AVAILABILITY OF THE WATER RESOURCE

Area and Population

Chippewa County has 1.14 per cent of the state total population. Table 8 compares the county population and area with that of the state. The county is slightly more rural in population than urban with 58 per cent of the people living on farms and in small communities of less than 1,000 persons. The rural population increased by 6.3 per cent over the last decade, and the urban population increased by 3.9 per cent. The entire county had a population gain of 5.3 per cent as compared to 15.1 per cent for the entire state.

Table 8. Population and area comparison of Chippewa County with the State of Wisconsin*

	Area (Sq. miles)	Population	Per Cent Change	Per Square Mile
Chippewa County	1,042	45,096	+5.1	43.3
State of Wisconsin	52,044	3,951,771	+15.1	75.9

The county area, including the surface waters, is 1,042 square miles, or about 1.9 per cent of the area of the entire state ranking it 15th in size. The water area is 21,037 acres or about 1.8 per cent of the state's water area, ranking Chippewa County 15th in acreage. The surface water available per capita is 0.47 acres.

Of the 459.18 miles of lake frontage, 76.67 miles, or 16.7 per cent, are publicly-owned. Of the 762 miles of stream frontage, 79.55 miles, or 10.4 per cent is publicly-owned. Table 9 is a breakdown of land lease and ownership types. Public lands appear on the maps provided (Figures 6 and 7).

*Rural and Urban Population Change in Wisconsin, 1950-1960. Dept. of Rural Sociology, University of Wisconsin, Madison, March, 1961.

Table 9. Public-owned and leased lands*

Ownership	Acres Leased	Acres Owned	
State of Wisconsin:			
Conservation Department:			
Brunet Island State Park		202.85	
Drywood Creek Wildlife Area		40.00	
Duncan Creek Wildlife Area	10.00	240.00	
Elk Creek Wildlife Ares	79.45	74.00	
Hallie Wildlife Area	720.00	80.00	
Jim Falls Wildlife Area	1,443.00		
Lake Wissota State Rec. Area		182.00	
Sand Creek Wildlife Area	89.65		
Total Acres	2,342.10	818.85	
Land Commission:			
Total State-owned Lands			1,103.09
Chippewa County-owned Lands:			
County Forest Cropland in Towns of Birch Creek, Cleveland, Ruby, and Sampson		27,942.88	
Town of Anson		91.96	
Town of Arthur		80.00	
Town of Auburn		263.00	
Town of Birch Creek		380.62	
Town of Bloomer		40.00	
Town of Cleveland		2,656.24	
Town of Colburn		2,539.90	
Town of Delmar		95.00	
Town of Eagle Point		40.00	
Town of Edson		80.00	
Town of Estella		204.70	
Town of Goetz		60.00	
Town of Hallie		6.00	
Town of Howard		200.00	
Town of Lafayette		80.00	
Town of Lake Holcombe		1,227.47	
Town of Ruby		1,973.32	
Town of Sampson		957.50	
Town of Sigel		530.30	
Total County-owned Lands			39,448.89

*Excluding road right-of-ways and institution lands.

Table 9, cont.

Town-owned Lands:		
Town of Anson	24.00	
Town of Cleveland	40.00	
Town of Colburn	70.00	
Town of Delmar	80.00	
Town of Eagle Point	25.00	
Town of Hallie	14.00	
Town of Lake Holcombe	75.00	
Town of Ruby	40.00	
Total Town-owned Lands		368.00
City and Village-owned Lands:		
City of Chippewa Falls	262.83	
City of Eau Claire	40.00	
City of Stanley	158.00	
Village of Bloomer	.50	
Village of Cadott	5.00	
Village of Cornell	170.00	
Total of City and Village-owned Lands		636.33
School-owned Lands:		414.75
Total Public-owned lands:		41,971.06
Total Public-leased lands:		2,342.10
Total Public lands:		44,313.16

Public Access to Waters

Nearly all of the lakes in Chippewa County of over 100 acres in size are accessible by improved public road. The accompanying maps (Figures 6 and 7), show the locations and types of access. The lakes smaller than 100 acres, more often than not, lack an improved road access. A number of these lakes are winterkill lakes and have only a limited potential, and boat access to them at this time is not important. Access to other lakes by an improved road may not be desirable because of wilderness qualities that should be preserved; therefore, a foot trail over publicly-controlled land would be adequate. Public lands, principally County Forest Cropland, already border many of these small lakes.

Stream access is improving rapidly on the more important trout streams in the county. Purchase and lease of lands on Sand, Elk, and Duncan Creeks have opened up most of their frontage to public recreation; at the same time, public control will insure the preservation, restoration, and continued enjoyment of

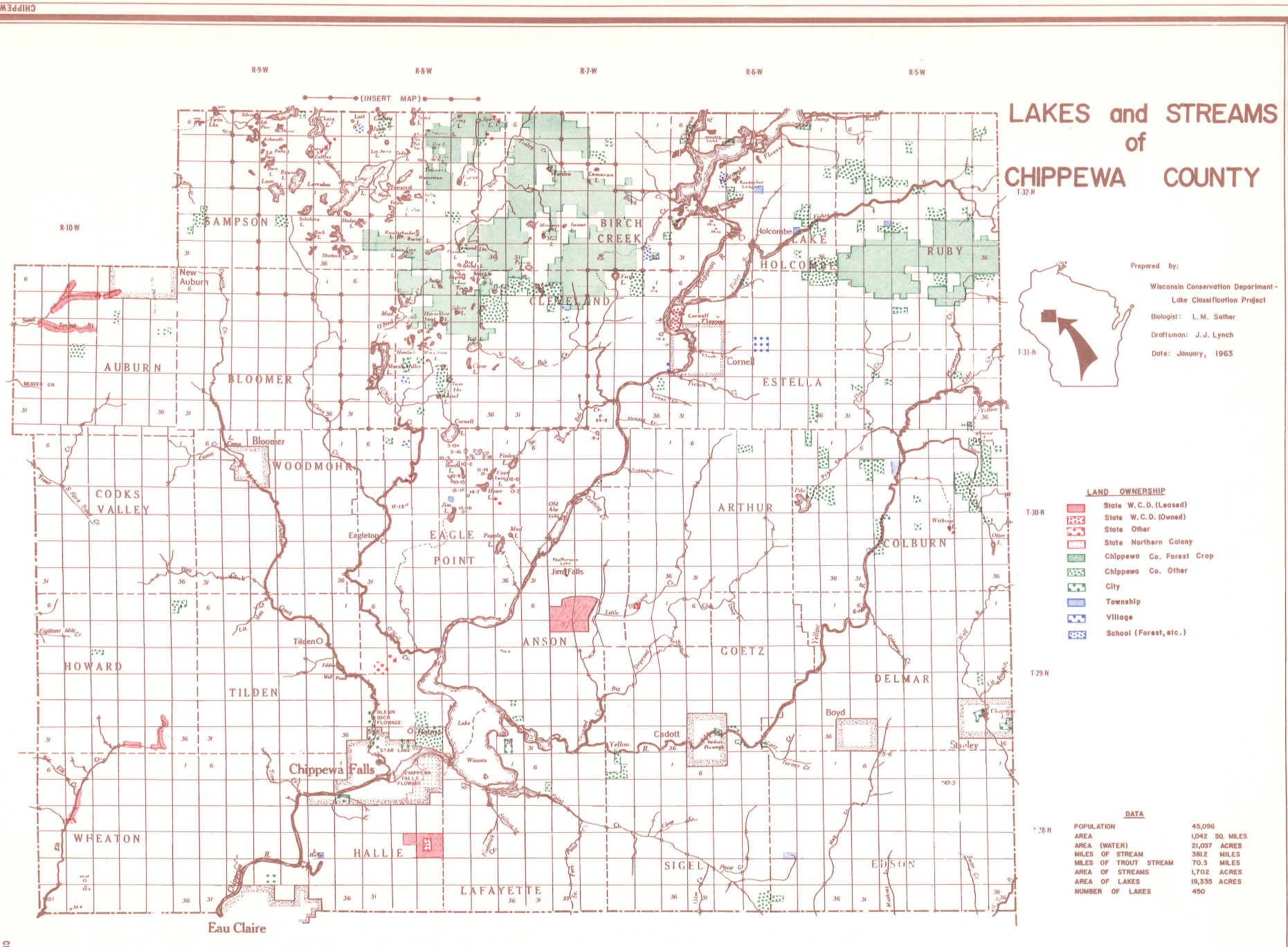


FIGURE 6 LAND OWNERSHIP

CHIPPEWA

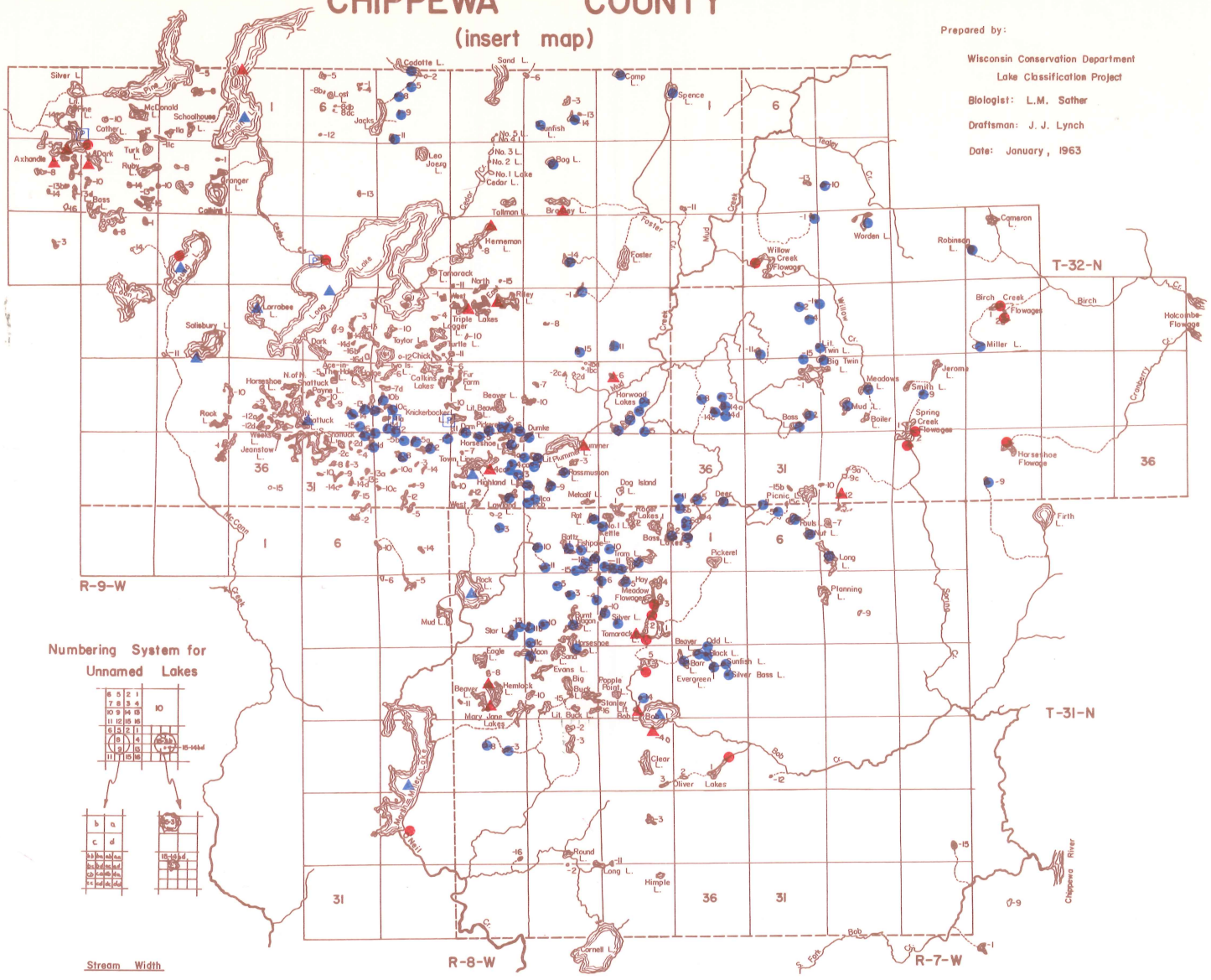
CHIPPEWA

CHIPPEWA

CHIPPEWA

CHIPPEWA COUNTY

(insert map)



Prepared by:

Wisconsin Conservation Department
Lake Classification Project

Biologist: L.M. Sather

Draftsman: J. J. Lynch

Date: January, 1963

FIGURE 7 ACCESS

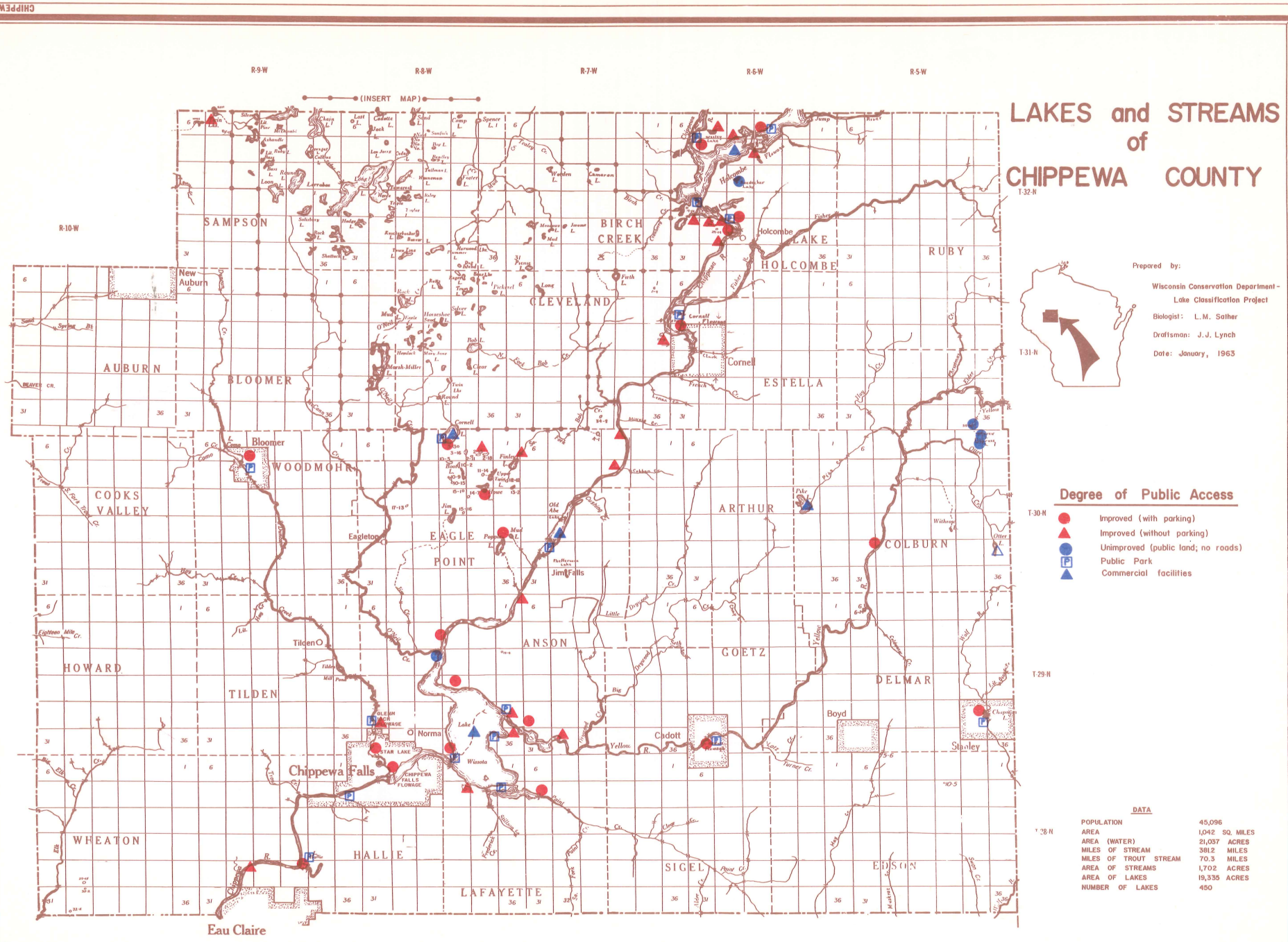


FIGURE 7a ACCESS

these streams in years to come. Additional "Wildlife Area" projects have been established on several other trout streams, where access and preservation of remnant trout habitat would also be accomplished. Access to larger streams is presently limited to the use of private lands and a few improved roads. These streams include the four larger rivers - the Chippewa, below Chippewa Falls Flowage, the Jump, Fisher and Yellow Rivers. Improvement of their warm-water fish habitat is also desirable.

Public Park Areas

There are 1,438 acres of public park in Chippewa County. Table 10 and Figures 6 and 7 indicate the ownership, acreage, types of facilities available (all have picnicking areas), and locations. The development of a state recreation area on Lake Wissota is in the planning stage, as is the development of a county park on Holcombe Flowage (Pine Point Park, Sec. 19, T32N, R6W). The latter is planned to include 30 camping units, picnic areas, and a beach, and will be about 50 acres in size.

Table 10. Public parks in Chippewa County.*

Ownership and Name	Waters Adjoining	Park Acreage	Swimming Facilities	Camping Facilities	Improved Boat Landing
State:					
Brunet Island State Park	Cornell Flow.	202.85	Yes	Yes	Yes
Lake Wissota Recreation Area**	Lake Wissota	(958.15)	Yes	Yes	Yes
County:					
(Holcombe Flowage Park)	Holcombe Flow.	50.00	Yes	Yes	Yes
Morse-Erickson Park	Long Lake	5.00	Yes	Yes	Yes
Wayside Park	Holcombe Flow.	2.00	No	No	Yes
Town:					
Anson	Lake Wissota	24.00	No	No	No
Eagle Point	Cornell Lake	1.00	No	No	Yes
Lafayette	Lake Wissota	.50	No	No	No
Sampson	Axhandle Lake	1.00	No	No	Yes
City:					
Bloomer	Lake Como	.50	Yes	No	Yes
Irvine Park, Chippewa Falls	Glen Loch Flow. Star Lake, Duncan Creek	78.83	Yes	No	Yes
Chapman Park, Stanley	Chapman Lake	110.00	Yes	Yes	Yes
Village:					
Cadott	Cadott Flowage	5.00	Yes	No	No
Other:					
Northern States Power Co.	Holcombe Flow.	-	No	Yes	Yes
Sportsmen's Club - NSP Co.	Holcombe Flow.	-	No	Yes	Yes
American Legion	Lake Wissota	-	No	No	Yes
Chipp. F. Rod & Gun Club - NSP Co.	Lake Wissota	-	No	No	Yes
NSP Co. beach	Lake Wissota	-	Yes	No	No
Total public park acreage		1,438.83			

* Does not include all wayside parks

** Undeveloped. One hundred and thirty-four acres were under state ownership at the time of this writing.

Thus, with 1,438.83 acres of public parks available, there would be one acre of park to every 31 people of Chippewa County.

Private Development

The lake frontage that is the most desirable for private cottage, resort, and camp development is, of course, the frontage on larger lakes having game fish populations and good quality building sites with sandy beaches. Lake Wissota exemplifies this pattern, although its nearness to the Chippewa Falls - Eau Claire population center has also contributed to its rapid development. Table 11 shows the comparative levels of development of lake shore by the number of lakes in each size class. However, when considering the total shore line of these lakes, or their total surface acreages by the same classes, their development levels are all relatively low. Also, the range in percentage of developed lake shore increases only slightly from the lakes of 50 acres in size to the lakes of over 1,000 acres. Table 12, is a rough estimate of the amount of lake shore that is no longer available, or readily developable, as cottage sites, and shows that fifty per cent of the lake shore in Chippewa County remains to be "improved". If one were to assume that a set lot width of 60 feet was to be used for all future frontage development, the potential exists for about 9,640 lake front home sites. These assumptions make no consideration for frontage uses other than home sites, water quality, or lake size, but include only the lake shore that is not presently in private development, public ownership, or muck shore line.

Table 11. The private development of lake shore in Chippewa County.

Lake size by acreage	Number of Lakes	Cottages & Houses	Resorts	Boat Rentals	Organizational Camps
< 50	422	84	4	3	2
50-99	15	175	4	6	0
100-199	3	37	4	4	1
200-499	4	67	3	2	0
500-1,000	2	78	4	3	1
1,000 >	4	919	27	16	9
Total	450	1,360	46	34	13

Table 12. Estimated percentage of lake shore use by various ownership types and extent of development or nondevelopment.

Lake size by acreage	Per cent in private development	Per cent in public ownership	Per cent in muck shore line	Total miles of lake shore	Per cent remaining undeveloped, etc.
< 50	2	31	40	210.79	27
50-99	6	2	25	34.84	67
100-199	9	2	53	8.05	36
200-499	4	0.2 <	36	22.53	60
500-1,000	6	22	4	23.40	68
1,000 >	13	3	8	159.57	76
All Lakes:	7	17	26	459.18	50

Since individual differences vary greatly from one lake to another, the above conditions indicate only the generalities that exist in the county's surface water picture. Each body of water, or primarily, the similar types of water, should be considered on their own merits in the treatment of their potentials and needs.

SURFACE WATER PROBLEMS

The problems of water quality to be dealt with in the management of surface waters are caused by either nature or man. Winterkill is a common problem in Chippewa County originating from natural conditions. At least 258 lakes of the county are subject to annual, partial, or occasional freeze-out conditions with correspondingly severe fish mortalities. These winterkill conditions occur as a result of oxygen depletion from the lake water. The depletion may be due to shallow lake depths, snow-ice cover that does not permit adequate light penetration, the removal of oxygen by decaying plant and animal materials, and in some instances, the reduction of light penetration by dark brown, bog water; or a combination of any of these factors may cause a winter fish kill.

An unbalanced population relationship between the number of predator fish and the number of forage fish is another naturally occurring problem in Chippewa County lakes. An unbalanced population is indicated by the small size of one species, or group of fish, usually the pan fish. The smaller, low fertility lakes are the waters most affected by this problem of slow growth rate. The exact number of lakes in the county where population imbalance occurs is not available. Chemical rehabilitation of surface waters is possible; however, re-establishment of a balanced predator-forage fish population is difficult to achieve. Brook, brown and rainbow trout are often used in restocking because they do not reproduce in small, seepage lakes; thus, the population size can be controlled to fit the available food supply.

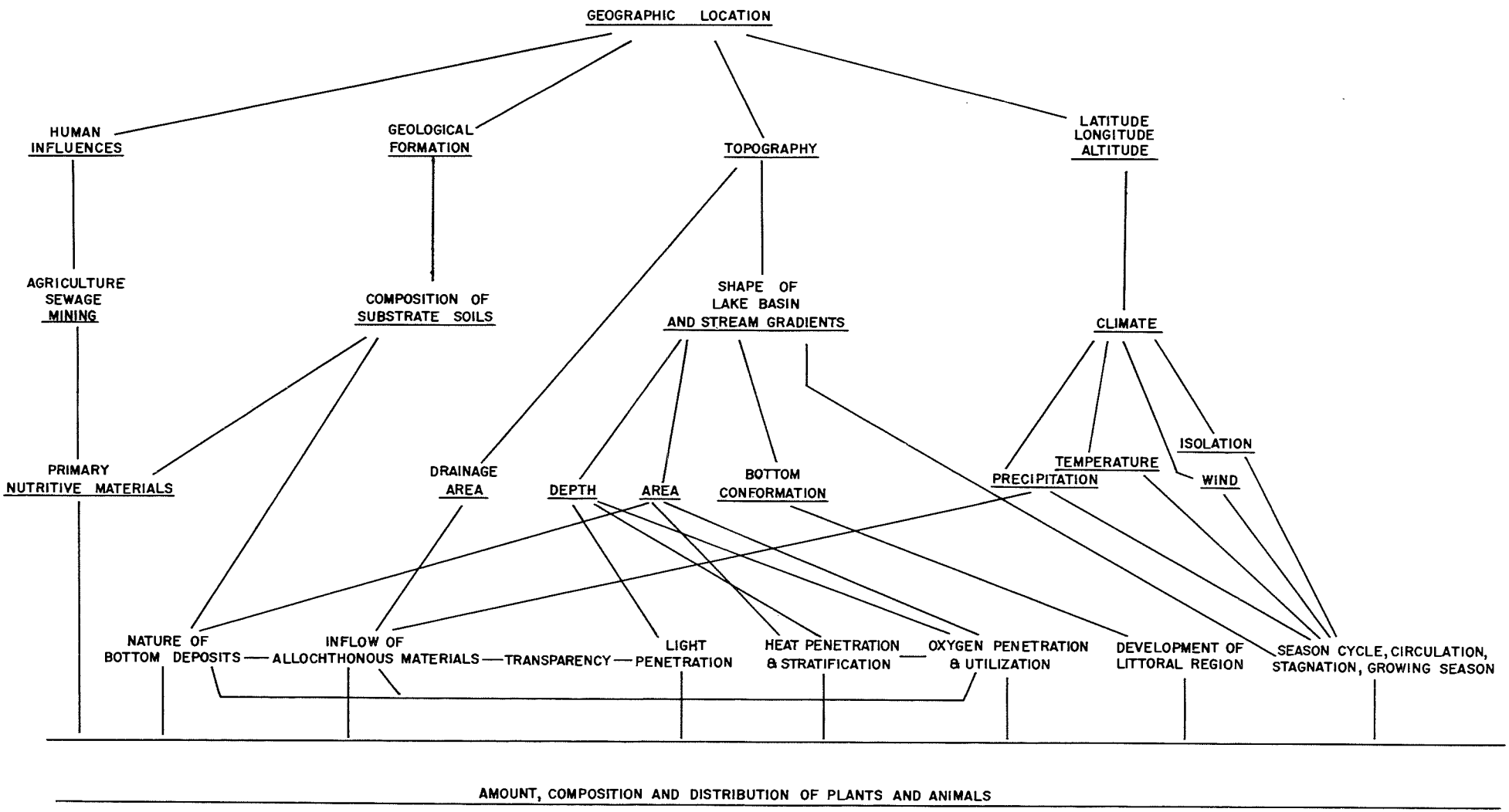


Figure 8. Factors contributing to the character of surface waters and their trophic nature and productivity (after Rawson and Prescott).

A number of kettle hole lakes in Chippewa County have relatively shallow maximum depths and any extreme fluctuation in water levels during a season of light rainfall reduces their fish and wildlife resource value. The greatest loss of habitat occurs in the lakes that occupy the agricultural regions bordering the terminal moraine. Also, the natural aging processes of glacial lakes and the erosion of agricultural topsoil into the lake basin threatens the existence of the shallower lakes. If temporarily dry, the loss of duck habitat is usually permanent, since the dry lake bed may then be plowed into cropland. The water level fluctuations that occur in the Chippewa River reservoir flowages of Lake Wissota and Holcombe are of man-made origin. The lack of vegetational cover for fish habitat in Lake Wissota may be attributed in part to these fluctuating levels and to the predominantly sandy type of bottom found there.

A variety of problems are encountered in the management of streams of Chippewa County. There is a distinct lack of cold-water habitat in the newer glaciated area of the north and east. Only a small amount of spring water flows from the shallow glacial till that overrides the relatively waterless, igneous bedrock. Stream drainage systems of the newer glaciated area have not developed appreciably by erosion as yet, and the large swampy lowlands on the watersheds collect and feed warm surface runoff waters to the smaller spring streams. A mucky and silted bottom is another characteristic of these low gradient, warm-water streams.

Larger streams, such as the Yellow, Jump and Fisher Rivers have excessively rocky, boulder covered bottoms and are subject to extreme variations in volumes of water flow. Deep pools, that ordinarily would provide habitat for warm-water game fish, seldom occur naturally in these rivers.

Soft water with low amounts of dissolved solids is common to most of the streams of Chippewa County. Soft water signifies low fertility. The average methyl purple alkalinity readings for hardness in the 61 named streams was 57.

Overdeveloped stream drainage systems exist in the agricultural region that covers about 75 per cent of the county. The erosion of stream bank cover, the unstable, silt-covered bottoms, and higher water temperatures have served to deteriorate the trout habitat in pratically all the streams on pastured lands. An attempt to improve the remaining cold-water habitat has been initiated through the state acquisition and easement of lands bordering trout streams.

Carp inhabit the lower Chippewa River system below Old Abe Lake. Destruction of fish habitat by carp occurs in Lake Hallie. Cooperative removal of this fish from Lake Hallie has been attempted by the local sportsman's club and the Conservation Department. Habitat destruction by carp of a more limited nature also occurs on Lake Wissota, Cornell Lake, and in the broad marshy area of O'Neil Creek between Marsh Miller Lake and Highway "64". The latter is an extensively used spawning area by carp.

Excessive weed and algae growth may also be considered a problem in Marsh Miller Lake. In this case, shallow depths and high nutrient content (104 M.P.A.) are conducive factors to the problem. The overfertilization of waters by domestic waste disposals, fertilizers, and topsoils washing and seeping into the lake basin should always be kept in mind by planning agencies and cottage builders. Potential sources of organic pollution exists wherever the

active effluents, either fluid or solid, are discharged into recreational waters. Most sewage treatment facilities in present use are still limited in their abilities to remove all the undesirable materials from an effluent discharge. The most effective systems of disposal, of course, are those which do not ordinarily involve the use of recreational waters for effluent disposal, such as, the artificially constructed lagoon and the ridge and furrow irrigation disposal of wastes. Although these systems may be ideal from the standpoint of nonrecreational water use, other methods now employed are more feasible. The possibilities of pollution in Chippewa County have not been thoroughly evaluated as yet, but there appears to be no serious problems here. Table 13 summarizes the methods of treatment the various municipalities employ for waste disposal

Table 13. Methods of municipal disposal in Chippewa County.

Municipality	Method of treatment	Waters that may be affected by effluents
Bloomer	Trickling filter	Duncan Creek
Boyd	Primary, Imhoff tank	Hay Creek
Cadott	Primary and chlorination	Yellow River
Chippewa Falls	Chemical coag. and chlori.	Chippewa River
Cornell	Primary	Chippewa River
Holcombe	Primary, Imhoff tank	Chippewa River
New Auburn	Stabilization lagoon	Duncan Creek
Stanley	Activated sludge type	Wolf River

In addition to the municipal disposal treatment systems mentioned, several other sources of treatment and potential pollution exist in the county. Two public institutions employing primary treatment methods are located adjacent to the Chippewa River. (There is also a wood pulp and paperboard manufacturer on this stream, and a dairy on the Yellow River do not use a secondary stage of treatment.) Four other large dairies in the county use the ridge and furrow method of disposal and have little or no effluents flowing into streams. Since there is no mining carried on, except for sand and gravel removal operations, inorganic pollution from that source does not take place in Chippewa County.

Although most of the larger waters have public access in various degrees of development, a few still remain to be opened for general public use. The development of access in Chippewa County has received an increasing amount of support from sportsmen's clubs, local civil agencies and power company efforts. The accompanying map shows the public access locations and degrees of improvement.

Waters with no public use opportunity are not individually marked, but may be noted by their lack of an access symbol. A system of posting the existing access sites to lakes and streams would, in addition, be helpful to the public user.

As suggested earlier in this summary, and in the Figure 8 diagram, the natural processes of topography, geologic formation, and climate determine the quality and location of surface waters. The potential uses of surface waters, and any pollution that may affect them, must be considered in the assessment of water quality. The uses may range from the minimum requirement necessary for navigation to a high water quality demand for special industrial processes. Quality needs differ, therefore, according to water use. The amount, composition, and distribution of plant and animal life is determined by water quality in each body of surface water. The water used for fish propagation and recreational purposes must be relatively free from domestic and industrial pollution. It must also be fertile enough to sustain an active fauna of the smaller aquatic organisms on which fish and wildlife feed and yet be low enough in fertility to limit the excessive growth of weeds and algae.

Continuous natural changes also take place in the quality of the surface water. At a relatively slow rate of progress a lake ages from the erosive action of wild and waves, and an accumulation of nutrients, silt, and nondecayed vegetative materials occurs. Habitat types change to fit the lake age. Where once a lake may have begun existance as a deep, cold-water habitat for cisco and trout, or a shallower and weedier bass - pan fish lake, in the years following it may have deteriorated into a marshy duck pond or leatherleaf bog. Meanwhile, the influence of man may have hastened the natural aging process, unknowingly or otherwise, as he fertilizes the watershed, fills in the wetlands, allows erosion on his fields, or uses the surface waters as his sewage disposal unit. Initially, these influences may have been a benefit to the lake or stream's fertility. Their over-all effect, however, has been the destruction, rather than the maintenance of good water quality and habitat.

THE FUTURE

Chippewa County is experiencing a moderate urban and industrial growth. It is anticipated that the increasing population will continue to desire a greater opportunity to use the available recreational waters. Some significant steps forward have already been initiated to provide more adequate public use opportunities and to restore deteriorated water quality. Progress is being made in the development of a state recreational area at Lake Wissota, a new county park on the Holcombe Flowage, an expansion of Brunet Island State Park, and the improvement of the public accesses to several lakes and streams. The establishment of an Ice Age National Scientific Reserve in the northern terminal moraine is being considered. State acquisition and easement of trout stream frontage for habitat improvement and access is progressing on Duncan and Elk Creeks. Similar plans for other streams in the county are being considered. More intensive management of lakes is also anticipated, with the use of such methods as chemical rehabilitation.

The governing bodies of Chippewa County are becoming more aware of soil and conservation problems. The continued cooperation of federal and state agencies, sportsmen's groups, civic organizations, and the Northern State's Power Company is also appreciatively anticipated. Further progress in the management of surface water resources by the people of Chippewa County is expected.

ACKNOWLEDGEMENTS

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DEFINITIONS

aesthetics - The scenic qualities of water and its surroundings. Wild shore lines usually have higher scenic values than developed shore lines because they harbor wildlife and a varied plant life. The marshes are often spawning and nesting grounds.

direct drainage area - The land area where runoff flows directly into only a particular lake or stream, as differentiated from watershed areas. The direct drainage for streams is only the area drained within the county; for lakes the drainage area includes the total area that may also drain into the lake from other counties.

estimated normal flow, c.f.s. - The amount of water measured in cubic feet per second flow that may be expected in streams at their outlet, either to another stream or at the county line. Estimations of flow were not measured during periods of excess runoff, such as during March, April, and May; hence, they are not average flows.

lake types - There are significant limnological characteristics peculiar to each lake type, based on their physical and chemical properties. The production of plant and animal life generally varies in accordance with lake type. The lakes of Wisconsin (Prescott, 1951) fall into four main types, hard water and soft water, seepage and drainage lakes. Three other sub-types have been added for further classification of the four main types, since these three lake types, the acid bog, alkaline bog, and spring pond show additional definitive characteristics.

hard water drainage lakes: Impoundments and lakes whose main water source is from stream drainage. Methyl purple alkalinity (or M.P.A.) of 50 ppm or over, year around. Usually a pH of 7.0 and above.

soft water drainage lakes: Impoundments and lakes whose main water source is from stream drainage. M.P.A. below 50 ppm at least during part of the year, or year around; usually have a pH below 7.0.

hard water seepage lakes: Landlocked, or nearly so. Water levels maintained by ground water table and bottom seal. M.P.A. of 50 ppm, or over; usually a pH of 7.0 and above.

soft water seepage lakes: Landlocked, or nearly so. Water levels maintained by ground water table and bottom seal. M.P.A. of less than 50 ppm; usually pH below 7.0. Perhaps, the most common lake type in Wisconsin.

acid bog lakes: Small usually brown water lakes of the kettle hole type; usually landlocked or with only little outlet flow; only slight fluctuations of water levels; and encroaching marginal mats of vegetation of Sphagnum, leatherleaf, etc. from 50 per cent of the shore. With pH below 7.0 and a low M.P.A.

alkaline bog lakes: Small, brown water kettle hole lakes with a stream meandering through them, and with a pH above 7.0 and an M.P.A. medium to high.

spring ponds (limnokrenes): Clear water, with ground water flowing visibly out of the bottom of the basin and the overflow of which forms the beginning of a stream. Seldom freeze-over in winter. M.P.A. usually above 50 ppm with a pH neutral or above 7.0.

landlocked - Shut in by land and not connected by a stream flowing eventually to the oceans.

littoral - The shoreward region of a body of water. The zone affected by waves and currents near the shore. The term is more literally interpreted when describing small lakes which have modest wave action.

methyl purple alkalinity, M.P.A. - The test used to determine the amount of available carbonates, bicarbonates, and hydroxides in parts per million of water. This measurement is used to express the level of fertility of waters. Low alkalinity waters are generally biologically less productive than those with high alkalinities.

moraine - An accumulation of debris deposited by a glacier. Moraines are classified in part as follows:

terminal moraine: Glacial till deposits left at the forward edge, or end, of the receding ice sheet. The till is composed of a mixture of clay, silt, sand, gravel and sometimes boulders. Numerous small knolls and ridges, interspersed with basins forming many kettle hole lakes and marshes, are characteristics of the terminal moraine.

ground moraine: Extended sheets of glacial till deposited irregularly over the path of the glacier. These nearly level areas are also composed of a mixture of sand, gravel, boulders, and clay, and occasionally, the bedrock is left exposed. The few lakes found in this type of moraine are usually shallow and marshy.

glacial outwash: These are morainic deposits made up of the material produced by glaciers and carried, sorted and deposited by water that originated mainly from melting of glacial ice. The deposits now exist as stratified beds of clay, sand, or gravel in the form of plains, valley trains, and deltas of old glacial lakes. The outwash may extend far beyond the farthest advance of the ice. In outwash of

Chippewa County fewer lakes occur than in terminal moraine, and beaches are usually composed of sorted deposits of sand. Outwash in other areas was often a calving grounds for glaciers and the melting of buried ice blocks produced numerous lakes. Outwash of this kind is known as pitted outwash.

pH - The negative logarithm of the hydrogen ion concentration expressed in gram equivalents. A pH of less than 7.0 is acid, a pH of 7 neutral and more than 7.0 is alkaline. Usually swamp drainage contributes to a low pH.

pan fish - Includes the bluegills, perch, rock bass, green sunfish, pumpkinseeds, crappies, rock and warmouth bass, and bullheads. To be described as either a pan fish or forage minnow lake suggests the waters in question have a winterkill problem.

predator fish - Includes muskellunge, northern pike, walleyes, largemouth and smallmouth bass as the predominating members of this fish group.

private development - The improvement of lake shore resulting from the construction of commercial resort facilities, cottages, organizational camps, marinas, etc.

public access - An improved roadway over lands owned or leased by a unit of government for egress to lakes and streams.

public frontage - The government-owned or leased shore line bordering lakes or streams.

shore development figure, S.D.F. - The ratio of the perimeter of a given lake to that of a circle with the same area as the lake.

specific conductance - The total concentration of dissolved electrolytes in waters expressed in micromhos at 77 degrees Fahrenheit. Corresponds roughly to the methyl purple alkalinity test, though of a different value scale.

stream gradient - The over-all average per mile fall of water levels from a stream's permanent source to its outlet.

trout stream - The term implies a stream which has cool water, is fed by numerous springs and is capable of supporting cold-water fish in the salmonoid family.

water color - Either clear, light brown, medium brown, or dark brown. Dark brown is a "coffee" color derived from drainage of humic materials in swamps, and the other browns are lighter. Color is a limiting factor in light penetration and, subsequently, determines the amount of dissolved oxygen supplied by the photosynthetic activity of plants to waters.

watershed area - The whole water gathering land surface of a lake or stream basin, and includes the runoff surfaces of other lakes and streams above the one in question. Stream watershed areas, however, are only the runoff surfaces above to the county line, while lake watershed areas include the entire basin system within and out of the county.

wetlands - Any area where the water table is at such a level that raising of a cultivated crop is usually not possible. Wetland definitions follow those used by the U. S. Fish and Wildlife Service for wetlands inventories. Wetland classifications are as follows:

deep marshes: Water from six inches to three feet in depth during growing season. Vegetation of cattails, reeds, bulrushes, spike rushes and pond weed.

shallow marshes: Water present during most of the growing season, at least in parts of the area. Vegetation of cattails, river rush, bulrushes, and spike rushes.

fresh meadows: Soggy ground or seasonally flooded areas which are normally too wet for agricultural practices. Vegetation of smartweeds, grasses, sedges, broad-leaved plants, or bur reed.

shrub swamp: Waterlogged soil, with occasional standing water. Vegetation of alders, willow, dogwoods, etc.

timber swamps: Waterlogged soil, with occasional standing water. Vegetation of tamarack, black spruce, black ash, balsam, etc.

bogs: Waterlogged soil conditions. Vegetation of leatherleaf, cranberries, and Labrador tea.

Plant species above are not intended to be a complete list for each type: they are a guide to groups of which serve as indicators for various types.

wilderness lake - A body of water near which there are no buildings or car accesses or commercial facilities within 200 feet of the shore but where access is possible trail or water.

Appendix 1a -- PHYSICAL AND CHEMICAL CHARACTERISTICS OF CHIPPEWA COUNTY LAKES

Name	Location T-N	R-W	Surface Acres	Maximum Depth (feet)	Maximum Length (miles)	Maximum Width (miles)	Miles Shore line	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sample Date
Ace-in-the-Hole	32	8	5.7	45	.17	.09	.50	6.4	16	40	Clear	Feb 61
Axhandle	32	9	87.8	70	.60	.35	2.82	6.8	14	28	Clear	Jan 62
Barr	31	8	5.7	20	.25	.07	.62	5.8	8	24	Clear	Feb 62
Bass - Sampson	32	9	39.0	23	.47	.23	1.35	6.2	11	28	Clear	Jul 61
Bass #1 - Birch Creek	32	7	6.1	40	.17	.10	.40	6.6	24	81	Clear	Mar 62
Bass #2 - Birch Creek	32	7	3.8	27	.10	.09	.30	6.4	23	63	Clear	Mar 62
Bass #1 - Cleveland	31	8	11.5	26	.22	.15	.65	6.2	16	36	Clear	Feb 61
Bass #2 - Cleveland	31	8	12.2	41	.27	.16	.88	6.2	9	27	Clear	Feb 61
Bass #3	31	8	8.6	23	.16	.12	.45	6.2	8	25	Clear	Mar 61
Bass #4	31	8	2.5	27	.10	.09	.30	6.4	59	115	Clear	Mar 61
Bass #5	32	8	6.4	21	.16	.09	.40	6.0	55	115	Clear	Feb 61
Beaver - Cleveland-Sec. 13	31	8	4.7	44	.24	.09	.32	5.6	5	24	L. Brown	Feb 62
Beaver - Cleveland-Sec. 16	31	8	15.0	15	.35	.11	1.10	6.4	5	20	L. Brown	Apr 62
Big Beaver	32	8	15.4	44	.22	.14	.60	6.4	24	55	Clear	Feb 61
Big Buck	31	8	17.0	45	.33	.13	.88	6.8	11	30	M. Brown	Jul 61
Big Twin	32	7	3.8	40	.13	.07	.32	6.8	47	109	L. Brown	Feb 62
Birch Creek Flowage #1	32	7	2.8	6	.14	.06	.30	6.2	13	41	D. Brown	May 62
Birch Creek Flowage #2	32	7	5.0	8	.20	.10	.75	6.2	13	44	D. Brown	May 62
Black	31	8	2.7	34	.08	.07	.25	5.4	12	24	L. Brown	Feb 62
Bob	31	8	96.6	72	.55	.40	1.90	7.0	22	55	Clear	May 62
Bog	32	8	6.0	7	.13	.11	.35	6.4	11	29	Clear	Feb 61
Boiler	32	7	4.3	12	.15	.07	.38	6.2	10	26	Clear	Feb 62
Boot	30	8	26.7	14	.58	.13	1.63	5.8	10	26	Clear	Feb 62
Bradley	32	8	11.0	38	.34	.09	.78	6.6	9	25	Clear	Feb 61
Burnt Wagon	31	8	15.1	12	.25	.22	1.44	5.8	8	26	Clear	Feb 62
Cadott Flowage	29	6	20.0	10	.55	.10	1.75	7.3	60	148	M. Brown	Oct 61
Cadotte	32	8	14.4	44	.31	.10	.83	5.2	4	18	M. Brown	May 62
Calkins	32	9	43.0	20	.36	.30	1.02	6.2	8	34	Clear	Jan 62
Calkins - North	32	8	13.6	17	.24	.17	.90	6.0	5	21	Clear	Feb 61
Calkins - West	32	8	8.2	13	.22	.11	.68	6.0	8	29	Clear	Feb 61
Cameron	32	7	14.0	13	.18	.16	.56	5.6	17	34	M. Brown	Feb 62
Camp	32	8	6.4	18	.13	.11	.40	6.5	6	23	Clear	Feb 61
Cather	32	9	9.6	21	.23	.12	.60	6.2	15	43	Clear	Jan 61
Cedar	32	8	5.4	18	.18	.07	.42	7.0	60	119	L. Brown	Feb 61
Chain	32	9	510.0	78	2.13	.70	6.80	6.8	37	120	Clear	Oct 62
Chapman	29	5	33.8	13	.43	.24	1.83	6.6	37	94	L. Brown	May 62
Chick	32	8	8.3	10	.23	.10	.65	6.2	6	33	Clear	Feb 61
Chippewa Falls Flowage	28	8	282.0	37	2.50	.46	6.63	7.0	22	67	L. Brown	Jun 62
Clear	31	8	19.2	11	.36	.14	1.00	6.0	11	33	Clear	Feb 62
Cornell Flowage	31	6	836.0	54	4.75	.69	16.60	6.8	26	64	M. Brown	Jun 62

Appendix 1a -- Physical and Chemical Characteristics of Chippewa County Lakes (Continued)

Name	Location T-N	Location R-W	Surface Acres	Maximum Depth (feet)	Maximum Length (miles)	Maximum Width (miles)	Miles Shore line	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sample Date
Cornell	30	8	193.5	42	.79	.58	2.50	7.4	55	109	Clear	May 62
Dam	32	8	4.1	17	.14	.07	.32	6.2	18	48	Clear	Feb 61
Dark - Sampson East	32	8	21.1	65	.34	.16	.90	6.6	14	44	Clear	Feb 61
Dark - Sampson West	32	9	13.0	60	.20	.20	.70	6.1	10	34	Clear	Jan 62
Deer	32	8	5.0	20	.14	.08	.40	7.0	42	88	Clear	Feb 61
Dog Island	32	8	4.5	9	.13	.11	.42	6.2	10	35	Clear	Feb 61
Dumke	32	8	10.7	16	.25	.10	.63	6.8	23	59	Clear	Feb 61
Eagle	31	8	15.1	15	.22	.20	.95	6.0	15	30	Clear	Feb 62
Evans	31	8	11.7	8	.32	.14	.99	5.6	9	33	Clear	Feb 62
Evergreen	31	8	3.4	29	.13	.06	.32	5.6	10	29	L. Brown	Feb 62
Finley	30	8	56.3	27	.46	.29	1.27	7.2	42	99	L. Brown	May 62
Firth	31	7	51.7	18	.49	.37	1.40	6.4	30	69	Clear	Feb 62
Fishpole	31	8	2.0	12	.11	.05	.28	6.0	11	28	Clear	Feb 61
Foster	32	8	26.0	21	.42	.15	1.02	7.0	62	131	L. Brown	Feb 61
Fur Farm	32	8	8.3	18	.32	.07	.82	6.2	6	32	Clear	Feb 61
Glen Loch Flowage	29	8	44.5	20	.76	.22	3.08	6.6	20	75	Clear	May 62
Granger	32	9	10.0	31	.26	.13	.70	6.1	10	35	L. Brown	Jan 62
Harwood No. 1	32	8	8.8	7	.20	.10	.56	6.0	7	29	Clear	Feb 61
Harwood No. 2	32	8	14.3	9	.28	.13	.83	6.2	6	24	Clear	Feb 61
Harwood No. 3	32	8	1.0	11	.05	.03	.15	6.0	7	25	Clear	Feb 61
Harwood No. 4	32	8	.8	4	.05	.05	.16	6.0	5	23	Clear	Feb 61
Hay Meadow Flowage #1	31	8	23.5	40	.32	.15	.93	6.8	36	68	M. Brown	May 62
Hay Meadow Flowage #2	31	8	40.0	9	.70	.30	2.92	6.2	20	44	M. Brown	May 62
Hay Meadow Flowage #3	31	8	19.0	4	.36	.12	.94	6.2	19	45	M. Brown	May 62
Hay Meadow Flowage #4	31	8	24.0	22	.45	.23	1.75	5.6	13	35	M. Brown	May 62
Hemlock	31	8	28.0	17	.40	.20	1.32	6.4	6	20	L. Brown	Jul 61
Henneman	32	8	60.0	41	.78	.30	2.33	6.8	11	39	Clear	Feb 61
Highland	32	8	9.8	16	.26	.15	.78	6.8	8	41	Clear	Feb 61
Himple	31	8	4.7	33	.12	.09	.33	6.2	17	58	Clear	Feb 62
Hodge	32	8	19.0	28	.30	.19	1.10	6.0	5	24	Clear	Feb 61
Holcombe Flowage	32	6	3,890.0	52	7.50	5.25	60.75	7.0	28	82	M. Brown	Jun 62
Horseshoe Flowage	32	7	6.0	8	.21	.10	.70	6.4	22	59	M. Brown	May 62
Horseshoe - Cleveland	31	8	17.3	16	.48	.14	1.20	5.6	7	24	Clear	Feb 62
Horseshoe - Sampson East	32	8	24.3	23	.31	.29	1.60	6.8	7	22	Clear	Feb 61
Horseshoe - Sampson West	32	9	12.0	7	.33	.15	1.14	6.8	18	64	Clear	Feb 61
Howe	30	8	67.0	28	.50	.45	1.60	6.9	5	32	Clear	May 62
Jacks	32	8	14.3	56	.40	.10	1.10	6.5	11	29	Clear	Feb 61
Jeanstow	32	9	3.3	26	.11	.06	.29	6.0	16	23	Clear	Feb 61
Jerome	32	7	8.5	26	.20	.11	.50	5.8	9	28	M. Brown	Feb 62
Jim	30	8	57.6	20	.60	.24	1.57	6.7	34	84	L. Brown	Jun 62

Appendix 1a -- Physical and Chemical Characteristics of Chippewa County Lakes (Continued)

Name	Location T-N	Location R-W	Surface Acres	Maximum Depth (feet)	Maximum Length (miles)	Maximum Width (miles)	Miles Shore line	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sample Date
Kettle	31	8	2.2	9	.09	.50	.23	6.0	5	37	Clear	Feb 61
Knickerbocker	32	8	14.0	24	.24	.15	.65	6.2	17	41	Clear	Feb 61
Lake Como	30	9	97.9	6	1.53	.35	5.25	7.2	25	76	Clear	Mar 61
Lake Hallie	28	9	80.0	14	1.44	.15	3.40	6.4	27	86	Clear	May 62
Lake Wissota	29	8	6,300.0	72	13.75	4.75	56.33	6.8	23	74	D. Brown	Jul 61
Larrabee	32	9	50.3	31	.41	.31	1.70	6.2	8	23	Clear	Jan 62
Leo Joerg	32	8	11.8	16	.17	.15	.60	6.2	7	39	L. Brown	Feb 61
Little Bass	32	9	11.9	7	.22	.18	.88	6.0	10	17	M. Brown	Jul 61
Little Beaver	32	8	6.2	49	.14	.12	.40	6.8	26	53	Clear	Feb 61
Little Bob	31	8	2.0	18	.10	.05	.30	6.4	35	78	L. Brown	Feb 62
Little Buck	31	8	4.2	13	.11	.08	.32	5.8	15	36	Clear	Feb 62
Little Pine	32	9	10.0	50	.17	.14	.60	6.6	10	28	Clear	Jan 62
Little Plummer	32	8	9.6	25	.16	.12	.48	6.4	50	100	L. Brown	Feb 61
Little Twin	32	7	2.5	25	.05	.05	.23	6.4	26	69	M. Brown	Feb 62
Logger	32	8	18.6	19	.28	.22	.93	6.4	6	32	L. Brown	Feb 61
Long - Cleveland East	31	7	22.2	11	.53	.21	1.50	5.6	8	23	L. Brown	Feb 62
Long - Cleveland West	31	8	5.6	23	.17	.07	.44	6.4	34	80	Clear	Feb 62
Long - Sampson	32	8	1,060.0	96	3.13	.72	13.58	7.2	42	97	Clear	Jul 61
Loon	32	9	125.0	5	.75	.67	3.00	6.2	9	44	Clear	Jan 62
Lost	32	8	3.0	34	.10	.07	.28	6.0	8	40	D. Brown	Feb 61
Lowland	32	8	11.3	24	.29	.13	.82	6.8	6	30	Clear	Feb 61
Marsh Miller	31	8	435.8	22	1.88	.70	7.95	7.4	104	164	Turbid	Jul 61
Mary Jane No. 1	31	8	11.3	20	.24	.14	.72	5.8	15	39	Clear	Feb 62
Mary Jane No. 2	31	8	25.3	15	.40	.26	2.23	5.6	9	22	Clear	Feb 62
McDonald	32	9	20.3	46	.28	.18	.84	6.0	6	28	L. Brown	Aug 61
Meadows	32	7	9.6	20	.22	.13	.63	6.8	54	110	Clear	Feb 62
Metcalf	32	8	3.5	12	.16	.13	.40	6.8	10	28	Clear	Feb 61
Miller	32	7	4.5	16	.15	.07	.39	6.0	13	22	Clear	Feb 62
Moon	31	8	15.4	11	.25	.09	.90	6.0	10	28	Clear	Feb 62
Mud - Birch Creek	32	7	7.8	6	.20	.09	.70	6.6	2	20	Clear	Jun 62
Mud - Bloomer	31	8	23.2	4	.32	.23	.96	7.8	75	138	Clear	Jul 61
Mud - Eagle Point	30	8	18.0	14	.24	.19	.65	6.2	21	125	Clear	Mar 62
No. 1 - Cleveland	31	8	6.0	15	.15	.10	.44	6.0	4	32	Clear	Feb 61
No. 1 - Sampson	32	8	2.9	17	.11	.06	.29	6.8	57	129	L. Brown	Feb 61
No. 2	32	8	1.9	22	.06	.05	.22	6.3	61	133	L. Brown	Feb 61
No. 3	32	8	3.0	32	.10	.06	.28	6.5	57	128	L. Brown	Feb 61
No. 4	32	8	.5	18	.04	.03	.10	6.3	55	114	L. Brown	Feb 61
No. 5	32	8	.1	4	.02	.01	.04	6.0	15	38	L. Brown	Feb 61
North of North Shattuck	32	9	11.3	31	.23	.21	.94	6.0	7	26	Clear	Feb 61
North Shattuck	32	9	39.3	52	.50	.32	2.38	6.2	8	30	Clear	Feb 62

Appendix 1a -- Physical and Chemical Characteristics of Chippewa County Lakes (Continued)

Name	Location T-N	Location R-W	Surface Acres	Maximum Depth (feet)	Maximum Length (miles)	Maximum Width (miles)	Miles Shore line	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sample Date
Nut	31	7	4.8	5	.13	.11	.38	6.4	6	30	Clear	Apr 62
Odd	31	8	2.0	30	.06	.06	.20	5.2	7	28	L. Brown	Feb 62
Old Abe	30	7	1,072.0	36	10.38	.22	28.91	6.6	26	67	M. Brown	Jun 62
Oliver No. 1	31	8	14.0	32	.34	.14	.93	6.7	26	73	M. Brown	Oct 61
Oliver No. 2	31	8	3.8	62	.14	.07	.32	5.6	8	31	L. Brown	Feb 62
Oliver No. 3	31	8	5.6	48	.18	.07	.40	5.6	11	30	L. Brown	Feb 62
Otter	30	5	30.9	37	.68	.14	1.50	7.0	43	109	L. Brown	May 62
Pauls	31	7	7.3	17	.16	.15	.56	6.4	6	24	Clear	Apr 62
Payne	32	8	3.4	21	.12	.09	.36	6.0	8	37	Clear	Feb 61
Pheffercorn	30	7	15.0	4	.37	.09	.94	6.4	23	59	Clear	Mar 62
Pickerel - Cleveland	31	8	15.3	46	.21	.16	.60	6.4	34	71	Clear	Mar 61
Pickerel - Sampson	32	8	4.0	31	.10	.07	.29	6.8	11	40	Clear	Feb 61
Picnic	32	7	25.0	46	.29	.24	.94	6.8	5	27	Clear	Mar 62
Pike	30	6	173.0	32	.80	.66	2.55	6.4	24	64	Clear	Jun 62
Pine	32	9	262.0	115	1.48	.65	5.32	5.8	17	26	Clear	Aug 61
Planning	31	7	16.2	8	.30	.15	.94	5.8	9	26	Clear	Feb 62
Plummer	32	8	41.0	28	.48	.17	1.37	7.2	91	197	Clear	Feb 62
Popple	30	8	90.0	25	.82	.28	2.00	7.6	45	104	Clear	May 62
Popple Point	31	8	5.3	20	.13	.08	.36	5.6	11	22	Clear	Feb 62
Rassmusson	32	8	6.3	11	.15	.09	.43	6.2	4	32	Clear	Feb 61
Rat	31	8	4.3	6	.13	.09	.40	6.0	12	32	Clear	Feb 61
Rattz	31	8	6.4	14	.18	.10	.62	6.0	6	29	Clear	Feb 61
Raven	30	5	1.1	18	.08	.03	.19	5.0	4	34	M. Brown	Feb 62
Riley	32	8	25.1	14	.35	.25	1.30	6.4	5	24	Clear	Feb 61
Robinson	32	7	4.1	20	.11	.08	.32	6.2	10	32	Clear	Feb 62
Rock - Cleveland	31	8	93.6	35	.56	.40	1.88	7.4	73	144	Clear	May 62
Rock - Sampson	32	9	6.2	6	.26	.09	.83	5.6	6	24	Clear	Feb 62
Roedecker	32	6	15.1	10	.21	.17	.68	6.0	5	20	M. Brown	Jul 61
Roger No. 1	31	8	8.4	15	.24	.18	.93	6.0	14	40	Clear	Feb 61
Roger No. 2	31	8	6.6	14	.23	.10	.75	6.0	28	36	Clear	Feb 61
Round - Cleveland	31	8	6.8	18	.14	.10	.50	6.6	78	156	Clear	Feb 62
Round - Sampson	32	9	215.5	23	1.05	.50	2.63	6.0	5	28	L. Brown	Jul 61
Ruby	32	9	17.2	65	.31	.11	.75	6.2	4	26	M. Brown	Jul 61
Salisbury	32	9	75.6	10	.60	.29	1.78	6.0	11	33	Clear	Jan 62
Sand	31	8	11.8	8	.26	.11	.94	5.6	8	27	Clear	Feb 62
Schoolhouse	32	9	9.0	8	.22	.08	.58	6.0	17	56	Clear	Oct 62
Silver - Cleveland	31	8	2.0	23	.08	.05	.24	6.2	18	43	M. Brown	Feb 62
Silver - Sampson	32	9	26.4	50	.29	.24	.86	6.6	10	31	Clear	Jan 62
Silver Bass	31	8	1.4	21	.07	.04	.19	5.6	10	29	L. Brown	Feb 62
Smith	32	7	4.7	33	.12	.09	.33	6.0	12	30	Clear	Feb 62

Appendix 1a -- Physical and Chemical Characteristics of Chippewa County Lakes (Continued)

Name	Location T-N	R-W	Surface Acres	Maximum Depth (feet)	Maximum Length (miles)	Maximum Width (miles)	Miles Shore line	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sample Date
South Shattuck	32	8	59.4	25	.72	.34	3.82	6.2	9	29	Clear	Feb 62
Spence	32	8	13.0	57	.19	.14	.54	6.3	5	34	L. Brown	Feb 61
Spring Creek Flowage #1	32	7	16.0	7	.31	.17	.90	6.6	39	89	M. Brown	May 62
Spring Creek Flowage #2	32	7	19.0	4	.24	.15	.65	6.6	43	97	M. Brown	May 62
Spruce	30	5	6.8	24	.15	.11	.38	5.8	7	29	Clear	Feb 62
Stanley	31	8	11.6	12	.27	.10	.94	5.6	7	28	Clear	Feb 62
Star - Chippewa Falls	28	8	5.6	8	.26	.08	.90	6.8	22	78	L. Brown	May 62
Star - Cleveland	31	8	6.0	18	.18	.10	.56	6.2	3	23	Turbid	Jul 61
Sunfish - Cleveland	31	8	2.5	31	.08	.07	.25	6.2	7	22	Clear	Feb 62
Sunfish - Sampson	32	8	1.8	12	.07	.06	.22	6.1	10	44	M. Brown	Feb 61
Tallman	32	8	7.0	14	.17	.08	.45	6.4	8	28	Clear	Feb 61
Tamarack - Cleveland	31	8	2.0	8	.09	.06	.23	6.4	8	20	L. Brown	May 62
Tamarack - Sampson	32	8	3.8	33	.10	.09	.32	5.6	6	26	M. Brown	May 62
Taylor	32	8	4.9	6	.16	.07	.43	6.0	7	36	Clear	Feb 61
Tilden Millpond	29	9	60.7	12	.63	.25	2.12	6.4	22	75	L. Brown	May 62
Town Line	32	8	48.4	26	.68	.30	2.65	6.0	9	35	Clear	Feb 61
Tram	31	8	20.0	34	.38	.21	1.40	6.4	7	28	Clear	Feb 61
Triple - East	32	8	17.5	18	.68	.65	.39	6.6	5	24	Clear	Feb 61
Triple - North	32	8	6.3	21	.24	.09	.63	6.4	6	25	Clear	Feb 61
Triple - West	32	8	15.1	21	.25	.25	1.08	6.4	5	27	Clear	Feb 61
Turk	32	9	16.6	18	.16	.14	.50	6.2	14	35	Clear	Feb 62
Turtle	32	8	6.0	7	.17	.09	.45	6.4	4	27	Clear	Feb 61
Twin - East	32	9	27.8	4	.42	.20	1.22	6.1	14	44	L. Brown	Jan 62
Twin - West	32	9	17.6	4	.50	.22	1.75	6.1	12	36	Clear	Jan 62
Two Island	32	8	29.3	18	.28	.27	.94	6.8	5	34	Clear	Feb 61
Upper Twin	30	8	35.7	25	.58	.17	1.38	7.4	34	79	L. Brown	May 62
Weeks - East	32	9	3.9	7	.14	.07	.36	6.0	13	46	Clear	Feb 61
Weeks - West	32	9	4.6	11	.15	.08	.46	6.0	5	31	Clear	Feb 61
Wesley	32	6	43.5	10	.50	.20	2.10	6.0	4	20	M. Brown	Jul 61
West	32	8	7.0	7	.19	.13	.80	6.8	14	41	Clear	Feb 61
Willow Creek Flowage	32	7	21.0	7	.34	.23	1.60	6.6	37	85	D. Brown	May 62
Withrow	30	5	6.0	22	.13	.10	.38	6.2	21	67	Clear	Mar 62
Worden	32	7	17.4	6	.27	.14	1.23	6.2	11	41	Clear	Feb 62
UNNAMED LAKES, BY TOWNS												
Anson - West Tnsp.	29	8										
13-6			1.7	4	.10	.07	.28	6.2	21	73	Clear	Mar 62
Birch Creek - Central Tnsp.	32	7										
7-13			3.0	11	.12	.05	.29	6.2	6	29	L. Brown	Feb 62
8-10			2.0	6	.07	.06	.20	5.6	9	24	L. Brown	Feb 62
18-1			2.2	12	.07	.07	.28	6.0	9	44	M. Brown	Feb 62

Appendix 1a -- Physical and Chemical Characteristics of Chippewa County Lakes (Continued)

Name	Location T-N	R-W	Surface Acres	Maximum Depth (feet)	Maximum Length (miles)	Maximum Width (miles)	Miles Shore line	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sample Date
19-1	32	7	.8	23	.05	.03	.13	5.4	7	27	M. Brown	Feb 62
19-2			.5	8	.05	.02	.12	5.6	14	35	Clear	Feb 62
19-4			.8	22	.05	.03	.13	5.8	12	32	L. Brown	Feb 62
19-11			4.4	15	.15	.07	.38	5.8	5	20	Clear	Feb 62
19-15			.6	32	.04	.04	.12	5.4	6	30	L. Brown	Feb 62
28-9			1.1	23	.12	.07	.35	6.4	5	54	M. Brown	Feb 62
30-1			34.8	4	.47	.44	.85	6.6	34	82	M. Brown	May 62
31-11			.5	10	.03	.03	.13	6.4	33	75	L. Brown	May 62
31-15b			1.6	3	.10	.03	.20	6.2	8	23	Clear	May 62
31-15c			1.2	15	.07	.04	.18	5.2	5	27	M. Brown	May 62
32-9a			.4	16	.03	.02	.09	6.2	4	40	M. Brown	May 62
32-9c			.6	23	.03	.03	.12	6.2	10	26	L. Brown	May 62
32-10			1.9	9	.09	.05	.24	6.8	11	23	Clear	Apr 62
32-12			2.3	21	.09	.07	.25	6.6	15	31	Clear	Apr 62
34-9			2.9	5	.13	.07	.34	6.6	16	48	M. Brown	Apr 62
Birch Creek - East Tnsp.	32	6										
19-14			1.2	6	.05	.05	.15	6.4	38	81	Clear	Mar 62
29-2			2.9	6	.11	.06	.28	6.0	13	34	Clear	Mar 62
29-14			1.5	2	.08	.04	.19	6.2	10	48	L. Brown	May 62
Birch Creek - West Tnsp.	32	8										
25-3			1.4	24	.06	.05	.18	6.4	28	67	Clear	Feb 61
25-8			.8	7	.08	.04	.15	6.5	3	22	L. Brown	Jun 62
25-14a			5.2	38	.11	.10	.33	6.6	25	60	Clear	Feb 61
25-14c			3.3	7	.11	.06	.30	6.0	64	125	L. Brown	Feb 61
25-14d			.4	5	.03	.03	.12	6.2	58	137	Clear	Feb 61
13-11			2.2	5	.13	.04	.34	6.0	34	82	Clear	Feb 61
Bloomer - East Tnsp.	31	8										
5-5			4.3	8	.17	.06	.44	6.0	12	37	Clear	Feb 61
5-10			7.6	8	.20	.10	.55	5.8	17	36	Clear	Feb 62
5-14			2.1	5	.11	.05	.27	6.2	8	18	Clear	Apr 62
6-1 (Bell)			5.0	13	.20	.08	.44	6.2	7	30	Clear	Apr 62
6-2 (Postle)			4.4	6	.16	.10	.49	6.2	14	38	Clear	Feb 62
8-5			7.3	5	.28	.22	1.27	6.0	10	57	Clear	Mar 61
8-6			1.1	3	.06	.04	.20	6.0	8	31	Clear	Feb 61
Cleveland - East Tnsp.	31	7										
1-9			1.1	13	.06	.04	.16	5.6	14	44	M. Brown	Feb 62
5-5			4.4	5	.22	.05	.56	6.4	13	30	L. Brown	Apr 62
5-7			4.2	5	.15	.06	.34	6.2	21	52	Clear	Feb 62
6-5			.6	10	.05	.03	.12	5.8	8	20	Clear	Apr 62
8-9			1.6	3	.11	.05	.26	6.4	8	32	L. Brown	Jun 62

Appendix 1a -- Physical and Chemical Characteristics of Chippewa County Lakes (Continued)

Name	Location T-N	R-W	Surface Acres	Maximum Depth (feet)	Maximum Length (miles)	Maximum Width (miles)	Miles Shore line	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sample Date
13-3	31	7	14.2	7	.23	.17	.88	5.8	47	112	Clear	Feb 62
19-12			1.0	23	.06	.04	.14	6.4	36	78	M. Brown	Feb 62
28-15			5.0	24	.15	.09	.38	6.8	53	123	M. Brown	Feb 62
34-9			2.7	27	.10	.05	.28	6.0	8	46	M. Brown	Mar 62
Cleveland - West Tnsp.	31	8										
1-6b			.9	5	.05	.04	.18	6.0	12	33	Clear	Mar 61
1-6d			1.7	9	.06	.05	.19	6.2	11	32	Clear	Mar 61
1-7			.7	5	.04	.04	.13	6.0	15	48	Clear	Mar 61
2-10			.5	23	.04	.03	.12	6.0	22	39	Clear	Feb 61
2-11c			.7	5	.07	.02	.15	6.0	19	50	Clear	Feb 61
2-11d			3.3	8	.13	.07	.34	6.0	10	31	Clear	Feb 61
2-12			.8	3	.05	.04	.15	6.0	20	43	Clear	Feb 61
3-10			2.5	16	.09	.06	.24	6.4	57	120	Clear	Feb 61
3-11			2.0	9	.11	.04	.32	6.6	123	235	Clear	Feb 61
3-15			.3	5	.06	.01	.13	6.0	8	57	Clear	Feb 61
3-16a			5.5	47	.16	.07	.42	6.0	52	45	L. Brown	Feb 61
3-16ca			.9	14	.05	.05	.15	6.0	14	33	Clear	Feb 61
3-16cc			1.5	13	.06	.05	.18	6.0	11	35	Clear	Feb 61
4-2			1.5	7	.06	.05	.19	6.8	13	43	Clear	Feb 61
4-3			2.0	5	.09	.05	.24	6.8	15	53	Clear	Feb 61
9-13			3.2	10	.10	.08	.28	6.2	5	26	L. Brown	Jul 61
10-3			2.0	6	.07	.06	.20	5.8	7	24	Clear	Feb 62
10-4			1.4	4	.08	.04	.20	5.6	21	47	Clear	Feb 62
10-5			.9	11	.15	.03	.18	5.8	12	30	Clear	Feb 62
10-10			1.4	7	.08	.06	.20	6.2	19	42	Clear	Feb 62
10-11b			3.3	5	.13	.07	.38	6.2	15	36	Clear	Feb 62
10-11c			1.7	4	.06	.06	.20	6.2	15	28	Clear	Feb 62
11-5			6.6	14	.16	.10	.50	5.6	16	25	Clear	Mar 62
11-6			5.5	7	.21	.10	.72	6.1	15	43	Clear	Feb 62
11-10			7.8	10	.24	.09	.56	5.6	18	26	Clear	Feb 62
14-14			.8	21	.05	.04	.13	5.8	38	79	L. Brown	Feb 62
15-10			5.4	11	.17	.11	.42	6.2	7	27	Clear	Feb 62
15-15			.8	20	.05	.04	.14	6.2	10	33	D. Brown	Jul 61
15-16			4.8	7	.19	.06	.43	5.8	15	41	Clear	Feb 62
16-8			2.2	15	.08	.06	.24	6.2	10	20	Clear	Apr 62
16-11			1.5	8	.09	.03	.20	6.4	5	27	Clear	Feb 62
21-3			4.5	13	.13	.07	.34	6.0	13	37	Clear	Feb 61
21-8			1.3	12	.06	.06	.18	6.0	10	31	Clear	Feb 61
22-2			4.1	10	.12	.08	.32	5.8	12	30	Clear	Feb 62
22-3			10.6	10	.25	.11	.65	6.2	12	26	Clear	Feb 62

Appendix 1a -- Physical and Chemical Characteristics of Chippewa County Lakes (Continued)

Name	Location T-N	Location R-W	Surface Acres	Maximum Depth (feet)	Maximum Length (miles)	Maximum Width (miles)	Miles Shore line	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sample Date
23-4	31	8	2.3	7	.08	.07	.25	5.8	13	42	M. Brown	Feb 62
26-3			4.0	5	.16	.11	.50	6.0	23	50	Clear	Feb 62
26-11			2.2	20	.08	.06	.28	6.4	43	94	Clear	Feb 62
28-16			1.9	8	.07	.04	.20	6.2	22	82	Clear	Mar 61
34-2			.4	12	.03	.03	.10	6.4	43	90	L. Brown	Feb 62
Colburn - North Tnsp.	31	5										
35-16			2.2	29	.25	.13	.26	5.0	8	37	M. Brown	Feb 62
Delmar - East Tnsp.	29	5										
6-14			8.7	4	.20	.13	.64	6.0	23	62	L. Brown	Mar 62
Eagle Point - NE Tnsp.	30	7										
4-1			8.5	30	.20	.14	.56	6.2	7	59	L. Brown	Mar 62
Eagle Point - NW Tnsp.	30	8										
2-11			2.1	3	.10	.03	.28	6.1	12	51	L. Brown	Jan 62
2-15			5.4	3	.16	.10	.39	6.0	13	36	L. Brown	Jan 62
2-16			8.5	5	.20	.11	.58	6.0	6	27	Clear	Jan 62
3-13			1.5	5	.06	.06	.19	6.0	9	37	L. Brown	Jan 62
3-16			10.6	8	.21	.12	.56	6.2	11	40	Clear	Jan 62
10-2			5.9	5	.20	.09	.58	6.2	6	20	Clear	Apr 62
10-5			7.3	7	.20	.10	.50	6.0	4	28	Clear	Jan 62
10-9			1.3	13	.15	.02	.32	6.1	12	42	M. Brown	Jan 62
10-15			1.9	16	.14	.05	.22	6.2	20	56	M. Brown	Jan 62
11-14			.9	20	.05	.04	.15	6.2	38	77	M. Brown	Feb 62
12-12			2.7	12	.09	.09	.26	6.2	34	85	M. Brown	Mar 62
13-2			10.6	7	.22	.11	.53	6.0	13	32	Clear	Mar 62
14-7			1.6	19	.07	.06	.19	6.0	10	26	Clear	Feb 62
15-1			.7	21	.04	.03	.12	6.0	32	63	L. Brown	Feb 62
15-16			.5	21	.04	.03	.12	5.0	9	27	M. Brown	Feb 62
17-13			7.5	5	.18	.12	.46	6.0	18	65	Clear	Feb 61
Edson - East Tnsp.	28	5										
5-6			4.0	4	.09	.07	.32	6.8	76	200	Clear	Mar 62
10-5			1.8	3	.13	.03	.28	6.2	21	121	Clear	Mar 62
Estella	31	6										
7-10			5.8	9	.22	.08	.56	7.0	61	125	Clear	Mar 62
7-11			.9	4	.05	.03	.14	6.8	79	124	Clear	Mar 62
Holcombe	32	6										
10-6			11.3	8	.25	.08	.56	7.8	27	71	Clear	Jun 62
Lafayette - West Tnsp.	28	8										
10-1			9.0	4	.35	.05	1.60	6.4	41	136	Clear	Feb 62

Appendix 1a -- Physical and Chemical Characteristics of Chippewa County Lakes (Continued)

Name	Location T-N	Location R-W	Surface Acres	Maximum Depth (feet)	Maximum Length (miles)	Maximum Width (miles)	Miles Shore line	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sample Date
Sampson - East Tnsp.	32	8										
3-3			2.6	5	.10	.06	.26	6.0	9	39	L. Brown	Feb 61
3-6			1.2	10	.09	.05	.29	6.0	11	33	M. Brown	Feb 61
3-13			.7	7	.04	.03	.13	6.0	12	37	L. Brown	Feb 61
3-14			6.0	18	.22	.09	.53	6.0	7	47	M. Brown	Feb 61
5-2			1.6	27	.07	.06	.18	5.2	5	20	L. Brown	Feb 61
5-5			.3	18	.04	.02	.08	6.0	13	27	L. Brown	Feb 61
5-8			.3	24	.03	.02	.07	6.2	10	26	L. Brown	Feb 61
5-9			.7	4	.06	.03	.16	6.0	12	28	L. Brown	Feb 61
5-11			4.8	8	.15	.08	.40	6.3	10	29	L. Brown	Feb 61
6-1			2.5	9	.11	.05	.26	6.0	14	42	L. Brown	Feb 61
6-4			5.8	9	.25	.10	.78	6.2	8	26	Clear	Apr 62
6-5			3.8	10	.11	.09	.35	6.2	6	29	Clear	Feb 61
6-8b			.5	6	.05	.04	.14	5.6	4	22	L. Brown	Feb 61
6-8db			.1	23	.03	.02	.05	6.0	11	31	D. Brown	Feb 61
6-8dc			.5	20	.04	.03	.09	6.2	12	34	D. Brown	Feb 61
6-12			.1	44	.02	.01	.05	6.0	12	30	L. Brown	Feb 61
7-13			3.5	31	.14	.07	.34	6.0	5	41	M. Brown	Feb 61
12-11			1.7	48	.08	.04	.20	6.0	8	32	Clear	Feb 61
15-14			15.2	5	.34	.12	1.26	6.0	14	44	L. Brown	Feb 61
16-8			2.4	14	.09	.08	.25	6.2	8	31	Clear	Feb 61
16-11			.4	5	.04	.03	.13	6.0	24	56	Clear	Mar 62
16-15			.1	18	.03	.01	.08	6.6	7	34	L. Brown	Feb 61
19-1			1.6	29	.09	.04	.20	7.0	31	75	L. Brown	Feb 61
19-3			4.1	5	.24	.05	.58	6.4	7	20	Clear	Apr 62
19-9			3.3	31	.12	.06	.30	6.8	15	48	L. Brown	Feb 61
19-13			8.1	5	.33	.08	.89	6.8	10	43	Clear	Feb 61
19-14a			2.2	6	.08	.06	.29	6.2	8	20	Clear	Apr 62
19-14d			1.2	7	.08	.04	.19	6.6	5	19	Clear	Apr 62
19-16b			1.6	4	.10	.01	.22	6.8	15	44	Clear	Feb 61
19-16d			2.4	5	.08	.06	.25	6.2	9	34	L. Brown	Feb 61
20-1			2.6	5	.11	.07	.33	6.4	13	39	L. Brown	Feb 61
20-4			1.7	4	.08	.05	.20	6.0	13	47	L. Brown	Feb 61
20-10			8.4	15	.18	.10	.50	6.4	4	23	Clear	Feb 61
20-12			.4	4	.04	.02	.09	6.6	14	42	Clear	Feb 61
20-16			.2	5	.04	.03	.08	6.0	7	32	Clear	Feb 61
21-10			2.0	17	.11	.04	.26	6.8	19	49	Clear	Feb 61
21-11			2.4	10	.09	.08	.30	6.2	8	38	Clear	Feb 61
22-1			6.3	5	.27	.06	.68	6.0	14	40	Clear	Feb 61
22-8			2.1	27	.09	.05	.24	6.4	13	39	Clear	Feb 61

Appendix 1a -- Physical and Chemical Characteristics of Chippewa County Lakes (Continued)

Name	Location T-N	Location R-W	Surface Acres	Maximum Depth (feet)	Maximum Length (miles)	Maximum Width (miles)	Miles Shore line	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sample Date
22-15	32	8	3.3	25	.09	.07	.26	7.2	27	117	Clear	Feb 61
23-11			3.2	9	.11	.07	.29	6.0	5	36	Clear	Feb 61
26-6			2.3	17	.09	.07	.25	6.2	9	27	Clear	Feb 61
26-15			2.3	3	.13	.05	.43	7.4	170	313	Clear	Feb 61
27-1ba			.2	20	.03	.02	.08	6.0	22	36	Clear	Feb 61
27-1bc			.3	21	.03	.02	.08	6.0	10	30	Clear	Feb 61
27-2c			2.0	20	.08	.05	.24	6.8	66	142	Clear	Feb 61
27-2d			1.6	16	.06	.05	.18	6.4	53	125	Clear	Feb 61
27-7			1.9	18	.10	.04	.24	6.2	14	35	Clear	Feb 61
27-10			9.1	24	.21	.12	.73	6.2	9	30	Clear	Feb 61
28-6			2.3	5	.10	.06	.28	6.4	20	53	Clear	Feb 61
28-10			6.0	5	.21	.11	.68	6.0	17	38	Clear	Feb 61
28-11			1.0	4	.05	.03	.13	6.0	24	41	Clear	Feb 61
28-15c			2.0	9	.09	.05	.23	6.0	9	25	Clear	Feb 61
28-15d			3.8	6	.14	.08	.40	6.0	8	29	Clear	Feb 61
28-16			4.8	6	.18	.08	.45	6.0	15	38	Clear	Feb 61
29-6			6.4	31	.25	.07	.68	6.0	6	22	Clear	Feb 61
29-7d			6.0	18	.18	.07	.50	6.0	10	23	Clear	Feb 61
29-10b			2.8	15	.16	.05	.38	6.2	7	25	Clear	Apr 62
29-10c			11.1	18	.35	.28	1.56	6.2	7	20	Clear	Apr 62
29-11a			2.8	7	.10	.08	.28	6.4	2	35	Clear	Apr 62
29-11d			1.8	5	.11	.05	.26	6.2	7	19	Clear	Apr 62
29-12			2.3	7	.09	.05	.26	6.0	7	35	Clear	Feb 61
30-3			5.6	26	.16	.08	.40	6.0	6	21	Clear	Feb 61
30-5			1.2	5	.07	.04	.19	6.0	15	43	Clear	Feb 61
30-9			3.3	5	.14	.06	.38	6.0	14	49	Clear	Feb 61
30-10			5.9	31	.18	.16	.62	6.0	6	24	Clear	Feb 61
30-13			1.7	4	.12	.04	.28	5.8	8	20	Clear	Apr 62
30-14			5.1	24	.22	.11	.55	6.2	12	36	Clear	Feb 61
30-15			.7	4	.07	.02	.15	6.2	38	90	Clear	Feb 61
30-16			3.0	5	.13	.07	.36	6.0	6	17	Clear	Apr 62
31-1b			2.7	5	.09	.07	.28	6.2	7	34	Clear	Feb 61
31-1d			6.0	7	.17	.09	.53	6.2	6	41	Clear	Feb 61
31-2c			4.2	10	.12	.07	.33	6.4	16	53	Clear	Feb 61
31-2d			2.1	6	.08	.06	.22	6.0	10	45	Clear	Feb 61
31-3			2.3	8	.10	.04	.25	6.2	8	52	Clear	Feb 61
31-4			1.2	4	.07	.03	.19	6.0	25	49	Clear	Feb 61
31-8			2.5	5	.10	.07	.30	6.0	17	72	Clear	Feb 61

Appendix 1a -- Physical and Chemical Characteristics of Chippewa County Lakes (Continued)

Name	Location T-N	Location R-W	Surface Acres	Maximum Depth (feet)	Maximum Length (miles)	Maximum Width (miles)	Miles Shore line	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sample Date
31-9	32	8	4.8	6	.18	.06	.45	6.0	19	76	Clear	Feb 61
31-10			1.1	5	.08	.04	.19	6.2	12	21	Clear	Apr 62
31-13a			3.0	4	.09	.08	.28	6.2	15	48	Clear	Feb 61
31-13c			.8	4	.06	.03	.16	6.0	15	48	Clear	Feb 61
31-14c			.3	4	.05	.02	.15	6.0	60	130	Clear	Feb 61
31-14d			3.0	5	.12	.05	.30	6.0	10	38	Clear	Feb 61
31-15			2.9	4	.11	.07	.28	6.0	18	45	Clear	Feb 61
32-1			1.8	5	.11	.04	.30	6.0	20	49	Clear	Feb 61
32-2			9.0	6	.24	.10	.70	6.0	10	40	Clear	Feb 61
32-3			2.6	4	.08	.04	.29	6.0	19	49	Clear	Feb 61
32-5a			3.6	5	.15	.06	.38	6.0	10	50	Clear	Feb 61
32-5b			.8	5	.05	.03	.14	6.0	22	50	Clear	Feb 61
32-8			6.0	10	.18	.08	.50	6.2	5	33	Clear	Feb 61
32-9			2.0	5	.11	.05	.29	6.0	17	40	Clear	Feb 61
32-10a			2.0	6	.11	.05	.32	6.4	21	68	Clear	Feb 61
32-10c			2.3	5	.12	.07	.34	6.0	13	42	Clear	Feb 61
32-12			6.4	5	.27	.07	.69	6.0	15	53	Clear	Feb 61
32-14			2.1	5	.11	.06	.28	6.0	14	45	Clear	Feb 61
33-4a			2.1	20	.09	.06	.35	6.0	12	34	Clear	Feb 61
33-4ca			1.4	5	.09	.06	.24	6.8	8	49	Clear	Feb 61
33-4cc			.9	5	.05	.04	.14	6.8	20	45	Clear	Feb 61
33-5			4.3	5	.12	.07	.36	6.8	10	36	Clear	Feb 61
33-7			.9	7	.05	.03	.13	6.0	13	39	Clear	Feb 61
33-10			4.2	27	.17	.13	.65	6.8	16	32	Clear	Feb 61
33-12			.6	5	.06	.04	.17	6.8	10	43	Clear	Feb 61
33-13			2.4	19	.11	.08	.28	5.6	6	25	Clear	Apr 62
34-3			4.3	5	.14	.11	.48	6.0	16	39	Clear	Feb 61
34-7			.7	5	.05	.03	.14	6.8	13	36	Clear	Feb 61
34-9			6.3	22	.17	.11	.52	6.0	5	32	Clear	Feb 61
34-11ca			.6	22	.06	.03	.14	6.2	30	38	M. Brown	Apr 62
34-11cb			1.1	21	.05	.04	.14	6.8	53	94	Clear	Feb 61
Sampson - West Tnsp.	32	9										
2-5			1.5	10	.08	.04	.20	6.0	14	62	Clear	Jan 61
2-8			10.8	18	.28	.19	1.15	6.2	8	25	Clear	May 62
2-11a			4.0	8	.11	.09	.35	6.2	15	42	Clear	Jan 61
2-11c			4.3	3	.15	.07	.34	6.0	6	53	Clear	Jan 61
3-10			2.0	7	.07	.06	.22	6.0	8	106	Clear	Jan 61
3-15			9.7	8	.17	.16	.49	6.0	10	43	Clear	Jan 61
4-14			10.9	10	.18	.17	.56	6.2	10	30	Clear	Jan 62

Appendix 1a -- Physical and Chemical Characteristics of Chippewa County Lakes (Continued)

Name	Location T-N	R-W	Surface Acres	Maximum Depth (feet)	Maximum Length (miles)	Maximum Width (miles)	Miles Shore line	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sample Date
5-15	32	9	7.3	7	.23	.08	.56	6.0	10	38	Clear	Jan 61
9-4			11.0	5	.33	.09	1.08	7.4	20	70	Clear	Aug 61
9-5			6.0	5	.24	.07	.55	6.2	12	33	Clear	Jan 61
9-8			5.1	7	.17	.07	.44	6.2	23	39	Clear	Feb 61
9-13b			3.6	5	.11	.08	.29	6.8	6	37	Clear	Jan 61
9-13d			6.1	8	.19	.09	.50	6.8	9	40	L. Brown	Jan 61
9-14			2.2	5	.09	.07	.23	6.0	28	41	Clear	Feb 61
9-16			2.8	8	.10	.08	.28	6.0	11	21	D. Brown	Aug 61
10-10			8.0	10	.23	.13	.65	6.2	15	35	Clear	Jan 61
10-13			2.1	5	.10	.04	.25	6.8	6	31	Clear	Feb 61
10-14			3.1	5	.09	.07	.25	6.0	7	27	Clear	Feb 61
10-15			3.3	5	.13	.06	.33	6.8	12	44	Clear	Jan 61
10-16			7.9	7	.19	.11	.53	6.8	5	39	Clear	Jan 61
11-1			.2	18	.02	.01	.05	6.0	2	37	M. Brown	Jan 62
11-8			2.2	26	.07	.06	.21	6.8	8	28	L. Brown	Feb 61
11-9			10.2	16	.17	.11	.50	6.0	11	27	Clear	Feb 61
11-10			3.1	16	.10	.07	.29	6.8	11	25	Clear	Feb 61
15-1			3.1	17	.11	.07	.28	6.0	9	38	L. Brown	Feb 61
15-8			.4	15	.03	.02	.09	6.8	7	42	L. Brown	Feb 61
15-14			.5	12	.05	.03	.13	6.8	10	45	L. Brown	Feb 61
16-3			5.0	3	.26	.11	.95	6.0	21	48	M. Brown	Jan 62
23-11			4.6	3	.16	.08	.39	6.0	15	55	Clear	Jan 60
25-9			4.0	9	.18	.07	.50	6.0	7	31	Clear	Feb 61
25-10			5.9	5	.26	.06	.82	6.2	6	21	Clear	May 62
25-12a			2.5	5	.14	.05	.32	6.0	15	61	Clear	Feb 61
25-12d			3.5	11	.13	.07	.30	5.7	6	32	Clear	Feb 62
25-15b			1.7	5	.11	.04	.31	6.2	9	20	Clear	Apr 62
25-15c			.9	3	.05	.04	.15	6.2	11	29	Clear	Apr 62
35-1			11.4	7	.33	.12	1.19	6.0	8	40	Clear	Jan 61
36-15			1.9	3	.07	.05	.20	6.8	47	162	Clear	Feb 61
Wheaton	28	10										
29-15			3.0	2	.11	.06	.29	6.8	23	64	Clear	Mar 61
32-2			1.9	3	.08	.04	.20	6.8	50	182	L. Brown	Mar 61
32-11			2.0	2	.08	.06	.20	6.8	40	141	Clear	Mar 61
TOTAL			19,335.0				459.18					
AVERAGE								6.2	18	49		

Appendix 1b -- PHYSICAL CHARACTERISTICS OF CHIPPEWA COUNTY LAKES

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	S.D.F.	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Public Frontage
Ace-in-the-Hole	Landlocked	.10	10	90	.10	1.53	1	–	100	–
Axhandle	Tenmile Creek	.27	–	100	.42	2.15	4	–	100	.08
Barr	Bob Creek	.11	–	100	.86	1.89	30	40	60	.62
Bass - Sampson	Landlocked	.34	25	75	.34	1.53	26	30	70	–
Bass #1 - Birch Creek	Mud Creek	.08	–	100	.12	1.18	13	80	20	.40
Bass #2 - Birch Creek	Mud Creek	.04	–	100	.04	1.14	–	–	–	.03
Bass #1 - Cleveland	Landlocked	.16	20	80	.16	1.38	3	75	25	–
Bass #2 - Cleveland	Landlocked	.09	5	95	.09	1.80	2	–	100	.17
Bass #3	Mud Creek	.07	–	100	.07	1.09	6	–	100	.45
Bass #4	Mud Creek	.30	–	100	.09	1.35	45	–	100	–
Bass #5	Mud Creek	.10	–	100	1.19	1.16	32	–	100	.40
Beaver - Cleveland-Sec. 13	Bob Creek	.04	–	100	.75	1.09	12	–	100	.32
Beaver - Cleveland-Sec. 16	Landlocked	.12	–	100	.12	1.98	–	–	–	–
Big Beaver	Landlocked	.20	40	60	.20	1.10	13	50	50	–
Big Buck	O'Neil Creek	.09	–	100	.09	1.49	38	70	30	–
Big Twin	Landlocked	.14	–	100	.14	1.17	12	–	100	.04
Birch Creek Flowage #1	Birch Creek	.88	5	95	.99	1.32	166	1	99	.30
Birch Creek Flowage #2	Birch Creek	.12	–	100	.12	2.42	5	–	100	.75
Black	Bob Creek	.05	–	100	.38	1.08	35	–	100	.25
Bob	Bob Creek	.65	10	90	4.82	1.39	90	30	70	.29
Bog	Landlocked	.37	–	100	.37	1.05	42	10	90	.35
Boiler	Willow Creek	.06	–	100	.06	1.34	–	–	–	–
Boot	Landlocked	.28	35	65	.28	2.26	3	–	100	–
Bradley	Foster Creek	.12	–	100	.12	1.63	–	–	–	.34
Burnt Wagon	Landlocked	.20	–	100	.20	2.65	–	–	–	1.44
Cadott Flowage	Yellow River	1.60	85	15	345.00	2.80	–	–	–	.57
Cadotte	Landlocked	.18	5	95	.18	1.57	39	–	100	.23
Calkins	Cedar Creek	.33	–	100	.33	1.11	91	35	65	–
Calkins - North	Landlocked	.13	–	100	.13	1.74	1	–	100	–
Calkins - West	Landlocked	.14	–	100	.14	1.72	–	–	–	–
Cameron	Birch Creek	.75	20	80	.75	1.07	76	20	80	–
Camp	Landlocked	.53	3	97	.53	1.16	52	–	100	.40
Cather	Landlocked	.25	5	95	.25	1.38	13	30	70	–
Cedar	Cedar Creek	.05	10	90	.43	1.32	10	30	70	–
Chain	Cedar Creek	1.78	10	90	12.63	2.30	60	80	20	.01
Chapman	Wolf River	.15	95	5	31.00	2.25	–	–	–	.90
Chick	Landlocked	.05	–	100	.05	1.64	–	–	–	–
Chippewa Falls Flowage	Chippewa River	4.70	90	10	5,480.00	2.81	64	100	–	–
Clear	Landlocked	.17	50	50	.17	1.64	3	–	100	–
Cornell Flowage	Chippewa River	11.10	90	10	5,049.00	5.78	154	90	10	5.18

Appendix 1b -- Physical Characteristics of Chippewa County Lakes (Continued)

Name	Drainage System	Direct Drainage (Sq. miles)	Per Cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	S.D.F.	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Public Frontage
Cornell	O'Neil Creek	1.50	3	97	1.50	1.34	192	8	92	.13
Dam	Landlocked	.04	—	100	.04	1.16	—	—	—	.32
Dark - Sampson East	Cedar Creek	.32	—	100	.32	1.41	19	—	100	—
Dark - Sampson West	Tenmile Creek	.15	—	100	.15	1.39	—	—	—	.05
Deer	Mud Creek	.62	—	100	.72	1.31	13	—	100	.40
Dog Island	Landlocked	.14	10	90	.14	1.45	—	—	—	—
Dumke	Landlocked	.09	25	75	.09	1.39	—	—	—	.24
Eagle	Landlocked	.16	—	100	.16	1.76	16	—	100	—
Evans	Landlocked	.10	—	100	.10	2.06	—	—	—	—
Evergreen	Bob Creek	.07	—	100	.33	1.28	19	—	100	.32
Finley	So. Fk. Bob Creek	.85	40	60	3.05	1.21	74	1	99	—
Firth	Firth Lake Outlet	.84	—	100	.84	1.40	—	—	—	—
Fishpole	Landlocked	.11	—	100	.11	1.46	6	—	100	.28
Foster	Foster Creek	1.40	3	97	1.80	1.41	288	—	100	—
Fur Farm	Landlocked	.14	20	80	.14	2.06	3	40	60	—
Glen Loch Flowage	Duncan Creek	.80	40	60	116.48	3.30	—	—	—	1.23
Granger	Cedar Creek	.13	—	100	.46	1.60	19	—	100	—
Harwood No. 1	Landlocked	.04	—	100	.04	1.37	—	—	—	.14
Harwood No. 2	Landlocked	.08	—	100	.08	1.58	1	—	100	.65
Harwood No. 3	Landlocked	.01	—	100	.01	1.14	—	—	—	.15
Harwood No. 4	Landlocked	.02	—	100	.02	1.36	—	—	—	.16
Hay Meadow Flowage #1	Bob Creek	.20	—	100	3.36	1.37	18	—	100	.93
Hay Meadow Flowage #2	Bob Creek	1.48	—	100	2.30	3.26	13	—	100	2.92
Hay Meadow Flowage #3	Bob Creek	.05	—	100	.36	1.54	5	—	100	.94
Hay Meadow Flowage #4	Bob Creek	.31	—	100	.31	2.55	80	—	100	1.75
Hemlock	Landlocked	.18	—	100	.18	2.08	—	—	—	.01
Henneman	Cedar Creek	.52	—	100	.59	2.14	4	—	100	.01
Highland	O'Neil Creek	.07	—	100	.09	1.80	—	—	—	.78
Himple	Landlocked	.22	60	40	.22	1.12	5	100	—	—
Hodge	Landlocked	.14	—	100	.14	1.78	—	—	—	—
Holcombe Flowage	Chippewa River	40.00	30	70	4,995.00	7.83	1,216	50	50	2.52
Horseshoe Flowage	Cranberry Creek	.66	—	100	.66	2.07	19	100	—	.70
Horseshoe - Cleveland	Landlocked	.12	—	100	.12	2.04	—	—	—	.75
Horseshoe - Sampson East	Landlocked	.12	—	100	.12	1.63	—	—	—	1.60
Horseshoe - Sampson West	Landlocked	.12	—	100	.12	2.25	—	—	—	—
Howe	Landlocked	1.00	15	85	1.00	1.39	188	—	100	.01
Jacks	Landlocked	.28	30	70	.28	2.09	11	30	70	—
Jeanstow	Landlocked	.10	—	100	.10	1.18	—	—	—	—
Jerome	Spring Creek	.17	—	100	.17	1.25	—	—	—	—
Jim	Jim Creek	.97	15	85	.97	1.44	205	10	90	—

Appendix 1b -- Physical Characteristics of Chippewa County Lakes (Continued)

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	S.D.F.	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Public Frontage
Kettle	Landlocked	.02	–	100	.02	1.15	–	–	–	.04
Knickerbocker	Landlocked	.07	–	100	.07	1.22	1	100	–	.44
Lake Como	Duncan Creek	11.75	90	10	48.25	3.76	–	–	–	.11
Lake Hallie	Chippewa River	.56	40	60	.56	3.75	–	–	–	.03
Lake Wissota	Chippewa River	45.00	75	25	5,475.00	5.23	–	–	–	1.90
Larrabee	Cedar Creek	.34	15	85	.34	1.72	38	50	50	–
Leo Joerg	Landlocked	.21	5	95	.21	1.26	52	40	60	–
Little Bass	Landlocked	.09	10	90	.09	1.83	3	–	100	–
Little Beaver	Landlocked	.15	15	85	.15	1.18	13	10	90	.19
Little Bob	Bob Creek	.04	–	100	4.17	1.51	1	50	50	–
Little Buck	O'Neil Creek	.10	–	100	.10	1.11	6	100	–	–
Little Pine	Tenmile Creek	.10	–	100	.10	1.38	–	–	–	–
Little Plummer	Mud Creek	.16	–	100	.16	1.13	8	–	100	.48
Little Twin	Landlocked	.16	–	100	.16	1.04	13	50	50	.13
Logger	Landlocked	.13	–	100	.13	1.52	2	100	–	–
Long - Cleveland East	Landlocked	.36	5	95	.36	2.27	39	–	100	1.42
Long - Cleveland West	O'Neil Creek	.10	–	100	.35	1.36	38	100	–	–
Long - Sampson	Cedar Creek	4.58	10	90	6.74	3.08	262	20	80	.08
Loon	Landlocked	.92	15	85	.92	1.92	54	50	50	–
Lost	Landlocked	.11	–	100	.11	1.19	23	60	40	–
Lowland	Landlocked	.19	5	95	.19	1.75	10	–	100	.82
Marsh Miller	O'Neil Creek	3.20	20	80	7.87	2.72	291	20	80	.01
Mary Jane No. 1	O'Neil Creek	.08	–	100	.28	1.05	–	–	–	–
Mary Jane No. 2	O'Neil Creek	.15	–	100	.15	3.17	12	50	50	–
McDonald	Landlocked	.15	5	95	.15	1.34	15	30	70	–
Meadows	Mud Creek	.35	45	55	.41	1.47	19	–	100	.63
Metcalf	Landlocked	.11	20	80	.11	1.56	3	–	100	–
Miller	Birch Creek	.11	90	10	.11	1.35	–	–	–	.39
Moon	Landlocked	.08	15	85	.08	1.61	–	–	–	.52
Mud - Birch Creek	Landlocked	.06	–	100	.06	1.79	–	–	–	.70
Mud - Bloomer	O'Neil Creek	.10	–	100	.10	1.43	–	–	–	–
Mud - Eagle Point	Chippewa River	1.15	25	75	1.15	1.08	136	30	70	–
No. 1 - Cleveland	Landlocked	.07	–	100	.07	1.31	2	–	100	–
No. 1 - Sampson	Cedar Creek	.06	–	100	.38	1.26	19	–	100	–
No. 2	Cedar Creek	.07	5	95	.32	1.19	15	–	100	–
No. 3	Cedar Creek	.09	10	90	.25	1.19	15	–	100	–
No. 4	Cedar Creek	.05	–	100	.16	1.01	19	–	100	–
No. 5	Cedar Creek	.11	10	90	.11	1.13	19	–	100	–
North of North Shattuck	Landlocked	.09	–	100	.09	2.00	–	–	–	–
North Shattuck	Landlocked	.18	20	80	.18	2.71	–	–	–	–

Appendix 1b -- Physical Characteristics of Chippewa County Lakes (Continued)

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	S.D.F.	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Public Frontage
Nut	Landlocked	.10	90	10	.10	1.22	—	—	—	.19
Odd	Mud Creek	.33	—	100	.33	1.06	145	—	100	.20
Old Abe	Chippewa River	12.60	50	50	5,129.00	6.72	500	40	60	.85
Oliver No. 1	Bob Creek	.47	60	40	.94	1.73	1	5	95	.01
Oliver No. 2	Bob Creek	.17	—	100	.47	1.21	50	—	100	—
Oliver No. 3	Bob Creek	.30	—	100	.30	1.24	60	—	100	—
Otter	Otter Creek	.65	15	85	.65	1.93	51	20	80	—
Pauls	Landlocked	.09	10	90	.09	1.48	6	—	100	.41
Payne	Landlocked	.05	—	100	.05	1.43	—	—	—	—
Pheffercorn	Landlocked	.25	75	25	.25	1.73	3	100	—	—
Pickerel - Cleveland	Bob Creek	.37	—	100	.37	1.10	30	—	100	—
Pickerel - Sampson	Landlocked	.06	—	100	.06	1.07	1	100	—	.29
Picnic	Landlocked	.20	10	90	.20	1.33	—	—	—	—
Pike	Pike Creek	2.00	15	85	2.00	1.38	155	30	70	—
Pine	Tenmile Creek	.77	5	95	.77	2.56	—	—	—	—
Planning	Landlocked	.35	5	95	.35	1.72	19	20	80	—
Plummer	Mud Creek	.20	5	95	.36	1.69	—	—	—	.22
Popple	Chippewa River	2.25	35	65	2.25	1.50	275	2	98	.01
Popple Point	Landlocked	.08	—	100	.08	1.15	—	—	—	—
Rassmusson	Landlocked	.12	25	75	.12	1.25	—	—	—	.18
Rat	Landlocked	.05	—	100	.05	1.41	—	—	—	.40
Rattz	Landlocked	.05	—	100	.05	1.74	3	—	100	.62
Raven	Yellow River	.30	30	70	.30	1.36	—	—	—	.19
Riley	Landlocked	.25	5	95	.25	1.86	6	50	50	—
Robinson	Birch Creek	.12	—	100	.12	1.13	64	—	100	.32
Rock - Cleveland	O'Neil Creek	1.10	—	100	4.02	1.39	80	30	70	.20
Rock - Sampson	Landlocked	.17	50	50	.17	2.41	3	100	—	—
Roedecker	Landlocked	.67	—	100	.67	1.25	20	30	70	.68
Roger No. 1	Landlocked	.06	10	90	.06	2.31	—	—	—	—
Roger No. 2	Landlocked	.21	25	75	.21	2.10	3	—	100	—
Round - Cleveland	O'Neil Creek	3.48	—	100	5.33	1.40	285	50	50	—
Round - Sampson	McCann Creek	1.15	25	75	1.15	1.28	165	30	70	.02
Ruby	Landlocked	.23	—	100	.23	1.30	23	20	80	—
Salisbury	Landlocked	.54	5	95	.54	1.47	49	40	60	—
Sand	Landlocked	.08	—	100	.08	1.96	—	—	—	—
Schoolhouse	Cedar Creek	.10	—	100	.10	1.38	19	40	60	—
Silver - Cleveland	Landlocked	.10	—	100	.10	1.21	3	50	50	.24
Silver - Sampson	Tenmile Creek	.22	—	100	.99	1.20	8	95	5	—
Silver Bass	Bob Creek	.16	—	100	.16	1.21	—	—	—	.19
Smith	Spring Creek	.18	—	100	.18	1.09	—	—	—	—

Appendix 1b -- Physical Characteristics of Chippewa County Lakes (Continued)

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	S.D.F.	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Public Frontage
South Shattuck	Landlocked	.34	35	65	.34	3.54	–	–	–	.03
Spence	Foster Creek	.21	–	100	.21	1.03	38	–	100	.54
Spring Creek Flowage #1	Spring Creek	.40	–	100	.83	1.57	–	–	–	.90
Spring Creek Flowage #2	Spring Creek	.08	–	100	.91	1.08	8	–	100	.30
Spruce	Landlocked	.10	5	95	.10	1.12	3	–	100	.38
Stanley	Landlocked	.08	–	100	.08	2.13	–	–	–	–
Star - Chippewa Falls	Duncan Creek	.10	10	90	117.33	2.71	–	–	–	.66
Star - Cleveland	Landlocked	.05	15	85	.05	1.66	–	–	–	.56
Sunfish - Cleveland	Bob Creek	.10	–	100	.26	1.17	18	–	100	.25
Sunfish - Sampson	Landlocked	.26	5	95	.26	1.23	26	20	80	.09
Tallman	Landlocked	.30	40	60	.30	1.24	19	20	80	–
Tamarack - Cleveland	Bob Creek	.09	–	100	.09	1.15	45	–	100	.23
Tamarack - Sampson	Cedar Creek	.11	–	100	.70	1.21	19	100	–	–
Taylor	Landlocked	.10	–	100	.10	1.42	–	–	–	–
Tilden Millpond	Duncan Creek	1.51	70	30	107.93	2.00	–	–	–	–
Town Line	O'Neil Creek	.65	5	95	.65	3.19	–	–	–	1.90
Tram	Landlocked	.17	–	100	.17	2.24	4	–	100	.46
Triple - East	Landlocked	.13	–	100	.13	2.35	5	–	100	–
Triple - North	Landlocked	.09	–	100	.09	1.82	3	–	100	–
Triple - West	Landlocked	.08	–	100	.08	1.99	1	–	100	–
Turk	Landlocked	.11	–	100	.11	1.48	9	50	50	–
Turtle	Landlocked	.05	–	100	.05	1.34	3	–	100	–
Twin - East	Tenmile Creek	.05	30	70	2.94	1.66	2	100	–	–
Twin - West	Tenmile Creek	.40	70	30	3.34	2.98	–	–	–	–
Two Island	Landlocked	.10	–	100	.10	1.25	–	–	–	–
Upper Twin	So. Fk. Bob Creek	.60	–	100	.85	1.66	162	–	100	–
Weeks - East	Landlocked	.03	10	90	.03	1.34	–	–	–	–
Weeks - West	Landlocked	.03	5	95	.03	1.57	–	–	–	–
Wesley	Landlocked	.35	–	100	.35	2.38	16	100	–	–
West	O'Neil Creek	.35	–	100	1.00	2.19	–	–	–	–
Willow Creek Flowage	Willow Creek	.27	–	100	2.27	1.84	–	–	–	1.60
Withrow	Yellow River	.17	–	100	.17	1.19	6	–	100	–
Worden	Landlocked	.15	20	80	.15	2.11	–	–	–	.95
UNNAMED LAKES, BY TOWNS										
Anson - West Tnsp.										
13-6	Landlocked	.24	60	40	.24	1.59	–	–	–	–
Birch Creek - Central Tnsp.										
7-13	Landlocked	.11	5	95	.11	1.19	13	10	90	–
8-10	Landlocked	.11	–	100	.11	1.01	20	–	100	.20
18-1	Mud Creek	.16	–	100	.16	1.35	23	5	95	.28

Appendix 1b -- Physical Characteristics of Chippewa County Lakes (Continued)

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	S.D.F.	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Public Frontage
19-1	Landlocked	.07	–	100	.07	1.04	10	75	25	.13
19-2	Landlocked	.03	–	100	.03	1.21	3	–	100	.12
19-4	Landlocked	.03	–	100	.03	1.04	23	–	100	.13
19-11	Mud Creek	.02	–	100	.02	1.29	–	–	–	.38
19-15	Landlocked	.04	–	100	.04	1.11	4	–	100	.12
28-9	Spring Creek	.08	–	100	.43	2.45	13	70	30	.35
30-1	Mud Creek	.45	25	75	.45	1.70	83	–	100	–
31-11	Mud Creek	.05	–	100	.05	1.31	12	–	100	.13
31-15b	Landlocked	.04	–	100	.04	1.18	–	–	–	–
31-15c	Mud Creek	.05	–	100	.05	1.17	4	–	100	–
32-9a	Spring Creek	.05	–	100	.40	1.02	12	–	100	–
32-9c	Spring Creek	.10	–	100	.35	1.11	15	–	100	–
32-10	Landlocked	.04	10	90	.04	1.24	–	–	–	–
32-12	Spring Creek	.03	–	100	.25	1.22	–	–	–	–
34-9	Firth Lake Outlet	.40	–	100	.40	1.47	–	–	–	.34
Birch Creek - East Tnsp.										
19-14	Landlocked	.02	–	100	.02	1.06	–	–	–	–
29-2	Landlocked	.12	–	100	.12	1.22	29	100	–	–
29-14	Landlocked	.12	–	100	.12	1.17	19	90	10	–
Birch Creek - West Tnsp.										
25-3	Landlocked	.03	–	100	.03	1.15	–	–	–	.18
25-8	Mud Creek	.01	–	100	.01	1.28	–	–	–	.15
25-14a	Landlocked	.02	–	100	.02	1.06	–	–	–	.33
25-14c	Landlocked	.02	–	100	.02	1.22	–	–	–	.30
25-14d	Landlocked	.02	–	100	.02	1.47	–	–	–	.12
36-11	Landlocked	.07	10	90	.07	1.68	2	–	100	.34
Bloomer - East Tnsp.										
5-5	Landlocked	.12	25	75	.12	1.51	–	–	–	–
5-10	Landlocked	.06	40	60	.06	1.42	1	100	–	–
5-14	Landlocked	.07	–	100	.07	1.33	4	80	20	–
6-1 (Bell)	Landlocked	.04	40	60	.04	1.40	5	100	–	–
6-2 (Postle)	Landlocked	.03	–	100	.03	1.66	–	–	–	–
8-5	Landlocked	.30	–	100	.30	3.35	26	20	80	–
8-6	Landlocked	.03	35	65	.03	1.36	–	–	–	–
Cleveland - East Tnsp.										
1-9	Landlocked	.42	25	75	.42	1.09	15	–	100	–
5-5	Spring Creek	.22	20	80	.22	1.91	–	–	–	–
5-7	Landlocked	.04	20	80	.04	1.18	–	–	–	–
6-5	Landlocked	.01	–	100	.01	1.10	–	–	–	.12
8-9	Landlocked	.04	–	100	.04	1.46	–	–	–	–

Appendix 1b -- Physical Characteristics of Chippewa County Lakes (Continued)

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	S.D.F.	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Public Frontage
13-3	Chippewa River	.15	50	50	.15	1.67	–	–	–	–
19-12	Bob Creek	.27	35	65	.27	1.00	6	–	100	–
28-15	So. Fk. Bob Creek	.38	80	20	.38	1.21	–	–	–	–
34-9	Landlocked	.08	35	65	.08	1.21	2	100	–	–
Cleveland - West Tnsp.										
1-6b	Landlocked	.06	–	100	.06	1.05	3	–	100	.18
1-6d	Landlocked	.03	–	100	.03	1.04	–	–	–	.19
1-7	Landlocked	.02	–	100	.02	1.11	–	–	–	.13
2-10	Landlocked	.15	–	100	.15	1.21	5	–	100	.12
2-11c	Landlocked	.01	–	100	.01	1.28	–	–	–	.15
2-11d	Landlocked	.03	–	100	.03	1.33	–	–	–	.34
2-12	Landlocked	.04	–	100	.04	1.20	–	–	–	.15
3-10	O'Neil Creek	.25	–	100	.27	1.08	6	–	100	.24
3-11	O'Neil Creek	.02	–	100	.02	1.62	6	–	100	.32
3-15	Landlocked	.03	–	100	.03	1.68	–	–	–	.13
3-16a	Landlocked	.05	–	100	.05	1.28	–	–	–	.42
3-16ca	Landlocked	.02	–	100	.02	1.28	2	–	100	.15
3-16cc	Landlocked	.03	–	100	.03	1.05	2	–	100	.18
4-2	Landlocked	.03	30	70	.03	1.11	–	–	–	–
4-3	Landlocked	.03	15	85	.03	1.21	–	–	–	.24
9-13	Landlocked	.02	20	80	.02	1.15	–	–	–	.28
10-3	Landlocked	.03	–	100	.03	1.01	–	–	–	.20
10-4	Landlocked	.03	–	100	.03	1.21	2	–	100	.20
10-5	Landlocked	.03	–	100	.03	1.35	1	100	–	.18
10-10	Landlocked	.03	–	100	.03	1.21	–	–	–	.20
10-11b	Landlocked	.05	–	100	.05	1.49	1	100	–	.38
10-11c	Landlocked	.04	–	100	.04	1.09	2	–	100	.20
11-5	Landlocked	.05	–	100	.05	1.39	–	–	–	.50
11-6	Landlocked	.07	–	100	.07	2.19	–	–	–	.72
11-10	Landlocked	.07	–	100	.07	1.46	–	–	–	.56
14-14	Bob Creek	.02	–	100	.02	1.01	4	–	100	.13
15-10	Landlocked	.08	–	100	.08	1.29	–	–	–	–
15-15	O'Neil Creek	.01	–	100	.20	1.12	10	100	–	–
15-16	Landlocked	.05	–	100	.05	1.40	–	–	–	–
16-8	Landlocked	.04	–	100	.04	1.15	5	100	–	–
16-11	Landlocked	.04	–	100	.04	1.17	–	–	–	–
21-3	O'Neil Creek	.14	–	100	.18	1.18	42	–	100	.25
21-8	O'Neil Creek	.04	–	100	.04	1.24	–	–	–	.18
22-2	O'Neil Creek	.04	–	100	.04	1.13	6	–	100	–
22-3	O'Neil Creek	.14	–	100	.18	1.42	18	–	100	–

Appendix 1b -- Physical Characteristics of Chippewa County Lakes (Continued)

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	S.D.F.	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Public Frontage
23-4	Landlocked	.11	5	95	.11	1.18	13	50	50	–
26-3	Landlocked	.05	60	40	.05	1.78	2	100	–	–
26-11	O'Neil Creek	.25	–	100	.25	1.35	48	–	100	–
28-16	O'Neil Creek	.06	–	100	.06	1.04	15	–	100	–
34-2	Landlocked	.02	–	100	.02	1.28	2	–	100	–
Colburn - North Tnsp.										
35-16	Yellow River	.06	–	100	.06	1.30	30	10	90	.26
Delmar - East Tnsp.										
6-14	Yellow River	.13	95	5	.13	1.57	–	–	–	–
Eagle Point - NE Tnsp.										
4-1	So. Fk. Bob Creek	.40	25	75	.40	1.39	–	–	–	–
Eagle Point - NW Tnsp.										
2-11	Landlocked	.20	70	30	.20	1.43	10	100	–	–
2-15	Landlocked	.14	10	90	.14	1.23	9	50	50	–
2-16	Landlocked	.04	–	100	.04	1.43	–	–	–	.01
3-13	Landlocked	.05	–	100	.05	1.17	6	40	60	–
3-16	Landlocked	.13	40	60	.13	1.22	16	20	80	–
10-2	Landlocked	.06	–	100	.06	1.71	–	–	–	–
10-5	Landlocked	.07	–	100	.07	1.32	4	50	50	–
10-9	Landlocked	.18	–	100	.18	2.00	16	25	75	–
10-15	Landlocked	.08	10	90	.08	1.14	3	25	75	–
11-14	So. Fk. Bob Creek	.25	65	35	.25	1.13	30	–	100	–
12-12	So. Fk. Bob Creek	.85	3	97	1.95	1.13	300	–	100	–
13-2	Landlocked	.08	–	100	.08	1.16	5	–	100	–
14-7	Landlocked	.11	–	100	.11	1.07	19	–	100	–
15-1	Landlocked	.25	–	100	.25	1.02	29	–	100	–
15-16	Landlocked	.12	–	100	.12	1.21	23	–	100	–
17-13	Landlocked	.65	65	35	.65	1.20	42	80	20	–
Edson - East Tnsp.										
5-6	Hay Creek	.02	30	70	8.55	1.78	4	–	100	–
10-5	Landlocked	.06	50	50	.06	1.53	–	–	–	–
Estella										
7-10	Chippewa River	.02	–	100	.02	1.69	–	–	–	.56
7-11	Landlocked	.01	–	100	.01	1.13	–	–	–	.14
Holcombe										
10-6	Landlocked	.02	–	100	.02	1.19	–	–	–	–
Lafayette - West Tnsp.										
10-1	Chippewa River	.08	–	100	.08	3.80	–	–	–	.01

Appendix 1b -- Physical Characteristics of Chippewa County Lakes (Continued)

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	S.D.F.	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Public Frontage
Sampson - East Tnsp.										
3-3	Landlocked	.11	20	80	.11	1.19	2	–	100	–
3-6	Rice Creek	.33	–	100	.33	1.96	15	–	100	–
3-13	Landlocked	.08	35	65	.08	1.20	10	100	–	–
3-14	Landlocked	.10	20	80	.10	1.57	9	100	–	.28
5-2	Landlocked	.18	5	95	.18	1.07	57	70	30	–
5-5	Landlocked	.19	–	100	.19	1.16	29	10	90	.08
5-8	Landlocked	.09	–	100	.09	1.04	15	10	90	.07
5-9	Landlocked	.09	–	100	.09	1.45	13	20	80	.16
5-11	Landlocked	.15	–	100	.15	1.34	13	80	20	.24
6-1	Landlocked	.04	40	60	.04	1.22	2	100	–	–
6-4	Landlocked	.06	20	80	.06	2.34	6	30	70	–
6-5	Landlocked	.06	–	100	.06	1.32	8	100	–	–
6-8b	Landlocked	.08	–	100	.08	1.42	16	100	–	–
6-8db	Landlocked	.05	–	100	.05	1.35	10	50	50	–
6-8dc	Landlocked	.02	–	100	.02	1.01	7	100	–	–
6-12	Landlocked	.07	–	100	.07	1.35	20	80	20	–
7-13	Landlocked	.35	10	90	.35	1.33	107	–	100	–
12-11	Foster Creek	.12	–	100	.12	1.15	42	25	75	–
15-14	Foster Creek	.32	–	100	.32	2.30	23	–	100	1.26
16-8	Cedar Creek	.07	–	100	.07	1.20	–	–	–	–
16-11	Landlocked	.06	–	100	.06	1.58	–	–	–	–
16-15	Landlocked	.07	20	80	.07	2.03	3	100	–	–
19-1	Landlocked	.03	–	100	.03	1.13	2	–	100	–
19-3	Landlocked	.05	–	100	.05	2.08	–	–	–	–
19-9	Landlocked	.05	–	100	.05	1.34	3	–	100	–
19-13	Landlocked	.09	–	100	.09	2.26	–	–	–	–
19-14a	Landlocked	.02	–	100	.02	1.44	1	100	–	–
19-14d	Landlocked	.02	–	100	.02	1.30	–	–	–	–
19-16b	Landlocked	.03	–	100	.03	2.04	–	–	–	–
19-16d	Landlocked	.03	–	100	.03	1.20	–	–	–	–
20-1	Landlocked	.05	–	100	.05	1.50	–	–	–	–
20-4	Landlocked	.05	–	100	.05	1.15	–	–	–	–
20-10	Landlocked	.05	–	100	.05	1.26	–	–	–	–
20-12	Landlocked	.02	–	100	.02	1.13	–	–	–	–
20-16	Landlocked	.01	–	100	.01	1.44	–	–	–	–
21-10	Landlocked	.07	–	100	.07	1.37	–	–	–	–
21-11	Landlocked	.08	50	50	.08	1.43	–	–	–	–
22-1	Foster Creek	.08	–	100	.08	1.96	7	–	100	.40
22-8	Landlocked	.11	40	60	.11	1.23	1	–	100	–

Appendix 1b -- Physical Characteristics of Chippewa County Lakes (Continued)

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	S.D.F.	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Public Frontage
22-15	Landlocked	.19	—	100	.19	1.06	19	20	80	.02
23-11	Landlocked	.09	—	100	.09	1.19	1	—	100	.20
26-6	Landlocked	.03	—	100	.03	1.22	1	100	—	.25
26-15	Mud Creek	.45	—	100	.45	2.07	13	—	100	.43
27-1ba	Landlocked	.04	—	100	.04	1.44	6	50	50	—
27-1bc	Landlocked	.01	—	100	.01	1.16	1	—	100	—
27-2c	Mud Creek	.82	75	25	.82	1.26	19	—	100	—
27-2d	Mud Creek	.02	—	100	.94	1.07	7	—	100	—
27-7	Landlocked	.02	—	100	.02	1.29	—	—	—	—
27-10	Landlocked	.10	—	100	.10	1.75	3	—	100	—
28-6	Landlocked	.03	—	100	.03	1.36	—	—	—	—
28-10	Landlocked	.07	—	100	.07	2.01	3	100	—	—
28-11	Landlocked	.01	—	100	.01	1.07	—	—	—	.13
28-15c	Landlocked	.01	—	100	.01	1.21	—	—	—	.23
28-15d	Landlocked	.02	—	100	.02	1.50	—	—	—	.40
28-16	Landlocked	.05	—	100	.05	1.50	—	—	—	.45
29-6	Landlocked	.09	—	100	.09	1.95	—	—	—	—
29-7d	Landlocked	.07	—	100	.07	1.49	3	—	100	—
29-10b	Landlocked	.03	—	100	.03	1.67	1	100	—	.34
29-10c	Landlocked	.21	5	95	.21	3.27	1	100	—	1.56
29-11a	Landlocked	.05	—	100	.05	1.24	—	—	—	.28
29-11d	Landlocked	.03	—	100	.03	1.44	—	—	—	.26
29-12	Landlocked	.04	—	100	.04	1.27	—	—	—	.26
30-3	Landlocked	.09	—	100	.09	1.24	—	—	—	—
30-5	Landlocked	.02	—	100	.02	1.30	—	—	—	—
30-9	Landlocked	.09	30	70	.09	1.53	—	—	—	—
30-10	Landlocked	.07	20	80	.07	1.85	—	—	—	—
30-13	Landlocked	.03	—	100	.03	1.59	—	—	—	.28
30-14	Landlocked	.09	10	90	.09	1.77	1	—	100	.13
30-15	Landlocked	.03	—	100	.03	1.37	—	—	—	.15
30-16	Landlocked	.04	—	100	.04	1.52	—	—	—	.36
31-1b	Landlocked	.04	—	100	.04	1.26	—	—	—	.28
31-1d	Landlocked	.14	10	90	.14	1.57	3	—	100	.53
31-2c	Landlocked	.07	40	60	.07	1.18	—	—	—	—
31-2d	Landlocked	.06	5	95	.06	1.13	—	—	—	—
31-3	Landlocked	.05	15	85	.05	1.22	—	—	—	—
31-4	Landlocked	.02	—	100	.02	1.30	—	—	—	—
31-8	Landlocked	.07	—	100	.07	1.40	4	—	100	—

Appendix 1b -- Physical Characteristics of Chippewa County Lakes (Continued)

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	S.D.F.	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Public Frontage
31-9	Landlocked	.11	10	90	.11	1.50	3	—	100	—
31-10	Landlocked	.01	—	100	.01	1.36	—	—	—	—
31-13a	Landlocked	.03	40	60	.03	1.19	—	—	—	—
31-13c	Landlocked	.01	20	80	.01	1.36	—	—	—	—
31-14c	Landlocked	.01	—	100	.01	2.07	—	—	—	—
31-14d	Landlocked	.03	—	100	.03	1.27	—	—	—	—
31-15	Landlocked	.08	10	90	.08	1.22	2	—	100	—
32-1	Landlocked	.02	—	100	.02	1.65	—	—	—	.30
32-2	Landlocked	.09	—	100	.09	1.69	—	—	—	.38
32-3	Landlocked	.03	—	100	.03	1.33	—	—	—	—
32-5a	Landlocked	.05	—	100	.05	1.47	1	—	100	.38
32-5b	Landlocked	.01	—	100	.01	1.20	—	—	—	.14
32-8	Landlocked	.06	—	100	.06	1.49	—	—	—	.04
32-9	Landlocked	.06	10	90	.06	1.52	—	—	—	—
32-10a	Landlocked	.04	—	100	.04	1.67	—	—	—	—
32-10c	Landlocked	.07	—	100	.07	1.65	—	—	—	—
32-12	Landlocked	.20	55	45	.20	1.97	—	—	—	—
32-14	Landlocked	.06	—	100	.06	1.43	3	—	100	—
33-4a	Landlocked	.02	—	100	.02	1.77	—	—	—	.35
33-4ca	Landlocked	.01	—	100	.01	1.51	—	—	—	.24
33-4cc	Landlocked	.01	—	100	.01	1.13	—	—	—	.14
33-5	Landlocked	.16	—	100	.16	1.27	—	—	—	.36
33-7	Landlocked	.01	—	100	.01	1.05	—	—	—	—
33-10	Landlocked	.05	—	100	.05	2.30	—	—	—	—
33-12	Landlocked	.15	—	100	.15	1.67	—	—	—	—
33-13	O'Neil Creek	.02	—	100	.02	1.34	—	—	—	.28
34-3	Landlocked	.05	20	80	.05	1.68	6	—	100	—
34-7	Landlocked	.02	—	100	.02	1.28	—	—	—	.14
34-9	Landlocked	.05	—	100	.05	1.50	—	—	—	.52
34-11ca	O'Neil Creek	.04	—	100	.04	1.39	13	—	100	.14
34-11cb	O'Neil Creek	.02	—	100	.15	1.02	6	—	100	.14
Sampson - West Tnsp.										
2-5	Landlocked	.04	1	99	.04	1.17	5	—	100	—
2-8	Landlocked	.11	30	70	.11	2.50	10	30	70	—
2-11a	Landlocked	.05	85	15	.05	1.24	1	—	100	—
2-11c	Landlocked	.04	30	70	.04	1.17	—	—	—	—
3-10	Landlocked	.06	—	100	.06	1.11	1	—	100	—
3-15	Landlocked	.04	25	75	.04	1.22	2	—	100	—
4-14	Tenmile Creek	.07	—	100	.17	1.22	4	—	100	—

Appendix 1b -- Physical Characteristics of Chippewa County Lakes (Continued)

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	S.D.F.	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Public Frontage
5-15	Landlocked	.05	55	45	.05	1.51	1	50	50	—
9-4	Landlocked	.06	1	99	.06	2.32	1	—	100	—
9-5	Landlocked	.17	35	65	.17	1.60	1	50	50	—
9-8	Landlocked	.05	15	85	.05	1.39	1	5	95	—
9-13b	Landlocked	.04	—	100	.04	1.09	1	—	100	—
9-13d	Landlocked	.06	50	50	.06	1.44	1	—	100	—
9-14	Landlocked	.06	—	100	.06	1.07	2	—	100	—
9-16	Landlocked	.06	55	45	.06	1.20	1	50	50	—
10-10	Landlocked	.07	—	100	.07	1.64	—	—	—	—
10-13	Landlocked	.02	15	85	.02	1.29	—	—	—	—
10-14	Landlocked	.04	—	100	.04	1.05	13	—	100	—
10-15	Landlocked	.10	35	65	.10	1.30	2	—	100	—
10-16	Landlocked	.09	10	90	.09	1.37	4	—	100	—
11-1	Landlocked	.04	5	95	.04	1.06	10	—	100	—
11-8	Landlocked	.08	—	100	.08	1.01	6	80	20	—
11-9	Landlocked	.20	30	70	.20	1.13	36	100	—	—
11-10	Landlocked	.04	5	95	.04	1.22	—	—	—	—
15-1	Landlocked	.05	—	100	.05	1.18	8	—	100	—
15-8	Landlocked	.11	—	100	.11	1.01	29	—	100	—
15-14	McCann Creek	.10	—	100	.10	1.41	26	—	100	—
16-3	Landlocked	.36	20	80	.36	3.06	29	40	60	—
23-11	McCann Creek	.10	60	40	.10	1.33	4	75	25	—
25-9	Landlocked	.05	—	100	.05	1.82	—	—	—	—
25-10	Landlocked	.10	—	100	.10	2.41	—	—	—	—
25-12a	Landlocked	.02	—	100	.02	1.49	—	—	—	—
25-12d	Landlocked	.06	—	100	.06	1.18	—	—	—	—
25-15b	Landlocked	.02	—	100	.02	1.75	2	100	—	—
25-15c	Landlocked	.02	—	100	.02	1.21	1	100	—	—
35-1	Landlocked	.14	10	90	.14	2.50	—	—	—	—
36-15	Landlocked	.07	35	65	.07	1.12	—	—	—	—
Wheaton										
29-15	Landlocked	2.05	100	—	2.05	1.27	—	—	—	—
32-2	Landlocked	.15	100	—	.15	1.04	—	—	—	—
32-11	Landlocked	.23	100	—	.23	1.02	—	—	—	—
TOTAL		215.76					8,915			76.67
AVERAGE						1.44				

Appendix 2a -- Physical and Chemical Characteristics of Chippewa County Streams

Name	Outlet Location S	T-N	R-W	Surface Acreage	Length (miles)	Width (Av. feet)	Approximate Depth (Av. feet)	Average Gradient (Ft./mile)	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sampling Date
Alder Creek	30	28	6	1.0	2.1	4	1.0	12	7.0	35	100	Clear	Sep 61
Beaver Creek-Auburn	30	31	10	.4	1.2	3	.4	14	6.4	24	83	Clear	Aug 61
Beaver Creek - Sampson	18	32	9	1.4	1.6	7	1.0	10	6.6	74	135	Turbid	Sep 61
Big Drywood Creek	33	29	7	19.6	18.0	10	1.3	10	7.3	97	227	Clear	Oct 61
Big Elk Creek	8	28	10	1.1	2.2	4	.7	13	7.0	32	103	Clear	Sep 61
Birch Creek	19	32	6	2.0	4.2	4	.7	13	7.2	89	204	L. Brown	Sep 61
Bob Creek (North Fork)	35	31	7	20.0	11.0	15	1.0	11	7.0	49	109	M. Brown	Jun 62
Cedar Creek	8	32	8	4.4	4.5	8	1.0	11	6.6	59	113	M. Brown	Jun 61
Chap Creek	5	29	6	.5	.9	5	1.0	5	7.2	146	303	Turbid	Oct 61
Chippewa River	31	28	9	740.0	10.8	590	7.0	1.5	6.4	25	76	L. Brown	Jun 62
Christmas Creek	26	31	5	5.8	6.0	8	.5	13	6.6	50	110	M. Brown	Jun 62
Clark Creek	19	31	6	.6	1.7	3	.3	82	7.2	133	279	Clear	Aug 61
Clear Creek	23	28	7	1.0	2.0	4	1.0	27	7.3	38	148	Clear	Dec 61
Cobban Creek	11	30	7	1.5	2.4	5	.6	38	7.3	94	207	L. Brown	Aug 61
Coldwater Creek	6	29	5	1.2	2.4	3	.5	12	7.3	150	302	L. Brown	Oct. 61
Como Creek	6	30	9	1.7	2.8	5	1.2	14	7.0	37	74	Clear	Sep 61
Cranberry Creek	24	32	7	1.0	2.1	4	.6	17	7.0	92	192	L. Brown	Sep 61
Cushing Creek	16	30	7	.4	1.4	2	.8	33	7.2	94	235	Clear	Sep 61
Duncan Creek	6	28	8	120.0	25.0	40	1.5	14	7.1	38	93	Clear	Sep 61
Eighteenmile Creek	7	29	10	.7	1.4	4	.5	14	6.6	19	81	Clear	Sep 61
Elder Creek	26	31	5	1.4	2.3	5	.6	15	6.6	47	106	M. Brown	Jun 62
Elk Creek	31	28	10	19.6	10.8	15	1.3	11	7.0	27	90	Clear	Sep 61
Firth Lake Outlet	16	31	7	1.8	3.0	5	.5	10	6.8	48	109	M. Brown	Jun 62
Fisher River	8	31	6	51.5	17.0	25	1.2	9	7.3	70	146	M. Brown	Jul 61
Foster Creek	13	32	8	2.1	4.3	4	.6	15	7.2	68	143	L. Brown	Jul 61
Frederick Creek	14	28	8	.6	1.2	4	.4	32	6.8	29	91	L. Brown	Jul 61
French Creek	19	31	6	1.4	3.8	3	.4	42	7.0	81	219	Clear	Aug 61
Hay Creek-Colburn	5	30	5	6.3	6.5	8	1.0	8	6.9	65	137	M. Brown	Jun 62
Hay Creek-Edson	35	28	6	7.7	9.1	7	1.0	7	6.8	42	102	L. Brown	Jun 62
Hay Creek-Woodmohr	33	30	9	5.8	6.0	8	.8	9	6.8	44	76	Clear	Sep 61
Jim Creek	16	29	8	1.5	3.0	4	1.0	18	7.0	31	73	L. Brown	Jun 62
Jump River	1	32	6	33.3	1.7	165	1.0	4	7.2	36	89	M. Brown	Jun 62
Leman Creek	25	31	7	1.0	2.2	4	.4	50	7.3	56	147	L. Brown	Aug 61
Little Drywood Creek	28	29	7	15.6	16.5	7	1.0	11	7.2	107	243	Clear	Sep 61
Little Hay Creek	4	29	9	1.0	1.8	4	.7	17	6.6	27	104	Clear	Nov 61
Little Otter Creek	23	29	5	.9	2.4	3	.4	12	7.2	113	239	Clear	Aug 61
Lotz Creek	33	29	6	2.2	2.0	9	1.0	25	7.2	59	150	Turbid	Oct 61
McCann Creek	18	30	8	14.4	13.2	9	1.0	6	7.2	46	131	L. Brown	Jun 62
Minnie Creek	35	31	7	.6	1.7	3	.4	64	7.2	101	218	L. Brown	Aug 61
Mud Creek	5	32	7	10.0	12.0	7	1.0	9	6.8	55	113	L. Brown	Jun 61

Appendix 2a -- Physical and Chemical Characteristics of Chippewa County Streams (Continued)

Name	Outlet Location S	T-N	R-W	Surface Acreage	Length (miles)	Width (Av. feet)	Approximate Depth (Av. feet)	Average Gradient (Ft./mile)	pH	Methyl Orange Alkalinity (ppm)	Specific Conductance (mmhos at 77°F.)	Water Color	Sampling Date
Muskrat Creek	32	28	5	2.1	2.5	7	.8	18	7.4	29	78	M. Brown	Jun 62
O'Neil Creek	16	29	8	100.0	28.0	30	2.0	6	6.9	75	171	L. Brown	Jun 62
Otter Creek	4	30	5	7.0	8.3	7	.6	5	7.2	60	133	M. Brown	Jun 62
Paint Creek	7	28	7	27.3	15.0	15	1.0	7	7.0	30	91	Clear	Dec 61
Pike Creek	5	30	5	5.2	5.5	7	1.2	2	6.7	53	118	M. Brown	Jun 62
Sand Creek	18	31	10	5.8	6.0	8	1.2	12	6.8	27	70	Clear	Jul 61
Seth Creek	14	29	7	2.2	3.0	6	1.0	22	7.2	74	243	Clear	Sep 61
South Fork Bob Creek	27	31	7	7.6	7.0	9	1.5	9	7.0	78	168	M. Brown	Jun 62
South Fork Paint Creek	16	28	7	2.1	4.4	4	.5	17	6.8	26	80	Clear	Aug 61
South Fork Trout Creek	8	30	10	.8	1.7	4	.6	9	6.7	23	88	Clear	Aug 61
Spring Brook	18	31	10	1.1	2.3	5	.6	9	6.8	26	71	Clear	Jul 61
Spring Creek	16	31	7	2.8	4.6	5	.8	33	6.6	55	125	M. Brown	Jun 62
Stillson Creek	13	28	8	.3	.7	3	.4	55	6.6	36	107	Clear	Jul 61
Swan Creek	35	28	5	1.9	2.6	6	.6	17	6.0	22	74	Clear	Jun 62
Tealey Creek	6	32	7	1.2	3.2	3	.6	35	6.4	32	79	M. Brown	Jun 61
Trout Creek-Cooks Valley	7	30	10	4.1	6.8	5	.6	7	7.8	30	100	Clear	Aug 61
Trout Creek-Wheaton	10	28	9	1.7	2.8	5	.4	39	7.0	40	108	Clear	Aug 61
Turner Creek	3	28	6	.5	.8	5	1.0	25	7.0	57	153	L. Brown	Oct 61
Willow Creek	13	28	8	1.9	4.0	4	.5	25	6.6	28	73	M. Brown	Jun 61
Wolf River	36	28	5	13.4	13.8	8	1.0	9	7.0	73	152	Clear	Aug 61
Yellow River	32	29	7	410.0	34.0	100	2.0	6	6.9	47	109	M. Brown	Jun 62
TOTAL				1,702.0	381.2								
AVERAGE									6.9	57	136		

Appendix 2b -- Physical Characteristics of Chippewa County Streams

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	Estimated Normal Flow (cfs)	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Trout Stream	Miles Public Frontage
Alder Creek	Paint Creek	1.50	15	85	1.50	2.0	–	–	–	–	–
Beaver Creek-Auburn	Red Cedar River	3.82	85	15	3.82	1.0	2	100	–	–	–
Beaver Creek-Sampson	Chetek River	13.00	60	40	14.68	2.0	1,286	70	30	–	–
Big Drywood Creek	Yellow River	28.55	80	20	70.40	16.0	24	75	25	–	–
Big Elk Creek	Elk Creek	1.90	70	30	1.90	4.0	1	5	95	2.2	–
Birch Creek	Chippewa River	5.65	35	65	7.63	2.0	109	30	70	–	1.80
Bob Creek (North Fork)	Chippewa River	10.05	70	30	39.43	20.0	294	5	95	–	1.70
Cedar Creek	Swift Creek	3.92	5	95	11.69	1.5	1,165	80	20	–	–
Chap Creek	Big Drywood Cr.	5.15	90	10	5.15	1.0	–	–	–	–	–
Chippewa River	Mississippi River	51.00	85	15	997.00	3,115.0	130	70	30	–	.06
Christmas Creek	Yellow River	9.03	20	80	9.03	4.0	600	70	30	–	4.50
Clark Creek	Chippewa River	3.15	80	20	3.15	.4	1	80	20	–	–
Clear Creek	Paint Creek	3.25	90	10	3.25	2.0	–	–	–	–	–
Cobban Creek	Chippewa River	5.12	55	45	5.12	.5	25	75	25	–	–
Coldwater Creek	Yellow River	7.90	80	20	7.90	.4	20	80	20	–	–
Como Creek	Duncan Creek	11.00	90	10	11.00	3.5	2	50	50	2.8	–
Cranberry Creek	Chippewa River	5.48	20	80	6.14	.4	128	20	80	–	.50
Cushing Creek	Chippewa River	2.75	90	10	2.75	.5	1	10	90	–	–
Duncan Creek	Chippewa River	74.00	90	10	120.49	52.0	750	40	60	8.5	2.75
Eighteenmile Creek	Red Cedar River	10.00	70	30	10.00	3.5	5	10	90	1.4	–
Elder Creek	Yellow River	1.80	20	80	1.80	3.0	7	100	–	–	–
Elk Creek	Chippewa River	44.00	95	5	45.90	22.0	95	50	50	10.8	9.30
Firth Lake Outlet	Bob Creek	4.65	10	90	5.89	2.0	192	50	50	–	–
Fisher River	Chippewa River	43.00	35	65	43.00	13.0	4,350	60	40	–	3.30
Foster Creek	Mud Creek	2.29	–	100	4.54	3.0	268	20	80	–	4.20
Frederick Creek	Chippewa River	3.00	90	10	3.00	3.0	–	–	–	–	–
French Creek	Chippewa River	10.30	40	60	10.30	.3	2	50	50	–	–
Hay Creek-Colburn	Yellow River	18.30	35	65	18.30	7.0	173	10	90	–	2.30
Hay Creek-Edson	Eau Claire River	23.83	65	35	23.85	3.0	230	75	25	3.2	–
Hay Creek-Woodmohr	Duncan Creek	14.10	95	5	14.10	10.0	1	20	80	5.8	–
Jim Creek	O'Neil Creek	9.23	85	15	10.20	3.0	–	–	–	–	–
Jump River	Chippewa River	6.30	55	45	6.30	130.0	190	60	40	–	–
Leman Creek	Chippewa River	5.15	50	50	5.15	.4	–	–	–	–	–
Little Drywood Creek	Big Drywood Cr.	29.60	75	25	29.60	6.0	794	60	40	–	–
Little Hay Creek	Duncan Creek	7.23	90	10	7.23	3.0	–	–	–	–	–
Little Otter Creek	Wolf River	1.50	95	5	1.50	.5	35	95	5	–	–
Lotz Creek	Yellow River	4.50	85	15	8.10	4.0	1	50	50	–	–
McCann Creek	O'Neil Creek	24.75	85	15	26.20	19.0	121	100	–	13.2	–
Minnie Creek	Chippewa River	1.70	50	50	1.70	.2	–	–	–	–	–
Mud Creek	Chippewa River	13.00	5	95	27.83	10.0	2,283	40	60	–	12.00

Appendix 2b -- Physical Characteristics of Chippewa County Streams (Continued)

Name	Drainage System	Direct Drainage (Sq. miles)	Per cent of Direct Drainage Agriculture	Per cent of Direct Drainage Wooded	Watershed Area (Sq. miles)	Estimated Normal Flow (cfs)	Wetlands (Total acres)	Marsh (Per cent)	Wooded (Per cent)	Miles Trout Stream	Miles Public Frontage
Muskrat Creek	Eau Claire R.	10.80	60	40	10.80	4.0	2	90	10	—	—
O'Neil Creek	Chippewa River	27.28	50	50	75.68	60.0	2,500	25	75	—	1.40
Otter Creek	Yellow River	9.80	10	90	10.45	3.0	275	20	80	—	6.00
Paint Creek	Chippewa River	33.50	80	20	46.65	18.0	128	90	10	—	.40
Pike Creek	Hay Creek-Colburn	8.90	30	70	29.20	2.0	326	40	60	—	1.20
Sand Creek	Red Cedar River	9.00	85	15	16.75	12.0	5	10	90	6.0	8.80
Seth Creek	Big Drywood Cr.	7.10	50	50	7.10	1.3	5	50	50	—	—
South Fork Bob Creek	Bob Creek	8.30	65	35	11.63	7.0	217	5	95	—	—
South Fork Paint Creek	Paint Creek	8.40	80	20	8.40	2.8	—	—	—	—	—
South Fork Trout Creek	Trout Cr.-Cooks V.	10.00	85	15	10.00	4.0	12	80	20	1.7	—
Spring Brook	Sand Creek	7.75	65	35	7.75	2.6	1	20	80	2.3	2.60
Spring Creek	Bob Creek	5.27	5	95	6.58	3.5	100	—	100	4.6	6.00
Stillson Creek	Chippewa River	4.25	95	5	4.25	1.0	—	—	—	—	—
Swan Creek	Eau Claire River	5.55	70	30	5.55	1.0	1	10	90	2.6	—
Tealey Creek	Mud Creek	3.64	3	97	3.64	1.0	312	50	50	—	3.80
Trout Creek-Cooks Valley	Red Cedar River	15.00	80	20	25.00	12.0	4	25	75	—	—
Trout Creek-Wheaton	Chippewa River	7.70	95	5	7.70	3.5	—	—	—	—	—
Turner Creek	Lotz Creek	3.60	90	10	3.60	1.5	—	—	—	—	—
Willow Creek	Mud Creek	2.28	2	98	2.96	2.0	121	60	40	—	5.00
Wolf River	Eau Claire River	31.60	95	5	33.25	3.0	355	80	20	5.2	—
Yellow River	Chippewa River	51.36	65	35	190.20	62.0	10	50	50	—	2.30
*Ninemile Creek	Eau Claire River	2.00	95	5	2.00	Intm.	—	—	—	—	—
*Red Cedar River	Chippewa River	2.20	85	15	2.20	Intm.	—	—	—	—	—
*Rice Creek	Chippewa River	.17	95	5	.33	Intm.	42	12	88	—	—
*Sevenmile Creek	Eau Claire River	3.00	95	5	3.00	Intm.	—	—	—	—	—
*Sherman Creek	Chippewa River	12.10	95	5	12.10	Intm.	—	—	—	—	—
TOTAL		815.00					17,701			70.3	79.55

*No Permanent Flow in Chippewa County.

SURFACE WATER RESOURCE PUBLICATIONS

Chippewa County	1963
Dane County	1962
Dunn County	1962
Green County	1961
Kenosha County	1961
Menominee County	1963
Polk County	1961
Racine County	1961
St. Croix County	1961
Vilas County	1963
Walworth County	1961
Washington County	1962