sup> By 1923 the company was said to have "sold an enormous amount of sand for industrial purposes. Hundreds of acres of dune ridges have been carted off." Sandmining had left the land between the station and Lake Michigan nearly level, "and the great ridge bordering the lake is being razed to the ground."<sup>5</sup> Burns Ditch, constructed west of Dune Park Station in 1924-26 to give the Little Calumet a new outlet to Lake Michigan, followed a path which had already been leveled by sandmining. Pepoon wrote in 1927, "At Dune Park great areas have been converted into barren wastes by the steam shovels and surely and not over-slowly the dunes crumble and are transferred to the long trains of waiting cars for transportation to the great city in the northwest."<sup>6</sup>

In the 1910's and '20's, while the land west of Dune Park Station was being leveled for sand, new interests developed in preserving the dunes that remained, not all of them compatible. Some people wanted to save the dunes for scientific study, some for art, some for inspiration, some for hiking and swimming, some for residences, some for a combination of these purposes. What they had in common was a desire to conserve, in some degree, the native character of the sand hills and the lakeshore; we have termed their varied interests collectively as "conservatory."

Their common desire to prevent unlimited industrial destruction of the dunes led to a coalition of people who struggled with the questions arising from the diversity of their interests. Should the remaining duneland be publicly or privately owned? Should access be

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<sup>1</sup>George A. Ogle, Atlas (Chicago, 1906), "Portage Township," "Westchester Township;" W. D. Jones, map of northern Porter County (1912, at Chicago Hist. Soc.).

<sup>2</sup>Brennan, Wonders of the Dunes, 133; Thrift Press, "Outline Map."

<sup>3</sup>Moore, Calumet Region, 101.

<sup>4</sup>Bailey, Sand Dunes of Indiana, 150.

<sup>5</sup>Brennan, Wonders of the Dunes, 133-34.

<sup>6</sup>Pepoon, Annotated Flora, 109.

restricted or encouraged? Should trees be cut down to make room for buildings to shelter the people who came to enjoy the dunes? Should interdunal wetlands be drained, insects sprayed, toxic plants eliminated, if these changes seemed likely to enhance human pleasure?

Few, if any, people actually attempted to keep the land free from human interaction. Science, aesthetics, inspiration, and recreation, no less than industry, were categories of human use. Any human presence meant footpaths and some disturbance of plant and animal habitats. More substantially, efforts to make the dunes more widely accessible brought the South Shore Line of 1908 and the Dunes Highway of 1923. Beach facilities, parking lots, and residential construction all invited people to enjoy some aspects of the native landscape at the price of destroying others. All such activities, however, were conservatory in contrast to the effects wrought by sandmining or heavy plant construction.

We have already indicated, at various points in this report, the major reasons why the conservatory interests -- largely inactive in the nineteenth century -- had a sudden surge of growth in the early decades of the twentieth. First, the writings and teachings of Henry C. Cowles, from the time he completed his Ph.D. in 1898 until his retirement in 1934, drew scientific attention to the remarkably varied flora of the dune country where Cowles developed his theory of ecological succession. Second, the development of the electric railway and the automobile enabled people from as far away as Chicago to take day outings to the beach and sand hills, where formerly only people from nearby communities such as Chesterton had come. Third, the establishment of Gary by U.S. Steel in 1906 not only brought more people into northwestern Indiana; by destroying much of the Lake County lakeshore, it also reinforced a growing awareness that beach and duneland could not be taken for granted as permanent features of the landscape. The spread of the steel industry around the shore from Chicago thus combined with Porter County sandmining to give a sense of urgency to the conservatory interests. "And why should the despoiler come?" wrote Bailey in 1917. "It is time now to change the waste into a park, and the desert into a playground for millions forever to enjoy."<sup>1</sup> Brennan echoed this sentiment in 1923: "Unless very quick action is taken, it will be too late to have a real Dune Park, as the Dunes are being destroyed."<sup>2</sup>

The popular movement to create a state or national park received its most direct impetus from the work of the Prairie Club of Chicago. After exploring the environs of Chicago more generally, club members "discovered" the dunes in 1912 and came to concentrate their attention on this area. In 1916 the club took the lead in organizing a broader group to press for the establishment of a national park, and the next year it coordinated a grandiose historical pageant to help

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<sup>1</sup>Bailey, Sand Dunes of Indiana, 32.

<sup>2</sup>Brennan, Wonders of the Dunes, 176.



publicize the dunes.<sup>1</sup> Interrupted by World War I, the movement resumed after the war with its emphasis shifted from national to state sponsorship, and in 1925 the Indiana Dunes State Park was established in the area around and east of the mouth of Dunes Creek.

The same kind of attention that led to the state park also encouraged the development of private resorts and residential areas. The "first summer resorter in the Dunes" was Henry W. Lehman, who built a lakeside summer cottage north of the western end of the Great Marsh in 1893. Lehman acquired six hundred acres around his cottage, including a two and a half mile stretch of beach, and permitted many Chicago people to build cottages there.<sup>2</sup> In 1922 Lehman leased most or all of his land in the dunes to William A. Wirt of Gary, who laid out the town of Dune Acres the following year. Dune Acres had 12 residents in 1930, 46 in 1940, and 86 in 1950.<sup>3</sup> Other developers created the larger but similar towns of Ogden Dunes (1925) west of Burns Ditch and Beverly Shores east of the state park. The people who bought houses in these towns, motivated by an appreciation of their environment, hoped to conserve the character of the surrounding duneland rather than allowing it to be despoiled by industry.

Through the Great Depression, World War II, and the early 1950's, there was a lull in the expansion of both the industrial and the conservatory forces in the Bailly area sand hills. The distribution of land between industrial and conservatory uses seemed more or less stabilized in the shape it had taken before 1930. The levelled area around Burns Ditch, bought in 1929 by Midwest Steel together with adjacent duneland, had lost its sand hills forever; even though Midwest then did not undertake construction, that part of the former Knickerbocker property was already captured for the industrial interests. On the other hand, the Indiana Dunes State Park and the town lands of Ogden Dunes, Dune Acres, and Beverly Shores -- compromised though they were by recreational and residential development -- were secure from the greater disruptions of sandmining, steel mills, and other industrial activities.

Much duneland remained, however, which had not yet clearly fallen to either industrial or conservatory interests. Although sandmining declined, and depression and war discouraged immediate construction, several people and companies held property in the sand hills as an

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<sup>1</sup>W.P.A., Calumet Region Hist. Guide, 134-35; Moore, Calumet Region, 597-601; John O. Bowers, "History of the Dunes Park" (n.d., TS in Gary Public Library), passim; Brennan, Wonders of the Dunes, 163-73.

<sup>2</sup>Brennan, Wonders of the Dunes, 145.

<sup>3</sup>Moore, Calumet Region, 605-07; W.P.A., Calumet Region Hist. Guide, 134.

investment with an eye to future development. Thus the Murchison family's Consumers Dunes Corporation absorbed the Knickerbocker Ice Company and held its land idle, presumably in hope of a future sharp rise in land values. Inland Steel, which had bought lakeshore property on the western edge of Porter County in 1919, also held its land undeveloped, while the company waited to see whether a harbor would be built. The Northern Indiana Public Service Company bought sand hills and marshland near Baillytown in the early years of the Depression but postponed any construction. These and other undeveloped lands, held by non-resident owners for their future economic value, were available for a time therefore to campers, hikers, hunters, and even shack-dwellers as though the land were free and unowned. Its ultimate use had not yet been determined.

The final phase in the struggle for the use of the remaining undeveloped sand hills began after World War II. Steel and power companies revived the question of a harbor in the Dune Park area and made plans for plant construction; people interested in conservation and recreation responded by reviving the question of a national park. In 1949 the State of Indiana persuaded the Corps of Engineers to reconsider an earlier recommendation against a harbor in that location. Apprehension about industrial and commercial development gave rise to the Save the Dunes Council, organized in 1952 to defend the interests of conservation. In 1956, Bethlehem Steel bought the Consumers Dunes property in the relatively untouched heart of old Dune Park, between NIPSCO and Midwest Steel (see figure 7). In 1958 Senator Paul Douglas introduced a national park bill in Congress, aimed at conserving the undeveloped sand hills belonging to Midwest, Bethlehem, and NIPSCO before they disappeared forever. The next year Midwest Steel and NIPSCO protected their investment by beginning the long-delayed construction on their Porter County properties, destroying their potential as parkland. The park bills presented to Congress in 1959 and 1961 acknowledged the fait accompli by deleting those lands from the proposed park and focusing on the still undeveloped properties of Inland Steel (west of Ogden Dunes) and Bethlehem.<sup>1</sup>

To most people who wanted a national park, the central issue was the Bethlehem Steel property, long considered one of the most wild and beautiful parts of the dunes.<sup>2</sup> In 1962 Bethlehem forced the issue by contracting to sell its sand hills for use as fill at Northwestern University. While Congress debated, sandmining began. In February, 1963, Senator Douglas reported that "bull dozer operations affecting the area described in the bill have stopped and have extended only to

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<sup>1</sup>Platt, "Open Space Decision Process," 145-49 et passim.

<sup>2</sup>Bailey, Sand Dunes of Indiana, 150; Brennan, Wonders of the Dunes, 144; W.P.A., Calumet Region Hist. Guide, 138.

stripping vegetation from the dunes surrounding Goose or Mud Lake."<sup>1</sup> By summer the Bethlehem Steel property, former site of tall undisturbed dunes, was as flat as the land beside Burns Ditch. The fate of Dune Park was settled.

Most of the sand hill area remaining was finally designated for conservation. Bills for both a harbor (the prerequisite for industrial success) and a national park passed Congress in 1966 and were put into effect over the next few years. The new park was to include the undeveloped Inland Steel lands as well as duneland near Dune Acres and Beverly Shores. The Port of Indiana and the Indiana Dunes National Lakeshore, created simultaneously as a deliberate compromise, were the respective achievements of the competing industrial and conservatory interests.

Under the pressure of expanding population and technology, land use in the Bailly area sand hills in the 1970's has become highly specialized and formalized. The days when people could freely roam these lands, with the sense that they were little valued by anyone, have largely come to an end. The former lakeside shacks once built and occupied for nominal cost, then partially abandoned as their landlords raised the rents,<sup>2</sup> have now fallen before the overwhelming power of industrial or federal institutions. Former large, carelessly administered unincorporated areas, once potentially subject to conservatory zoning by Ogden Dunes or Dune Acres, have been organized into the municipalities of Portage, Burns Harbor, and Porter which have zoned to encourage industry and commerce.<sup>3</sup> Almost every acre of the Bailly area sand hills has been expressly designated for a particular use and is clearly the property of a particular institution: a steel or utility company, a port, a state or national park, or a residential town. Legal and political boundaries divide the dunes, not into their geological shapes, but into labeled rectilinear districts of use, many of which will not greatly change henceforth -- toward either conservation or demolition -- except by act of Congress.

The geographical isolation of the dunes, preserved earlier by human uninterest and reluctance to cross a marshy barrier, is preserved now by arbitrary boundaries expressly protected by laws, supervision, or fences. The earlier continuous environment of dunes, wetlands, flora and fauna has given way to a smaller, angular, discontinuous territory defined in several places by a "harsh industrial boundary." In this new situation, deliberate and conscious action must be taken to preserve those geologically shaped land forms least changed by a century and a half of European-American presence, a task entrusted by Congress to the National Park Service and furthered, we hope, by this final report of our geo-historical study.

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<sup>1</sup>Platt, "Open Space Decision Process," 151.

<sup>2</sup>Oral information from Norris Coombs and Oscar Nelson.

<sup>3</sup>Platt, "Open Space Decision Process," 152, 159-60.



## CHAPTER VI. EPILOGUE: THE EUROPEAN-AMERICAN IMPACT

Now that we have examined many of the particular activities of European-Americans affecting the Bailly area, we are ready to ask a broader question about the overall character of these activities. How and why did European-Americans, finding the land almost unchanged by hundreds of years of Indian activity, so greatly transform it in a century and a half that their successors are now impelled to take steps to limit themselves?

One overall pattern seems to emerge, well illustrated in the effects of the two earliest non-Indian groups of visitors to the Bailly area: the explorers and the surveyors. We have given them only passing attention in this report, because their immediate direct effect on the land was minimal; but both groups exerted an enormous influence on all those who came afterwards. Both did something which apparently the Indians did not; both not only observed the land but also recorded their observations in coded or symbolic form on paper. In this form their observations were carried to others who had never seen that land, people who then -- on the basis of those records -- dreamed dreams, laid plans, plotted journeys, laid claims, platted towns, designed railways, pledged money, executed deeds, transferred property, established wills, organized groups, and engaged in other activities the results of which we have described in this report.

The observations of the explorers and surveyors were recorded, for the most part, in the form of maps, descriptions, and survey notes. The maps and descriptions made possible the planned movement of those who came after. The United States survey, laid out in the rectilinear grid pattern, determined the shapes in which land was bought and sold, the straight lines along which many roads were laid out, and the rectangular patterns in which towns were platted and built; the impact of the survey is clearly visible to anyone who observes the Calumet region from the window of an airplane.

The essential character of this process seems to lie in a pattern of thought and action which may be peculiar to European-American culture. The pattern rests in a kind of inner seeing which might be called "reflective" or "speculative," although it can be more creative and dynamic than "reflection" connotes, and more deliberate and responsible than "speculation" sometimes implies. We shall label it "projective reflection."

The first stage of projective reflection is the replaying of sensory impressions inwardly, as if projecting them upon an inner screen of consciousness. In the course of this replaying, the original impressions are subject to the transforming mental forces of imagination and organization. The next stage is the translation of any of these transformed inner versions into external symbols such as written words or drawings, which communicate the product of one person's reflective process to another. The result is a map, for

example, or a survey report. Then, through the printing press and other devices, any such communication can be multiplied indefinitely to large masses of people or to a defined group. By this means people in various places, each of whom may be physically distant from a particular place or thing, may yet own it, transfer its ownership, lay plans for it, and make decisions regarding it for other people to carry out -- and lo, some portion of the world is changed. In summary, when some particular inner version of the environment, altered by the creative power of reflection, is regarded as a plan, projected in an external symbolic form, and carried forth to other people in multiple copies, that environment may be made to conform to this plan which was once only a mental picture.<sup>1</sup>

If we choose to view this process with favor, we refer to the people who exemplify it as creative geniuses or benefactors of humanity: architects, inventors, lawgivers, healers. If we choose to see it in its demonic aspect, we call its exemplars speculators, exploiters, destroyers. In either case, the habit of projective reflection seems to distinguish the activity of "advanced" from "primitive" cultures. In pre-modern cultures, including medieval European culture as described above in Chapter I, people accepted the environment, maintained a filial relationship to it, and adapted their lives to its more powerful force. The post-medieval habit of the European-American, instead, is to receive the impression of the environment, reconstruct it mentally, and then turn himself into the master -- whether benevolent or imperious -- and force the environment to adapt to his desires. The result shows in a great deal of America today, including much of the Bailly area of Porter County, Indiana. This habit of modernity, by which people attempt to master nature rather than harmonizing with it, has characterized developed countries to such an extent that a resulting ecological crisis has forced itself upon our consciousness.

Yet the ecological crisis is not being met by reversion to a more primitive mental habit. On the contrary, we continue to elaborate our inner sight, formulating new visions of our world in a version which includes selected portions preserved for the future, in what we might call a state of sophisticated wilderness. The same mentality which once was valued only for making changes upon the land is now applied to limit those changes, so that soil and water, fauna and flora, and sites which portray parts of our human past may still be available to us and our descendants. Hence, by conscious intent, the small portion of the duneland under the care of the National Park Service is to be preserved for educational, inspirational, and recreational uses now and in the future.

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<sup>1</sup>For discussion of William James' related concept of "reflex action" as a triad of "sensory intake, reflection, and discharge in action," see James Luther Adams' report of a "Letter from Friedrich von Hugel to William James," Journal of the American Academy of Religion, XLV, no. 4, supplement (Dec. 1977), 497.

Although we cannot draw a rigid distinction between the psychological and the material, the specific uses which are designed for the Indiana Dunes National Lakeshore pertain particularly to the mind and the emotions, the reflective faculties. This fact makes it especially appropriate that our study includes elements of what Meyer called "psycho-geography." Meyer, justifying in his geographical studies the inclusion of stories of speculators' towns such as Baillytown which existed only on paper, concluded that he needed to treat them in order for his readers "fully" to understand the "forces interacting between man and his environment."<sup>1</sup> As our own study shows, we too believe that people's visions for a region are a part of its history. We must understand the European-American propensity to "see" things that are not there, such as a potential harbor at the foot of Lake Michigan, in order to make sense of other events which did take place, such as land purchases early in this century by industrial owners who kept the land undeveloped while they waited for their vision of a harbor to take material shape. Each stage of a projective reflection has its own importance.

Meyer's writings, other reports, and our own study are psycho-geographical events in themselves, steps in the reflective process. In studying the land, we have projected our observations and other people's records onto our own consciousness, reshaping and rearranging them in relation to the particular questions we were asking. The work has changed our perceptions; we see more in the Bailly landscape now than we would otherwise have seen. In writing this report, we have proceeded to the stage of recording our reflections symbolically for others to share. Our readers, whether near the Bailly area or distant from it, will find their own perceptions modified. We hope that this report will help the park management and the American public to proceed wisely with the final stage of reflection, the active projection onto the land of a vision: the vision of a unique and distinctive segment of the American landscape, preserved as a wilderness for the public use.

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<sup>1</sup>Meyer, "Circulation and Settlement 1830-1850," 332.



LIST OF PEOPLE INTERVIEWED OR CONSULTED

Aubrey, John. Staff of Newberry Library. By phone Aug. 13, 1977 and at the Library, 60 W. Walton St., Chicago, IL 60610 (312:943-9090), Nov. 1, 1977.

Barido, Hazel (Mrs. Richard). "Swedish" housewife. At her home on Mineral Springs Road (near The Spa), Chesterton, IN 46304 (219:926-3401), Dec. 19, 1977.

Charlson, Lawrence ("Si"). "Swedish" farmer born near Baillytown in 1901. At his home with Hazel (Mrs. Richard) Barido and Mrs. Fred Johnson on Mineral Springs Road (near The Spa), Chesterton, IN 46304 (219:926-3401), Dec. 19, 1977.

Coams, Norris D. President of Duneland Historical Society. At the Chesterton Public Library, Nov. 25, 1977 and by phone to his home, 411 Bowser Ave., Chesterton, IN 46304 (219:826-2264), Dec. 16, 1977.

Conklin, Gertrude (Mrs. Leonard). Dune Acres resident since 1951. At her home, 21 Crest Drive, Dune Acres (Chesterton P.O.), IN 46304 (219:787-8992), Nov. 25, 1977.

Conklin, Leonard. Former President of Dune Acres Planning Commission, Dune Acres resident since 1951. At his home, 21 Crest Drive, Dune Acres (Chesterton P.O.), IN 46304 (219:787-8992), Nov. 25, 1977.

Espenshade, E. K. Professor of Geography, Northwestern University. At his office Sheridan Road, Evanston, IL 60201 (312:492-3741), Nov. 4, 1977.

Hendrickson, William H. Senior Scientist, Indiana Dunes National Lakeshore. At the administrative offices, National Park Service, Route 2, Box 139A, Chesterton, IN 46304 (219:926-7561), Aug. 26, Sept. 13, Oct. 27, Nov. 23, Dec. 20, 1977, Jan. 6, 1978.

Howes, Edward. Dune Acres resident since 1941, supervisor construction machinery during building of Bethlehem Steel works. At his home, 19 Lupine Lane, Dune Acres (Chesterton P.O.), IN 46304 (219:787-8495), Dec. 2, 1977.

Howes, Lois (Mrs. Edward). Dune Acres resident since 1941, amateur botanist. At her home, 19 Lupine Lane, Dune Acres (Chesterton P.O.), IN 46304 (219:787-8495), Dec. 2, 1977.

Johnson, Mrs. Fred. "Swedish" housewife. At her home with Hazel (Mrs. Richard) Barido, Mineral Springs Road (near The Spa), Chesterton, IN 46304 (219:926-3401), Dec. 19, 1977.

Karrow, Robert. Curator of Maps, Newberry Library. At the Library, 60 W. Walton St., Chicago, IL 60610 (312:943-9090), Oct. 14, 1977.

Link, Herbert. Recorder for Porter County. At the Recorder's Office, Court House, Valparaiso, IN 46383 (219:462-8971), Dec. 16, 1977.

Long, John. Project Director for the Old Northwest Boundary Data File, Newberry Library. At the Library, 60 W. Walton St., Chicago, IL 60610 (312:943-9090), Oct. 14, 1977.

Marciniak, Marty. Public School History Teacher and part-time Staff of Indiana Dunes National Lakeshore. At his home, 8823 Manor Ave., Munster, IN 46321 (219:836-8732), Dec. 20, 1977.

Meyer, Alfred H. Professor Emeritus, former Chairman of Geography and Geology Department, Valparaiso University. At his home, 1753 Crestview Drive, Valparaiso, IN 46383 (219:462-8804), Dec. 16, 1977.

Meyer, Alfred W. Professor of Law, Valparaiso University, son of Alfred H. Meyer. At the University, Valparaiso, IN 46383 (219:464-5000), Dec. 16, 1977.

Nelson, Irene (Mrs. Oscar). Area resident since birth (first decade twentieth century?). At her home on U.S. 12 (near entry to Bethlehem Steel), RR 1, Chesterton, IN 46304 (219:787-8278), Dec. 19, 1977.

Nelson, Oscar. Area resident since 1931, builder Dune Acres homes, area sportsman. At his home on U.S. 12 (near entry to Bethlehem Steel), RR 1, Chesterton, IN 46304 (219:787-8278), Dec. 19, 1977.

Paynter, Jon. Research Associate, Indiana Dunes National Lakeshore. At the administrative offices, National Park Service, Route 2, Box 139A, Chesterton, IN 46304 (219:826-7561), Sept. 27, Nov. 23, 1977.

Purkerson, Lee. Environmental Scientist, National Park Service, Washington. At the administrative offices, National Park Service, Route 2, Box 139A, Chesterton, IN 46304 (219:926-7561), Sept. 13, 1977.

Peterson, Mrs. Roy. "Swedish" housewife. At the home of Hazel (Mrs. Richard) Barido on Mineral Springs Road (near The Spa), Chesterton, IN 46304 (219:926-3401), Dec. 19, 1977.

Petratis, Paul. Assistant Photographer at the Chicago Historical Society. At the Chicago Historical Society, North Clark and West North, Chicago, IL 60610 (312:642-4600), Nov. 22, 1977.

Ristau, Toni. Environmental Engineer, Denver Service Center, National Park Service. At the administrative offices, National Park Service, Indiana Dunes National Lakeshore, Route 2, Box 139A, Chesterton, IN 46304 (219:926-7561), Sept. 27, 29, 1977.

Snyder, Henry Burgess. Owner of The Spa. At his offices at The Spa on Mineral Springs Road, U.S. 20, Chesterton, IN 46304 (219:787-8420), Dec. 20, 1977.

Stalbaum, Bertha. Curator of the Old Jail Museum for the Porter County Historical Society. At the Museum, 153 Franklin St., Valparaiso, IN 46383 (219:462-2233), Dec. 16, 1977.

Studebaker, Naomi (Mrs. A. K.). Born a Chelberg on the Chelberg farm in 1907, Dune Acres resident since 1926. At her home, 32 Crest Drive, Dune Acres (Chesterton P.O.), IN 46304 (219:787-9217), Dec. 19, 1977.

Tanke, William. Surveyor for Porter County. At the Surveyor's Office, Court House, Valparaiso, IN 46383 (219:462-8719), Nov. 4, 7, 8, Dec. 1, 1977.

Warner, Mildred (Mrs. Lloyd William). Dune Acres resident and Real Estate broker. At her home, 22 Summit Drive, Dune Acres (Chesterton P.O.), 46304 (219:787-8100), Dec. 20, 1977.



SELECT ANNOTATED LIST OF MAPS CONSULTED

After 1830, only new mappings or maps with new information are included. We have generally omitted maps in books other than atlases.

- Retro-      Henderson, E., Auditor of State. "A true copy" of the  
spective      original Township Plat of the Records of Survey of  
                United States lands of Indiana," Township 37, Range 6.  
                Indiana, 1875. At Porter County Surveyor's Office,  
                Valparaiso (Surv. Off). Survey plat for official use;  
                does not show actual ownership.
- Retro.      Meyer, Alfred H. "Calumet Region . . . Pottowatomie  
                Occupance . . . 1830." 1951? At the Chicago Historical  
                Society (CHS). Map of the fundament.
- Retro.      Paynter, Jon. "Dune Acres Golf Course 1924-36."  
                Indiana Dunes National Lakeshore (IDNL), 1977. At IDNL.  
                Plots Melton's 1924 map onto a post-industrial topogra-  
                phic map. See figure 11.
- Retro.      Reed, Earl H. "North Porter County, Indiana." 1956. At  
                IDNL. Old roads and trails of Bailly area.
- Retro.      Ristau, Toni K. "Record of Physical Features Compiled  
                from Original Section Line Surveys 1829-34." IDNL, 1977.  
                At IDNL. Survey map of IDNL vicinity; also, detail maps  
                of sections 15, 16, 21, 22; 19, 20; 27, 28, 33, 34; and  
                29, 30, 31, 32. See figure 3.
- Retro.      Scharf, Albert F. "Indian Trails and Villages of Chicago  
                and of Cook, DuPage and Will Counties." 1900-15? "Port-  
                age Trail in Relation to the Division of the Waters."  
                1916-26? At CHS. Two unbound volumes, totaling 87 maps;  
                mostly Illinois, but some Indiana as well.
- Retro.      Composite map from U.S. Geological Surveys: Dune Acres  
                1953, Ogden Dunes 1953, Portage 1960, Chesterton 1962.  
                At IDNL. Overlay shows alteration by industrial develop-  
                ment.
1718.      De Fer, Nicholas. "Le Cours du Missisipi." At CHS.  
                Little detail.
1718.      De Lisle, Guillaume. "Carte de la Louisiane et du Cours  
                du Mississipi." Paris. At the Newberry Library, Chicago.  
                Shows Pottawatomi and Miama Indian habitations; little  
                detail.
- 1755      Bellin, Ingenieur du Roy et de la Marine. "Partie Occi-  
                dentale de la Nouvelle France ou due Canada." At New-  
                berry. Shows Chicago and St. Joseph portages; little detail.

- 1955 Mitchell, John. "Map of the British and French Dominions in North America." London. At CHS. Basic cartographic reference, unusually accurate and much used in its own day; covers large area, does not include Calumet Rivers.
- 1796 Lewis, Samuel. "A Map of part of the N:W: Territory of the United States compiled from Actual Surveys and the best information." At CHS. The earliest map here listed that shows the Calumet Rivers; the longer one, labeled "Gr. Kennomic R.," is in the original hairpin shape, west past the Bailly area and back east to Gary's Marquette Park area.
- c. 1800 Lapie. "Carte des Etatus-Unis." Paris, n.d. At CHS. Dates from after American Revolution and before Louisiana Purchase; shows Gd. Kennomick R. in hairpin shape.
- 1802 Arrowsmith, A. "A Map of the United States of North America." London. At CHS. Shows R. Chemin (Trail Creek), Gt. Kennamick River, "portage 30 yards" to "Little Kennamick."
- 1812 Hull, William, General. Untitled map of Calumet region. Reproduced by Albert F. Scharf in 1911. At CHS. Shows "canal" joining Grand Killamick and Little Killamick; only map here listed that shows Little Fort; seems to be a new, original mapping.
- 1818 Melish, John. "United States of America." At CHS. Derivative map; shows "Calumet R." in old hairpin shape.
- 1819 Arrowsmith, A. "A Map of the United States of North America." London. At CHS. Essentially the same as his 1802 map.
1825. Cary, John. "A New Map of Part of the United States." London. At CHS. Derivative map, similar to earlier ones.
- 1831 Burr, David H. "Michigan." At CHS. Apparently new mapping; includes Calumet region, "Chicago Road" (north branch of the Sauk Trail); first map here listed to show Calumet River with Illinois mouth only.
- 1834 Bailly, Joseph. "Map of Bailly." At office of Porter County Recorder Herbert Link, Valparaiso. Plat of intended town, "Bailly," with descriptive notes, filed at LaPorte land office. See figure 6.
- 1835 Former, John. "Map of the Territories of Michigan and Ouisconsin." At CHS. New map; Waverly is the only Indiana town shown west of Michigan City; shows Calumet Rivers in mid-nineteenth century shape, with two Grand Cal. mouths, and Little Cal. tributaries R. due Bois Franc, Saline R., and Double Fork; shows "Schoolcrafts Route in 1826" on Lake Michigan.

- 1838 Colton, J. H. "Colton's New Map of Indiana, Reduced from his Large Map." New York. At Newberry. New mapping; shows towns, internal improvements, political boundaries, etc. far more than earlier maps; accompanied by small descriptive book; Colton also made two larger versions of the same map.
- 1853 Smith, J. Calvin. "Guide through Ohio, Michigan, Indiana, Illinois, Missouri, Wisconsin, & Iowa." New York. At Newberry. Published by J. H. Colton, accompanied by his Western Tourist and Emigrant's Guide; shows actual and proposed improvements.
- 1855 Abbot, E. P. "Sectional Map of Porter County, Indiana." Cincinnati. At IDNL. Compiled from U.S. surveys, with towns and many mills shown. See figure 5.
- 1863 Barnet, James. "The Coast Pilot Chart of Lake Michigan." Chicago. At CHS. Map of Lake Michigan itself, with shipping mileages, lighthouses, docks; "from government surveys."
- 1872 Houston, D. C., Major, Corps of Engineers USA. "Calumet & Grand Calumet Rivers Illinois and Indiana." Copy by M.D.M., IDNL, 1977. At IDNL. Shows water depths; based on U.S. land survey.
- 1876 Baskin, Forster & Co. Maps of Lake, LaPorte, and Porter Counties in Illustrated Historical Atlas of the State of Indiana. Chicago. At Newberry and IDNL. Towns, roads, railroads.
- 1876 Hardesty. Maps of Pine, Portage, and Westchester Townships in Hardesty's Atlas of Porter County Indiana. At IDNL. Historical Society of Porter County, Valparaiso (HSPC) and IDNL. First map here listed to show individual property ownership, houses, and similar detail.
- 1895 Lee & Lee. Maps of Pine, Portage, and Westchester Townships in Porter County Atlas. At HSPC. Plat book (i.e. shows property ownership).
- 1897 Ashley, G. H. "Geological Map of Lake and Porter Counties" in Dept. of Geology and Natural Resources of Indiana, Report, XXII. At IDNL. Fundament map with marshes, dunes, beach ridges, moraine; shows ditches; prepared for W. S. Blatchley.
- 1906 Ogle, George A. Maps of Pine, Portage, and Westchester Townships in his Atlas, pp. 9, 13, 11. Chicago. Plats.
- 1912 Jones, W. D., City and County Surveyor. Untitled map of northern Porter County. At CHS. Plat.



- 1912 Barrett, Edward, State Geologist. "Soil Map. Indiana. Porter County Sheet." At IDNL. Based on soil survey, U.S. Dept. of Agriculture, Bureau of Soils.
- 1917 "Soil Map. Indiana. Porter County Sheet." At CHS. Similar to 1912 soil map; distinguishes dune sand, muck, Maumee loamy fine sand.
- 1921 Ogle, George A. Outline map of county, and maps of Pine and Westchester Townships, in Standard Atlas, Porter County, Indiana. Chicago. At HSPC. Plats.
- 1923 Goodman, P. S. "Rand McNally Map of Indiana Dunes." Chicago. At CHS and IDNL. New mapping by Prairie Club member, using original sketches and photographs to supplement survey and soil map data; both editions we have seen are keyed "e," a Rand McNally code indicating 1923, but we have seen references to the map as 1920 or 1921, perhaps referring to earlier editions.
- 1924 Melton, A. P., City Planner. "General Plan of Dune Acres. Town of Dune Acres, Indiana." At IDNL. Plan for intended 9-hole golf course, with drainage ditches; approach road and ditch differ from layout actually used. See figure 10.
- 1928 Thrift Press. Maps of Pine, Portage, and Westchester Townships in Outline Map of Porter County, Indiana. Rockford, Il. At IDNL. Plats; shows road surface material.
- 1937 Stinchfield, Guy. "Porter County Ind. Sheet 301." Valparaiso. At Surv. Off. North half of T37N, east 5 miles of R5W, Beverly Shores area; plat and public ditches.
- 1937 Stinchfield, Guy. "Porter County Ind. Sheet 202." Valparaiso. At Surv. Off. South half of T37N, east 2/3 of R6W and west mile of R5W, area south of Dune Acres and State Park; plat and public ditches; revised 1940, 1944.
- n.d. "Porter County Ind. 'Porter County Ind. Sheet 301.'" Similar to Stinchfield 1937 maps; T37N, west half of R6W and east half of R7W; Ogden Dunes and Dune Park area.
- 1940 U.S. Dept. of Interior, Geological Survey. "Indiana Porter Quadrangle." At IDNL. Topographic map.
- 1948 Stacy-Ray Map Publishers. Maps of Pine, Portage, and Westchester Townships in Stacy-Ray Farm Plat Book of Porter County, Indiana. Kankakee, Il. At Survey Off. Plat.

- 1953 Tanke, William, Porter County Surveyor. Map of proposed Markowitz Ditch route, in report to Porter County Circuit Court, "In the Matter of the Petition of Max Markowitz, et al for Drainage," filed 31 March 1953. Valparaiso. At Surv. Off. Includes branch 2 with arms and laterals, in old State Ditch area, later eliminated from proposal.
- 1953 U.S. Dept. of Interior, Geological Survey. "Ogden Dunes Ind. NW/4 Porter 15' Quadrangle." At CHS. Topographic map, shows flowing well near Mud Lake, houses along beach.
- 1955 "Dune Acres Planning Commission." At CHS. New mapping of sections 14, 20-23, 27-29 north of South Shore tracks, showing dunes, wetlands, and ridges.
- 1959 "Dune Acres Zoning Map." At IDNL. Same base map as 1955, with zoning superimposed.
- 1960 "Town of Dune Acres. Map Showing Subdivision and Lots." In possession of Mildred Warner, Dune Acres. Plotted onto topographical base map showing relation of town layout to contour lines.
- 1960 Tanke, William. "Road Map of Porter County, Indiana." Compiled from county survey records and data under authorization of Porter Co. Plan Commission; revised 1972; shows public ditches. See figure 7.
- 1968 U.S. Dept. of Interior, National Park Service, Office of Land and Water Rights. "Cadastral Section. Indiana Dunes National Lakeshore." Arlington, Va. At IDNL. Segment 02; shows property status of lands authorized for IDNL purchase; revised 1968, 1969, 1970.
- 1969? American Air Surveys, Inc. "Indiana Dunes National Lakeshore." Pittsburgh. At IDNL. Similar to 1968 cadastral section; segment 34, revised 1970; segment 36, revised 1969, 1970.
- 1970 Drainage map of Porter County, and maps of Portage and Westchester Townships, in Porter County Indiana Official Farm Plat Book and Directory. At Surv. Off. Streams and plats; this copy handmarked "1970."
- 1971 Town & Country Publishing Co., Inc. Maps of county roads and Pine, Portage, and Westchester Townships in Porter County Indiana Plat Book & Index of Owners. LaPorte, Ind. At Surv. Off. Plats; Samuelson Ditch.
- 1974 Town & Country Publishing Co., Inc. Maps of county roads, Dune Acres, Ogden Dunes, and Pine, Portage, and Westchester Townships in Porter County Indiana 1974 Edition. Plat Book. Index of Owners. City Street Map. LaPorte. At Surv. Off. Plats.

- 1976 Town & Country Publishing Co. Maps of county, Dune Acres and Porter, Burns Harbor, and Pine, Portage, and Westchester Townships in Porter County 1976 Plat Book. LaPorte. At Surv. Off. Plats.
- 1976 Conklin, Leonard. Color coding of "Map Prepared for Dune Acres Plan Commission." Dune Acres. In Conklin's possession, Dune Acres. Color coding (on older map) shows municipal lands and IDNL purchases, authorizations, and exclusions.
- 1976 "Boundary Map. Indiana Dunes National Lakeshore." At IDNL. September; shows entire IDNL area (roads, etc.) in much detail, with existing park areas, proposed additions, and study areas.
- 1976 U.S. Dept. of Interior, National Park Service. "Indiana Dunes National Lakeshore. Lake, LaPorte and Porter Counties, Indiana." At IDNL. Shows park boundaries identical to those in September 1976 map, but less background detail.



## SELECT ANNOTATED BIBLIOGRAPHY

### Part I: Printed Books

- Ackerman, William K. Early Illinois Railroads. Fergus Historical Series No. 23. Chicago: Fergus Printing Co., 1884. Has some material related to Indiana, including a letter by Frances Howe about the Bailly homestead.
- Appleton, John B. The Iron and Steel Industry of the Calumet District: A Study in Economic Geography. University of Illinois Studies in the Social Sciences, 13 (June 1925), No. 2. Urbana: University of Illinois Press, 1925. "The purpose of this study is to explain the relation of the iron and steel industry of the Calumet District to natural environmental conditions."
- Bailey, E. Stillman. The Sand Dunes of Indiana. Chicago: A. C. McClurg & Co., 1917. Descriptions and photographs show conditions of 1917.
- Baird, Robert. View of the Valley of the Mississippi; Or the Emigrant's and Traveller's Guide to the West. Philadelphia: H. S. Tanner, 1832. In the travel literature tradition of its time, with some maps.
- Ball, Timothy H. Northwestern Indiana From 1800 to 1900. Crown Point, Valparaiso, etc. 1900. Most valuable for Ball's personal memories as an early City West settler.
- Bascom, Flavel. See Sweet, Religion on the American Frontier.
- Baskin, Forster & Company. Illustrated Historical Atlas of the State of Indiana. Chicago: Baskin, Forster, 1876. Includes county histories as well as maps.
- Brennan, George A. The Wonders of the Dunes. Indianapolis: Bobbs-Merrill, 1923. "Not a scientific-historical treatise, but a popular description," strong on particular residents, plants, animals, and the Tremont area.
- Bromme, Traugott. Rathgeber für Auswanderungslustige. Stuttgart, 1846. Travel literature based directly on Baird.
- Cannon, Thomas H., ed.-in-chief. History of the Lake and Calumet Region of Indiana. Embracing the Counties of Lake, Porter and LaPorte. 2 vols. Indianapolis: Historians' Association, 1927. Promotional literature emphasizing modern improvements; vol. 1 is historical, vol. 2 biographical.
- Church, Jeremiah. Journal of Travels, Adventures, and Remarks, of Jerry Church. 1845; ed. A. Monroe Anrand, Jr., Harrisburg, 1933. Lighthearted travel account, including Calumet region in 1830 and 1833.

- Cleaver, Charles. Early-Chicago Reminiscences. Fergus Historical Series No. 19. Chicago: Fergus Printing Co., 1882. Has brief description of 1833 trip from Michigan City to Chicago.
- Colton, J. H. The State of Indiana Delineated: Geographical, Historical, Statistical & Commercial, and a Brief View of Internal Improvements, Geology, Education, Travelling Routes, &c. New York: J. H. Colton, 1838. Written to accompany and explain Colton's map.
- Colton, J. H. The Western Tourist and Emigrant's Guide. New York: J. H. Colton, 1853. Written to accompany Smith's map; shows travel routes.
- Cummings, Richard O. The American Ice Harvests: A Historical Study in Technology, 1800-1918. Berkeley & Los Angeles: University of California Press, 1949. A sound scholarly study of the ice industry.
- Goodspeed, Weston A., and Charles Blanchard, eds. Counties of Porter and Lake, Indiana. Chicago: F. A. Battey & Co., 1882. Detailed township descriptions and biographical chapters.
- History of Porter County, Indiana. 2 vols. Chicago, 1912. Attributed by Moore to Harry Gardner Cutler; vol. 1 has variety of land use information; vol. 2 is biographical.
- Hoffman, Charles Fenno. A Winter in the West. Fergus Historical Series No. 20. Chicago: Fergus Printing Co., 1882. "Letters descriptive of Chicago and vicinity in 1833-4," including a view of the Bailly homestead.
- Howe, Frances R. The Story of a French Homestead in the Old Northwest. Columbus, Ohio: Press of Nitschke Bros., 1907. Account of Joseph Bailly and family by his granddaughter.
- Jennings, Francis. The Invasion of America. Indians, Colonialism, and the Cant of Conquest. Pub. for the Institute of Early American History and Culture, Williamsburg, Va. Chapel Hill, N.C.: Univ. of North Carolina Press, 1975. Presents thesis of transitional culture which seems to fit Joseph Bailly.
- Johnson, Hildegard Binder. Order Upon the Land. The U.S. Rectangular Land Survey and the Upper Mississippi Country. New York, London, Toronto: Oxford University Press, 1976. Study of the effects of the United States survey on the shape of the land.
- Johnson, Ida Amanda. The Michigan Fur Trade. Lansing: Michigan Historical Commission, 1919. Introduction to the fur trade generally, though not Indiana in particular.
- Komaiko, Jean, and Norma Schaeffer. Doing the Dunes. Beverly Shores: Dunes Enterprises, 1973. Popular work.

- Latrobe, Charles Joseph. The Rambler in North America. 2 vols. New York, 1835. A travel account, including a trip from Detroit to Chicago in the autumn of 1833.
- Martineau, Harriet. Society in America. 3 vols. London, 1837. Includes travel through the Calumet region in June, 1836.
- McCord, Shirley S., ed. Travel Accounts of Indiana 1679-1961. Indianapolis: Indiana Historical Bureau, 1970. Brief extracts from many travelers, including William Johnson (1809).
- Moore, Powell A. The Calumet Region. Indiana's Last Frontier. Indiana Historical Collections Vol. 39. Indianapolis: Indiana Historical Bureau, 1959. Detailed history, with main emphasis on urban industrial Lake County areas.
- Oxford English Dictionary. Microfilm edition. Oxford: Oxford University Press, 1971. Used in establishing nineteenth century word meanings.
- Pence, George, and Nellie C. Armstrong. Indiana Boundaries. Territory, State, and County. Indiana Historical Collections Vol. 19. Indianapolis: Indiana Historical Bureau, 1933. Shows historical changes in political units.
- Pepoon, H. S. An Annotated Flora of the Chicago Area. With Maps and Many Illustrations from Photographs of Topographic and Plant Features. Chicago, 1927. Description of vegetation of various ecological areas, with annotated catalogue of plants.
- Quaife, Milo Milton. Chicago and the Old Northwest, 1673-1835. Chicago: Univ. of Chicago Press, 1913. Includes the journal of Lt. James Strode Swearingen (1803).
- Robinson, Solon. Solon Robinson, Pioneer and Agriculturist. Ed. Herbert Anthony Kellar. Indiana Historical Collections Vols. 21, 22. Indianapolis: Indiana Historical Bureau, 1936. Promotional newspaper items by an early Lake County settler; vol. 1, 1825-45, vol. 2, 1846-51.
- Shirreff, Patrick. A Tour Through North America; Together with a Comprehensive View of the Canadas and United States. As Adapted for Agricultural Emigration. Edinburgh, 1835. Includes 1833 trip from Detroit to Chicago.
- Sweet, William Warren. Religion on the American Frontier 1783-1850. Vol. III, The Congregationalists. A Collection of Source Materials. Chicago: Univ. of Chicago Press, 1939. Chap. 7, pp. 231-84, is the 1833-40 autobiography of the missionary Flavel Bascom, who traveled through the Calumet region to Illinois in the summer of 1833.

Tipton, John. The John Tipton Papers. Ed. Nellie Armstrong Robertson and Dorothy Riker. Indiana Historical Collections Vols. 24, 25, 26. Indianapolis: Indiana Historical Bureau, 1942. Vol. 1 includes notes from 1821 survey of Indiana-Illinois state line and vicinity.

Willey, Basil. The Seventeenth Century Background. 1934; later ed., New York: Doubleday Anchor Books, 1953. Intellectual context for interdisciplinary geo-history.

Work Projects Administration, Writers' Program. The Calumet Region Historical Guide. 1939; rpt. New York: AMS, 1975. Stresses Lake County cities and industry.

## Part II: Articles and Journal Items

Abbott, Carl. "The Plank Road Enthusiasm in the Antebellum Middle West." Indiana Magazine of History, 67, No. 2 (June 1971), 95-116. General background on plank roads.

Bowers, John O. "Salvation of Dunes Depends on Action To Prevent More Havoc." Gary Evening Post, Dunes Edition, 16 April 1917, p. 4. Denunciation of fire.

Briggs, W. A. "The Devil's Punchbowl." Duneland Historical Society Publications, 1, No. 7 (March 1956). Short discussion of an intradunal depression near Burns Ditch.

Briggs, W. A. "Life History of the Calumet River." Duneland Historical Society Publications, 1, No. 7 (March 1956). Includes material on Kemper Ditch.

Chicago Tribune, 13, 15, 24 Sept. 1977, 13 Nov. 1977. Items on NIPSCO/IDNL discussions on ponds and seepage.

Cowles, Henry C. "The Plant Societies of Chicago and Vicinity." Geographic Society of Chicago Bulletin, No. 2 (1901), 1-76. An example of Cowles' work in ecological succession, with marsh and sand hill applications.

David, George. "Diary of George David. A Trip from London to Chicago in 1833." Ed. R. P. Mason. Michigan Historical Magazine, 18 (winter, 1934), 53-66. Travel through the Bailly area.

Gordon, Leon M., II. "Settlements in Northwestern Indiana, 1830-1860." Indiana Magazine of History, 47, No. 1 (March 1951), 37-52. Based on standard printed sources; trails, taverns, and travel.

Howe, Frances R. "Effaced Footprints on the Sands of Time." Chester-ton Tribune, 7 Oct. 1909, p. 8. Bailly area description.



- Lyon, Marcus Ward, Jr. "List of Flowering Plants and Ferns in the Dunes State Park and Vicinity, Porter County, Indiana." American Midland Naturalist, 10 (1927), 245-95. Descriptions of ecological areas, followed by list.
- Lyon, Marcus Ward, Jr. "List of Flowering Plants and Ferns in the Dunes State Park and Vicinity, Porter County, Indiana, Supplement." American Midland Naturalist, 12, No. 2 (March, 1930), 33 ff. Continuation from 1927 article.
- Meyer, Alfred H. "Circulation and Settlement Patterns of the Calumet Region of Northwest Indiana and Northeast Illinois. (The First Stage of Occupance -- The Pottawatomie and the Fur Trader, -1830)." Association of American Geographers Annals, 44, No. 3 (1954), 245-74. French and Indian period; focus on Indian trails.
- Meyer, Alfred H. "Circulation and Settlement Patterns of the Calumet Region of Northwest Indiana and Northeast Illinois. (The Second Stage of Occupance -- Pioneer Settler and Subsistence Economy, 1830-1850)." Association of American Geographers Annals, 46, No. 3 (Sept. 1956), 312-56. Includes material on platted towns of the 1830's.
- Meyer, Alfred H. "Fundament Vegetation of the Calumet Region, Northwest Indiana - Northeast Illinois." Michigan Academy of Science, Arts, and Letters Papers, 36 (1952), 177-82. Map and explanation depicting vegetation at time of survey, 1829-34, based largely on survey notes.
- Meyer, Alfred H. "The Kankakee 'Marsh' of Northern Indiana and Illinois." Michigan Academy of Sciences, Arts, and Letters Papers, 21 (1935), 359-96. Marsh and drainage south of Calumet region.
- Morgan, Mary, and Olga Mae Schiemann. "Coffee Creek Post Office." Indiana History Bulletin, 30, No. 2 (Feb. 1953), 48-50. Brief item on Jesse Morgan; does not name sources.
- Platt, Rutherford H. "The Open Space Decision Process: Spacial Allocation of Costs and Benefits." Univ. of Chicago Dept. of Geography Research Paper No. 142 (1972), 138-74. Analysis of 1950's-'60's phase of industry-conservation struggle for Dune Park.
- Schiemann, Olga Mae. "Roads Across Old Bailly Town." Duneland Historical Society Publications, 2, No. 1 (Nov. 1956). Quotes sources at length.
- Swearingen, James Strode. Extracts from his journal. Duneland Historical Society Publications, 1, No. 4. First travel record (1803) through region; Petit Fort reference.

Wentworth, John. Letter to his sister Lydian Wentworth, Chicago, 9 Nov. 1836. Chicago Historical Society News Review, 2 No. 3 (Oct. 1943), 3-4. Brief travel account, 1836.

Part III: Documents, Typescripts, Manuscripts, etc.

Aerial photographs at the Indiana Dunes National Lakeshore, Porter County, Indiana. Photos of Bailly area from 1938, 1951, and many more recent years.

Bowers, John O. "History of the Dunes Park." TS. 1927. Gary Public Library. Account of popular movement for state or national park.

Bowers, John O. "Indiana's Lake Frontages and the Early Days of Its Development." TS. n.d. 2, pp. 141-61. Survey of early history.

Brittan, Calvin, Jr. United States Survey Notes. MS. April 1830. Copy at IDNL. Notes of land types and vegetation along every section line.

Crisman, Isaac. "Isaac Crisman." TS. 1921. Gary Public Library. In collection by J. W. Lester, "Papers by Various Hands," 2, pp. 107-12. Reminiscences of mid-nineteenth century settler, recorded by Lester at Miller, Ind., 18 Jan. 1921

Division of Waterways, Dept. of Public Works and Buildings, State of Illinois. "Interim Report for Erosion Control, Illinois Shore of Lake Michigan." 1958. In possession of Prof. Espenshade, Northwestern Univ. Lake Michigan water levels.

Gibson, Henrietta. "Reminiscences of Mrs. Henrietta Gibson." TS. 1922. Gary Public Library. In collection by J. W. Lester, "Papers by Various Hands," 2, pp. 80-85. Recollections by mid-nineteenth century settler, as dictated to Lester 2 Jan. 1922.

Hendrickson, William. "Aerial Photography as a Historic Record of Landscape and Ecosystem Change in the Vicinity of Dune Acres, Indiana." TS. Nov. 1977. IDNL. Traces condition of each pond in each photograph over a period of years.

Limp, W. Frederick. "The Bailly Site: An Archaeological Study of an Early Historic Homestead in the Calumet." TS. April 1974. IDNL. Archaeological dig at Bailly homestead.

Meyer, Alfred H. "Generalized Ecological Silhouette Studies in Sequent Occupance Geography. Calumet Region, Northwest Indiana - Northeast Illinois." Undated copy from A. H. Meyer, Valparaiso Univ. Pictorial model of land use changes.

Northern Indiana Public Service Company. "Comments on the Legislative Study Objectives with Respect to Study Area II-A." 10 May 1977. IDNL. Substantial parts relate to interdunal ponds, fly ash ponds, and seepage.

Northern Indiana Public Service Company, et al. Petition to Porter County Drainage Board. TS. 1972. Porter County Surveyor's office. Petition to vacate Samuelson Ditch.

Ogborn, George C. Letter to Porter County Surveyor, 1 Feb. 1972. Porter County Surveyor's office. Cover letter to NIPSCO petition to vacate Samuelson Ditch.

Porter Circuit Court. Records, 8, 20 Oct., 22 Dec. 1902; 6 Jan., 11, 26 June 1903; 29 June 1906; 14 March, 31 May 1910; also, 27 remonstrances filed 7 April-7 May 1953, and court order of 1 June 1953. County offices in Valparaiso, Ind. Records relating to Samuelson and Markowitz Ditch.

Porter County Drainage Board. Minutes, 19 Oct. 1970, 20 Nov. 1972. County offices in Valparaiso, Ind. Records relating to Markowitz and Samuelson Ditch.

Reshkin, Mark, et al. "Basic Ecosystem Studies of the Indiana Dunes National Lakeshore." 1975. IDNL. Detailed study of plants, animals, geology, etc. produced for IDNL by Indiana Univ. NW, School of Public and Environmental Affairs.

Russell, Carl P. "Independent Fur Traders of Northern Indiana." TS. Dec. 1961-Feb. 1962. IDNL. Puts Bailly in context.

Scharf, Albert F. "Scharf Collection." MSS. Two boxes (59 folders) At Chicago Historical Society. Manuscripts of studies on Chicago area Indiana trails; notes on Scharf's maps.

Skinner, Hubert M. "Complete History of Porter County, Indiana. Written expressly for the Valparaiso Messenger." TS. 15 Jan 1878. Gary Public Library. Emphasizes Indiana and early settlement.

Tanke, William. Report to Porter Circuit Court on Markowitz Ditch. TS. Filed 31 March 1953. Surveyor's office, Valparaiso, Ind. Proposed ditch route and specifications.

Sullivan, Maurice. "A Report on Cowles Bog, Indiana." TS. IDNL. Undated (1960's) three-page report for the National Landmark Program, with notes on Cowles Bog vegetation.

United States Dept. of Interior, National Park Service, Indiana Dunes National Lakeshore. "Special Study." June 1977. IDNL. Study relating to proposed additions to IDNL, including NIPSCO lands involved in discussions of ponds and seepage.

Whitehouse, J. R. "Statement for Management, Indiana Dunes National Lakeshore." 15 Sept. 1976. IDNL. Park management plan.

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