

A STUDY OF STATE PARK PROBLEMS
IN OAKLAND COUNTY, MICHIGAN
AND A MASTER PLAN REPORT FOR
DODGE BROTHERS NO. 5
STATE PARK

Thesis for the Degree of M. S.
MICHIGAN STATE COLLEGE

Robert R. Metz

1940

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IN
OAKLAND COUNTY, MICHIGAN
AND
A MASTER PLAN REPORT FOR DODGE BROTHERS NO. 5
STATE PARK

by
Robert Roy Metz

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A THESIS

Submitted to the Graduate School of Michigan
State College of Agriculture and Applied
Science in partial fulfilment of the
requirements for the degree of

MASTER OF SCIENCE

Department of Forestry

1940

THESIS

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TYPICAL STATE PARK SCENE — OAKLAND COUNTY — MICH.

INTRODUCTION

Within the past few years a revival of public interest in the open country sides has taken place; shorter working hours and better transportation may readily account for this desire. Thus a demand has grown for recreational areas, particularly from the city dwellers who seek relief from urbanization. True, National Parks and National Forests are highly patronized by recreationalists. There is still a large number of people however, who, although they have the privilege, cannot afford to attend these natural areas. Metropolitan state parks, in addition to accommodating the under-privileged class of people, may answer this question: How does the average city dweller, unaccustomed to woods, feel when darkness falls upon him on his first night in camp? Mr. P. J. Hoffmester, Director of Michigan Conservation Commission, believes that the city dweller needs to be eased into his outdoor experiences; that he shouldn't be encouraged to seek the wilds without having become somewhat accustomed to the out-of-doors in group camping places, where his feeling of security is little disturbed. The metropolitan state parks perform a real service for those who are still new to outdoor life and as long as they continue to do so they are well justified.

The state parks in Southeastern Michigan present an acute and peculiar problem in that they are located within the environs of metropolitan Detroit, an area possessing approximately forty-eight percent

of the entire population of the state. These parks, as such, serve basically a metropolitan use. Their operation might logically be by a local agency. Nevertheless, their development includes facilities quite generally provided in state parks throughout the state.

The urgent need in this metropolitan district is fundamentally more land since there is a deficiency of developed park acreage in this highly populated center. Excessive further development of existing land may result in intensive use and eventually defeat its purpose by destruction of the site. Although additional land acquisition is the ideal, the Michigan State Park appropriations, at present, are entirely inadequate to cope with the high land values in this district. It appears to be a distant future before sufficient land may be acquired. To deal with the situation practically, in view of the facts, there should be a readjustment and improvement of existing uses within most of these park sites, and acquisition of adjacent land for further development where and whenever possible. This situation creates the major problem--how far can development be carried out on these areas to meet a heavy recreational demand?

Oakland County, which is within easy access to Detroit, has eleven state parks, most of which are small. Seven of these parks are open for public use, the remaining four are at present classified as undeveloped sites. These areas are not of as high calibre as many of the northern sites. However, they do partially relieve the recreational demand in the area in question. Due to their present inadequacy, which will be noted later, and their future possibilities they present problems of interest to the recreational planner.

Dodge Brothers No. 5 State Park, located near the village of Commerce in Oakland County, has been selected as a basis for study incorporating the previously mentioned problems. The results are formulated in a master plan report. The problem investigated has been in the form of a field problem and the study is an attempt to improve existing conditions and propose development of additional land which the present and increasing need is demanding.

MICHIGAN STATE PARK SYSTEM

Development. The State Park System in Michigan began in 1895 when the Michigan Legislature authorized the state to make application to the United States Government for the federal property on Mackinac Island to be used as a state park. The Island, at that time, was a military reservation, however, the Secretary of War was authorized by Congress to release the reservation, buildings, and lands of the government to the State of Michigan. The area included two thousand acres. The Mackinac Island State Park Commissioners were appointed by the Governor for an indefinite term of office. They served without compensation but received allowances for expenses incurred. The Governor served as an ex-officio member of the commission. The law regarding their duties reads as follows:

Commissioners have authority to employ a superintendent and help lay out, manage, and maintain, to effect leases and to fix prices for rentals or privileges upon property, to grant privileges and franchises for water works, sewage, and lighting ... all moneys received from rentals or privileges may be applied by them for maintenance and improvement of the park.¹

In 1904 the Military Post of Fort Michilimackinac became Wawatam Park in the village of Mackinaw City. This site of twenty acres was converted by a legislative act in 1909 to Michilimackinac State Park and placed under the administration of the Mackinac Island State Park Commission. Ten years later the Michigan State Park Commission was

¹Preliminary Draft of the Michigan Park, Parkway & Recreational Area-Study.

established.

... a Commission of ten members to be appointed by the governor with the consent of the Senate, with terms of two to ten years each, the governor being an ex-officio member.¹

During the intervening years appropriations were made for land to be made into parks. As a result of this, therefore, two separate and distinct commissions were set up in the beginning, the former administering the first two areas mentioned, the latter governing the remainder of the parks of the state. The functions of the second body as stated in the act are:

To acquire, preserve and care for public parks for purposes of public recreation, or for preservation of natural beauty or natural features possessing historic information or association, preference in acquisition to be given lands bordering on the Great Lakes, or the connections or tributaries thereof, or on the inland waters of the state.²

The act also provided for \$75,000 annual appropriations for land improvements and maintenance of state parks. So eager was the response to the new program that in the two year period from 1919 to 1921 many land donations were received and the money was spent entirely on improvements rather than land.

The State Park Commission was abolished in 1921 and its powers and duties were transferred to the new Conservation Commission.³ However, twenty-one state parks originated during the period of the first Commission. The new act made provisions "To correlate the functions of the Michigan State Park Commission and other Commissions

¹Public Acts 1919: Act 213.

²Ibid.

³Public Acts 1921: Act 17.

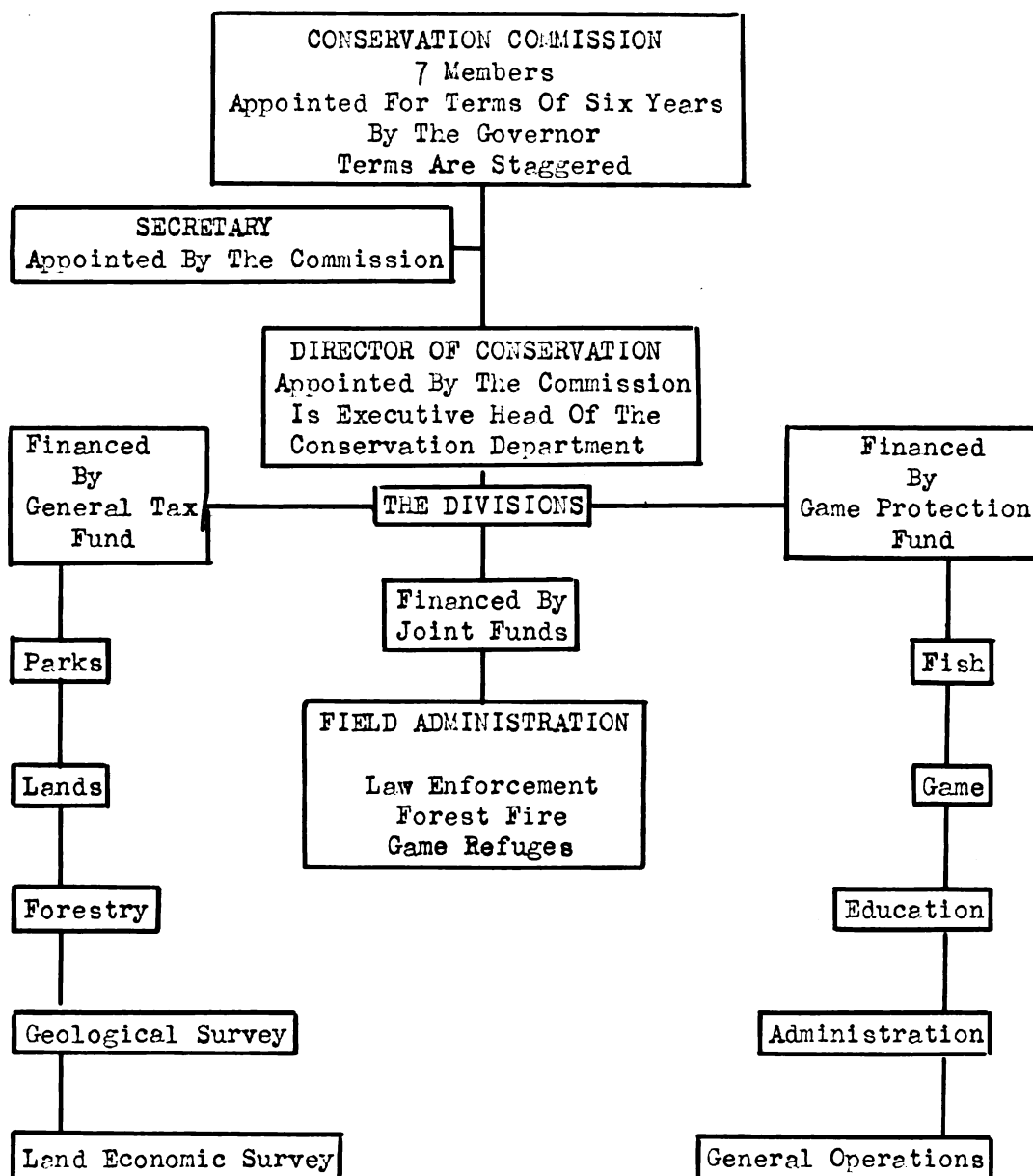
concerned with conservation and recreation." The duties of the new organization included, "Protection and conservation of the natural resources of the state and provisions and development of the facilities for outdoor recreation." On behalf of the people of the state the Conservation Commission was authorized to accept gifts and grants of land and other property and was given authority to buy, sell, exchange or condemn land or other property.

Organization and Administration. The accompanying Chart No. 1 illustrates the organization of the Department of Conservation of which the State Parks Division is a part. The Conservation Commission is composed of seven members appointed by the Governor for staggered terms of six years. The members select one of their number as chairman and appoint a secretary. The Director of Conservation, appointed by the Commission, is the executive head of the Conservation Department and, with the approval of the Commission, appoints assistants and employees as may be necessary to carry out work in the department.

All branches of the Conservation Department cooperate with the Parks Division and vice versa, their mutual cooperation proving highly beneficial, i.e. exchange of land, conservation of forest cover, control of forest fires, protection of wildlife, improvement of fishing conditions, etc. Following is a proportional estimate made by the Conservation Department as to the services rendered by other divisions to state parks:

Chart 1.

DEPARTMENT OF CONSERVATION
ORGANIZATION CHART



Source: Michigan State Conservation Department

<u>Division</u>	<u>Time on State Parks</u>
Administration	12%
Education	10%
Forestry	1%
Game	1%
General Operations	5%
Lands	5%
Law Enforcement	1%

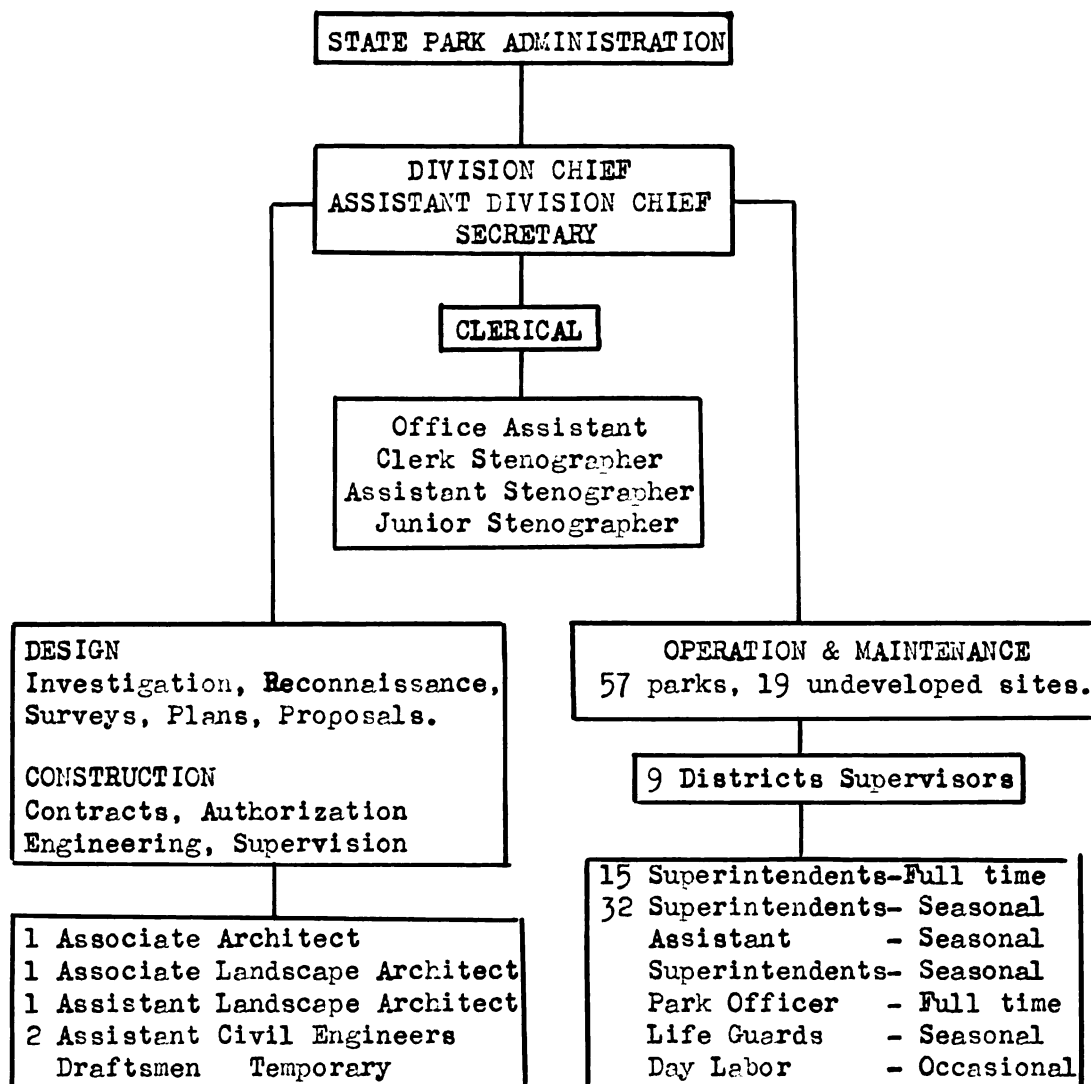
The State Parks Division is directed by a Division Chief with headquarters in Lansing. The state is divided into nine districts, each governed by a District Supervisor with headquarters in a favorably located park. The districts include from one to thirteen other parks, each in direct charge by a superintendent. The necessary landscape architects, engineers, draftsmen, surveyors, clerks, stenographers, etc. are located in the Park Office. A total of seventy six areas have been dedicated for park use. Of these, fifty seven are supervised and administered by park employees and are available for public use. Due to limited funds and various other reasons the remaining areas are undeveloped and in need of improvements. The accompanying Chart No. 2 shows the organization of the State Parks Division.

Policy. According to the original State Park Commission their early interest in state parks arose chiefly from potential benefit to merchants and farmers through tourist and resort trade. Later it was broadened to include the preservation of scenic areas and other recreation benefits for state population.

The first written state park policy of record was presented to the Conservation Commission in March, 1924, by P. J. Hoffmaster, Superintendent of State Parks. The statement included recommended policies

Chart 2.

STATE PARKS DIVISION
ORGANIZATION CHART



Source: Michigan State Parks Division

for "Acquisition of Great Lake frontage, forest lands, sand dunes, wildlife areas, a site in Porcupine Mountains, and sites of historic importance on the Straits of Mackinac and on St. Mary's River of observation of Great Lakes traffic."¹ Large park areas of five hundred to five thousand acres were recommended in order to reduce the cost of operation and maintenance and to promote preservation of natural conditions. Scientific study of natural conditions in parks was declared valuable and desirable.

The 1919 Michigan State Park Act was a clear conception of fundamental principles involved in a good state park policy, applicable to present conditions. Some mistakes were made, however, as circumstances did not permit otherwise. Modern development brought new conditions and it was recognized that the old areas did not meet present demands. This is exemplified in the smaller areas which today are far below standards. Previous experience and the necessity of meeting the changing conditions of transportation, population distribution and customs of people have resulted in some enlargements of the state park policy.

The park site should be large areas of land well distributed in location to preserve the important scenic features of the state, including ample frontage on the Great Lakes and their connecting waters, and on inland lakes and streams: such features also to include mountains, hills, and sand dunes, shore bluffs, waterfalls and rapids and typical forests of Michigan, adequate areas having important historic significance and combined, insofar as possible with natural beauty. Large areas for adequate outdoor recreation, and particularly suited for bathing and water sports, for resident population and temporary visitors during the seasons when such recreation is needed: such areas to be well distributed over the state in accordance with public need and having ample proportion within easy access from centers of population. Also

¹Preliminary draft of Michigan Park, Parkway & Recreational-Area Study.

to include the improvements of all state parks in accordance with public needs: the improvements to be accomplished as rapidly as feasible and the order of precedence to be determined by the relative need of facilities; such improvements to include safe and sanitary sewer systems, facilities for camping, picnicking, bathing and general recreation; buildings for shelter and service; adequate drives and parking areas, and other improvements needed for the best public use of parks.¹

The acreage required for state parks varies with the character and location of the site, however, they must include the characteristic natural features and other natural landscape surrounding them. The natural features should determine the dominant type of park, but their location determines the potential intensity of use. Near large cities ample space for intensive recreation should be provided and in addition an attempt should be made to create or provide a forest background. As a guide in acquiring new park sites the Michigan Park Department has established minimum requirements for each type of park site.

Character and Dominant Purpose of Park	Approximate Minimum Area Acres
Preservation of wilderness conditions	2000
Preservation of outstanding scenic and geologic conditions	1000
General public recreation of statewide importance	500
Specialized recreation or preservation of historic or scenic features of limited extent	200

According to the State Park Department exceptions may be made.

They maintain:

¹Preliminary draft of Michigan Park, Parkway & Recreational-Area Study.

While the attainment of at least these minimum acreages is desirable, a shortage up to even fifty percent might be overlooked in cases where special conditions prevent the enlargement of otherwise excellent parks. In many cases, much more acreage than indicated would be desirable, for consistency of features to be preserved and with the combination of public uses capable of development.¹

Finance. In Michigan, the state park system is founded upon the state's responsibility to develop a great recreation industry and to provide a needed public service, to benefit the recreation industry, and to influence public health through educational and social benefits to its people. To properly carry out these constitutional principles into actuality instead of documental writing, funds from one source or another must be available. The divisions of the Conservation Department are financed by two funds, namely, the Game Protection Fund, made up of the receipts from the sale of hunting, fishing and trapping licenses, and the General Tax Fund, appropriations made biennially by the Legislature from the general fund of the state. The General Tax Fund supports the Parks, Lands, Forestry, Geological Survey and Land Economic Survey respectively, while the Game Protection Fund supports the Fish, Game, Education, Administration and General Operations Divisions. All money, therefore, is appropriated from the general fund, and all development, operation, maintenance and acquisition, except that acquisition gained by gifts, exchanges and tax delinquency, must rely on this fund.

Previous to 1933 improvements were made at state expense. Since then, the Federal Government has contributed through the CWA, PWA,

¹Preliminary draft of Michigan Park, Parkway & Recreational-Area Study.

WPA, and the CCC. Previous to July, 1939 approximately six and three quarters millions of dollars of CCC funds have been expended, plus one third of a million from other federal agencies.¹

Maintenance and operation has been carried on entirely by the state, with the exception of occasional Federal Government and local community cooperation. With the expansion of recreational facilities in the state parks due to the programs of relief agencies, the prospect of maintenance and operation of these facilities has evolved an important problem.

The question of fees and charges for public recreation is one of the most difficult of State Park Administrative problems. The Michigan State Park Department has a system of fees and charges through rentals and leases of public service privileges, the income returning to the general fund of the state according to law. Money is also collected from articles sold within the parks, rental of boats, bathing suits, and use of electrical current. No charge is made for camping and parking privileges. Since the money collected all returns to the general park fund, all funds for state park purposes are dependent upon appropriations through legislation.

¹Statistics from Michigan State Parks Division.

HISTORY OF OAKLAND COUNTY

STATE PARK ACQUISITION

Oakland County is the second largest county in Southeastern Michigan encompassing within its boundaries nine hundred square miles of land and four hundred lakes, thereby creating a ratio of one lake to every two square miles. It has been greatly sought after for private summer homes and more recently for public recreational purposes.

This is a paradoxical situation as the first survey report of the area made in 1812¹ declared the land low, marshy, heavily timbered with a thick growth of underbrush. It was considered so poor generally the report goes on to state, that it did not contain "one acre out of one hundred, if one out of a thousand" that would permit cultivation or habitation. This type of land was no inducement to settlers, therefore, it was not until 1818 and 1819 that some adventuresome individuals explored the region and discovered the report quite false. There were excellent farming conditions, there was natural water power, there was game, the lakes were filled with fish--many circumstances which did encourage settlement. Flour and gristmills sprang up and little villages grew around them. The Clinton-Kalamazoo project aided in populating the area somewhat, although it never materialized as it was planned.

¹Allen, L. D., "Interesting Facts About Oakland County," County, City, Village, and Township Officers in Oakland County, Michigan, p. 3, 1939-40.

During, and immediately after the former World War, real estate activity was at its peak. People from Detroit, Michigan were acquiring property for summer homes in this area and many of the old fruit farms were bought up and re-sold for summer estates.

Among those who acquired property in this area was a Mr. Howard B. Bloomer. In 1916 he bought some land with frontage on Orchard Lake located six miles west of Pontiac, Michigan on Commerce Road.¹ It was his desire to take his family out in the country where his children might enjoy the water and outdoor life. He named this estate "Marsh-bank." At that time only those who owned property could have such advantages as there was no alternative for others but the trespassing on private grounds. It was this observation which gave impetus to his donation of lands for public recreational use.

After the death of the Dodge Brothers in 1920, Mr. Bloomer was appointed Chairman of the Board of the Dodge Brothers Corporation. During this period the corporation enjoyed prosperity, and Mr. Bloomer felt the employees were entitled to benefit from this prosperity, which resulted in the purchasing of areas to be donated to the state as park sites. The Board agreed to his suggestions and the Corporation donated nine areas in 1922 and 1923 which included seven hundred and seventy-five acres in Macomb, Monroe, and Oakland Counties. This was the first promotion of its kind emulating from a large industrial organization and it created a good deal of publicity. So sincere was Mr. Bloomer's enthusiasm, he not only convinced the corporation of the

¹Information obtained from Mr. H. B. Bloomer during interview.

merits of his project, but he and his wife personally gave four sites which total two hundred and eleven acres in Oakland County.

Mr. Bloomer had dual aims in view during the selection of the areas. His main objectives were lake frontage and unusual natural features. In order to purchase the land most suitable, he contacted the State Conservation Officer, Mr. Robert McClure who did the field work in locating desirable sites and reported to Mr. Bloomer the areas he believed of park calibre. He also operated through local real estate men. His purchases were made outright at prices ranging from one hundred and twenty dollars to six hundred dollars per acre. The land was bought when land values were high, however, business was sufficiently lucrative to permit the purchases. Mr. Bloomer attempted to induce other organizations to follow the example, but occurrence of the depression never permitted the materialization of those hopes. Through all his planning he was enthusiastically encouraged in his project by Governor Groesbeck, who was Michigan's Governor during those years.

Mr. Bloomer continued his efforts for progress by serving as a member of the Michigan Conservation Commission for six years following the donation of the parks. At the present time he is a member of the committee sponsoring the Detroit Huron-Clinton Parkway project, which is one of the largest and most adequate recreational systems ever planned. He has recently been contemplating deeding his Marshbank Estate to the county or state on the condition that it retain its name and be used for public recreation after his death.

INVENTORY OF PUBLIC RECREATIONAL
AREAS AND FACILITIES IN OAKLAND COUNTY

State Parks

The following is a summary of existing developed state park sites in Oakland County. Figure 1 shows location and Table I relates the facilities of these areas.

Bloomer No. 1 State Park. This site contains thirty-six acres located twenty-seven miles northeast of Detroit and eight miles southwest of Pontiac. It is accessible from Detroit by several routes, via Woodward Avenue to Orchard Lake Road and Commerce Road, or, by way of Grand River to Farmington and over the Walled Lake Road. The park has frontage on the south shore of Middle Straits Lake. Bathing and fishing are available. The area contains a frame house which is the park custodian's residence, a small camp ground on a flat meadow in the southeast sector. The site was reforested in 1926 with norway, white and jack pines. These trees are now the main scenic attraction of the area.

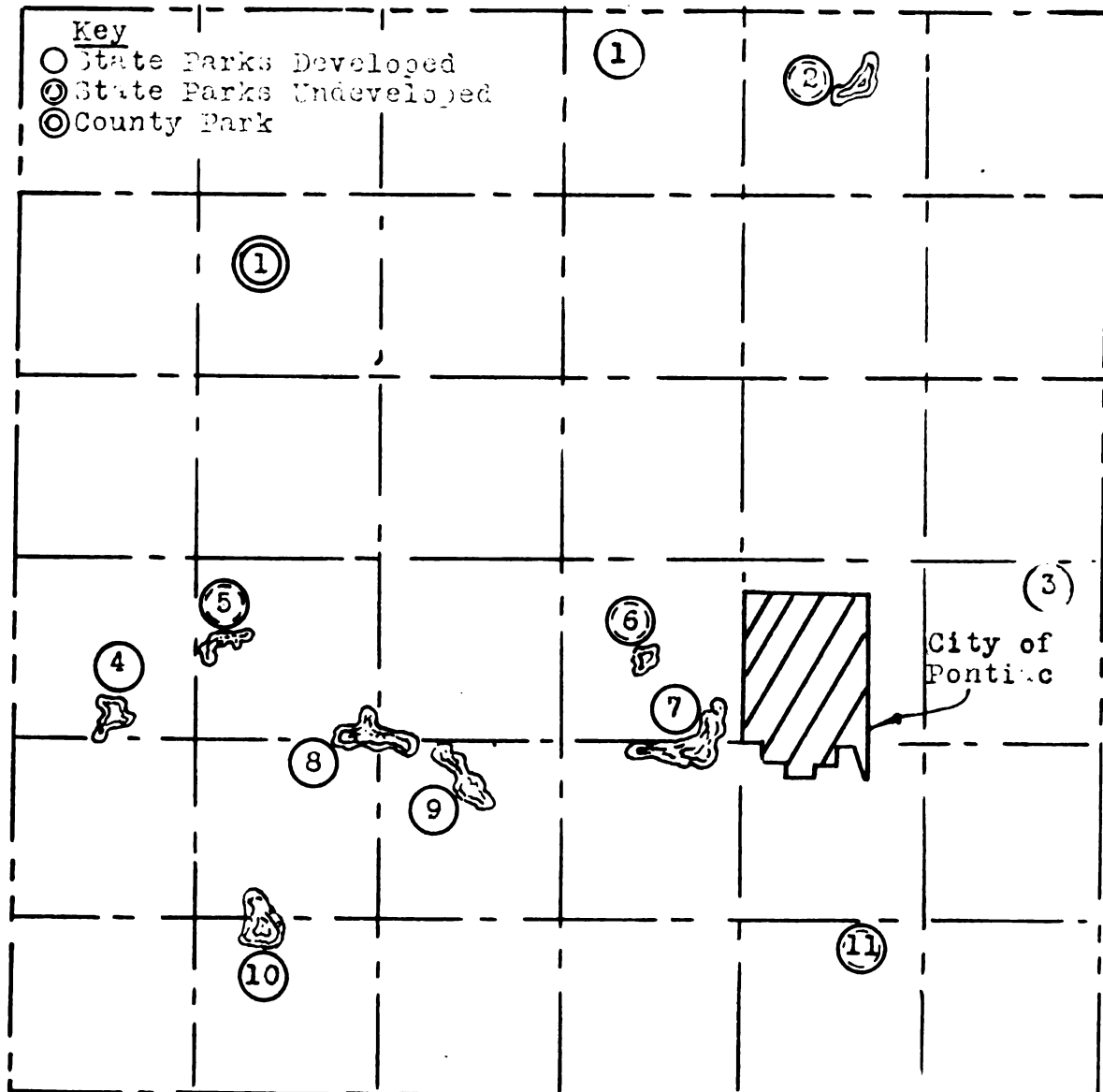
Bloomer No. 2 State Park. Located in Avon Township twenty-four miles north of Detroit's City Hall, Rochester, with a population of 3554, is the nearest village situated approximately one half mile west of the park site. The area is nine miles east of Pontiac and fifteen miles west of Mt. Clemens. The park encompasses forty-seven acres of

TABLE I

INVENTORY OF RECREATIONAL FACILITIES - OAKLAND COUNTY STATE PARKS - 1940

Compiled from Park Caretaker's Inventory																											
Park	Acres	Water Frontage	Caretaker's Residence	Concession	Pavilion	Group Camp	Toilets	Latrines	Boat Docks	Bridges	Picnicking	Swimming	Camping	Boating	Water System	Electricity	Stoves	Tables	Wells	Drinking Fountains	See Saw	Slides	Swing	Merry-go-round	Ball Field	Horse Shoes	
Bloomer No. 1	36	Yes	1	1	-	-	-	4	-	-	Yes	-	Yes	-	-	Yes	25	56	3	-	2	3	2	-	-	2	
Bloomer No. 2	47	Yes	1	1	-	-	1	4	-	-	Yes	-	No	-	-	Yes	16	97	4	2	-	4	2	-	4	4	
Bloomer No. 3	100	No	1	-	-	1	-	7	-	-	Yes	-	Yes	-	-	Yes	-	51	4	-	2	2	6	-	-	-	
Bloomer No. 4	28	No									Yes																
					PARK					SITE					UNDEVELOPED												
Dodge Bros. No. 2	25	Yes	-	1	1		4	-	1	-	Yes	Yes	Yes	Yes	-	No	22	95	2	-	2	1	2	1	1	-	4
Dodge Bros. No. 3	13	Yes																									
					PARK					SITE					UNDEVELOPED												
Dodge Bros. No. 4	78	Yes	1	1	-	1	2	6	1	2	Yes	Yes	No	Yes	Yes	Yes	28	186	5	6	2	2	1	1	1	-	7
Dodge Bros. No. 5	193	Yes	1	1	-	-	-	8	1	2	Yes	No	No	No	No	Yes	32	51	3	-	2	2	1	1	1	-	3
Dodge Bros. No. 6	36	No																									
					PARK					SITE					UNDEVELOPED												
Dodge Bros. No. 7	237	Yes																									
					PARK					SITE					UNDEVELOPED												
Dodge Bros. No. 10	114	Yes	1	-	1	1	-	8	1	-	Yes	Yes	Yes	Yes	Yes	No	15	116	5	5	3	2	-	-	2	3	

FIGURE 1.

Map Showing Location of
State & County ParksSource of Information from Oakland County Road Map
1940

STATE PARKS

- | | |
|----------------|----------------|
| 1. Bloomer #3. | 7. Dodge #4. |
| 2. Dodge #7. | 8. Dodge #5. |
| 3. Bloomer #2. | 9. Bloomer #1. |
| 4. Dodge #1. | 10. Dodge #2. |
| 5. Bloomer #4. | 11. Dodge #3. |
| 6. Dodge #3. | |

COUNTY PARK

1. Davisburg

land and due to its easy accessibility by way of John R. Road from Detroit it is well attended during both summer and winter.

The southern border of the park affords accommodations for five hundred automobiles. Beyond the parking area is a broad plateau where the children's playgrounds are located. Southeast of the park, not on the park grounds proper, are a ski-jump and toboggan slide which are owned by the Detroit Winter Sports Association. This last feature is largely responsible for the high attendance during the winter months.

At the present time there is a temporary concession building where sporting equipment, refreshments and picnicking necessities may be purchased. This structure is located near the center of the plateau and is a substitute for the pavilion which was destroyed by fire in 1933. Rest rooms and drinking fountains are located near this building. To the south are the Superintendent's buildings.

The Clinton-Kalamazoo canal project, the idea of which was conceived nearly one hundred years ago, has left its reminder by way of a dam in the Clinton River within the park site. The canal runs parallel to and just within the eastern half of the north boundary of the park. Due to a horseshoe shaped peninsula, around which the river curves, there are three thousand feet of river frontage in the area.

The trails which lead from the hill to the river have been kept in a natural state so far as is possible and lead through dense stands of timber and thick underbrush. The types of trees found here are typical of the park areas in this county including hard and soft maple, black locust, red and white cedars, American elm, white, red, jack and

Scotch pine, wild apple, hawthorn, ground juniper, poplar, cottonwood, and flowering dogwood.

Bloomer No. 3 State Park. The park comprises one hundred acres located one mile north of Ortonville in Brandon Township. The village has a population of 553. The park is situated twenty miles northwest of Pontiac, eighteen miles southeast of Flint and forty-five miles northwest of Detroit. It is accessible from Detroit via Woodward Avenue to Pontiac, Pontiac to Clarkston, Clarkston to Ortonville. The area is well timbered and is among the more rugged sites of Southeastern Michigan.

A playground, including equipment, is provided as well as a caretaker's residence, group camp buildings, camping sites, and electricity for trailers. There are picnicking facilities and sanitary provisions. The site was reforested in 1926 with norway, white and jack pines, and contains mixed hardwoods as well.

Dodge Brothers No. 2 State Park. Dodge Brothers No. 2 State Park contains twenty-six acres located on the south shore of Walled Lake twenty-seven miles northeast of Detroit City Hall. It is situated fifteen miles southwest of Pontiac, and may be reached from that city easily by way of M-28 and county road 413. The route from Detroit is by way of Grand River, Novi, and South Lake Drive.

Near the entrance of the park accommodations for two hundred cars are provided in two sections, one near the entrance and one at the gate marking the division of the picnic and camping grounds. The site has a gently rolling topography with a combination of open glades and densely wooded lowlands. There is a knoll approximately thirty-five

feet above the lake level which is circled by a drive. The picnic grounds lie to the east, containing a fully equipped playground. There is a second playground on the west side in the camping area.

Many campers select the knoll for their site as a view of the lake and the entire park may be seen from there. The surrounding land is too low for ideal camping except during very dry seasons. At the top of the knoll a rustic structure stands which formerly served as a store but is now used as a warehouse at the present time. The north end of the park enjoys two hundred feet of frontage on Walled Lake, and bathing is available and relatively safe for children as the lake bottom gently slopes and is sandy. Boats may be rented for 25¢ an hour or \$1.00 per day, and fishing is extremely popular due to the numbers of bluegills, bass, and perch found in Walled Lake.

Dodge Brothers No. 4 State Park. This site comprises seventy-eight acres of land located twenty-five miles northeast of Detroit. It is four miles southwest of Pontiac by way of M-213 and is two and one half miles from Keego Harbor, in Waterford Township. It may be reached from Detroit via Northwestern Highway and Orchard Lake Road.

At the park entrance is the Superintendent's home, garage, and workshop. Parking accommodations for four hundred cars are available in each of the lots at the end of the north and east drives.

The site is situated on a peninsula at the northern end of Cass Lake. The park is a tableland of triangular shape, the edges of which are wooded and sloping. This type of topography offers scenic value as the whole of Cass Lake and its surrounding country may be viewed from there.



WELL SHELTER —

DODGE BROTHERS NO 10

There are four large picnic areas within the boundaries, one at the northern end near the parking area which adjoins a children's playground. There is a second such area at the extreme southwest portion of the site, the third is located below the plateau on the south side. The fourth picnic ground is on an island made from dredging the canal. The three playgrounds are fully equipped and each contains a soft ball diamond.

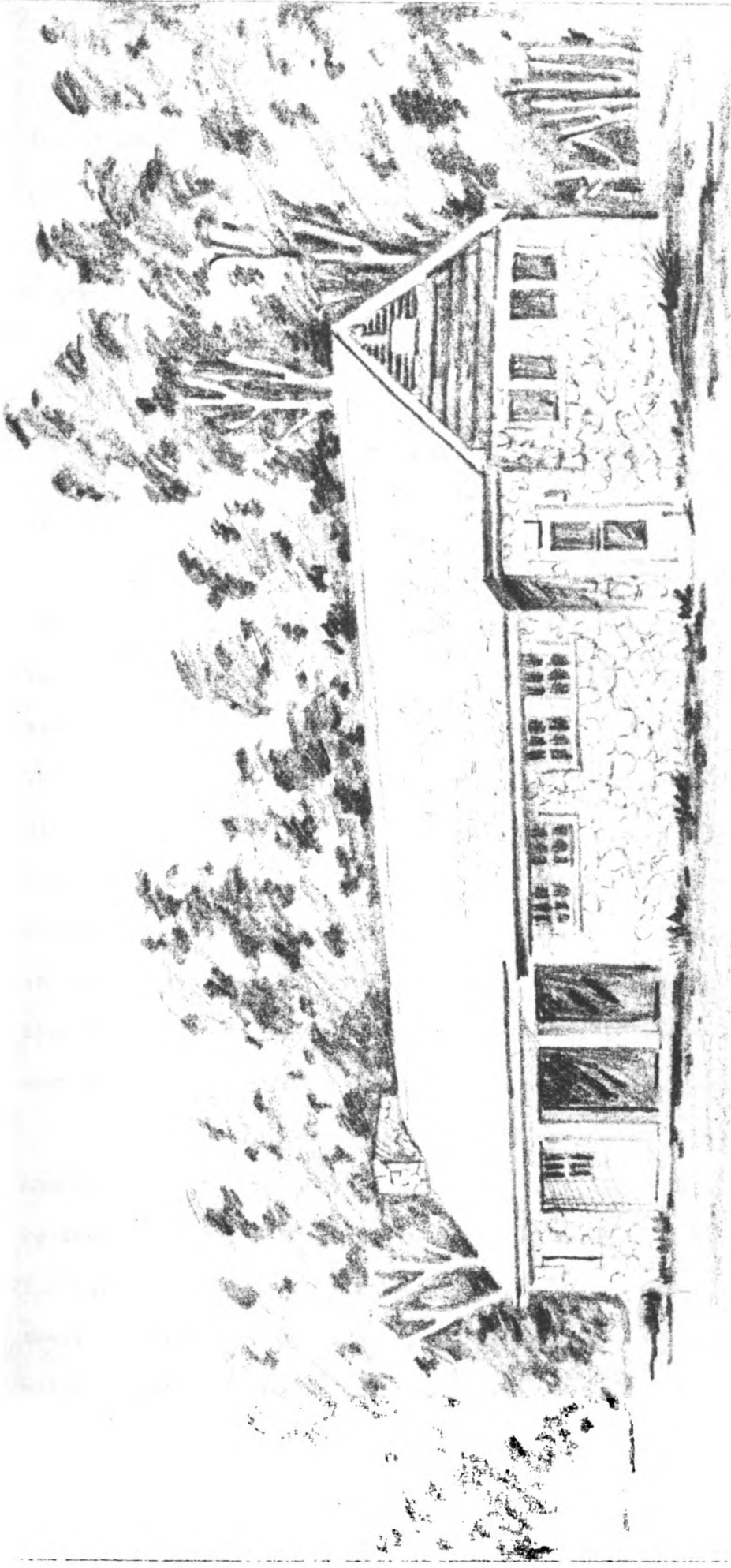
Since the park has a mile of frontage on Cass Lake, bathing, boating, and fishing are popular sports here. A bath-house was constructed in 1939 equipped with showers, changing, and checking rooms. The man-made beach is broad and level; the swimming area is patrolled by lifeguards and is marked by buoys. The site was reforested in 1926 with norway, white and jack pines.

Dodge Brothers No. 10 State Park.* The park contains one hundred and fourteen acres located forty miles from Detroit, in Highland Township. It is accessible by way of Woodward Avenue to Pontiac, Elizabeth Lake Road to Highland.

The caretaker's residence and garage are near the entrance of the park. There is approximately one mile of road within the park. There are two playgrounds, one adjacent to the north picnic area and one adjoining the group camping area in the central portion of the site. The large picnic grounds occupy the north end. There are three camping areas, two in the east central section and one in the west central region. These areas overlook Pickerel Lake, on which the site has one-quarter mile of frontage.

Pettibone creek runs along the northwest boundary of these grounds;

*Dodge Brothers No. 5 State Park will be discussed in the Master Plan Report.



STAGN

COMBINATION BUILDING — DODGE PROPERTIES NO 10

the adjacent land is low and swampy. There is a wading and bathing pool in the park and a boat dock on Pickerel Lake.

The site was reforested in 1926 with the planting of norway, white and jack pines.

County Parks

Oakland County has but one county park at the present time which is here included in the inventory.

Davisburg County Park. This tract of land consists of one hundred acres near Davisburg approximately three miles south of U.S. No. 10. The land was donated to the county with the provision that it be made available to the public as a park and should include a golf course. The golf course has not proven profitable and it is believed that it will eliminate itself eventually and the whole area will be devoted to ordinary park purposes. The terrain is rolling and for the most part not covered with forest growth. However, a fine stand of oak exists in the eastern part of the area. This is being used at present as a picnic ground. The tamarack swamp in the southeastern section of the park is typical of that type of swamp in southern Michigan.

The most interesting building on the property is an old farm house, typical of early Michigan farm houses and should possibly be restored and preserved. At present it is being used as a club house for the golf course, but it is planned to use it eventually as a caretaker's residence. Other buildings consist of a pavilion and a community dance building in the picnic area. A newly developed parking

lot is now in the process of construction. The park site is maintained by the Board of Park Trustees of the Oakland County Road Commission.

City Parks

The following is a listing of city park areas in Pontiac, Michigan. This is the only city in Oakland County large enough to have developed a park system of note.

Oakland Park. The tract encompasses fifteen acres and contains four tennis courts, a children's playground, a soft ball diamond, one camp stove and a comfort station.

Perry Park. The site contains fifty-five acres and provides an ice rink on which hockey games are played during the winter. A circular track is now under construction. A large part of this site remains undeveloped.

Murphy Park. The park consists of forty-seven and a half acres. There are facilities such as, a children's playground, one baseball and one soft ball diamond, four tennis courts and a skating rink. There are a few camp stoves and a comfort station.

Wilson Park. The land covers one hundred and twenty-five acres largely occupied by the Municipal Golf Course. Picnic grounds are also located on the site.

Bandette Park. Bandette Park has an acreage of forty acres providing a soft ball diamond, four tennis courts and a free trailer camp. A comfort station is located on the area.

SPECIAL RECREATION PROBLEMS AFFECTING OAKLAND COUNTY

Population Factors

The development of any recreational program requires an investigation of the number, distribution and types of people for whom such a program is to be designed. It also requires an investigation of the areas and facilities to be developed. It is obvious that the number of persons to be accommodated is the principal factor by which the recreational needs are determined. The needs determine the desirability of the various areas to be included within the program. The distribution of population and their characteristics supply the necessary information and establish facts from which final conclusions may be drawn.

While the desires and needs of people for recreation may be partially secured from the studying of the origin of the population to be served, it cannot be given as much importance for the present generation as might have been given thirty, twenty, or even ten years ago. Foreign groups in America have been assimilated more rapidly and more thoroughly in the past thirty years than they were previous to that time. Instead of providing "old country tastes," there are more standardized preferences of the people of today which might be classified as typically American.

The sources of population growth, according to the 1930 U. S. Census were as follows: of the total number of people living in Michigan, 1,136,886 or 23.5 percent were natives of other states, 852,758 or 17.6 percent were foreign born, and 2,830,973 or 58.5 percent were natives of Michigan. These figures justify the statements of the previous paragraphs.

The types of recreational needs based on population may be classified as two general types, namely, resident population and visitors.

The recreational needs of any residence population are governed by the number and distribution of inhabitants and following, the more dense the population, the greater are the proportional requirements.

The county lines in this case do not determine the actual population whose needs are to be filled, since the majority of this population are residents of Detroit and its surrounding vicinity. The density of Michigan's population is at its maximum for the state, in this area, since approximately forty-eight percent of the total population reside in Detroit and its suburbs. The distribution of population here being 3046 persons per square mile.¹

A list of the proportional requirements for such densely inhabited areas was compiled by the Michigan State Park Department and the generally prominent items of that list are herein included. The average urban family needs for week day play are served through school and neighborhood playgrounds, nearby parks, beaches, and private grounds. Adults as well as children need facilities for sports and picnicking.

¹United States Census, 1930.

The week-end and holiday recreational needs differ slightly since the families have more leisure, can travel farther, and enjoy their play for a longer period of time. Areas for these purposes should be larger, more attractive, and provide a greater variety of facilities. During the vacation periods the family may have an even greater range of activities; however, recreational advantages should be furnished near home to care for those of limited incomes. This type of area should resemble the week-end area, be of still larger scale, should provide natural features and be divided into units for active and passive use.

Rural population requirements vary somewhat from those of the urban since this group spends the greatest part of its time out-of-doors. They need opportunities for simple relaxation, social gatherings, picnicking, swimming, fishing, and boating.

According to the proportional requirements of the urban population, included above, the state parks play an important role. In Oakland County, as shown in the table following, approximately two thirds of the population is urban. Therefore, there should be a proportionate state park acreage to supply the needs in Oakland County. While rural population requirements are few compared to those of the urban, and they include the remaining third of the total population, their needs also can be supplied by the state parks.

TABLE II

URBAN AND RURAL POPULATION IN OAKLAND COUNTY
1930 U. S. CENSUS

Total Population	Urban	%	Rural	%
211,251	133,700	64	77,551	36

Since it is a natural sequence that recreational park areas should be in proportion to the numbers served, the National Recreation Association has adopted a standard base for volume of population. The minimum requirements are one acre per one hundred persons in cities plus the same amount for county and state parks. Although the resident population does not give the true picture as to the numbers to be served it will offer a base for comparison.

TABLE III
COMPARISON OF OAKLAND COUNTY PARKS
AND
MINIMUM STANDARD REQUIREMENTS

Type of Area	Existing Acreage	Standard Minimum Acreage
		1-100 Present Population ¹
Municipal Parks & Playgrounds	333	649
County Parks	160	2112
State Parks	1007	2112

From the above table it is clearly seen that the available park sites in all types of parks fall far below the minimum standard. State parks provide less than one half the required acreage and the one county park is supporting thirteen times its recognized capacity. The percentage of growth increase within the county is greater in each census, yet the state park acreage remains stationary. From 1910 to 1930 the population has more than doubled itself each decade. Since the 1940

¹Based on 1930 population.

census figures are not available at the time of writing, no accurate statistics can be given on the probable increase within the past ten years. Therefore, there is a dynamic population and a static state park acreage which indicates the inadequacy of present areas for the resident population.

Non-Resident Population. In this locality Wayne County supplies the majority of the participants in the parks of Oakland County. While they are a non-resident group, their use is as continual as that of the resident population and their numbers are greater. This group has the same requirements as those listed for the resident population in the previous paragraphs.

In addition, four other groups may be included in the non-resident classification. They are: tourists, or sightseers who stay for short visits in one place and move on to make other such visits elsewhere; hunters; fishermen; and nature students. A third group, the resorters, usually congregate at hotels or cabins. The summer resident who returns annually and may even own property comprises the fourth group. The general interests of these four groups are all the attractions that any park can provide.

As previously stated, the city dweller has the greatest need for recreational areas. Table IV illustrates the percentage of urbanization in Wayne County which is 97.5 percent of its total population.

The statistics shown in Table V indicate that the deficiency in recreational areas in Wayne County exceeds that of Oakland County. There are no state parks present; however, land of state park calibre is not found in highly urbanized centers. The county and city parks

TABLE IV
URBAN AND RURAL POPULATION IN WAYNE COUNTY
1930 U. S. CENSUS

Total Population	Urban	%	Rural	%
1,888,946	1,841,762	97.5	47,184	2.5

TABLE V
COMPARISON OF PARKS IN WAYNE COUNTY
AND
MINIMUM STANDARD REQUIREMENTS

Type of Area	Existing Acreage	Standard Minimum Acreage 1-100 Present Population ¹
Municipal Parks & Playgrounds	4055	15,680
County Parks	1210	18,889
State Parks	none	---

in this case, provide the only public recreational sources within Wayne County. Therefore, due to their proximity and easy accessibility the state parks in Oakland County serve great numbers of Wayne County residents.

It was stated in the introduction of Population Factors that the planning of recreational areas was concerned not only with the numbers and distribution of the population, but with the type, i.e. classification by employment. The class of people to which the parks cater has an effect on the plan, facilities, and maintenance program. There is a wide difference in the type of appreciation felt by the nature

¹Based on 1930 population.

student and the average city dweller who is unaccustomed to natural areas. Thoughtless vandalism is more often due to ignorance than intention.

Figure 2 shows manufacturing to be the largest activity carried on within the state, employing 40.6 percent of all workers. The percentage of people engaged in manufacturing in Oakland County is 41.4, while in Wayne County it is nearly 50 percent. The remaining occupations are distributed accordingly as related by the figure for each locality. The major recreational problem for Oakland County residents from an occupational standpoint, is the satisfying of recreational needs of its manufacturing class.

Mr. Robert Moses of the New York City Park Department has concluded that "Mean Parks make mean people."¹ People are moved to destroy or damage things which are untidy and inadequate, yet the reverse attitude is taken when the beauty and neatness of an area demands respect.

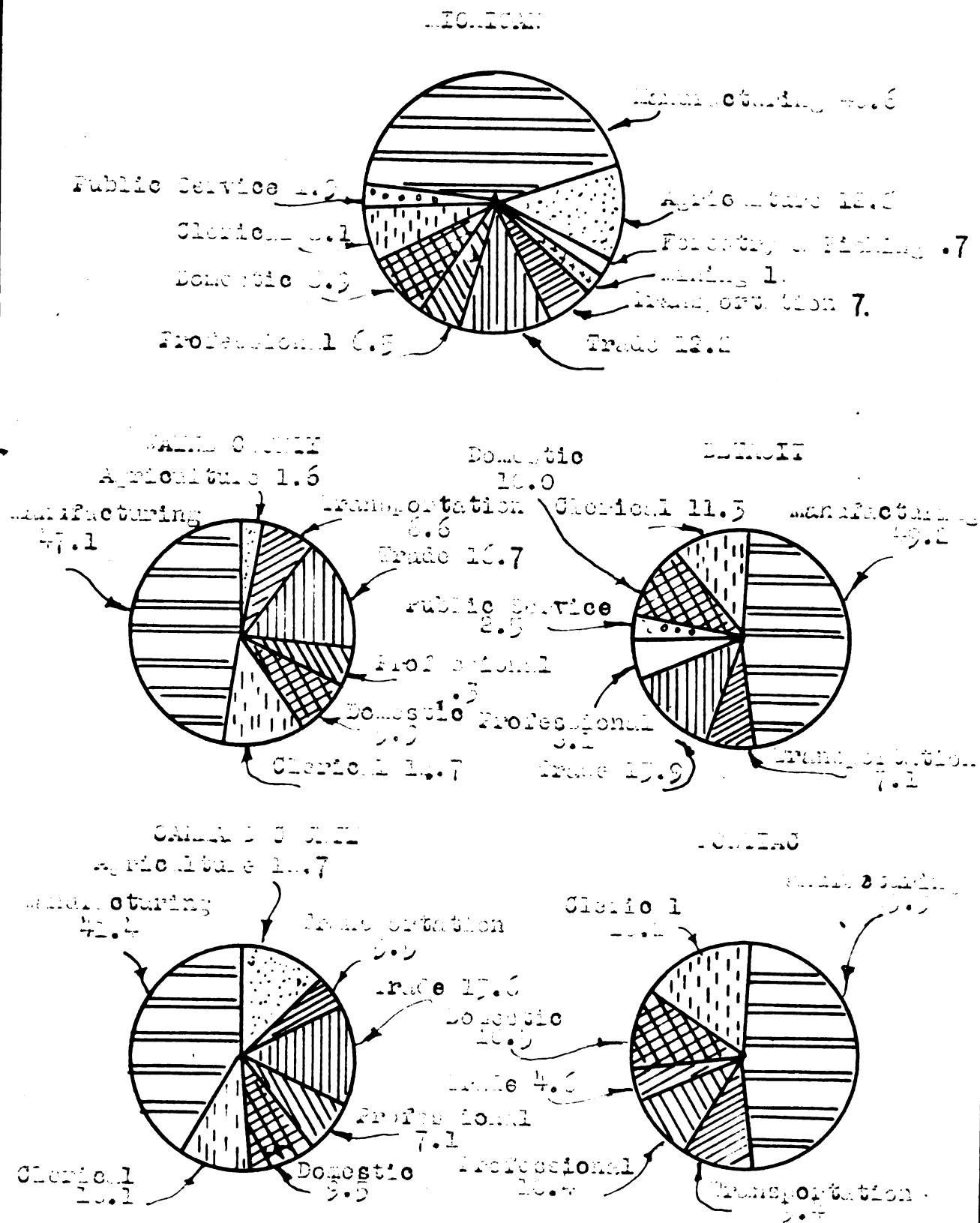
Attendance

Before it is possible to draw conclusions from the Population Factors with which a portion of this paper has been dealing, it is necessary to determine from the attendance records of the parks in Oakland County, whether or not they are used excessively, despite their small acreage.

The total attendance for the developed state park sites in Oakland

¹ "Hordes From The City" Saturday Evening Post, Oct. 31, 1931.

FIGURE 2
 PERCENTAGE OF WORKING-AGE POPULATION
 Statistics for 1930 U. S. Census



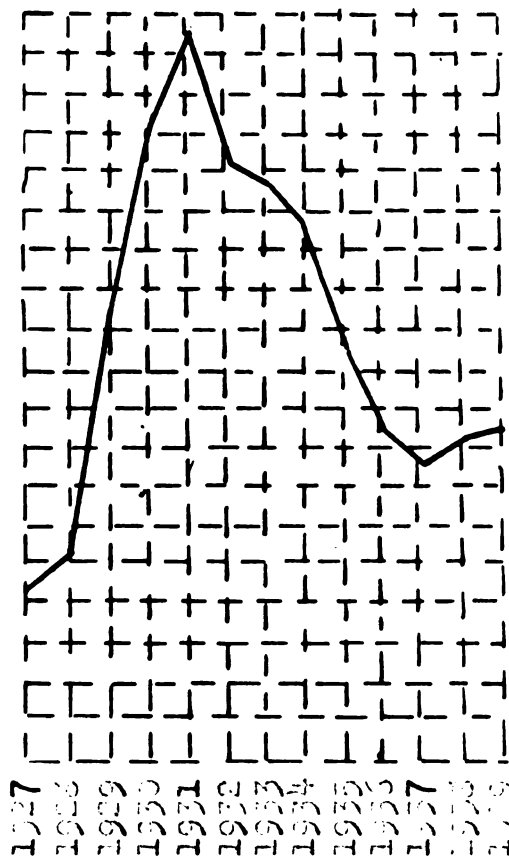
County and the State of Michigan is illustrated in Figure 3. The first accurate attendance record of Oakland County parks was made in 1926, at which time they were being used by approximately 500,000 people. The yearly increase between 1926 and 1931 was steady, the curve represented as A on the chart rose rapidly. The attendance for all seven of the areas open for public use reached its peak in 1931, when the attendance figures reached approximately 1,893,000. From 1931 to 1937 there was a continual decrease in attendance and the figures dropped to 765,000. The increase since then has been gradual. It may be noted that curve A, compared with that of the yearly attendance for all state parks, designated by B, does not assume the same shape. Curve B does not show as great a fluctuation. The attendance figures in 1926 were approximately 3,500,000 and rose to 9,635,000 in 1931. The decrease between 1931 and 1935 reduced the figure to 7,974,000. The difference between the form of curves A and B may be explained in this manner. Since the Oakland County areas serve a largely manufacturing population the depression affected those state park attendances. Added leisure time due to unemployment brought many to the park sites between 1929 and 1931, therefore the curve continued to climb. However, by 1931 the population still had leisure time and continued unemployment depleted their savings; thus their funds did not permit park excursions. In curve B the participants were not necessarily from the manufacturing centers and continued more normally. Better financial conditions occurring in the middle of the decade did not promote immediate increases in attendance as a period of readjustment followed. In both major changes in attendance there was an approxi-

FIGURE 3
MICHIGAN STATE PARK ATTENDANCE

Attendance
Hundred-Thousands

Total Attendance in All State Parks
Oakland County

19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0

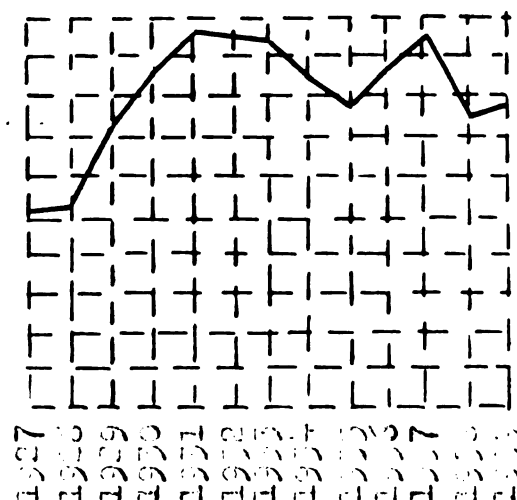


Curve A

Attendance
Millions

Total Attendance in All State Parks
Michigan

10
9
8
7
6
5
4
3
2
1
0



Curve B

mate two year lag behind the economic fluctuations.

By authority of the Park, Parkway and Recreation-Area Study Acti of the 74th Congress, the Michigan State Parks Division made an accurate count of attendance and participants in activities during the 1933 season. These statistics are used as a basis for the attendance study since the only other figures available are those from estimates made by the state park superintendents.

The figures in Table VI do not indicate a correlation between the amount of acreage and the amount of attendance. For example, Dodge Brothers No. 4 State Park is the fourth area in size but accomodates the largest numbers. The summary of facilities shows that it is the best equipped and offers the most complete range of day use activities, including adequate swimming accomodations. Dodge Brothers No. 2 State Park is the smallest area with only twenty-five acres, yet has the second largest attendance. It does include both a day use and camping area and bathing is available. Dodge Brothers No. 5 State Park has the largest amount of acreage but at the present time is not fully developed as approximately only fifteen acres are intensively used. It does not have bathing facilities. These facts suggest there is a correlation between the amount of facilities and the amount of attendance.

The statistics shown in Table VII reveal the intensive use to which these parks are subjected. There is a wide deviation of the average number of persons using the sites during the peak days. The peak day figures in this case are Sundays which equal on the whole 41 percent of the total weeks attendance. To illustrate, the numbers

of persons using one acre during a peak day are listed. This figure may be used tentatively to determine the saturation point, i.e., point of maximum use without destruction of site, for each respective area.

TABLE VI
ACREAGE AND ATTENDANCE
OAKLAND COUNTY STATE PARKS

Name of Park	Acres	Attendance ¹
Dodge Brothers No. 5	193	26,576
Dodge Brothers No. 10	114	19,346
Bloomer No. 3	100	18,726
Dodge Brothers No. 4	78	113,862
Bloomer No. 2	47	68,754
Bloomer No. 1	36	29,203
Dodge Brothers No. 2	25	80,905

(Statistics from Michigan State Parks Division)

To date, the author has been unable to secure accurate information regarding saturation points. Studies of this problem are lacking and the present methods of determining whether or not a site is over crowded are not scientific but depends upon the accuracy of the speculation of the park authorities.

The writer made inquiries for determining the saturation point of any given area from several authorities of the National Park Service, Michigan State Parks Division, and the Cook County Forest Preserve District. There was no definite information obtained from any of these sources. The problem justifies a long term study and

¹ Figures taken from attendance study in 1938, by authority of Park, Parkway & Recreational-Area Study Act.



INTENSIVE USE OF CAMP SITE

TABLE VII*
INTENSITY OF USE
OAKLAND COUNTY STATE PARKS

Park	Acreage	Highest Weekly Attendance	Average No. Persons In Area During Peak Day	Average No. Persons Per Acre During Peak Day
Dodge No. 2	25	13,279	3,600	144
Bloomer No. 1	36	4,736	2,240	62
Bloomer No. 2	47	12,644	6,070	129
Dodge No. 4	78	66,192	25,150	322
Bloomer No. 3	100	2,643	1,320	13
Dodge No. 10	114	2,951	1,180	10
Dodge No. 5	193 (15 acres developed)	3,374	1,350	112

involves many variable factors, e.g., condition of the soil, plant materials on the site, and the facilities provided. Such a study should be made as a basis for future planning.

In the column, "Average Number of Persons Per Acre During A Peak Day" the figures are greatly diversified. The extremes indicate either over-use of the smaller sites and sufficient use of the larger ones, or sufficient use of the smaller sites and under use of the larger ones. The writer believes the former condition to exist from observations of the areas.

The week showing the highest attendance in five of the parks (Tables VIII to XIV, inc.) included Independence Day. The remaining two parks reached their peaks during the first and last week of August.

*Data compiled from Summary of Attendance (See Tables VIII through XIV.

TABLE VIII
BLOOMER #1 STATE PARK
Summary of Attendance & Participants in Activities
1938 Season

Week of	Attendance Week To Date		Morn.	After.	Eve.	Over 18	Under 18
June 20-26	1951	1951	215	1217	519	1436	515
June 27-July 3	3108	5059	309	2080	719	2217	891
July 4-10	4786	9845	1014	2862	910	3308	1478
July 11-17	2590	12435	591	1294	705	1737	853
July 18-24	3492	15927	546	2248	698	2333	1109
July 25-31	2183	18110	582	1060	541	1426	757
Aug. 1-7	3456	21566	660	1960	837	2420	1036
Aug. 8-14	2680	24246	643	1506	531	1938	742
Aug. 15-21	1631	25877	270	1086	275	1144	487
Aug. 22-28	1492	27369	432	811	249	1045	447
Aug. 29-Sept. 4	1376	28754	483	592	301	943	433
Sept. 5-11	458	29203	144	263	51	324	134
<hr/>							
TOTALS	29203	29203	5839	16979	6335	20321	8882
<hr/>							
PERCENTAGE	100%	100%	20.2	58.1	21.7	69.6	30.4
<hr/>							
Attendance by Days			Summary of Participants in Activities				
Day	Amount	%	Activity		%		
Mon.	3620	12.4	Camping		43.3		
Tues.	1949	6.7	Playground		22.0		
Wed.	1988	6.8	Picnicking		20.6		
Thurs.	2390	8.2	Swimming		14.1		
Fri.	2138	7.5					
Sat.	4010	13.7					
Sun.	13058	44.7					

Statistics from the Michigan State Parks Division

TABLE IX
BLOOMER #2 STATE PARK
Summary of Attendance & Participants in Activities
1938 Season

Week of	Attendance		Morn.	After.	Eve.	Over 18	Under 18
	Week	To Date					
June 20-26	5230	5230	1083	2513	1634	3540	1690
June 27-July 3	7012	12242	783	4923	1306	4809	2203
July 4-10	12644	24886	2242	8148	2254	8642	4002
July 11-17	4183	29069	645	2097	1441	3112	1071
July 18-24	7529	36598	916	4684	1929	5365	2164
July 25-31	3849	40447	700	1760	1389	2665	1184
Aug. 1-7	6312	46759	703	3850	1759	4479	1833
Aug. 8-14	5944	52703	621	3679	1644	4520	1424
Aug. 15-21	3738	56441	504	2034	1150	2825	913
Aug. 22-28	5249	61690	529	3626	1094	3902	1347
Aug. 29-Sept. 4	4371	66061	444	3031	846	3186	1185
Sept. 5-11	2693	68754	462	1540	691	1934	759
TOTALS	68754	68754	9632	41985	17137	48979	19775
PERCENTAGE	100%	100%	14.0	61.0	25.0	71.2	28.8
Attendance by Days			Summary of Participants in activities				
Day	Amount	%	Activity		%		
Mon.	11172	16.2	Picnicking		54.3		
Tues.	4516	6.7	Playground		45.7		
Wed.	4974	7.2					
Thurs.	4908	7.1					
Fri.	3954	5.7					
Sat.	5967	8.8					
Sun.	33263	48.3					

Statistics from the Michigan State Parks Division

TABLE X
BLOOMER #3 STATE PARK
Summary of Attendance & Participants in Activities
1938 Season

Week of	Attendance		Morn.	After.	Eve.	Over 18	Under 18		
	Week	To Date							
June 20-26	1220	1220	428	480	312	941	279		
June 27-July 3	1607	2827	300	824	483	1176	431		
July 4-10	2642	5469	454	1618	570	1870	772		
July 11-17	925	6394	134	507	284	713	212		
July 18-24	1952	8346	434	1128	390	1268	634		
July 25-31	1884	10230	473	1013	398	1126	658		
Aug. 1-7	1781	12011	327	931	523	1175	606		
Aug. 8-14	1955	13966	410	960	585	1386	569		
Aug. 15-21	1556	15522	249	831	476	1140	416		
Aug. 22-28	1694	17216	239	1032	423	1241	453		
Aug. 29-Sept. 4	1057	18273	93	638	326	790	267		
Sept. 5-11	453	18726	31	319	53	346	107		
TOTALS			18726	18726	3622	10231	4823	13272	5454
PERCENTAGE			100%	100%	19.4	54.8	25.8	70.8	29.2
Attendance by Days				Summary of Participants in Activities					
Day	Amount	%	Activity		%				
Mon.	2583	13.8	Picnicking		65.8				
Tues.	1118	6.0	Camping		16.2				
Wed.	1108	5.9	Playground		10.1				
Thurs.	1231	6.6	Soft Ball		4.4				
Fri.	1473	7.9	Hiking		3.1				
Sat.	1803	9.6	Horse Shoes		0.4				
Sun.	9410	50.2							

TABLE XI
DODGE BROTHERS #2 STATE PARK
Summary of Attendance & Participants in Activities
1933 Season

Week of	Attendance Week To Date		Morn.	After.	Eve.	Over 18	Under 18
June 20-26	5208	5208	1098	2727	1383	3379	1829
June 27-July 3	6485	11693	2597	2767	1121	4374	2111
July 4-10	13279	24972	3859	6774	2646	8603	4676
July 11-17	7679	32651	1892	4129	1658	5282	2397
July 18-24	7333	39984	1551	4128	1654	4900	2433
July 25-31	7481	47465	1688	4080	1713	5231	2250
Aug. 1-7	12417	59382	2030	6773	3614	8404	4013
Aug. 8-14	8585	68467	1619	4839	2127	5319	2766
Aug. 15-21	5282	73749	954	2884	1444	3643	1639
Aug. 22-28	3994	77743	503	2659	827	2915	1079
Aug. 29-Sept. 4	2442	80185	463	1509	470	1699	743
Sept. 5-11	720	80905	105	547	68	521	199
TOTALS	80905	80905	18364	43816	18725	54770	26135
PERCENTAGE	100%	100%	22.7	54.1	23.2	67.7	32.3

Attendance by Days			Summary of Participants in Activities	
Day	Amount	%	Activity	%
Mon.	11520	14.3	Swimming	41.9
Tues.	10082	12.5	Camping	37.4
Wed.	8985	11.1	Fishing	7.1
Thurs.	9403	11.6	Playground	5.8
Fri.	7553	9.3	Soft Ball	3.3
Sat.	11088	13.6		
Sun.	22354	27.6		

Statistics from the Michigan State Parks Division

TABLE XII

DODGE BROTHERS #1 STATE PARK

Summary of Attendance & Participants in Activities
1933 Season

Week of	Attendance		Morn.	After.	Eve.	Over	Under
	Week	To Date				13	18
June 20-26	7170	7170	993	3962	2215	4791	2379
June 27-July 3	8615	15785	1391	5646	1578	5869	2746
July 4-10	21261	37046	4340	13820	3101	3769	7492
July 11-17	9766	46812	1921	5134	2261	6415	3351
July 18-24	12888	57900	2568	8034	2286	8530	4358
July 25-31	8959	68659	1673	4699	2537	5968	2991
Aug. 1-7	15989	84648	2821	8575	4593	10495	5494
Aug. 8-14	12312	96960	2730	7118	2464	8179	4133
Aug. 15-21	5457	102417	1117	3104	1236	3604	1853
Aug. 22-28	66192	108609	1004	4213	975	4232	1960
Aug. 29-Sept. 4	3612	112221	631	2186	795	2489	1123
Sept. 5-11	1641	113862	308	1203	130	1167	474
TOTALS	113862	113862	21497	68144	24221	77508	38354
PERCENTAGE	100%	100%	19.0	59.8	21.2	66.3	33.7
Attendance by Days			Summary of Participants in Activities				
Day	Amount	%	Activity		%		
Mon.	15965	14.0	Swimming		47.7		
Tues.	10882	9.6	Picnicking		33.7		
Wed.	10601	9.3	Playground		10.1		
Thurs.	10495	9.3	Fishing		8.5		
Fri.	8572	7.5					
Sat.	13575	11.9					
Sun.	43772	38.4					

Statistics from the Michigan State Parks Division

TABLE XIII

DODGE BROTHERS #5 STATE PARK

Summary of Attendance & Participants in Activities
1938 Season

Week of	Attendance		Morn.	After.	Eve.	Over	Under		
	Week	To Date				18	18		
June 20-26	1242	1242	157	832	253	886	356		
June 27-July 3	2408	3650	383	1410	615	1610	798		
July 4-10	3374	7025	432	2759	183	2340	1034		
July 11-17	1941	8965	479	1202	260	1247	694		
July 18-24	2942	11907	462	1748	732	1808	1134		
July 25-31	2119	14026	441	1127	551	1294	825		
Aug. 1-7	3749	17775	573	2115	1061	2102	1547		
Aug. 8-14	2491	20266	373	1536	582	1487	1004		
Aug. 15-21	1722	21988	221	1169	332	1093	629		
Aug. 22-28	1906	23894	191	1351	364	1094	812		
Aug. 29-Sept. 4	2033	25927	274	1366	393	1145	838		
Sept. 5-11	649	26576	99	473	77	401	243		
TOTALS			26576	26576	4085	17088	5403	16507	10069
PERCENTAGE			100%	100%	15.4	64.4	20.2	62.1	37.9
Attendance by Days				Summary of Participants in Activities					
Days	Amount	%	Activity		%				
Mon.	3376	12.7	Camping		50.3				
Tues.	2009	7.6	Picnicking		12.5				
Wed.	2098	7.9	Playground		37.2				
Thurs.	2552	9.6							
Fri.	2327	8.7							
Sat.	3764	14.2							
Sun.	10450	39.3							

Statistics from the Michigan State Parks Division

TABLE XIV

DODGE BROTHERS #10 STATE PARK

Summary of Attendance & Participants in Activities

1933 Season

Week of	Attendance Week	To Date	Morn.	After.	Eve.	Over 13	Under 13
June 20-26	1314	1314	459	540	315	911	403
June 27-July 3	1890	3204	640	893	352	1330	510
July 4-10	2951	6155	843	1643	460	2105	846
July 11-17	1708	7363	624	845	239	1178	530
July 18-24	2098	9961	580	1157	361	1469	629
July 25-31	1646	11607	537	730	279	1164	482
Aug. 1-7	1836	13493	665	855	366	1273	613
Aug. 8-14	1403	14896	161	982	260	1025	373
Aug. 15-21	1142	16033	251	721	170	731	361
Aug. 22-28	1799	17837	522	1112	165	1273	526
Aug. 29-Sept. 4	851	18688	106	536	159	603	243
Sept. 5-11	658	19364	206	409	43	438	170
TOTALS	19346	19346	5644	10533	3169	13655	5691
PERCENTAGE	100%	100%	29.2	54.4	16.4	70.6	24.4
Attendance by Days			Summary of Participants in Activities				
Days	Amount	%	Activity		%		
Mon.	2744	14.2	Camping		42.7		
Tues.	1207	6.2	Playground		21.8		
Wed.	1595	8.3	Swimming		19.4		
Thurs.	1430	7.4	Picnicking		8.3		
Fri.	1454	7.5	Fishing		7.3		
Sat.	3326	17.2					
Sun.	7590	39.2					

Statistics from the Michigan State Parks Division

In every case, the afternoon attendance was the largest; the evening record was slightly higher than that of the morning in six of the seven parks. The afternoon numbers in every instance were greater than the combined totals of both the morning and evening figures. This may be naturally expected since the afternoon has the most daylight.

Tabulation of participants by age groups were classified as being either over eighteen years or under eighteen years. The results indicate that approximately two-thirds of the visitors were over eighteen. The numbers of individuals under eighteen are limited.

Camping in the parks by boys under seventeen years of age unaccompanied by an adult or adults and girls under eighteen years of age unaccompanied by their parents or chaperon is prohibited.¹

The value of knowing the ratio between child and adult attendance is an aid in planning playground facilities.

The main activities included in the Summary of Participants in Activities, are picnicking, swimming, camping, and playground. There is a direct correlation between the amount and kinds of facilities provided, and the number of participants in each activity. In sites where camping is provided this activity ranks almost equally with the combined total of day use activities. From this it is noted there is a definite demand for camping facilities. The average number of persons per camp is 3.6. The ratio of permits issued to trailers as compared to tent campers is approximately one to three. Since the depression there has been a noticeable increase in permanent summer

¹State Park Rules and Regulations, Section 11.

campers, i.e. persons using one park site for the maximum time limit and then re-entering the park after a twenty-four hour period, or moving into another park, however

Persons desiring to camp in State Parks are required to obtain a permit before making camp. A permit will be issued to camp eight days or less on a single site in parks within Oakland, Livingston, Macomb, St. Clair, Ottawa, and Bay Counties ... When time of permit has expired, the campers must move from the park for twenty-four hours. To again camp¹ in the same park or other parks a new permit must be obtained.

Since camping in the state parks is free, many of the Wayne County residents employed in manufacturing have selected the parks for their temporary summer homes. The proximity of the parks to employment centers makes commuting easy, the cost of which is materially less than dwelling rents in Wayne County. This type of camper presents a problem since their continual occupancy of a site in each of the parks reduces the available space for tourists and summer vacationists. Park superintendents estimate the permanent summer campers to be as high as one-fifth of the total number of campers on some of their areas. This group should be discouraged since the present system of no charge is fundamentally to provide for everyone.

The playground activity average equals twenty-five percent of the total activities participants. Since these are used by children, which group comprises the majority of the one-third of the total attendance, it may be assumed that most of the children attending the area will use the playground facilities. Differences between the percentages using the playgrounds and the number classified in

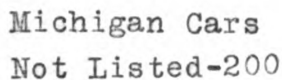
¹State Park Rules and Regulations, Section 8.

the Under Eighteen group occur since all children under eighteen are not of playground ages.

Figures 4 to 10 inclusive show the sources by County or State of cars entering the parks. With the exception of Bloomer No. 3 and Dodge Brothers No. 4, Wayne County is the major source of visitors in all of the parks. In these two exceptions the locations indicate the reason for the variation. Bloomer No. 3 is situated near the Genesee County boundary and due to this fact that county supplied 264 more cars than did Wayne County. The proximity of the City of Pontiac to Dodge No. 4 contributes mainly to the source of attendance from Oakland County which exceeds the number of Wayne County cars by 2,630. It may be noted that the attendance source from all other counties was extremely small, showing that the population of Wayne and Oakland Counties are the primary participants of these parks.

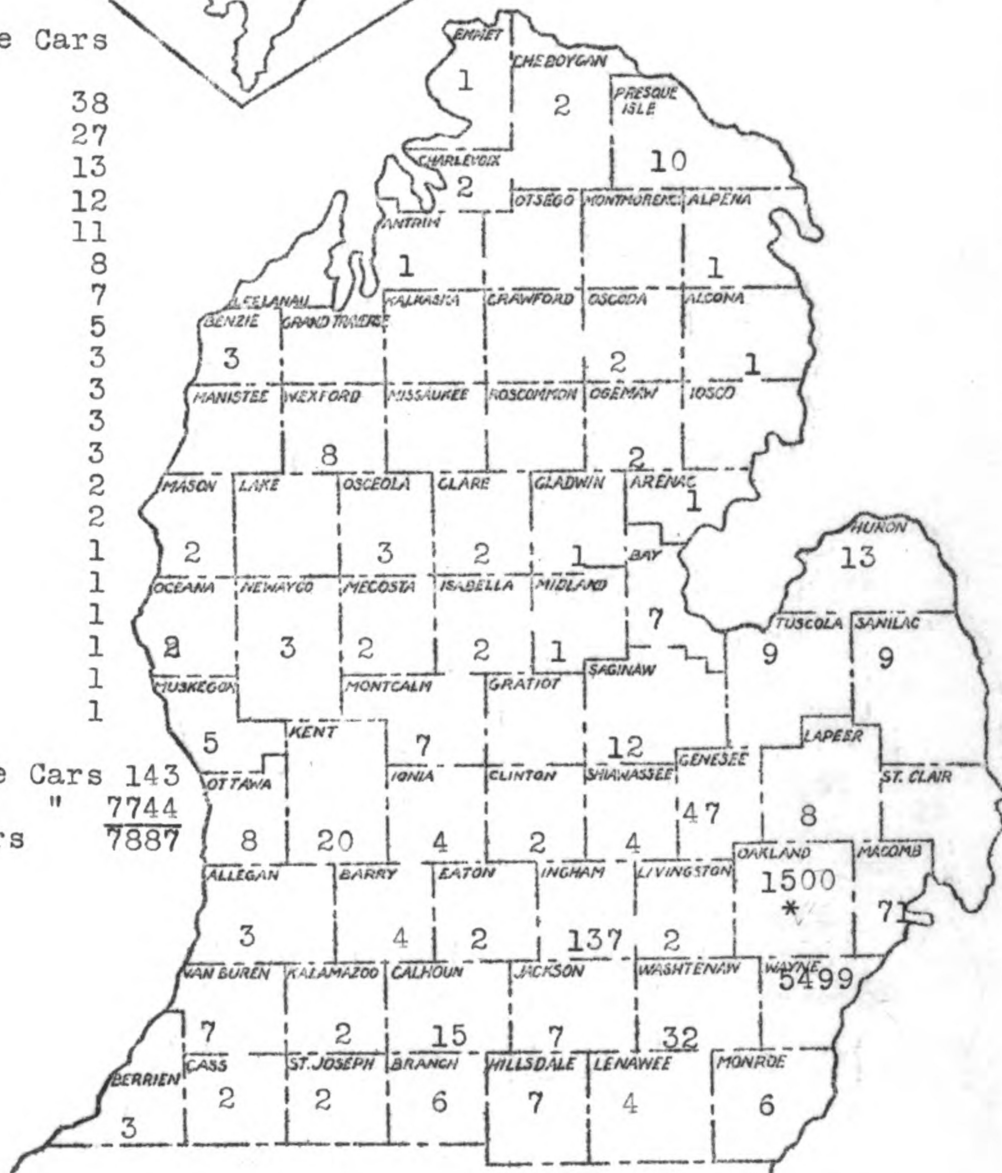
The correlation of the proximity of a park area to population centers, and its effect on attendance, is illustrated on the accompanying Table XV.

Map showing sources by County
or State of Cars entering Bloomer
#1 State Park during the period
June 21st. to Sept. 6th. inc.1938.



Ohio	38
Ill.	27
N.Y.	13
Penn.	12
Ga.	11
Calif.	8
Ind.	7
Ky.	5
Neb.	3
Minn.	3
D. of C.	3
Iowa	3
Fla.	2
Ontario	2
Tenn.	1
Conn.	1
S.D.	1
La.	1
Ala.	1
Wash.	1

Out State Cars	143
In " "	7744
Total Cars	<u>7887</u>



1

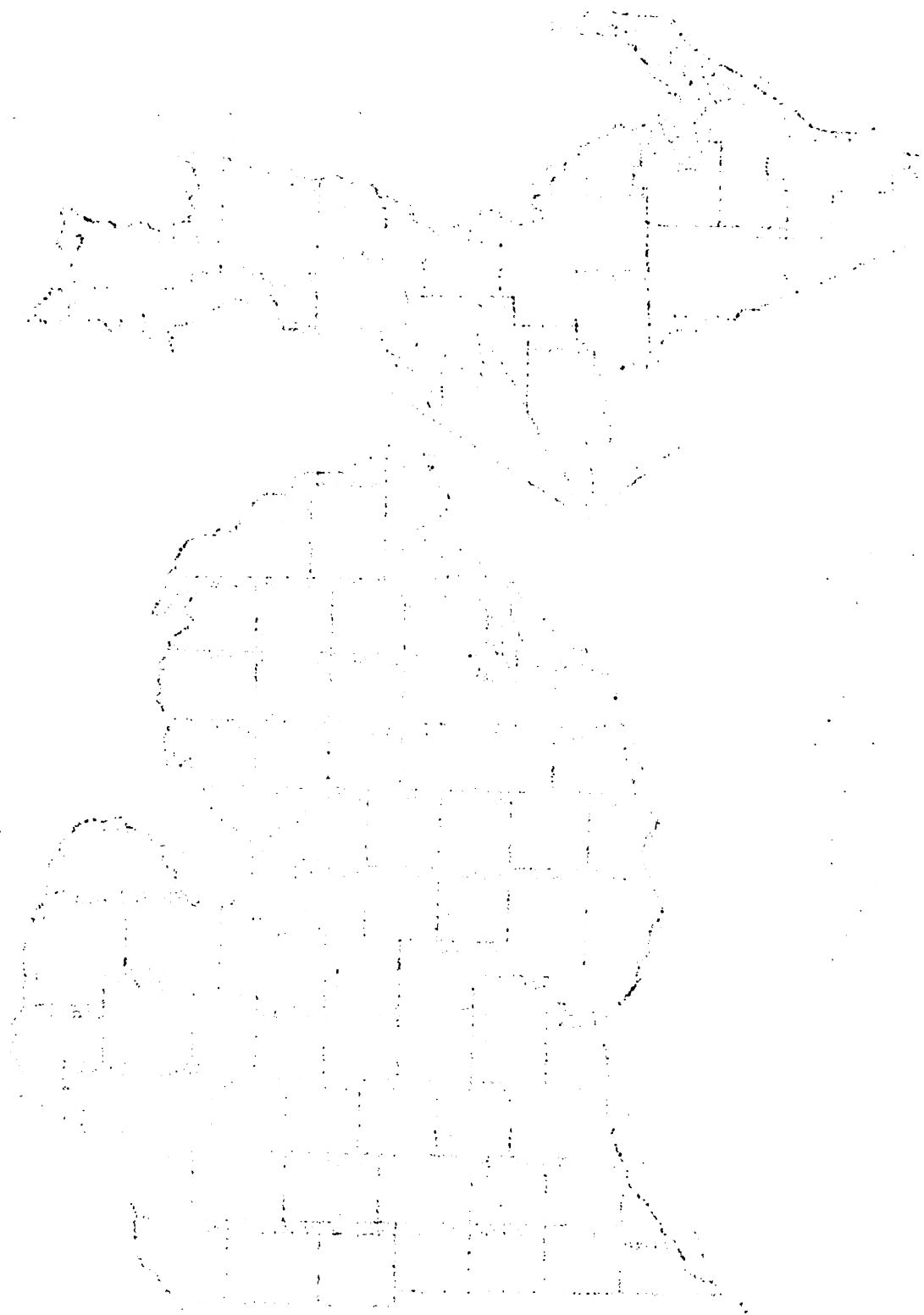
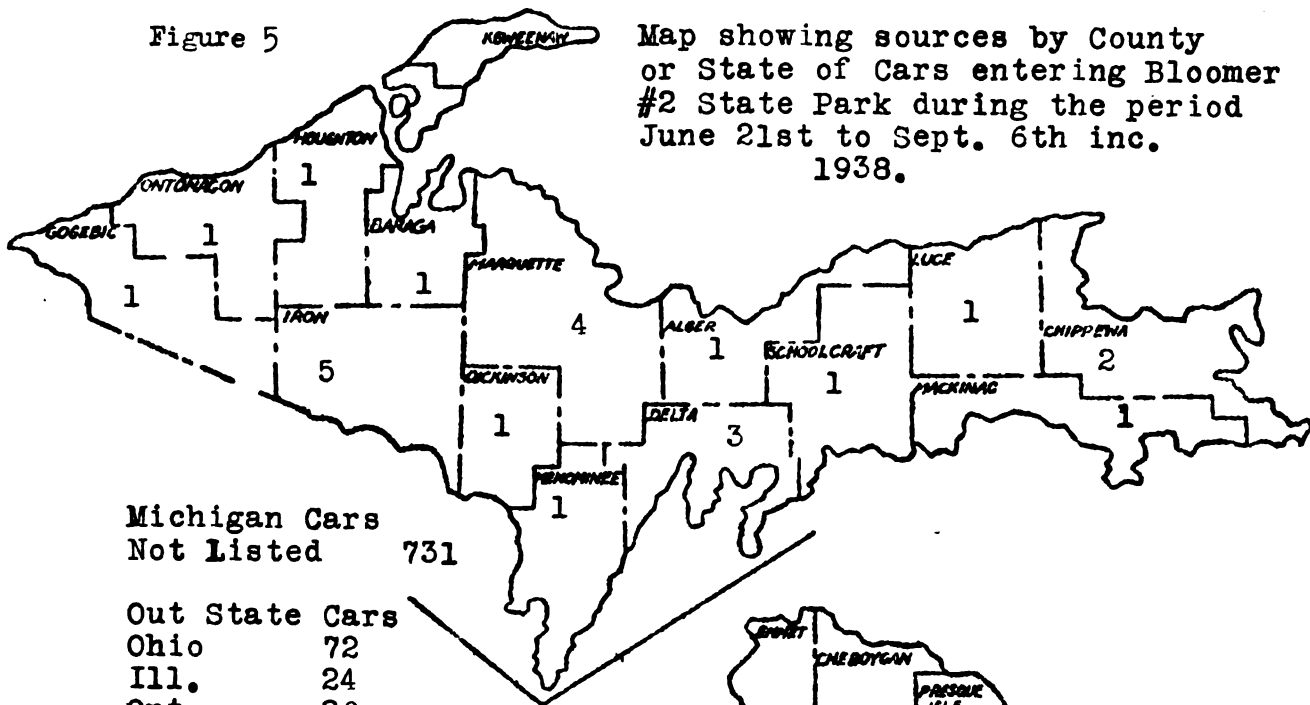


Figure 5

Map showing sources by County or State of Cars entering Bloomer #2 State Park during the period June 21st to Sept. 6th inc. 1938.

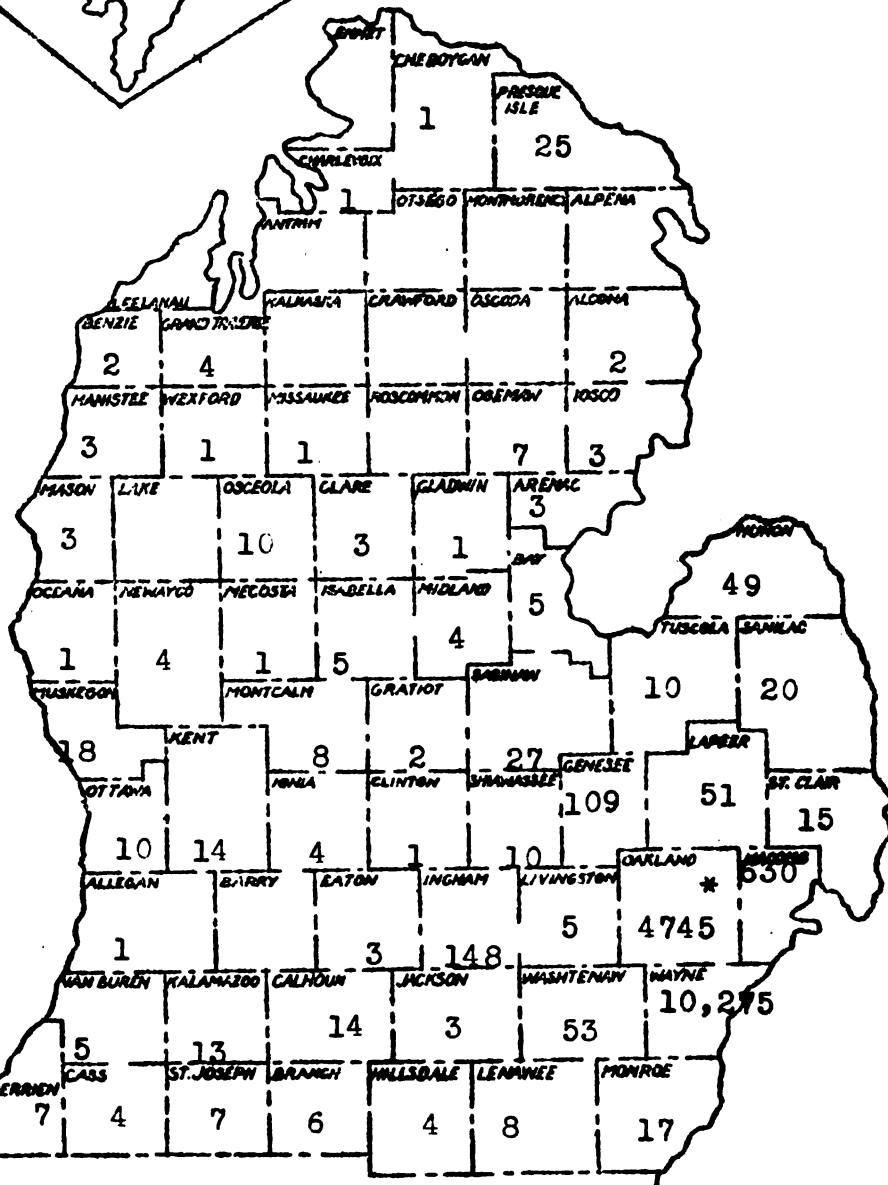


Michigan Cars
Not Listed 731

Out State Cars

Ohio	72
Ill.	24
Ont.	20
N.Y.	19
Ind.	17
Penn.	15
Calif.	9
Fla.	8
Can.	6
Wis.	5
Ky.	4
Ga.	3
Va.	3
Mass.	3
N.J.	3
S.C.	2
Md.	2
W.Va.	2
Iowa	2
Texas	2
Tenn.	2
Wash.	1
N.D.	1
Neb.	1
Mo.	1
Conn.	1
D.C.	1
La.	1
Minn.	1
Ala.	1
Idaho	1

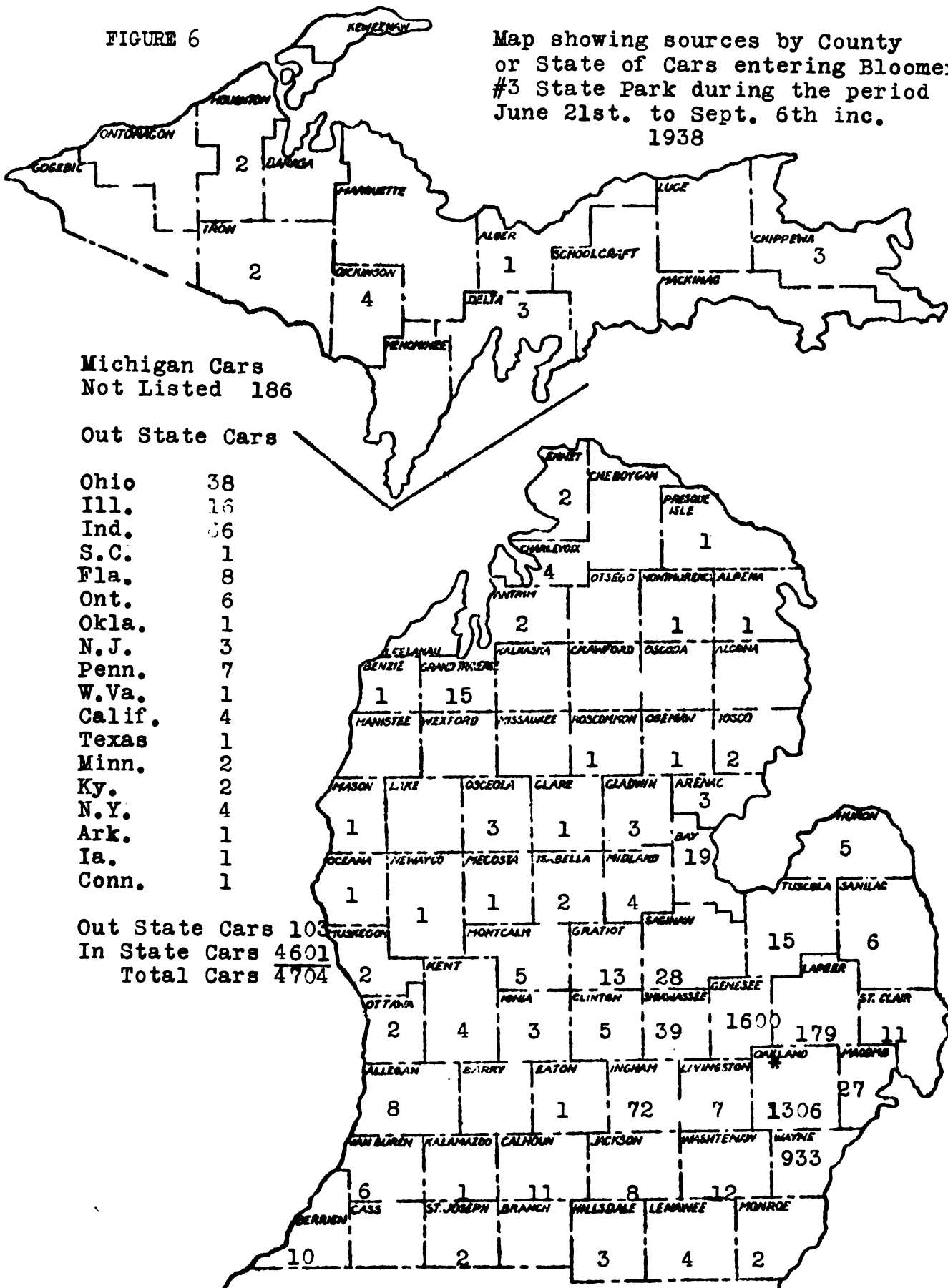
Out State 233
In State 17146
Total 17379





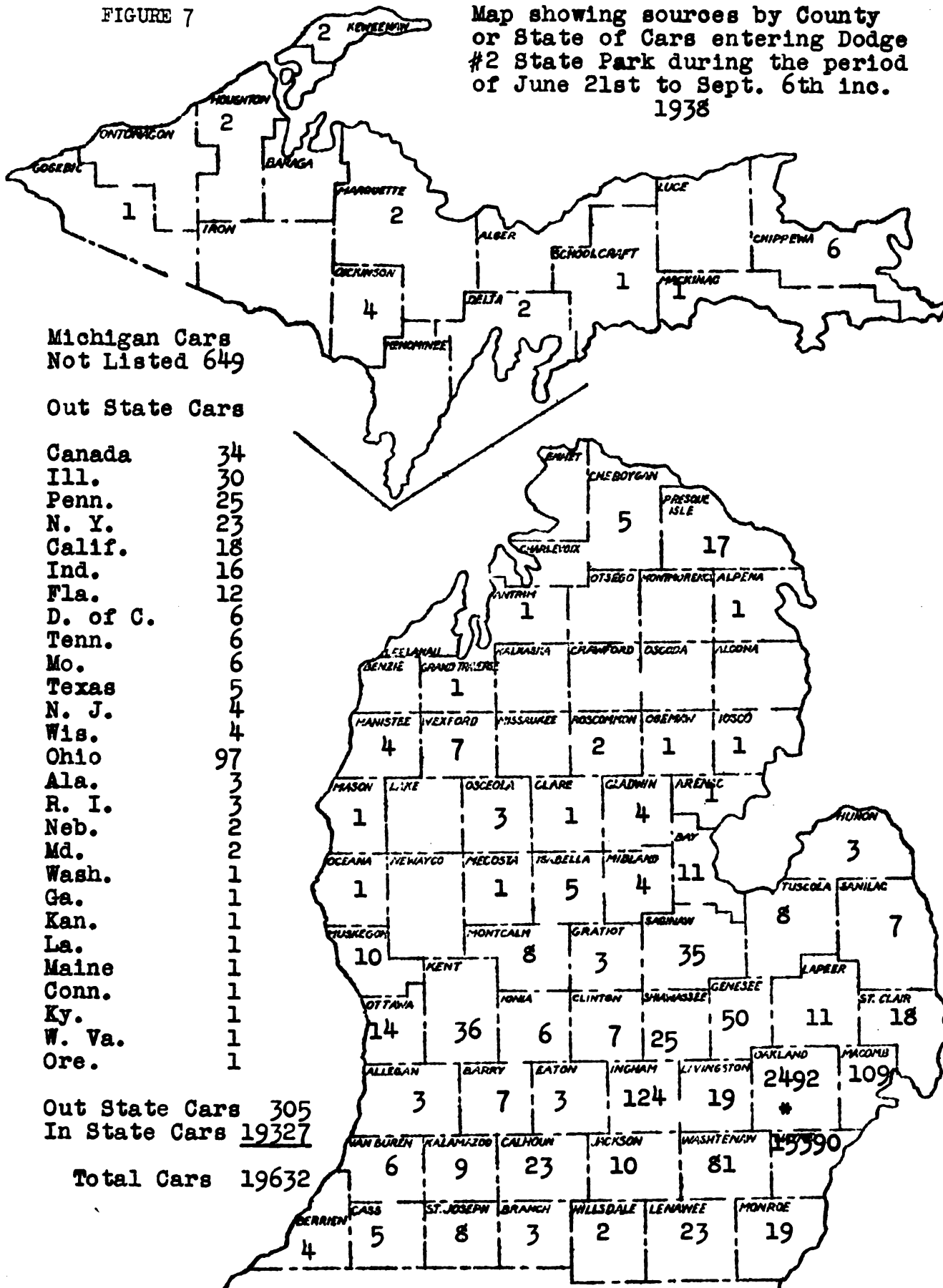
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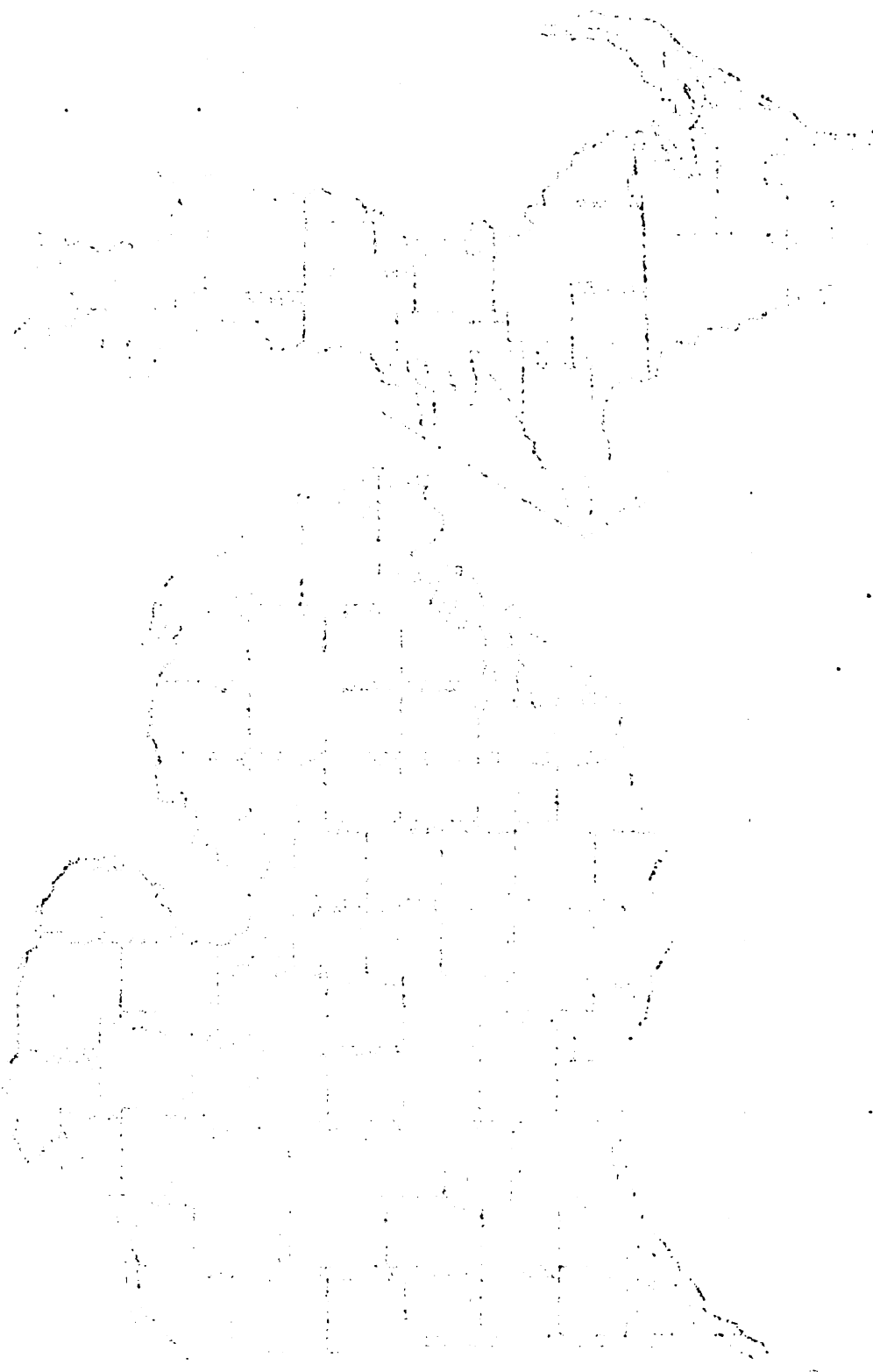
Map showing sources by County
or State of Cars entering Bloomer
#3 State Park during the period
June 21st. to Sept. 6th inc.
1938



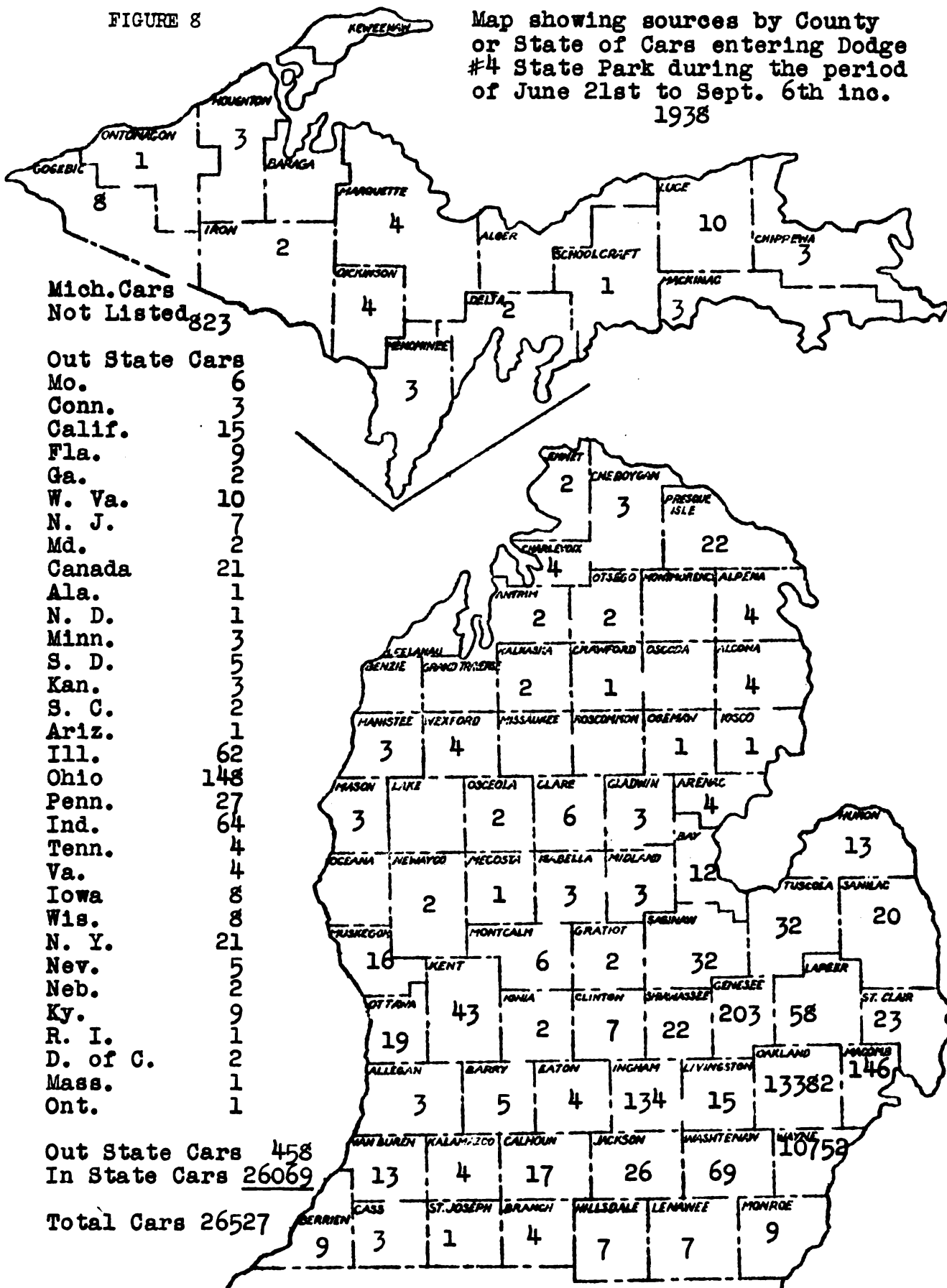


Map showing sources by County
or State of Cars entering Dodge
#2 State Park during the period
of June 21st to Sept. 6th inc.
1938





Map showing sources by County
or State of Cars entering Dodge
#4 State Park during the period
of June 21st to Sept. 6th inc.
1938



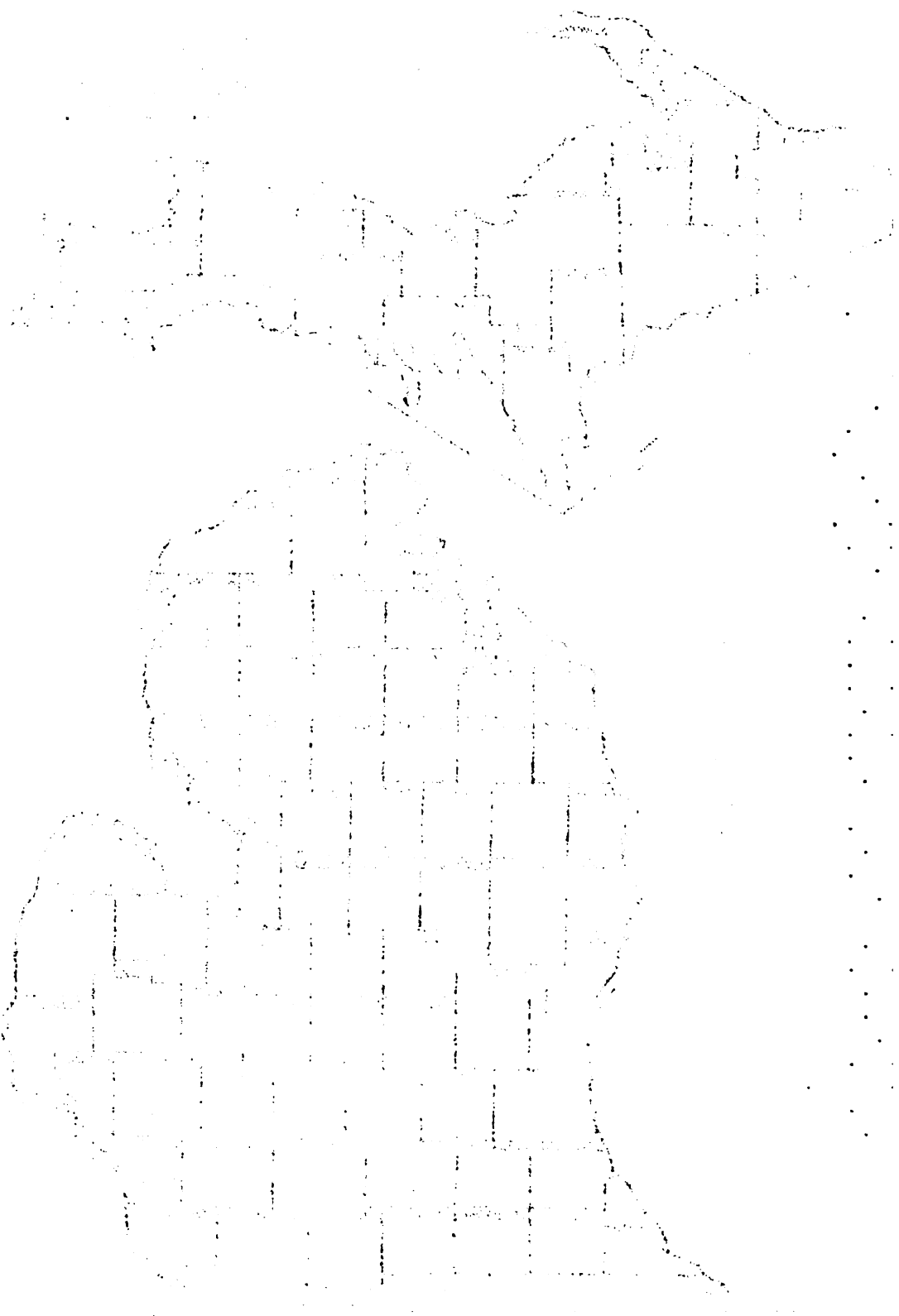


FIGURE 9

Map showing sources by County or State of Cars entering Dodge Brothers #5 State Park during the period June 21st to Sept. 6th inc. 1938.

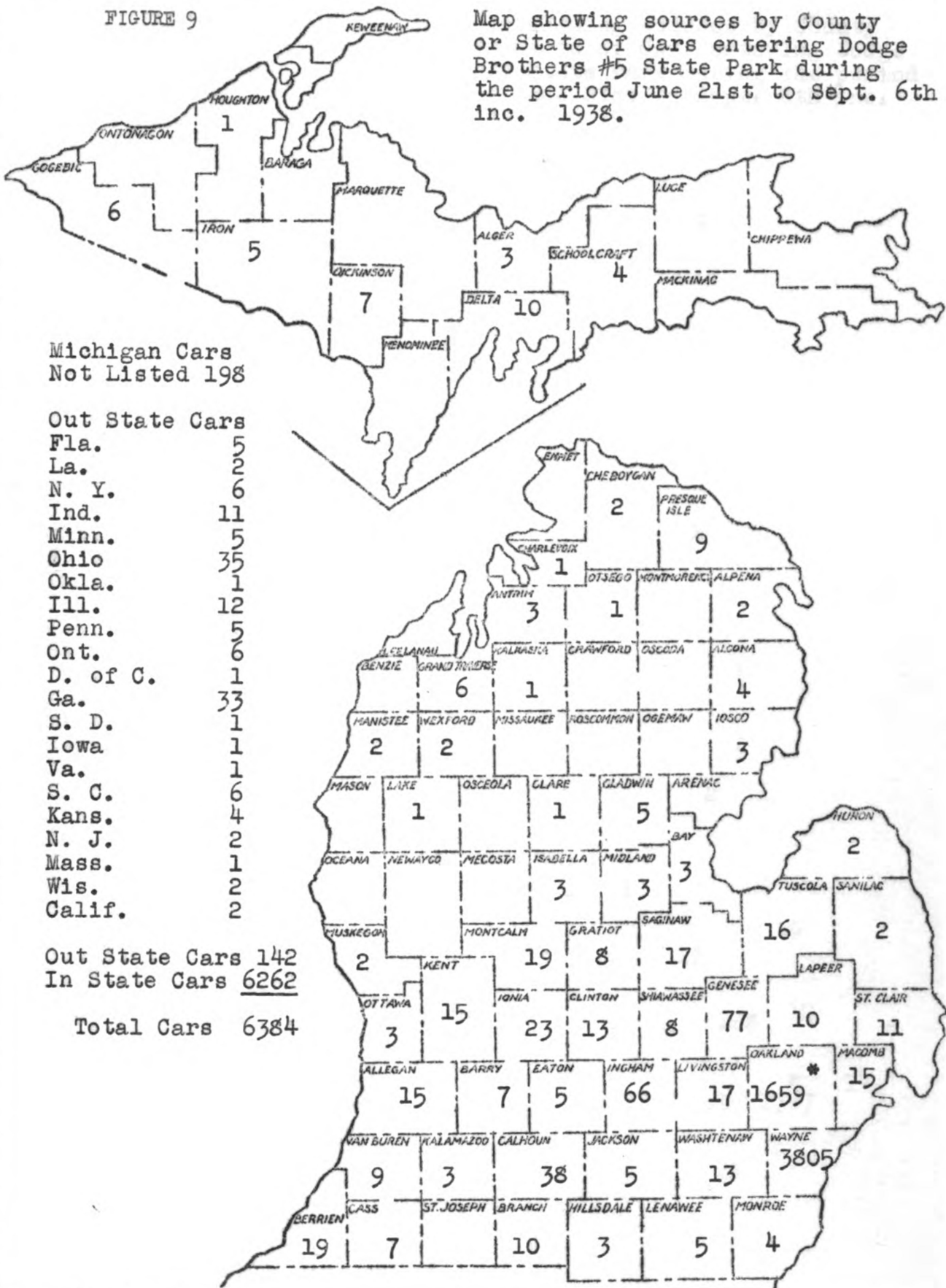
Michigan Cars
Not Listed 198

Out State Cars

Fla.	5
La.	2
N. Y.	6
Ind.	11
Minn.	5
Ohio	35
Okla.	1
Ill.	12
Penn.	5
Ont.	6
D. of C.	1
Ga.	33
S. D.	1
Iowa	1
Va.	1
S. C.	6
Kans.	4
N. J.	2
Mass.	1
Wis.	2
Calif.	2

Out State Cars 142
In State Cars 6262

Total Cars 6384



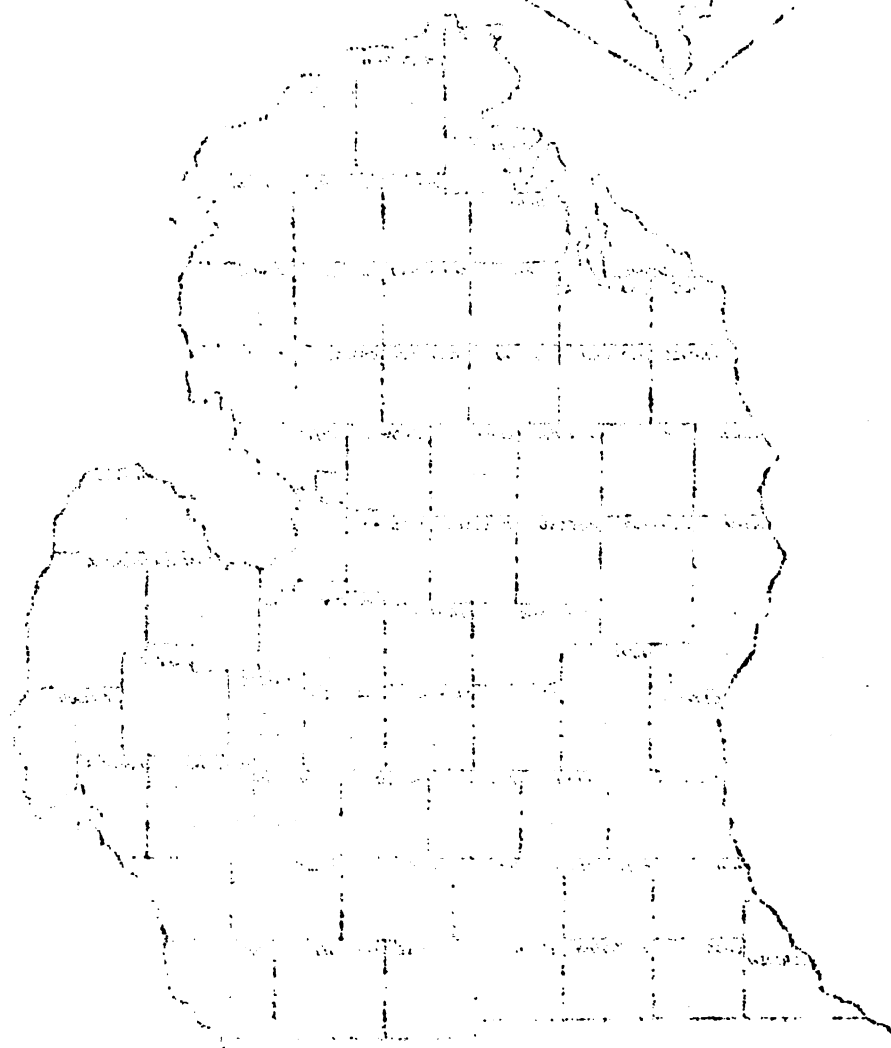
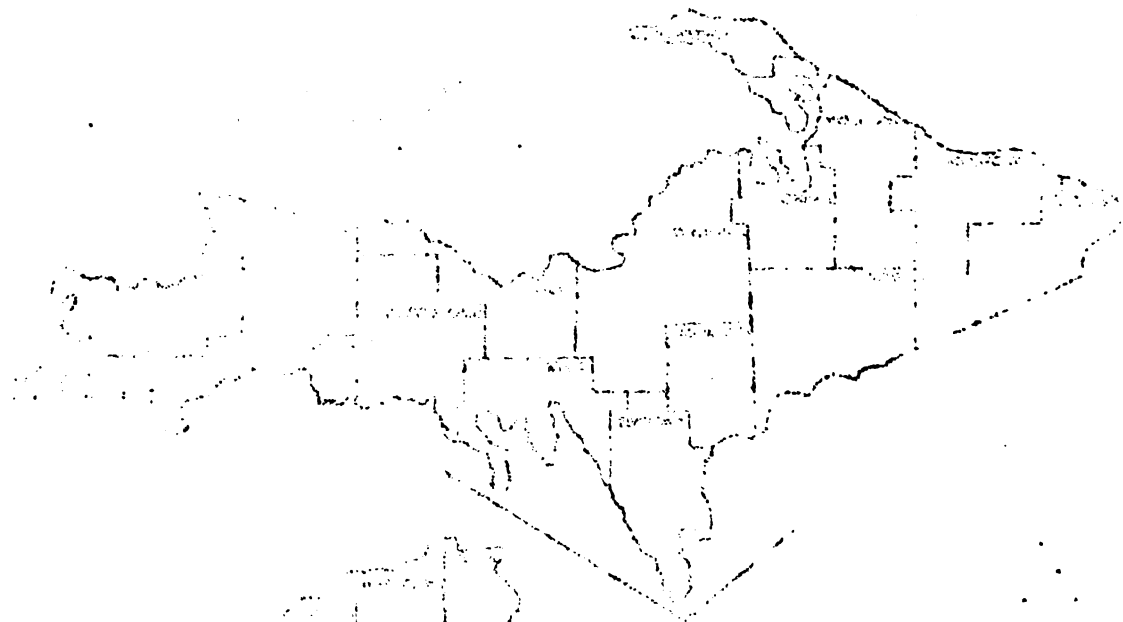
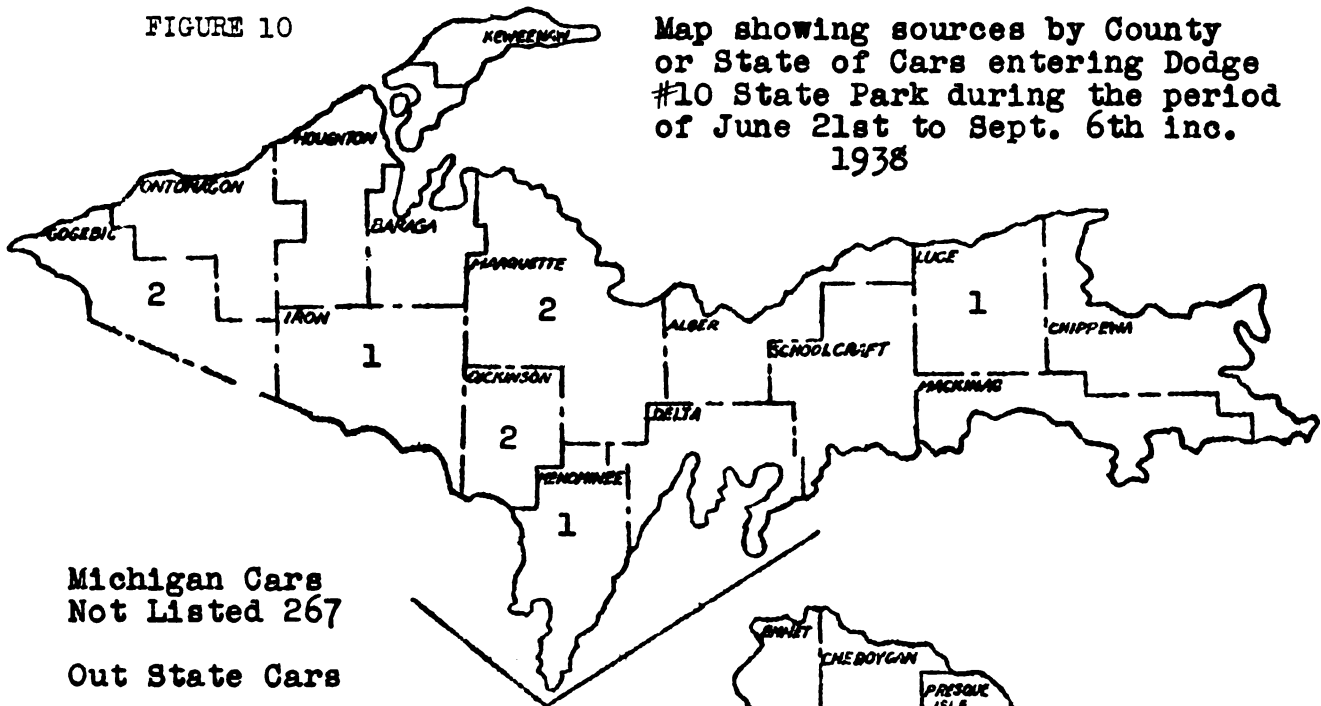


FIGURE 10

Map showing sources by County or State of Cars entering Dodge #10 State Park during the period of June 21st to Sept. 6th inc. 1938



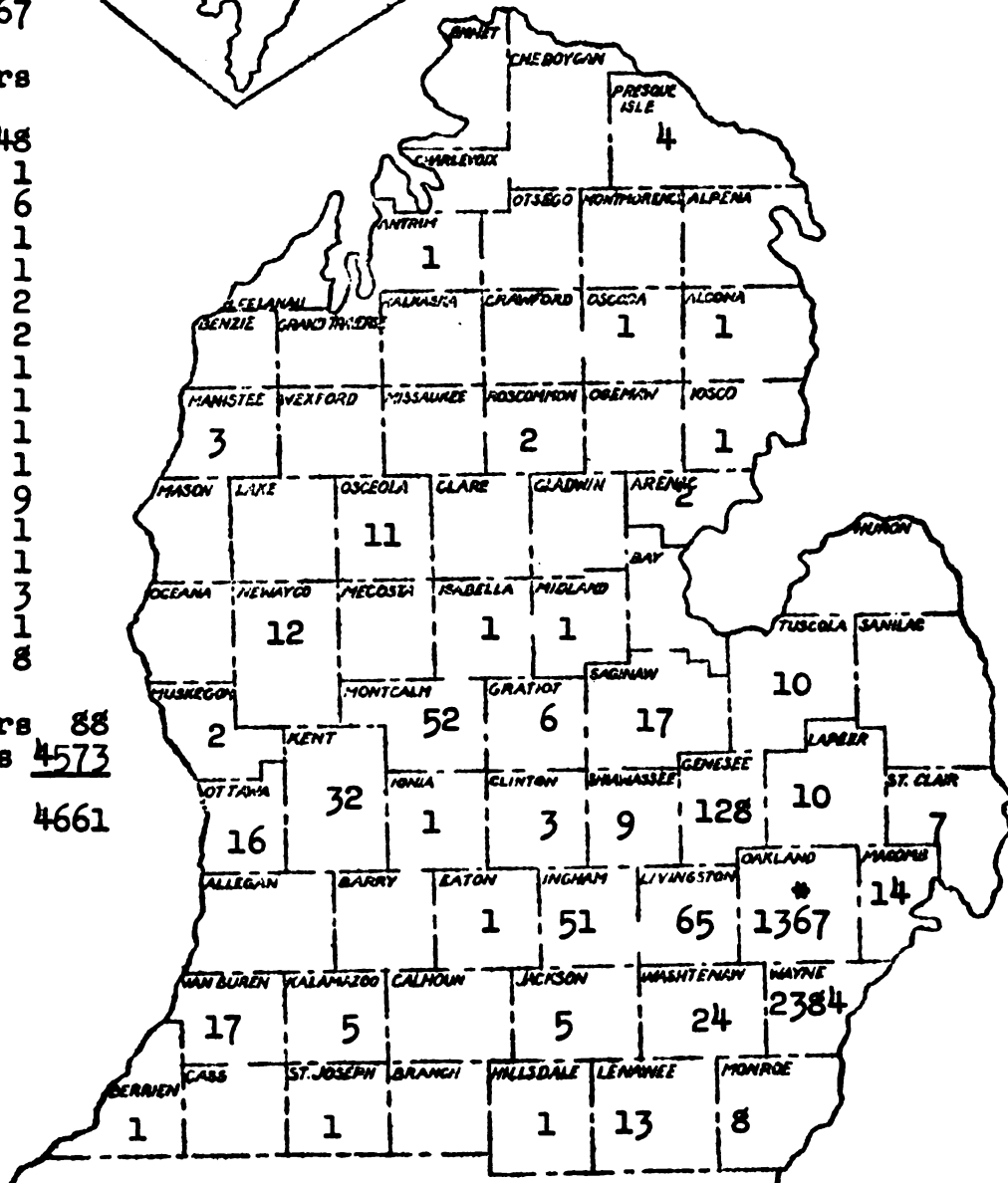
Michigan Cars
Not Listed 267

Out State Cars

Ohio	48
S. C.	1
Ind.	6
Tenn.	1
Wis.	1
Calif.	2
Iowa	2
Fla.	1
Minn.	1
Mass.	1
Okla.	1
Ill.	9
Ariz.	1
Canada	1
N. Y.	3
Ga.	1
Not Listed	8

Out State Cars 88
In State Cars 4573

Total Cars 4661



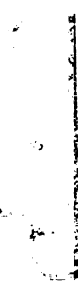
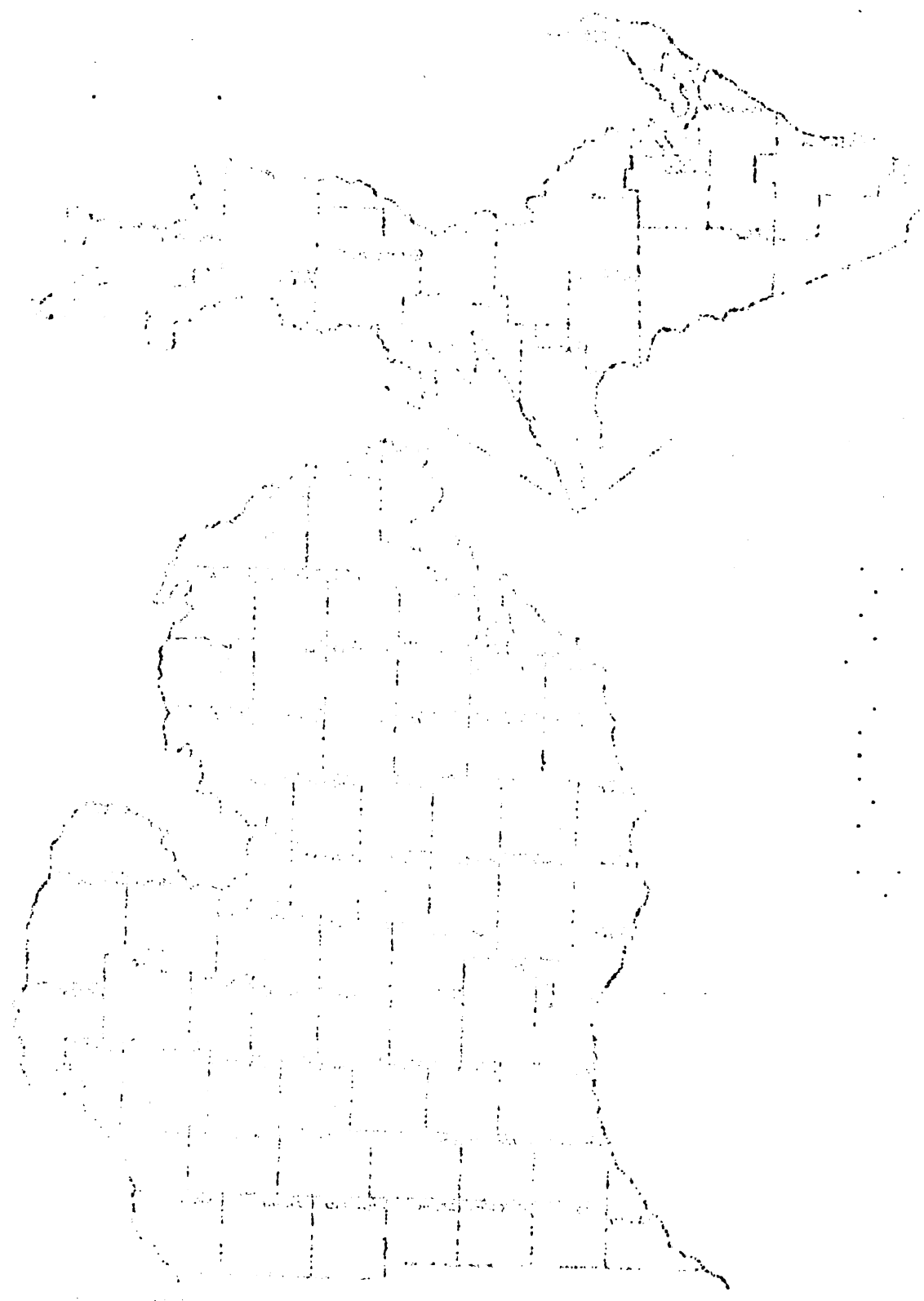


TABLE XV

PERCENT OF ATTENDANCE AND DISTANCE TRAVELLED
OAKLAND COUNTY STATE PARKS

	BLOOMER			DODGE BROTHERS					
	#1	#2	#3	#2	#4	#5	#10		
Percent of Attendance Within 25 Miles	55.1	84.7	34.9	50.0	71.8	22.7	30.5		
Population Within 25 Miles	992,000	2,011,000	424,500	908,000	1,198,000	373,000	377,000		
Percent of Attendance 25-50 Miles	38.2	7.3	34.3	41.0	22.6	47.4	56.5		
Population 25-50 Miles	1,600,000	546,000	1,602,000	707,000	1,458,000	2,210,000	2,434,000		
Percent of Attendance Over 50 Miles	4.9	6.7	8.6	5.9	3.9	27.6	11.2		
Population Over 50 Miles	2,250,000	2,285,000	2,816,000	2,227,000	2,168,000	2,259,000	2,031,325		

Financial Problems

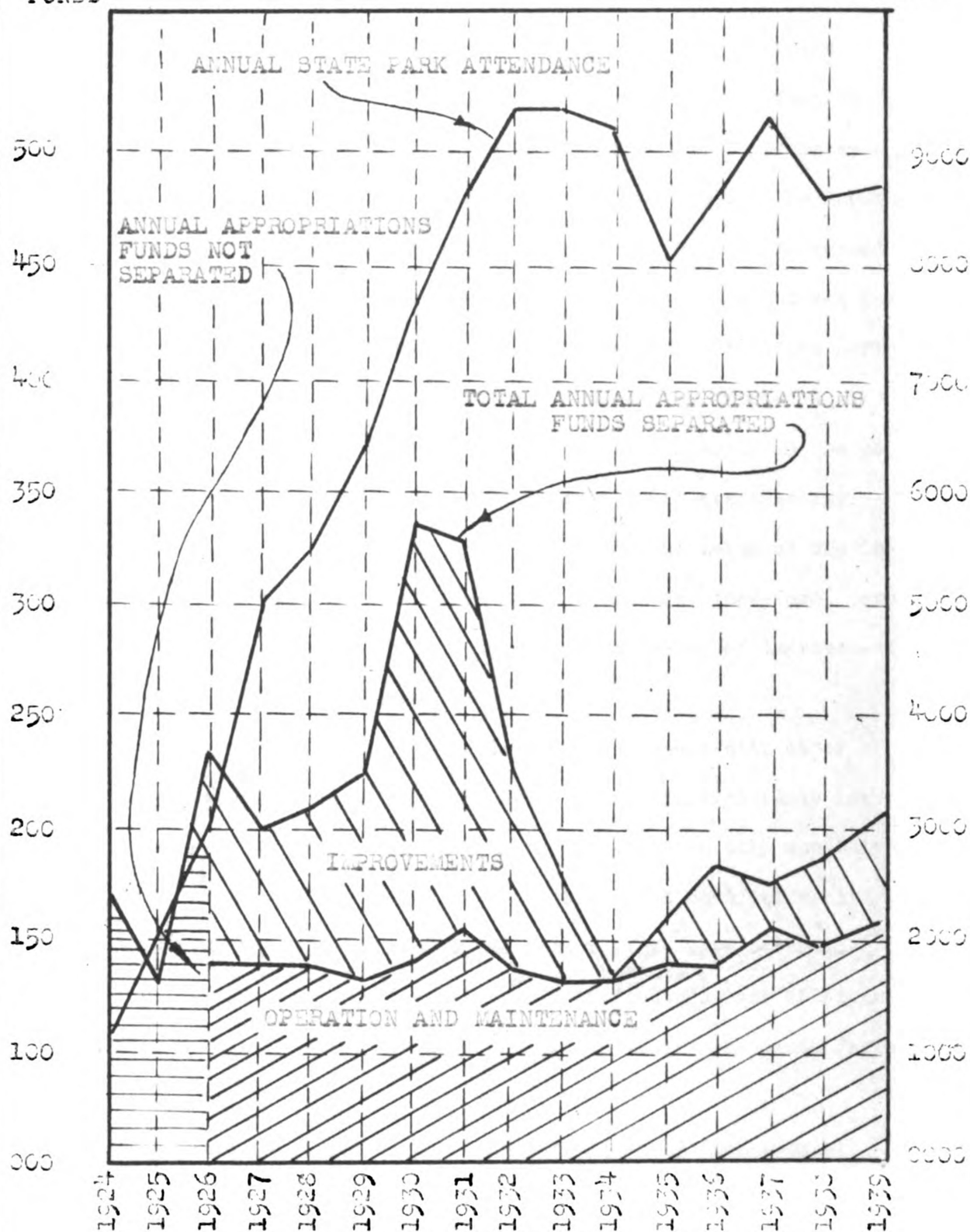
The possibility of the Michigan State Parks Division acquiring their share of the remaining desirable areas in Southeastern Michigan does not seem feasible at present. Lack of funds in this division in the past have prevented acquisition of sites vitally needed in this area, as well as the enlargement of existing sites. Rather, they have fallen short of the demand for facilities on present areas, and those provisions that have been made do not have substantial funds to maintain them properly.

To illustrate, the Michigan State Park Department has made a study of the comparison of factors affecting park costs. Since the study was made for all the state parks in Michigan if applied to parks in Oakland County it does not present a true picture, however, these areas exemplify the condition shown. With their permission, the results of this study are presented herein.

Figure 11 illustrates the relation of available funds and the costs of operation and maintenance to public use from 1924 to 1939. It will be noted that no separation has been made between funds for improvement and for operation and maintenance previous to 1926. Since then, there have been wide fluctuations in appropriations and improvements. During the period from 1926 to 1931 appropriations were more than one-fourth of those for the preceding years. The combined appropriations since 1931 averaged materially less than for the preceding six years. Appropriations for recent years have averaged considerably less than 1926 whereas park attendance over the same fourteen year

FIGURE 11

MICHIGAN STATE PARKS

\$
THOUSANDS
FUNDSRelation of Available Funds and Cost of
Operation and Maintenance to Public UseTHOUSANDS
VISITORS

Statistics from Michigan State Parks Division

Permission Granted

period has increased three items. The Figure shows the present system of financing has failed to provide appropriations in proportion to the increased use of state parks or expansion of park facilities.

Figure 12 gives the comparison of important factors affecting the cost of operation and maintenance from 1926 to 1938. It is evident that as facilities increase so do maintenance costs. The accumulated state expenditures for physical improvements by 1938 increased approximately twice that of 1926, whereas the annual expenditures for operation and maintenance increased only one-fourth during this period. If sufficient maintenance and operation funds were appropriated at the time the improvements were made the depreciation would not be so heavy at the present time. The result plainly indicates that far greater expenditures will be required to restore the value of the improvements. The funds for operation and maintenance, therefore, have seriously fallen off in proportion to the accumulation of improvements financed by the State and Federal Government.

As a comparison of Michigan State Park Department with other state park systems it is noted in Figure 13 that Michigan ranks low in cost per acre of intensively used park land. It is only one-third the average for five other state park systems. The cost per visitor amounts to less than one-fourth of four other state park systems.

It is evident that the present system of financing the Michigan State Park System is weak. To overcome this weakness the State Parks Division has recommended:

That acquisition of park lands be financed from general state funds, either by means of a long term bond issue or by a

FIGURE 12

MICHIGAN STATE PARKS

Comparison of Important Factors Affecting
Cost of Operation and Maintenance
1926 to 1936

\$3,007,217

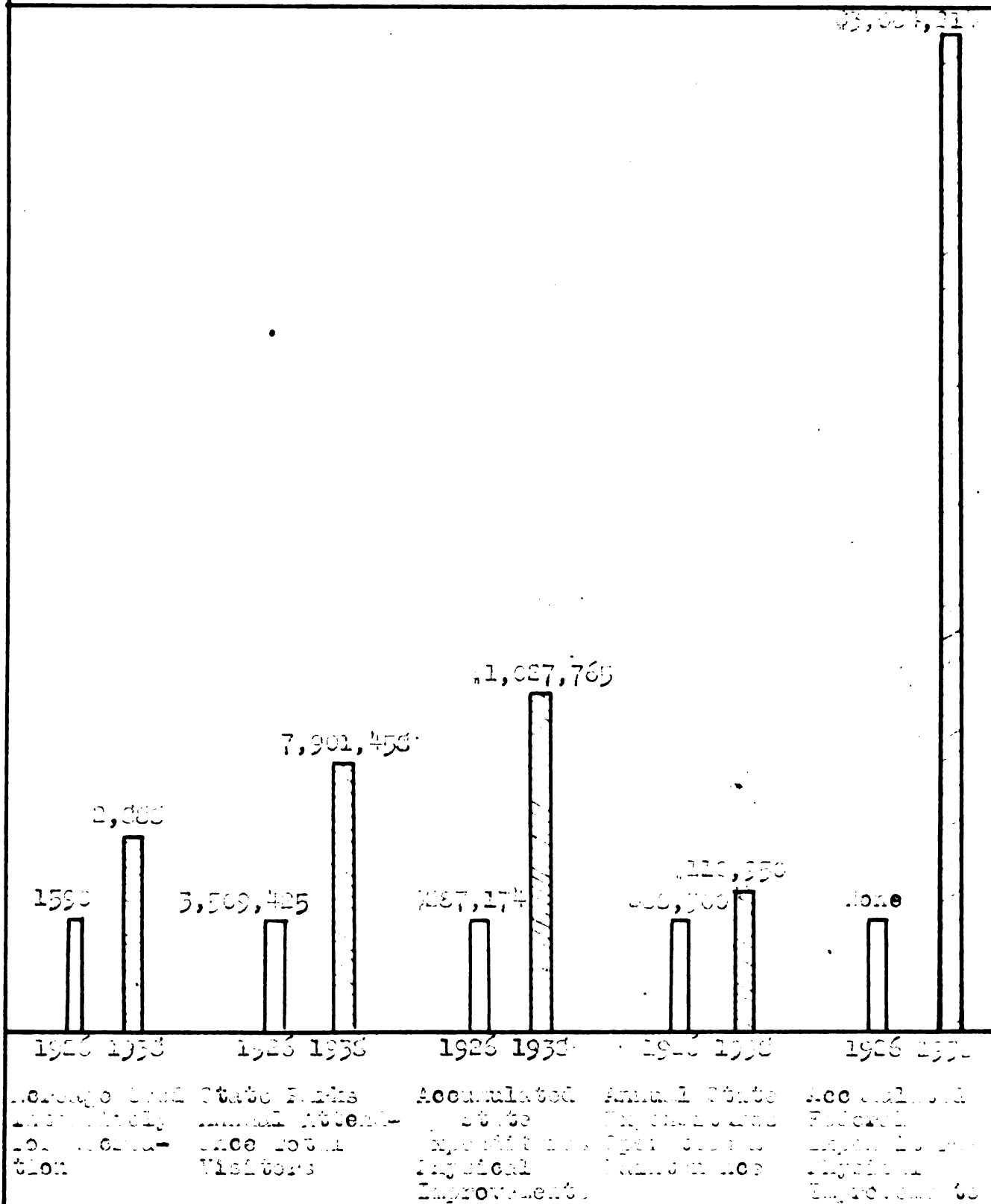
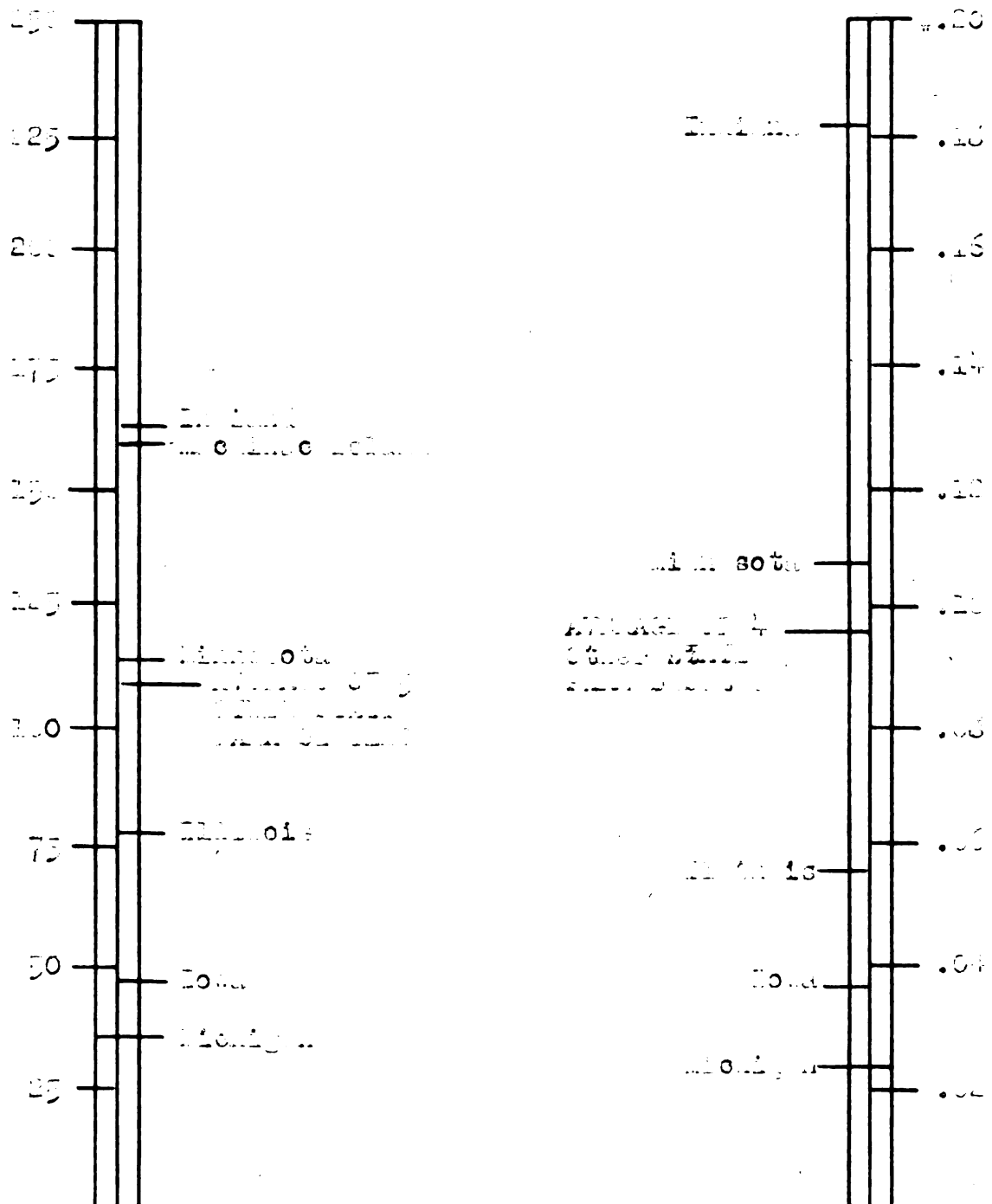


FIGURE 13
 1942-43 FISH FAIR
 IN COMPARISON TO OTHER STATE FISH FAIRS
 COSTS OF
 OPERATION AND MAINTENANCE COSTS



Annual Operation
and Maintenance
Cost per
Acre tentatively
used

Annual Operation
and Maintenance
Cost per
Visitor

series of uniform legislative appropriations, sufficient to procure the needed park lands over a period of ten years.

That park improvement for general use be financed from general state funds, either by means of a bond issue or by regular legislative appropriations, sufficient to provide a stable and continuing program of construction consistent with public needs.

That operation and maintenance, together with improvements required for special services to individual park users, be financed, insofar as feasible, by means of annual income resulting from rentals and leases of public service and privileges, combined with fees and charges for special services and privileges enjoyed by individual park users.

That any part of the cost of operation and maintenance, and of improvements required for special services, which cannot be financed during any period by means of income from rentals, leases, fees and charges, together with the cost of administration of the state park systems, be financed through regular appropriations by state legislation.

That the provisions in state park laws which requires income from rentals and privileges to be returned to the general fund be modified to require that such earnings be placed in a special state park fund to be used only for operation and maintenance¹ of state parks or improvements required for special services.

This recommendation would aid materially toward the solution of the problem. When it will be in effect is difficult to predict.

At present a recreational project, locally financed, is being proposed and it is dependent upon the voters within the metropolitan Detroit area for its approval. In the event it is voted upon affirmatively it will be a relieving factor to the Oakland County state park areas.

The Proposed Huron-Clinton Parkway

A movement is now under way to provide a system of parks, play-

¹Preliminary Draft of the Michigan Park, Parkway & Recreational-Area Study.

grounds, bathing beaches, over-night shelters and other facilities for recreationalists. This might prove an important factor in the relief of the Oakland County areas. The proposed plan for the Huron-Clinton Parkway encompasses the development of adequate recreational facilities and adequate means of reaching them for nearly 3,000,000 people living in the five counties of the Detroit Metropolitan Area--Wayne, Oakland, Macomb, Livingston, and Washtenaw. The vicinity of the proposed parkway extends in a thirty mile radius in a semi-circular fashion around Detroit through the valleys of the Huron and Clinton Rivers. Publicly owned recreational features of all kinds would be situated along the scenic parkway. The river valleys are particularly suited to recreational use as the survey made by State and Federal authorities disclosed. Along with the development of this project, through routes to the areas would be constructed. These express highways would be landscaped parkways themselves, devoid of traffic lights and intersections.

The proposal will be voted upon in the November elections in 1940. The Legislature¹ provides for the establishment of a Metropolitan Authority which would be responsible for planning and development of the area. The Metropolitan Authority can participate in a cooperative, united program which each county, separately, could not hope to undertake. For example, Oakland County is now bearing a large percentage of Wayne County recreational needs, in the form of state parks. It has been pointed out even state funds are inadequate to keep these areas properly

¹Public Acts of 1939, Act 147.

maintained in proportion to their use. If this is the case, the funds of one county would be even more insufficient to maintain public parks in this region, but by a merger of funds of the five counties in the area to be served, the costs would be reduced and distributed among those who are to receive the benefits. Livingston County contains lakes, hills, streams, and forests which are suited to recreational uses, yet it cannot afford to develop a park system for its own population as it is sparsely settled. Wayne County, on the other hand, must expand for its recreational facilities since its land values are not only high but are not suited for recreational purposes, yet it is densely populated. By collaboration, Livingston County potentialities can become realities and Wayne County will have facilities so urgently needed.

Under the proposed plan of financing the project the tax money proportioned to the parkway would amount to twenty-five cents on property valuation of \$1,000. The suggestion has been made also that the Metropolitan Authority is a planning commission which activity is not expensive and only one-fifth of the amount authorized by the Act would be required for the early stages of the development.

The Huron-Clinton Project will, in effect, have a fine recreational value, yet it can only supplement state park activity it cannot supplant it due to the difference in type of recreational area. It will afford recreational convenience to the motorists and pleasant accessibility to state park sites. Nevertheless, an elongated parkway program such as this does not offer the pleasure of a secluded natural area, it does not serve an identical need, therefore does not minimize the necessity for state parks.

CONCLUSIONS

The present acreage within the Bloomer and Dodge Brothers State Parks in Oakland County falls far short of the exceptions in the standards set up in the state park policy. It is conceded in these exceptions that a shortage up to fifty percent in special cases is permissible. If considered as general public recreation areas of state wide importance, minimum standard of which is 500 acres, they are on the average but one-fifth of the minimum standard in size. On the other hand if they are considered as specialized recreation areas, the minimum standard of which is 100 acres, in this case, intensive recreation, seven of the eleven sites fall below one-half of their standard allotment. These areas were all acquired by donations, hence their acreage is more limited and the sites are more numerous than considered desirable by the State Parks Division. If the Division itself had funds to purchase the land, fewer sites of larger extent would have been secured, nevertheless, the gifts were received with appreciation since acquisition funds were not adequate during these years.

Available sites in municipal, county, and state parks fall far below the minimum standard of one acre of land to one hundred persons of population. The state parks provide less than one-half the required acreage based on present population in Oakland County. They are further overburdened with the non-resident population of Wayne County, which contains no state parks and has a population of nearly two million

people. In these two counties 64 percent of Oakland County and 97 percent of Wayne County comprise urban population and approximately 45 percent of this urban population is composed of the manufacturing class.

There is a correlation between the increase in park attendance and the increase of leisure time. There has been approximately a two year lag in park attendances following economic fluctuations. The attendance coincides with the amount and type of facilities provided rather than the extent of acreage. It is not uncommon for any of the developed areas to accomodate as many as 3,000 persons per day several times a year. On the average, Sundays include 41 percent of the total weeks attendance. Approximately one-third of the visitors are under eighteen years of age. Picnicking, swimming, camp grounds, and playgrounds are preferred activities in the order stated. The proximity of park areas to population centers greatly influences the amount, type, and frequency of high attendances.

The present system of financing is not adequate to cope with the demands for maintenance and operation. Appropriations for recent years have averaged less than 1926, considered a normal year, whereas park attendance of the same period has increased three times. The cost per visitor amounts to less than one-fourth the average of other state parks. Facilities have been increased but the appropriations for maintenance and operation have not been accelerated proportionately.

The Proposed Huron-Clinton Parkway offers an absorption of a portion of the recreational participants in Oakland County. If incorporated with the present park system it should prove to be of supplementary value to the state park sites.

RECOMMENDATIONS

It is unfortunate that the small, scattered parks in Oakland County are required to carry an important portion of the active and passive out door recreation for the Detroit Metropolitan Area not served by the municipal sites. The southwestern portion of Michigan is relatively rich in natural features which are necessary for a good recreational planning scheme. Until some agency, either state, county, or metropolitan, undertakes to acquire such of the remaining desirable areas as would be feasible, and coordinate their use in a broad recreational plan, these areas will continue to be over-used and cause problems in maintaining their park-like character. It is evident that these parks are only a small contribution to the solution of the problem.

In the meantime, efforts must be made to prevent the destruction of the sites during their intensive use, through readjustment of facilities and proper maintenance.

Roberts Mann, Maintenance Superintendent for the Forest Preserve District of Cook County, Illinois recently stated at a Michigan Academy of Science meeting:

The fundamental problem is one of protection, not development.....protection against the impact of heedless hordes, protection against the recreation enthusiasm which considers that piece of level land wasted which is not teeming with citizens engaged in healthful and innocent sports, regardless of their appropriateness to site, protection against the technician who would exalt his handiwork and his technique above the land itself. The administration must maintain a balance between the tendency

on one hand toward wholesale recreational development and the tendency on the other to cloister his areas, regardless of public need.¹

It is believed by the author that this may be applied to the recreational areas in Oakland County. Protection should be the immediate aim, acquisition and development the ultimate aim. Readjustment of uses within the areas may offer methods to attain this objective.

In certain cases, parks are developed sufficiently for use, but readjustment of the use within those areas would decrease the cost of maintenance and offer protection at the same time. Steps in this direction have been taken in Bloomer No. 2 State Park which may be used for an example of procedure to be followed in other areas in this region. Previous to 1936 a road encircled the higher portion of the park which was hazardous to children and spread dust to the picnic areas. An improvement over this condition was the provision of a parking area near the entrance road and elimination of automobile use in the park. By laying out a definite area for cars and leading them directly to it from the entrance this problem is apparently solved. The park is so small additional roads are unnecessary. In efforts for protection of the steep bank which extends through the park and drops abruptly to the river flats below, a large erosion control project was started in 1934. Surface water is carried off in tiles down the bank, timber check dams have been constructed, gullies have been filled in, top soil replaced and natural vegetation

¹An extract from a paper read before the Landscape Section of The Michigan Academy of Science. March, 1940.

has been restored.

Recommendations in this vein may be suggested for Dodge Brothers No. 10 State Park permitting a more advantageous use of this restricted area. Elimination of the loop road which now encircles the area, additional parking space, if necessary, could be provided by enlarging the present parking area at the combination building. This adjustment is advisable to permit proper segregation for the existing group camp located in the eastern portion of the park. For administrative and control purposes all over night camping should be concentrated in the area north of the group camp. These areas are now scattered throughout the park site. In this manner zoning for the various uses in the park may be accomplished.

Dodge Brothers No. 2 State Park is an area of twenty-five acres and affords a multiplicity of uses including camping, picnicking, bathing, boating, playground equipment and areas for informal play. It has accomodated 3,600 visitors in one day. Yet, this site has no water system or sanitary facilities which are essential in a park of this nature. Due to the restricted size of the area, the author would endorse its revision into a day use area only. If it is not possible to eliminate over-night use, adjacent lands should be acquired to accomodate such facilities.

Dodge Brothers No. 5 State Park has good potentialities for development. The site has a total of one-hundred and ninety-three acres with only fifteen acres developed for intensive use at the present time. Therefore, due to the urgent need for more developed acreage in this vicinity, a development plan has been recommended and formulated.

It is deemed advisable to acquire additional land adjacent to the park site for the purpose of bathing and needed picnicking and open recreation areas.

MASTER PLAN REPORT

Introduction

The logical and proper development of a park area requires a Base Map and a Master Plan necessary to show the comprehensive treatment for the ultimate development of the area as a whole. Basically important is the distinction between mapping and planning so far as these terms affect the problem. A map is defined as a graphic record of existing conditions, whereas a plan is a graphic record of contemplated or future conditions.

The Base Map of Dodge Brothers No. 5 State Park was completed by the author in April 1940. It includes: (1) the boundaries as accurately as possible of the land actually owned by the park agency; (2) the boundaries of additional land proposed for acquisition; (3) contours shown at one-foot intervals; (4) water forms; (5) structures; (6) circulation showing existing roads and trails; (7) vegetative cover in mass outline; and (8) utilities. In the field work in preparation for the Base Map, the survey was made with a transit and stadia rod. The Base Map may be found in the folder attached to the back cover of this volume.

The Master Plan, enclosed with the Base Map, shows the relation between the existing conditions and the finished result and serves as a long range plan for all development in the area. It is the essential controlling document for all planning.

The following Master Plan Report serves as a supplement to the Plan and offers information not readily adaptable to graphic form. The report is in the form of an outline including the motives and reasons underlying the choice of the developed areas, conception of the specific purposes and of the methods used to attain its objectives.

General Description of Area

Location. Dodge Brothers No. 5 State Park is located in T.3N., R.8E., Commerce Township, Oakland County. It is thirty-seven miles northeast of Detroit and twelve miles west of Pontiac. The nearest village is Commerce which is one-half mile west of the park.

History.¹ In 1832 Reuben Wright filed a claim for eighty acres of land to the west of Pontiac, and it was the move of this individual which brought this country again to the attention of the white man. It was previously known that it contained natural water power, excellent timber and fertile soil but the activities of the Indians in the region had prevented its inhabitation and cultivation. The section immediately west of Wright's property is the land that is now Dodge Brothers No. 5 State Park. Due to the junction of the Huron River and Hayes Creek the natural water power encouraged enterprises such as the old combination gristmill and sawmill which stood at the north end of the west side of the park area. The power for its operation was obtained by a water way from Lower Straits Lake with its outlet

¹Information obtained from a preliminary draft of "Dodge Brothers No. 5 State Park," compiled by the Michigan WPA Writers' Project.

in Hayes Creek. This remains in the park today in the form of a ditch which now serves as an overflow from Lower Straits Lake. About two hundred yards west of the park there remains an old flour mill building which has been preserved by the Pelletier Estate since it was the last attempt made in the area near the park to put to use the natural water power for mill operation.

Gradually the section became settled, the village of Commerce located one-half mile west of the park, emerged from a settlement established in 1835. The mill industries prospered. However, the fertility of the soil encouraged the growing of fruit and farming became the main use of most of the land in that region. The City of Detroit grew rapidly and soon became congested enough to warrant many seeking the enjoyment of summer homes with lake frontage. The automobile made the section accessible and summer home buying in the area was promoted, thus the movement spread rapidly. The purchase of the park site in 1922 by the Dodge Brothers Corporation was timely, since the summer estate enterprises were moving steadily in its direction. The area was then donated to the state for the purpose of a state park.

Climate. The climate of Oakland County is characterized by warm summers, with occasional short periods during which the maximum temperatures may exceed one hundred degrees Fahrenheit. The winters are long, with the normal temperature below freezing throughout three months of that period. Minimum temperatures well below zero occur at intervals but continue only a few days at a time. According to the United States Weather Bureau the mean annual precipitation for the county is about thirty inches.¹ Over one-half of this falls during

¹U. S. Weather Bureau.

the spring and summer months and nearly thirty percent of it during the summer. The average length of the frost free season is about one hundred and twenty-five days, the last killing frost occurring usually about the middle of May.

Geology. The surface geological deposits of the Pontiac Area are thick and were formed during the glacial period. The underlying rock is from one hundred to two hundred feet deep. The glacial drift is composed of a great variety of both igneous and sedimentary rocks. Part of the glacial material is ice-laid, having been deposited at the front of and under great ice sheets as terminal and ground moraines. The remaining material is water-laid and was deposited in glacial lakes as outwash material from the ice front. The glacial till, lake deposits and the alluvial deposits along the streams constitute the parent material of the soils.¹

Soil. Each of the main soil groups of the county comprises a series of soils, classified according to thickness of layers, color, structure, and chemical nature of the topsoil and subsoil. The soil type in the higher portions of the park is Plainfield Sandy Loam.² This soil is grayish-brown, eight or ten inches deep, underlain by yellow sand or loose loamy sand. The substratum below a depth of two feet is composed of yellowish-gray and gray loose and stratified sand and gravel. The forest growth, usually in small wood lots, consists mainly of oak. The chief problems are conservation of moisture and

¹ Leverett, Frank. "Surface Geology and Agricultural Conditions of Michigan." Mich. Geol. & Biol. Surv. Pub. No. 25. Geol. Series 21, 1917.

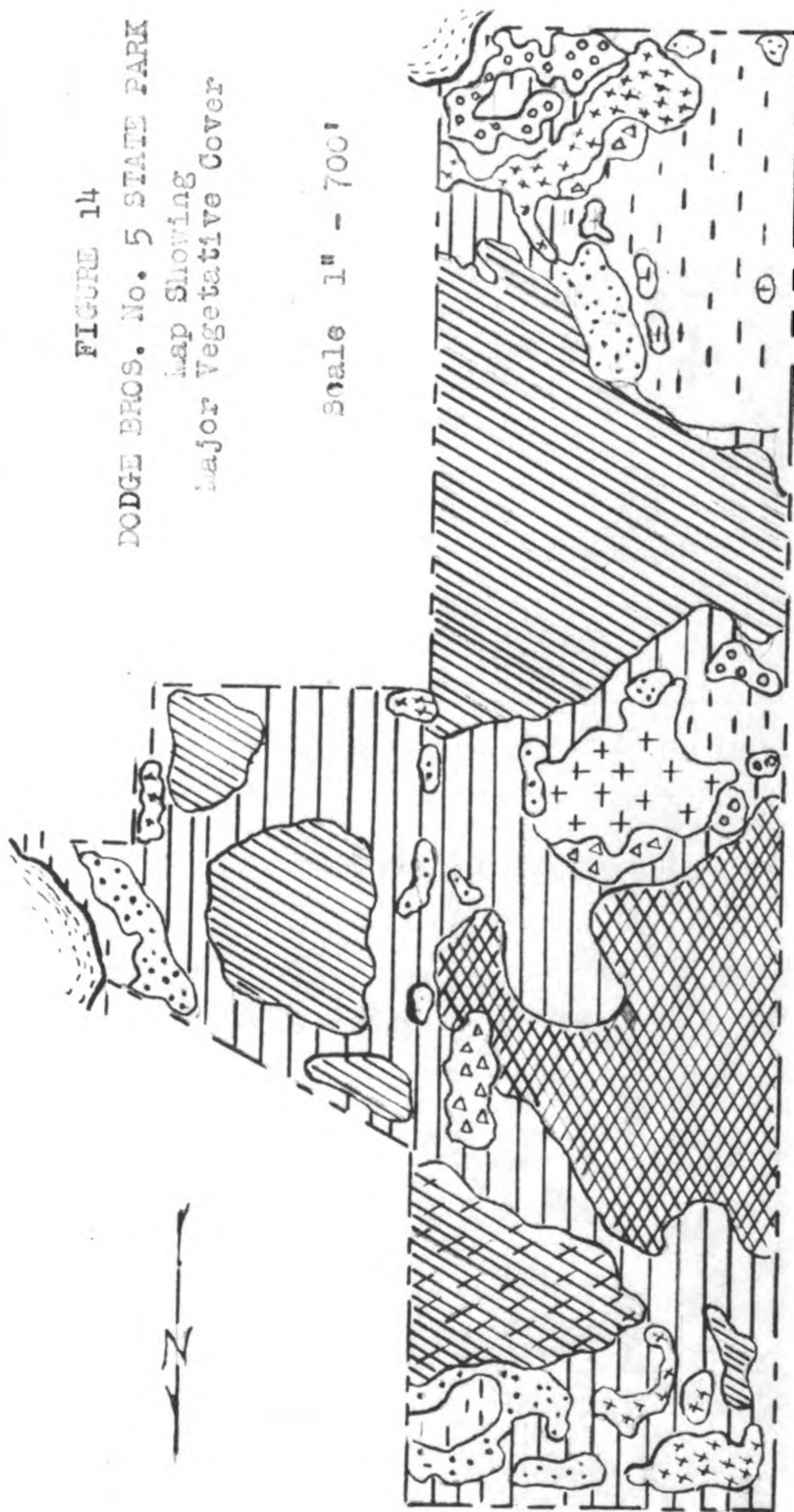
² Wildermuth, R. Soil Survey. Macomb County, Michigan, 1917.






the maintenance of soil fertility. The marshland in the central and southern sectors of the park include the permanently wet lands.






Vegetative Cover. Previous to acquisition, the area was used for agricultural purposes. With the exception of a few scattered trees near the boundaries, the site had been completely cut-over. In 1926, four years after the land became state park property, the site was reforested by the Michigan State Parks Division. Fortunately, this organization had the vision to provide cover on this barren area that might be used for future camping and picnic sites. Approximately thirty thousand seedlings were planted of which eighty percent were norway pine and the balance, jack and white pine. The stock was planted at random, the spacing varying from six to twenty feet. The created forest has produced an effect not found elsewhere within the vicinity of the park. The location of this cover may be noted on the accompanying vegetative map. Prior to park acquisition, black locust was planted for erosion control, a few of which are now found scattered among the pines. White oak grows sparsely along the north boundary. Red oak, bur oak, American elm, Red maple, black willow, and black ash may be found along and near the frontage of Lower Straits and Reed Lakes. There is a small stand of aspen in the north central portion. Tamarack grows in the low muck land in the central sector. Among the shrubs near or in the lowlands are: red osier dogwood, Gray dogwood, American elder, alder, coralberry, leather leaf, and Michigan Holly. The vegetation in the marshland consists largely of cat-tails, sedges, wild asters, and goldenrods. The open areas are occupied, for the most part, by wild grasses.

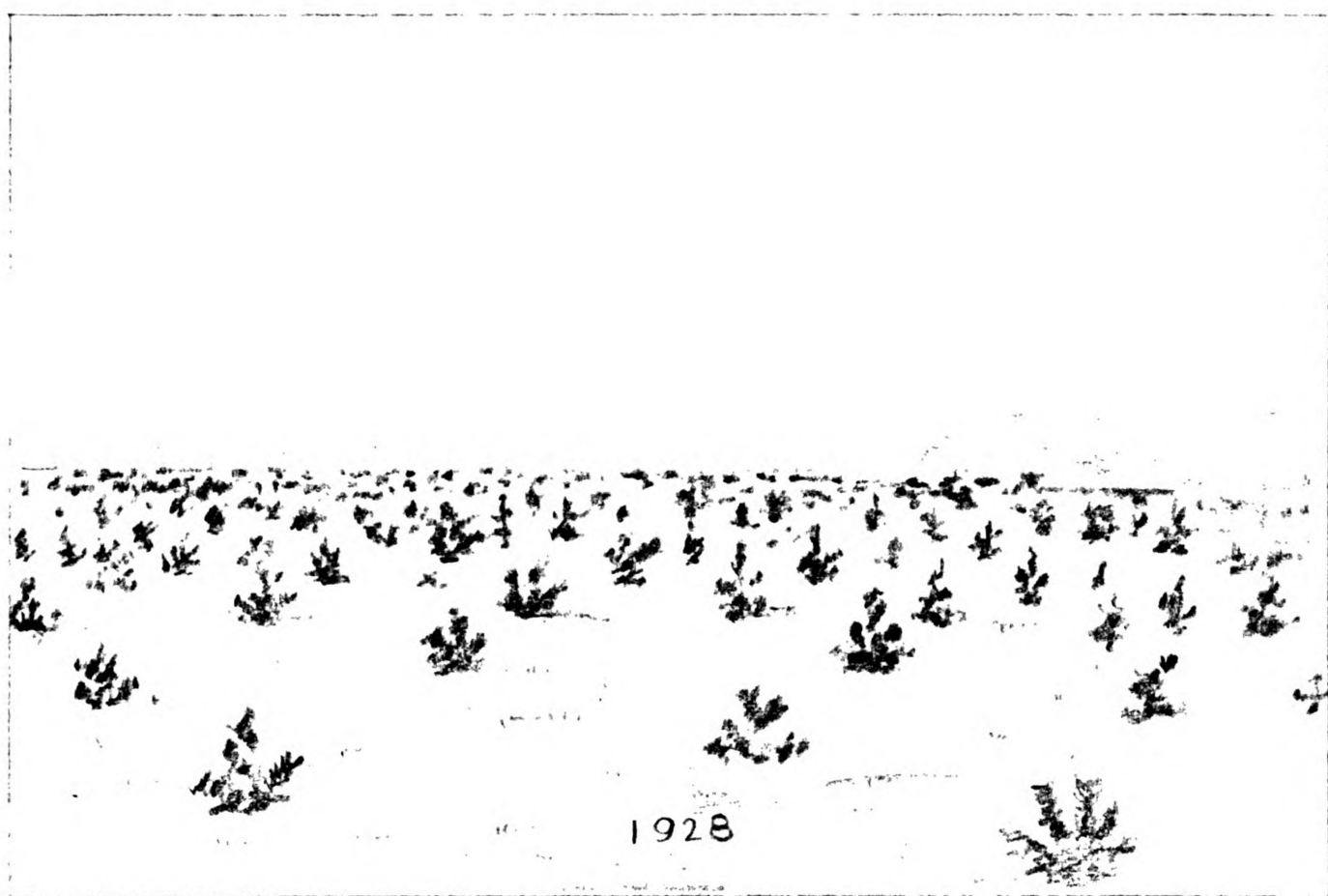
FIGURE 14
DODGE BROS. No. 5 STATE PARK
Map Showing
Major Vegetative Cover

Scale 1" = 700'



 Red Pine
 Red Pine & Jack Pine
 Red Pine & Black Locust
 Marsh
 Oak

 Oak, Elm & Maple
 Elm & Maple
 Aspen
 Low Spruce & Wild Grass
 Marsh



1928

REFORESTATION



1940

SAGUNN

Water Areas. Lower Straits Lake is located in Sections 11, 12, 13, and 14, T. 2N., R. 8E. It is approximately two-hundred and fifty acres in size, draining into the Huron River. At present a shoreline of three hundred feet comprises the northeast boundary of the park. There is extensive resort development circumscribing the gravel shoreline. The water is approved for bathing but not for drinking as shown by the results of a sanitary survey and tested samples. In the southern section several beaches have been developed providing good swimming facilities. There is a boat livery on the lake. The seasonal fluctuations of the water level varies from one to two feet. The lake contains, in relation to numbers present, bluegills, rock bass, sunfish, perch, large and small mouth bass, pike, bullheads, and gar pike.¹

Reed Lake is located in Section 14 T. 2N., R. 8E. This twenty-acre lake also drains into the Huron River. The lake has three hundred feet of shoreline on the south central boundary of the park. There is no resort development bordering the water, swimming is not good because of the shallow water and muck beaches. The seasonal water level fluctuations are from one to two feet. The fish, in order of their numbers, are bluegills, large and small mouth bass, sunfish, perch, and bullheads.

The Huron River flows through the northwest sector of this park. The stream enters the park on the north boundary and leaves on the west. The CCC, under the supervision of the National Park Service, have

¹Division of Fisheries, Michigan Conservation Department.

completed 1.1 acres of beach improvement on this river. This is used as a wading pool, and the bank as a bathing beach for children. The water is from one to three feet deep in the developed portion and from fifteen to twenty-five feet in width.

Park Boundaries. The park is bounded on the north by Commerce Road. Opposite this side of the park site is partially wooded privately owned land. From the northeast corner the property continues southward for 1208 feet where it jogs southeasterly for another 1113 feet. East and north of this boundary is a cemetery. The middle portion of the east line is limited by Lower Straits Lake on which the park has three hundred feet of frontage. Continuing southward the boundary is irregular, making several jogs for another 700 feet. At this point the property runs westward for 1000 feet and south again for 2115 feet. This east boundary is adjacent to a privately owned semi-wooded field. At the extreme southeast corner of the area there is three hundred feet of frontage on Reed Lake. West from this point the park continues for 1115 feet where it turns north for 5200 feet and is bounded by South Commerce Road. The adjacent private property to the south and west of these boundaries is semi-wooded lowland.

Topography. Dodge Brothers No. 5 State Park has a generally flat topography. Only in the extreme northwest portion of the site is the difference in the elevation over twenty feet. This is in the form of a bluff which abruptly rises from the bank of the Huron River to the day use area where it levels off. The bank has a northern exposure. With the exception of a swamp approximately one acre in size, in the northeast section, the northern sector of the park is reasonably level.

The portion of the ground fronting Lower Straits Lake is swampy. The western region of the middle section of the area contains approximately eleven acres of lowland. Twenty-five and one-half acres in the southwest is swamp and marshland. The remainder of the park is for the most part level, with only minor breaks in topography.

Existing Facilities

Land. The total land within the present boundary of the park site is one-hundred and ninety-three acres of which only fifteen acres are open for public use. The purchase price in 1922 by the Dodge Brothers Corporation was \$67,550 averaging three hundred and fifty dollars per acre.

Park Roads. At present the main entrance road is from Commerce Road on the north. It winds southward, as a one way drive, past the present picnic, camping, and playground areas forming a complete loop. The drive enters the pine plantation on the north at the "Y" intersection, crosses the drainage ditch via bridge thence continues to wind through the conifers as a two way road for approximately nine hundred yards. From this point it again divides into a one way loop road circling the pines in the south central section for a quarter of a mile. The roads are surfaced with gravel, four to six inches deep. The one and two way roads are ten and twenty feet wide respectively. Of the total three-quarters mile of roadway, only the first loop road is open to the public.

Parking Area. The only available parking area for public use is

in the northwest sector. This accomodates one hundred and five automobiles and services the present picnic and playgrounds. It is gravel surfaced, four to six inches deep. A partial fill has been made in the south central portion on the border of the swamp, planned for future parking. This fill is large enough to provide parking space for one hundred cars. The guard rails outlining the existing parking section are of standard type used in new park developments and are constructed with a cedar rail six to eight inches in diameter mounted on a concrete base and held in place with a steel anchor bolt.

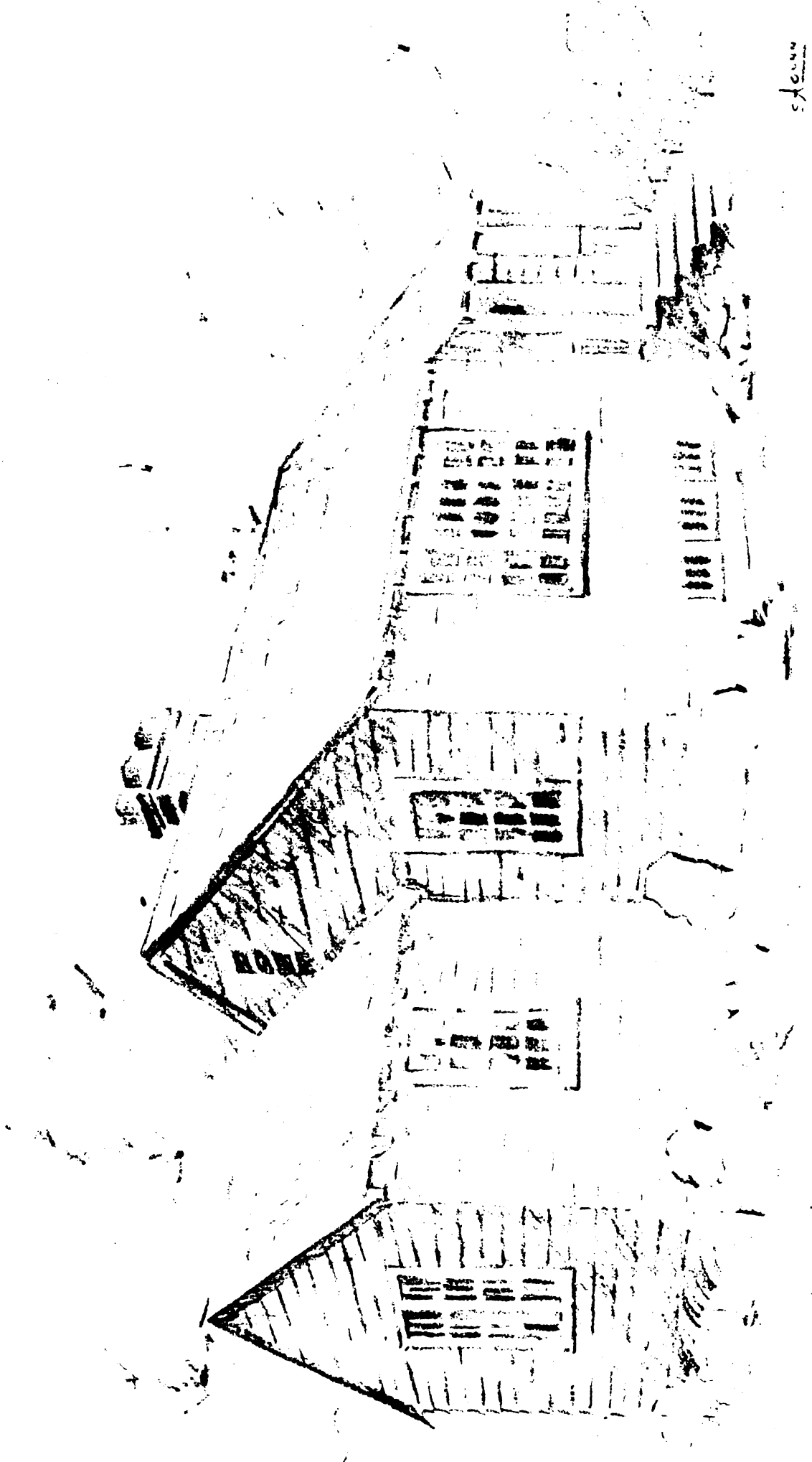
Structures. The caretaker's residence is situated near the entrance road in the northeast portion of the park. This is a one-story frame building twenty-four by thirty-eight feet, on concrete block foundation. It has three rooms and bath, equipped with a furnace in the basement. The roof is wood shingle stained brown.

The concession stand, located near the picnic grounds, now occupies the former caretaker's residence. It is of frame construction (loose block foundation) sixteen by thirty feet in size containing one room.

A rustic boat dock mounted on log piers is located on Reed Lake. It extends forty feet from the shore and contains two log benches on the platform.

The latrines are frame box-types eight and one-half by eight and one-half feet in size. There is one for each sex located in the north, east, south, and central sections of the park.

Recreational Facilities. There is a total of thirty-two camp stoves in the park which are of two types: twelve are concrete sta-



shown

CARETAKER'S RESIDENCE —
DODGE BROTHERS No 5

tionary structures and the remaining twenty are cast iron.

The tables are composed of three types: eight are transportable; eight are transportable and supported on saw horses; and thirty-five are stationary with no seats.

There are three wells with pumps located in the picnic and camping grounds.

Playground equipment includes two teeters with four boards, two slides, one twelve foot and one sixteen foot, one set of swings with six seats, one whirling climb, and three sets of horseshoes.

Sanitary Facilities. The caretaker's residence is equipped with a natural sub-surface tile field sewage disposal system. The septic tank and dosing chamber are combined in one unit which is located thirty-five feet northeast of the house. Two lines of six inch vitrified tile drain are placed one foot below the ground level at .25 percent slope. The joints are one quarter inch opened at the bottom and covered with tarred felt. The tile field is twenty-eight feet long embedded in porous soil. The end of each line is connected with vitrified tile equipped with an air vent.

A well with six inch casing, seventy-two feet in depth supplies the caretaker's residence.

Fifty-one wire baskets and six garbage cans are placed throughout the picnic and camping areas.

Developed Areas

General. The Master Plan for Dodge Brothers No. 5 State Park is zoned into three distinct divisions, namely, day use area, over-night

use area and the natural area. The day use area lies between Lower Straits Lake on the northeast, the park boundary on the North, Northwestern Highway on the south, the pine plantation on the west, and Newton Road on the east. The camping area is enclosed on the north by Commerce Road, on the west by South Commerce Road both of which limit the park grounds. The park boundary on the east and the tamarack swamp on the south complete the enclosure. The natural area is bounded by the tamarack swamp on the north, the break in the pines on the east and Northwestern Highway on the southwest.

Each major division is separated into smaller areas for specific use. The day use section is planned to include, beach and bathing facilities, parking, open recreation areas, park custodian's quarters and sanitary provisions. The camping area is planned to have individual camp sites equipped with a water system, toilet and laundry facilities, and recreational areas. The nature area is to be left in a natural state, traversed only by foot trails. It is planned to encourage the increase of all types of native flora and fauna.

Details of these proposed day use and camping areas will be discussed later.

Approach Roads. The main artery of approach to the area as proposed in the Master Plan is Northwestern Highway, known locally as James Couzens Highway. This is a four lane divided concrete road. At the present time the highway extends as far as the Orchard Lake Road which is approximately seven miles from Dodge Brothers No. 5 State Park. The Plan is based on the future possibilities of the original highway project being accomplished. Plans and surveys for this highway

were first made in 1926 with the intention of constructing a roadway running northwesterly from Detroit diagonally across the state. The plan coincided with the need of a direct route to the northwestern section of the state where popular summer resort facilities attract millions each year. Construction began in 1928 on a one year contract basis. During the following year twenty miles of pavement were laid. Due to the hazardous financial period which followed no additional work was done and the project has been dormant ever since. In the original survey the proposed alignment runs directly through Dodge Brothers No. 5 State Park. The highway engineers were confronted with the problem in planning the road because of the numerous lakes in this region, but did not seriously consider the objections which might be raised by bisecting the park with the highway. Park authorities have expressed their disapproval of cutting up the park and, if opposition is sufficient, perhaps the alignment can be changed. However, since this region contains upwards of fifty large lakes and extensive lowlands the alignment cannot be greatly changed. The highway will pass near the village of Commerce which is in direct alignment with the end of the present pavement (Fig. 15). If allowed to bisect the park the highway will become objectionable for esthetic and safety reasons.

In reviewing the problem for development in the Master Plan optional alignments were studied. In order to divert the highway from park property it might seem feasible that the highway pass through the portage between Middle and Lower Straits Lakes, continuing in a westerly direction to Commerce. Yet, much of the land in this region is low

and marshy which would necessitate extensive filling and the addition of several bridges to cross existing streams. The possibility of swinging the road to the south of the park site is inadvisable since there are many small lakes in this section, not shown on the map, which would cause considerable difficulty.

Careful study of aerial photographs of the park and vicinity suggests two alternatives other than the original alignment with the park property. The first of these would be to follow the shoreline of Lower Straits Lake thence proceed northwesterly from the park boundary. This is not acceptable to the author since Lower Straits Lake has the best potential beach development of the two lakes on which the park has frontage. The second alternative, which is proposed in the Master Plan, suggests that the road be constructed so as to enter the park north of Reed Lake and leave the site approximately five hundred yards from the south boundary. Although this would necessitate more fill than was originally planned, it may be justified by several factors. Reed Lake has little possibilities of future development for water recreation. The area in the southwest corner of the park has low recreational priority due to its marshy character. Without disturbance, however, it could serve well as a natural game cover. The alignment would not necessitate park visitors crossing the roadway in any place within the park and would afford a unified park plan.

With this proposal and acquisition of additional property, which will be discussed later, Newton County Road would be utilized as a park entrance drive. At present this county road services, for the most part, private developments situated along Lower Straits Lake.

This existing road may be used to advantage if incorporated in the Plan. Due to the fact that Newton Road would intersect Northwestern Highway at the southeast boundary of the park it would not be necessary to build an additional entrance road. Traffic would be carried along the east boundary of the park for approximately five hundred yards where it would enter the park proper. At present this road lies adjacent to Lower Straits Lake. If the property were acquired, as proposed, it would be feasible to divert Newton Road about seven hundred feet from the present shoreline. This has been deemed possible by the Oakland County Road Commission. It would be necessary to revert back to the present alignment at the point where the existing road leaves the northeast boundary of the park since the adjacent land is privately developed.

In the event the Northwestern Highway project never materialized, Newton Road would still serve as a main entrance. Park traffic would enter from the north in this case instead of the south. As the park now exists, Commerce Road is the main artery from which the parks entrance leads. Newton Road intersects Commerce Road approximately four hundred yards north of the present park entrance which would be eliminated under the proposed plan.

Park Roads. The park road system shown on the Master Plan has been evolved after careful consideration of many factors, one of which bears directly on the location of the approach road. The park road system as planned need not be changed if Northwestern Highway is not further developed. A second factor involved is the unit control necessary in a good system of park roads. The National Park Service

states:

Any road system that proposes individual or separate entrances from public highways to single or small groups of picnic or camping areas is considered lacking in desirable unit control and is not approved.¹

With this statement in mind, the present entrance road would be eliminated. The Newton Road entrance, previously mentioned, as proposed in the Plan would serve as the only means of entrance. Road intersections have been kept to a minimum, the "Y" intersection at the point on Newton Road where park roads lead to the day use and camping area is the only major intersection in the park. In this case an island is planned to divert traffic into their respective lanes. Minor intersections occur only at the parking area entrances. The elimination of the loop road in the south central portion of the site would prohibit automobile use in this natural area. It is desirable to avoid loop roads for pleasure driving in small park sites. The existing loop road in the northern sector is incorporated in the Plan with the camping road system. All roads in the park, with the exception of the one way drives in the camping area, would accommodate two way traffic. All roads should be surfaced with gravel four to six inches in depth. The one and two way roads would be ten and twenty feet wide, respectively. The ditch slope should be three to one minimum where space permits.

Trails. The more scenic areas within the park are indicated on the Master Plan as Natural Areas and are traversed solely by foot trails since automobile use is not advisable in sites of such limited

¹Memorandum to Field Officers, National Park Service. No. W-5-1 Dec. 1937.

acreage. The foot trails afford access to the tamarack swamp and pine plantations. These sections should be sources of interest to the nature student. For control purposes the number of points of access to trails in the natural area have been limited to four. Two of these entries are located near the parking area in the central section, the others are located at each end of the pine plantations, thus traversing in a loop formation. It is not possible to gain access to the park on foot at any point except the main entrance road since the park property is entirely bounded by a fence.

The trails should be constructed for safety but retain a natural appearance. Only the snags, stumps, and other obstacles directly within the trail should be removed for purposes of safety and the trails clearing wide enough to indicate clearly the direction in which visitors are to be led. Trails should be surfaced with forest litter, rotted wood, and leaves to hold the soil and promote a natural effect. The low swells in the tamarack swamp necessitate filling to raise the trail above the marshland. The fire lines may be used as trails if treated to create a naturalistic effect.

Day Use Area

The day use area will be situated in the easter portion of the park covering approximately one hundred and twenty acres with 1200 feet of shoreline on Lower Straits Lake. Land proposed for acquisition comprises eighty-six acres of the area. Several factors point to the desirability of acquiring this property. It is adjacent to the

present park boundary and is relatively high, possessing good drainage. This section contains both tree growth and open areas which are necessary to day use development. At present there are eleven privately owned cottages which occupy the portion of the shoreline on which the proposed park beach would be developed.

The plan for acquisition includes all land between the east boundary of the present park site and Newton Road, and that which lies north of the proposed Northwestern Highway. In addition, the 900 feet of lake frontage east of Newton Road and south of and adjacent to the present park shoreline should also be acquired. In the event that Northwestern Highway is not further developed, the park property would be extended on the southern boundary from Reed Lake to Newton Road.

Within the present property of the park there is limited land suitable to day use development since the swamps and pine plantations are not readily adaptable for this purpose. It has been shown in the attendance records that there is a need for more picnic and general day use facilities in the state parks of Oakland County. Therefore, the advisability of acquisition of this land is recommended.

Although at present no saturation point has been set for these park areas, it is assumed on the basis of other park attendances in this region, which vary from ten to three hundred persons per acre during peak days, that twenty persons per acre would be a tentatively satisfactory standard. It is possible this standard is lower than necessary but to assure protection of the site it is advisable to proceed cautiously. It is not uncommon for the other parks mentioned to

accomodate as many as 3,000 persons per day, and all of these areas contain less than one hundred acres. Records show that Dodge Brothers No. 5 State Park has had as high an attendance as 1,300 persons in one day accomodated by only the present fifteen acres of developed land. It is evident then, that there is a definite need for this development and it is believed that the provisions in the Master Plan for 2,500 persons to occupy the one hundred and twenty acres of the day use area would be in scale with the size and topography of the park. For the accomodation of the park visitors the following facilities have been provided.

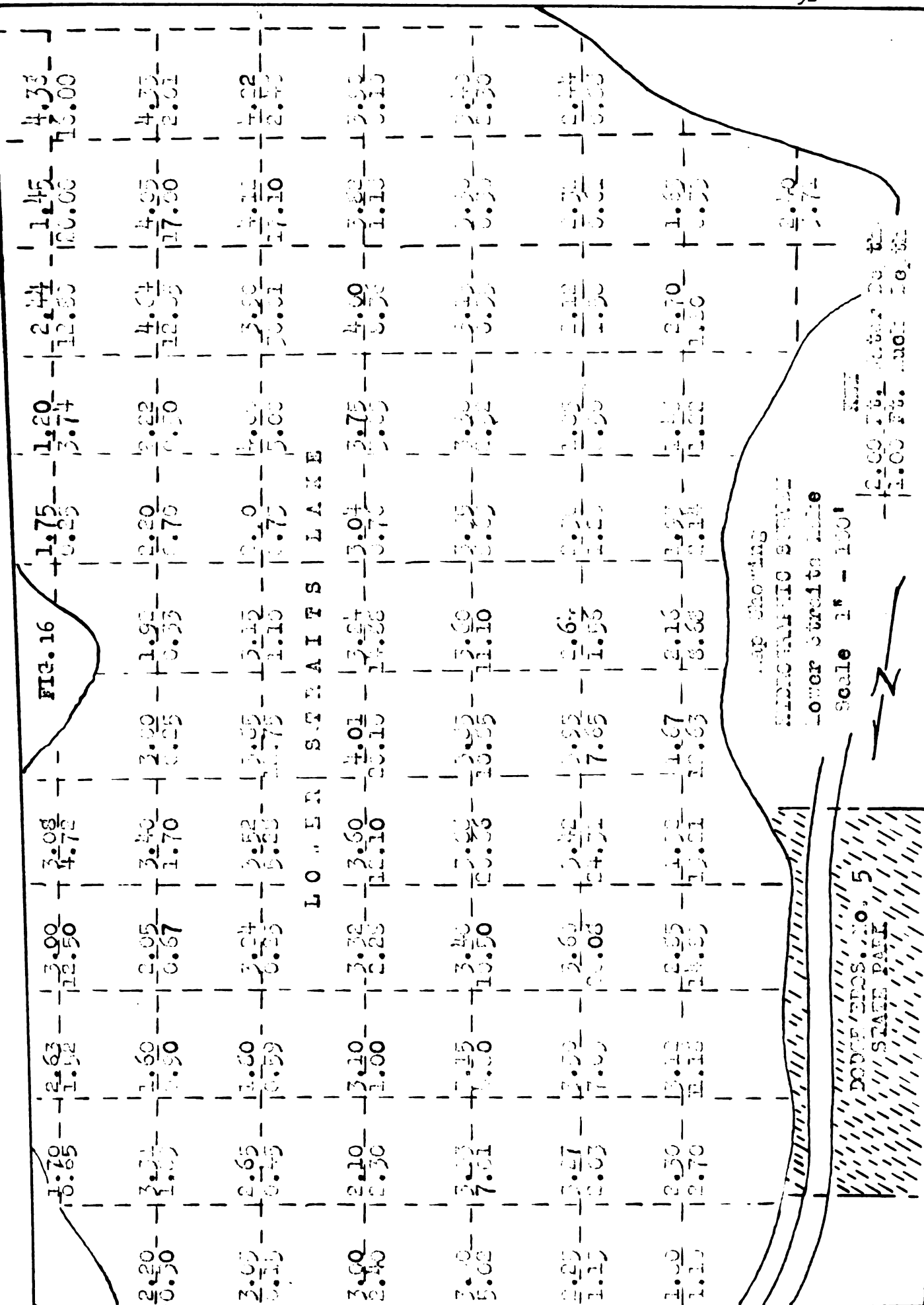
Picnic Areas. There are three areas devoted to picnicking; the location of these may be noted on the Master Plan. Their arrangement is convenient to other areas for general use and large enough to avoid congestion. The sites chosen are partially wooded, oaks being the dominant species. Additional plantings would be necessary to provide screening and plant materials indigenous to the site should be used for this purpose. These areas as proposed are devoid of roads and are planned at distances from them to assure maximum safety. The facilities should include such standard equipment as camp stoves, tables, benches, toilets, refuge containers, and directional signs.

Open Recreational Areas. The two designated play areas are located in the central and southwestern sections of the day use area. They are relatively level and their proximity to the three picnic grounds affords easy access from each one. These playgrounds are planned to be left in a natural state without elaborate equipment to promote leadership, initiative, and a creative spirit among the groups who will use them.

It is found that facilities such as tennis courts are difficult to maintain. For the benefit of children such equipment as slides, teeters, swings, and merry-go-rounds might be provided since there is little maintenance required for them and they justify their initial cost.

Beach. Water activities are rated as second in importance by the Michigan State Park Department in day use areas.¹ The highest attendances in the other parks in this region are correlated with water facilities and visitors have expressed a desire for water recreation in this park. Yet, this has constituted one of the major problems of the area due to the nature of Lower Straits Lake and the locale on that lake in which the park would have frontage. According to the hydrographic survey of this lake conducted by the National Park Service in 1938, the soundings indicate the water at its deepest point is only 4.6 feet. The muck in the lake, however, is found to be as deep as 20 feet. It would be an expensive undertaking to provide a beach under these circumstances, yet it would justify itself by the numbers it would accomodate. Similar conditions were found at Yankee Springs Recreational Demonstration Project but the feat was accomplished. This successful experiment in reclaiming shallow lakes for bathing purposes indicates the possibility for reclamation of other lakes of this condition. The cost of such dredging and cribbing to provide those facilities is minor in comparison to the value of these reclaimed areas for swimming.

¹ Preliminary draft of Michigan Park, Parkway & Recreational-Area Study.



Statistics for: California State Police Division

It was found from this experiment that the best method of removing the muck is with a sand sucker. In order to prevent the horizontal movement of muck beyond the dredged area, a cribbing of Wakefield Sheeting has proven most satisfactory. The material removed from the bottom of the lake may be used for fill along the northern shoreline which at present is swampy. It has been found that a base back-fill of coarse sand and gravel will compress muck as much as one-third of its depth. It would be necessary to cover the base-fill with a fine sand to provide a good bottom and beach along the shoreline. The beach should be sloped gradually to a swimming depth of ten feet or more.

Lifeguard equipment should comprise a tower, life-boats, and life-lines. For purposes of control the swimming area should be well marked, roped off with wooden floats or buoys.

Parking Areas. Three parking areas have been provided to service primarily, the three picnic areas and the open recreation areas. The largest, which accomodates 320 cars, is located near the beach where the heaviest concentrated use may be expected. The design provides a central entrance to the four sections; a circular turn-around regulates traffic in a one-way direction. The sections of the parking lot are separated by a planting strip and the parking spaces are designed to accomodate right angle parking. Exit lanes to the county road are provided at each end. To facilitate control when attendance is low, one or more sections of the parking lot may be blocked. A second parking area which has space for 270 cars serves the picnic area in the east and the open recreation grounds. The third, the

smallest of the lots may accomodate 125 automobiles. A turn-around has been provided here also, since the general public is not admitted beyond this point as the extension of this road is reserved for camp use only. A barrier or sign should be constructed at this location to inform the public of the use of this road. The lot is near the natural area and it is from this point that the foot trails originate. The general design of all parking areas is similar including the planting strip in the center and the right angle parking.

Structures. The bath-house and pavilion is conveniently located between the parking lot and the beach. The building should be a combination of concrete and frame or field stone construction to blend with the natural surroundings. It should be of sufficient size to accomodate approximately one hundred persons per hour. Space may be allotted for concession purposes.

Two flush-type toilet buildings are proposed; their location may be noted on the Master Plan. These two structures plus the facilities in the bath-house should be adequate.

For administrative and control purposes the caretaker's residence in the proposed plan is located near the main entrance to the park and the day use area. The present caretaker's residence is now located at the existing park entrance, and since it is a comparatively new building, completed in February of 1938, it is suggested that the building be moved to the new location. The proposed garage and pump house are combined in one structure which would be located 175 feet southeast of the residence, in the new location.

Over Night Use

Camp Grounds. The proposed location of the camp grounds occupies a region which does not interfere with the maximum enjoyment of the park by the general public. It is removed from the areas of the greatest attractiveness and separated from the beach, picnic grounds, open recreational and natural areas by open fields and natural pine screenings.

In the past, concentration of camping has been according to the demand. The result of this has brought about a noticeable wearing out of the turf, injury to trees, and the packing of soil. The proposed plan provides an orderly system of camp sites.

The area is made accessible by an arrangement of one way roads; traffic enters from the right and exits on the left. This system services lots on either side of the road. Easement strips separate each tier of lots providing a buffer area and a foot path to the public facilities.

It may be noted that the camping area is designated in two groups of lots, and by this arrangement if one group evidences serious damage to the plant cover it may be closed and rotation between the two may be carried on.

Campers should be assigned to a well defined, individual camp site. These units, numbering 140 as planned, are approximately 50 by 50 feet in size and should contain adequate screening which may be planted to act as buffer areas. Each unit will accomodate a tent or a trailer. The plan is based on definite fixation of certain essential

camp features, such as parking spur and fire places. This affords fullest utilization of the limited space compatible with the convenience and comfort of the campers. It also offers permanent protection of the vegetative cover, greater privacy, and more efficient administration.¹

Facilities. The facilities would include electric and water outlets, tables, benches, camp stoves, and garbage containers. There is a combination building for toilets and laundry in each of the camping groups. The plan has not provided for a building to be used as a concession, however, the shelter already present and used for this purpose may be moved to a convenient location and continue such service if there is a demand. An open recreation area has also been provided for each of the two groups, and the present wading pool in the Huron River would continue to serve the children of the camping area.

Utilities

Water Supply. Tests made by the National Park Service technicians indicate that an adequate water supply can be found at a depth of approximately seventy-five feet. The central pumping plant for the entire area is located in the combination garage and pump house near the caretaker's residence. The pump and storage tanks may be installed underground in this combination building. The wells should be protected against pollution at or near the surface by steel casings.

¹Meinecke, E. P. A Camp Ground Policy. Forest Service Publication, 1932.

Proper sewage disposal should keep the pollution danger at a minimum.

It is believed that one well should adequately serve the entire area. The system may be noted on the Master Plan.

Sewage Disposal. The natural sub-surface tile field system is recommended as the best method of sewage disposal.¹ Since there is no rock formation near the surface in any of the disposal fields it is believed that no seepage through rock planes would enter water bearing strata and thus pollute the well water supply.

Each building is equipped with a separate disposal system the location of which is designated on the Master Plan. The septic tank and dosing chamber may be combined in one unit of concrete construction. The disposal field should be of vitrified sewer pipe or drain tile with open joints. Due to the sandy soil, tarred felt or pieces of tile may be placed over the upper half of the joints to prevent clogging.

Power. Electric power is now available in the existing camping areas. The source is the power line on Commerce Road and the same source would be utilized in the proposed camp grounds. The combination toilet and laundry buildings will be lighted and electric outlets for the trailer camp sites will be provided at a standard fee. Several lights may be used throughout the camp grounds for purposes of direction and safety.

Power for the day use area is to be used from the lines along Newton Road. The plan is to service the pump house, then distributed

¹Sewage Disposal Engineering Bulletin No. 2. Michigan Department of Health. Sept. 1937.

to the caretaker's residence, bath-house, and pavilion. It is advisable to install the lines in the park area underground. This service may be provided by the Consumers Power Company upon application.

Telephone. The caretaker's residence, bath-house, and pavilion will require telephone service. Upon application to the Michigan Bell Telephone Company this service will be provided.

Forest Protection

Forest Fire Control. Fire history of the area records only one serious fire during the past fourteen years. On this occasion a small boy in the picnic area fell with a box of matches, the blaze spread rapidly in the grass to the central sector where it destroyed about thirty trees. The park caretaker assisted by visitors on the area brought the fire under control. The public is not permitted at present to go beyond the loop road in the day use area because of the high fire danger of the density of the pine stands. When the trees have grown to a sufficient size to allow passage beneath them, the area will be opened for public use.

Fire prevention work is now conducted by the CCC forces. This fire control plan has been in effect since 1937. Under the emergency program the National Park Service CCC Camp located at Dodge Brothers No. 3 State Park supplies the equipment and labor for all fire fighting within the Dodge Brothers and Bloomer Parks. The responsibility of the program and plan is borne by the State Conservation Commission. These two agencies have formed a mutual agreement to conduct their

operations in this manner. The local State Conservation Officer is located in Royal Oak, Michigan.

Fire hazard reduction has been accomplished in and around the pine stands, which work consists of removing all dead wood within and near these areas. Outside this radius the wild grass is cut and woody material flattened to the ground. A fire lane fifteen to twenty feet wide has been built and maintained around each major stand of conifers.

The fire suppression organization is headed by a Fire Chief, a member of the CCC supervisory personnel. The working force consists of CCC enrollees. This program requires planning and execution of the necessary fire prevention, pre-suppression and suppression activities, including the preparation of the camp fire plan, the training of the enrollees and other personnel, the maintenance of fire fighting equipment, efficient direction and suppression of fires.

Equipment consists of a fire tool box in each CCC camp as well as a fire cache on the park area. During the weeks of extreme fire danger a special CCC detail of two enrollees patrol the park area.

Telephone communication is established between the park caretaker's quarters, the CCC camp, and the State Conservation Commission office.

Special Protection. It is stated in Section One of the State Park Rules and Regulations that:

The destruction or injury of any sign, guide post, or property of any kind is unlawful. This includes the peeling of bark, carving or chopping of trees, cutting branches, driving nails, digging ground from roots and the removing of trees, shrubs and plants, picking wild flowers, and other injuries.

Section Seven states:

The building or starting of fires in the open or in any place except where proper provisions have been made by State Park authorities or to leave fires while burning is prohibited.

Insect and Tree Disease Control. No major insect or disease has been found on the area affecting trees of prominent importance to the site. The black locust borer has infested practically all of the black locusts scattered throughout the area, particularly those growing in the open and along park roads. They rapidly bring about the death of these trees. An attempt to save the black locusts by means of pruning the dead wood has been made but has proven futile.

The sparse stand of white oaks, which consists of only a few scattered trees in the present developed area, is showing evidence of becoming "stag-headed." It appears that the excessive trampling by park visitors in this region has given impetus to this condition. It is observed that similar species growing nearby under ordinary field conditions have remained more thrifty, yet it cannot be concluded that trampling is the sole factor in the former case since many factors of site may be involved and a detailed study was not made.

Utilization. There are few hardwoods within the site which are of merchantable size and even those that are have more value esthetically. Those black locusts which have been removed are being utilized for fuel purposes. The conifer stands are at present dense and a few of these trees are being removed to serve as planting stock in other state parks.

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