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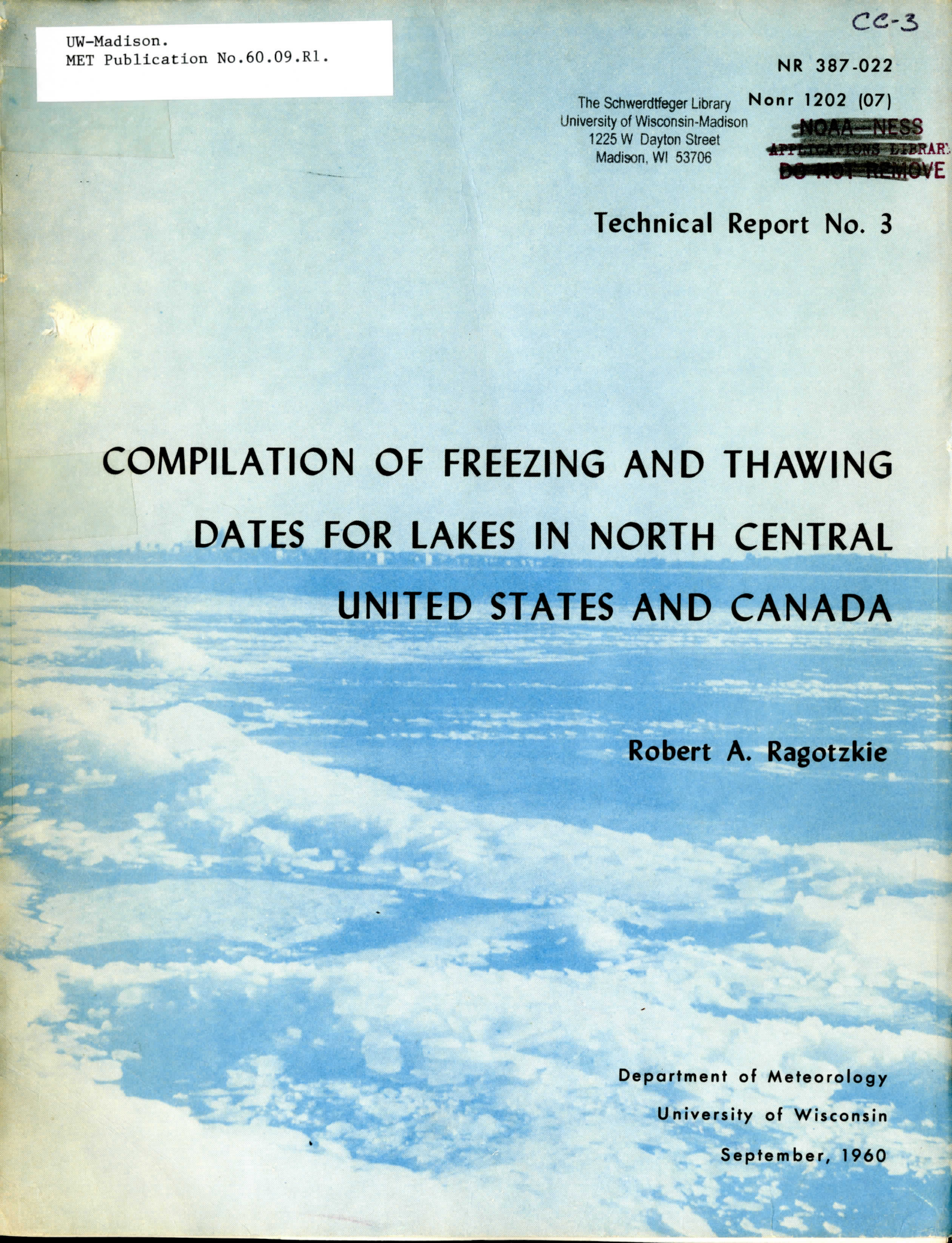
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Technical Report No. 3



COMPILATION OF FREEZING AND THAWING
DATES FOR LAKES IN NORTH CENTRAL
UNITED STATES AND CANADA

Robert A. Ragotzkie

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University of Wisconsin
September, 1960

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for
LAKES IN NORTH CENTRAL UNITED STATES AND CANADA

by
Robert A. Ragotzkie

Technical Report No. 3

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The University of Wisconsin

Department of Meteorology

Madison

September 1960

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INTRODUCTION

The freezing and thawing of lake ice are events in the annual heat cycle of a lake which are important in two ways: First, these processes represent the integrated result of various meteorological factors such as radiation, wind, air temperature, and cloudiness which contribute to the formation or disappearance of ice. Second, the way a lake interacts with the climate depends to a large extent on whether or not it is ice-covered. Since the freezing and thawing of lakes depends on the climate, the dates should be useful as climatic indicators.

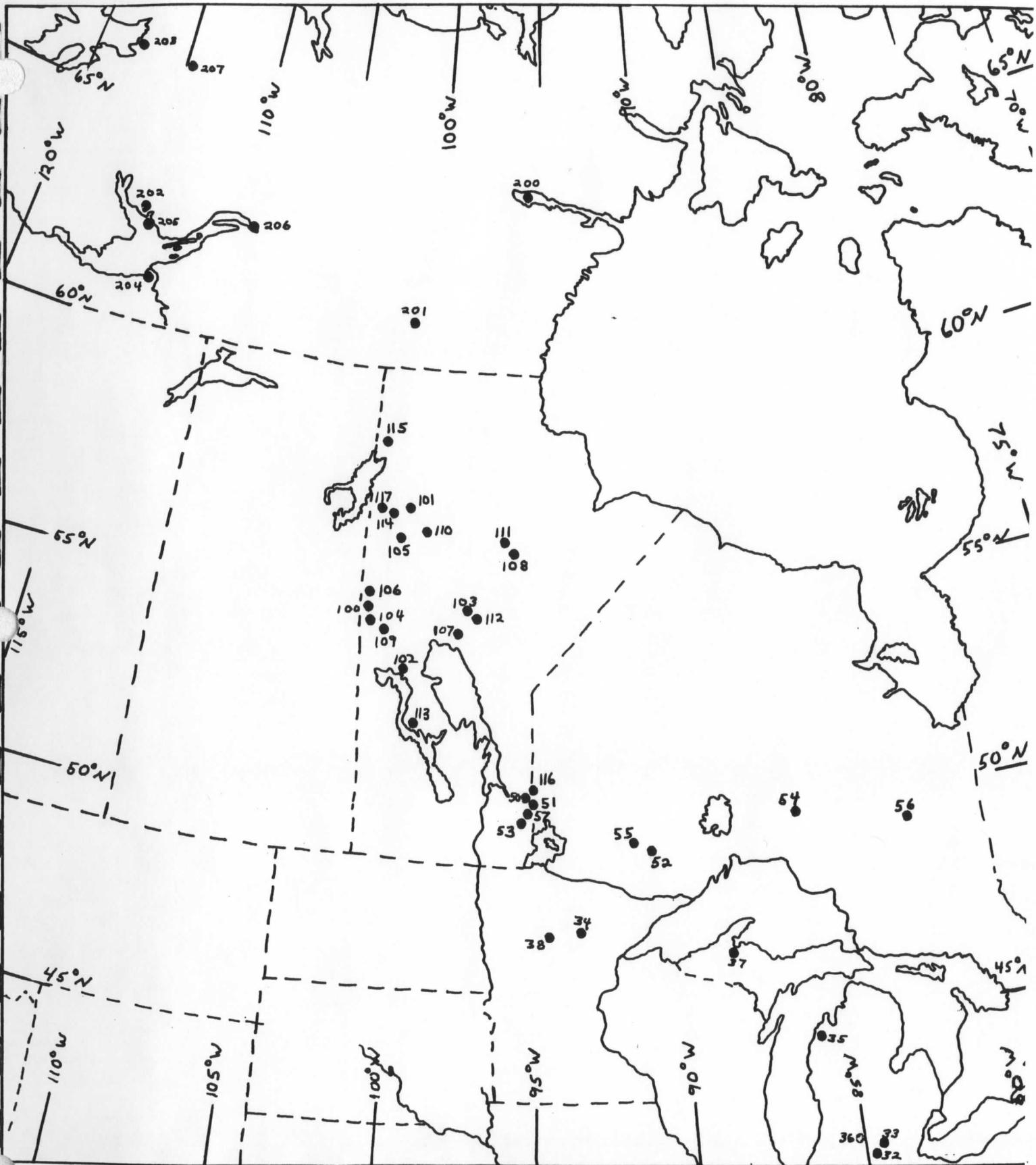
Lake ice is also important from a practical standpoint. For example, in northern Canada lake ice is a vital part of the transportation system. Tractor trains and ski-equipped aircraft depend wholly on trafficable ice cover. In southern Canada and northern United States ice fishing and ice boating are important winter sports which depend on lake ice.

This report summarizes the information which we have obtained on freeze-up and break-up dates for lake ice in Wisconsin, Minnesota, Michigan, and Canada. There are undoubtedly many more records in the form of diaries, newspaper files, and industrial records which we have not found. We hope that one of the results of the present compilation will be to stimulate persons having access to this sort of information to communicate with us.

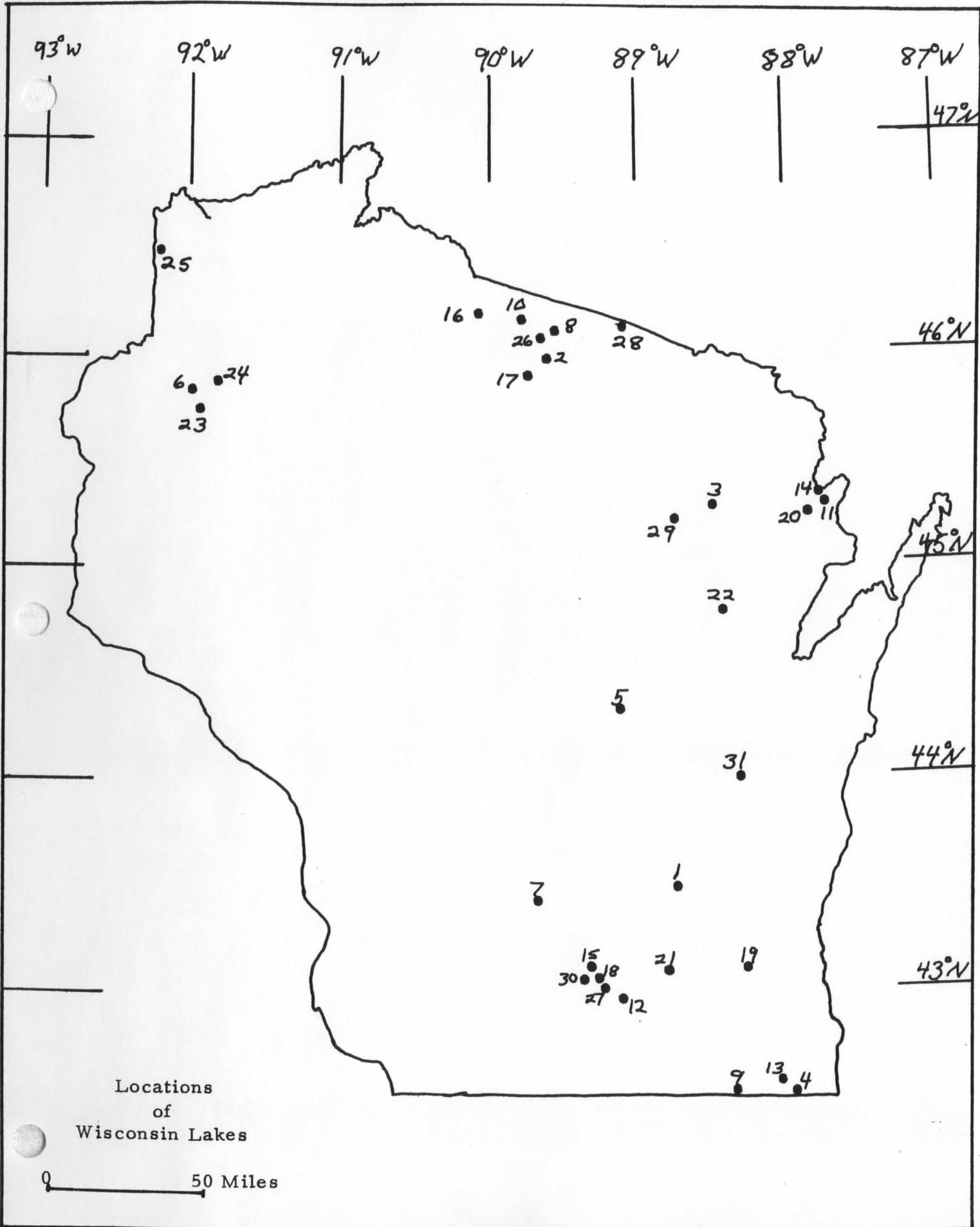
A compilation of ice data for 195 Canadian lakes and rivers has been published by the Meteorological Branch of the Canadian Department of Transport ("Break-up and Freeze-up Dates of Rivers and Lakes in Canada", 30 Jan. 1959.) Except for a few lakes which are of particular interest to this project, these data have not been reproduced in the present report.

The data in this report were collected by various personnel of this project, namely messrs James Larsen and Bernhard Lettau, and Professors Reid A. Bryson, James Lahey and Robert A. Ragotzkie. Information was obtained from a variety of sources, both public and private. These are noted along with the data for each lake. We are particularly grateful to the many persons in both the United States and Canada who faithfully recorded the dates of freezing and break-up of lakes near their homes.

Robert A. Ragotzkie



Locations of Lakes in North-Central U.S. and Canada



LOCATION INDEX OF LAKES

Wisconsin Lakes

Number	Lake	N Lat	W Long.
1	Beaver Dam	43° 30'	88° 52'
2	Big Arbor Vitae	45° 58'	89° 39'
3	Big Maiden	45° 16'	88° 32'
4	Camp	42° 32'	88° 8'
5	Chain-O-Lakes	44° 20'	89° 10'
6	Cyclone	45° 50'	91° 57'
7	Devils	43° 25'	89° 44'
8	Escanaba	46° 4'	89° 35'
9	Geneva	42° 34'	88° 30'
10	Island	46° 8'	89° 47'
11	Julia	45° 18'	87° 48'
12	Lake Kegonsa	42° 58'	89° 15'
13	Lilly	42° 34'	88° 12'
14	Mary	45° 19'	87° 48'
15	Mendota	43° 7'	89° 25'
16	Mercer	46° 10'	90° 4'
17	Minocqua	45° 53'	89° 43'
18	Monona	43° 4'	89° 22'
19	Nagawicka	43° 5'	88° 23'
20	Nocquebay	45° 15'	87° 55'
21	Rock	43° 5'	88° 54'
22	Shawano	44° 46'	88° 30'
23	Shell	45° 44'	91° 54'
24	Spooner	45° 51'	91° 48'
25	Summit	46° 28'	92° 15'
26	Trout	46° 3'	89° 40'
27	Waubesa	43° 1'	89° 19'
28	Weber	46° 6'	89° 6'
29	White	45° 12'	88° 46'
30	Wingra	43° 3'	89° 25'
31	Winnebago	44° 0'	88° 24'

U. S. Lakes between 40°N and 50°N Latitude

Number	Lake	N. Lat.	W. Long.
32	Bear, Michigan		
33	Big Portage, Michigan	42°19'	84°15'
34	Deer, Minnesota	47°23'	93°40'
35	Fife, Michigan	44°34'	85°21'
36	Fine, Michigan	42°25'	85°16'
37	King, Michigan	46°32'	88°24'
38	Pike Bay, Minnesota	47°21'	94°34'

Canadian Lakes between 40°N and 50°N Latitude

Number	Lake	N. Lat.	W. Long.
50	Brereton, Manitoba	49°54'	94°35'
51	Caddy, Manitoba	49°49'	94°43'
52	English River, Ontario	49°13'	90°58'
53	Falcon, Manitoba	49°42'	95°15'
54	Klotz, Ontario	49°49'	85°53'
55	Raven, Ontario	49°17'	91°16'
56	Remi, Ontario	49°26'	82°10'
57	West Hawk, Manitoba	49°46'	95°11'

Canadian Lakes between 50°N and 60°N Latitude

Number	Lake	N. Lat.	W. Long.
100	Athapapuskow, Manitoba	54°33'	101°40'
101	Barrington, Manitoba	56°56'	100°15'
102	Cedar Lake, Manitoba	53°16'	100°9'
103	Cross Lake, Manitoba	54°44'	97°30'
104	Goose, Manitoba	54°23'	101°25'
105	Granville, Manitoba	56°18'	100°30'
106	Little Athapapuskow, Manitoba	54°38'	101°40'
107	Little Playgreen, Manitoba	54°0'	97°50'
108	Moosenose, Manitoba	56°4'	95°46'
109	Rocky, Manitoba	54°9'	101°30'
110	South Indian, Manitoba	56°49'	98°32'
111	Split, Manitoba	56°13'	96°17'
112	Walker, Manitoba	54°43'	97°0'
113	Waterhen, Manitoba	52°7'	99°35'
114	Wheatcroft, Manitoba	56°49'	101°1'
115	Whiskeyjack, Manitoba	58°23'	101°55'
116	White, Manitoba	50°2'	95°33'
117	Zed, Manitoba	56°55'	101°24'
118	Clearwater, Manitoba	54°2'	101°1'
119	Grace, Manitoba	53°50'	101°10'
120	Dauphin, Manitoba	51°15'	99°45'
121	Manitoba, Manitoba	50°30'	98°20'
122	Reindeer, Manitoba	57°50'	101°40'
123	Winnipegosis, Manitoba	52°30'	100°10'

Lakes north of 60°N. Latitude (Northwest Territories)

Number	Lake	N. Lat.	W. Long.
200	Baker, Keewatin	64°10'	95°20'
201	Ennadai, Keewatin	61° 8'	100°45'
202	Frame, Mackenzie	62°27'	114°21'
203	Great Bear, Mackenzie	66° 6'	118° 0'
204	Great Slave at Fort Resolution, Mackenzie	61°10'	113°40'
205	Great Slave at Yellowknife, Mackenzie	62°25'	114°20'
206	Great Slave at Fort Reliance, Mackenzie	62°43'	109°10'
207	Vaillant, Mackenzie	66°12'	114°29'

No. 1 Beaver Dam Lake, Wisconsin - 43°30'N, 88°52'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	--	3 Apr.	--	"Beaver Dam Citizen" (newspaper) has records of opening dates of lake for the last 50 years

No. 2 Big Arbor Vitae Lake, Wisconsin - 45°58'N, 89°39'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	30 Nov.	20 Apr.	142	Robert M. Blosser
1959-60	16 Nov.			Unknown

No. 3 Big Maiden Lake, Wisconsin - 45°16'N, 88°32'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	30 Nov.	22 Apr.	144	Eddie Anderson, Lakewood, Wis. (He apparently has data on freeze-up in other years)

No. 4 Camp Lake, Wisconsin - 42°32'N, 88°8'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	--	31 Mar.	--	F. L. Paulin
1958-9	29 Nov.	3 Apr.	126	

No. 5 Chain O'Lakes, Waupaca, Wisconsin - 44°20'N, 89°10'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1951-2	20 Nov.	19 Apr.	151	Unknown
1952-3	29 Nov.	8 Apr.	131	
1953-4	17 Dec.	10 Apr.	114	
1954-5	6 Dec.	9 Apr.	124	
1955-6	30 Nov.	21 Apr.	143	
1956-7	29 Nov.	19 Apr.	142	
1957-8	1 Dec.	10 Apr.	131	
1958-9	30 Nov.	20 Apr.	152	

No. 6 Cyclone Lake, Wisconsin - 45°50'N, 91°57'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	--	12 Apr.	--	
1958-9	27 Nov.	15 Apr.	140	Leonard J. Druschba

No. 7 Devils Lake, Wisconsin - 43°25'N, 89°44'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1941-2	29 Dec.	--	--	Wis. Cons. Dept.
1946-7	18 Dec.	13 Apr.	116	Ralph Halverson,
1947-8	13 Dec.	29 Mar.	107	Devils Lake State
1948-9	25 Dec.	4 Apr.	100	Park, Baraboo, Wis.
1949-50	23 Dec.	--	--	
1950-1	4 Dec.	--	--	
1953-4	--	2 Apr.	--	
1954-5	--	9 Apr.	--	
1955-6	5 Dec.	--	--	
1958-9	--	15 Apr.	--	

No. 8 Escanaba Lake, Wisconsin - 46°4'N, 89°35'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1952-3	--	20 Apr.	--	Warren Churchill
1953-4	--	21 Apr.	--	
1954-5	--	17 Apr.	--	
1955-6	--	29 Apr.	--	
1956-7	--	23 Apr.	--	
1957-8	--	19 Apr.	--	

No. 9 Geneva Lake, Wisconsin - 42°34'N, 88°30'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1862-3	7 Jan.	1 Apr.	84	Hodge, McKinley, Field Secretary, Geneva Lake Civic Association, Williams Bay, Wisconsin, 1956
1863-4	18 Dec.	8 Apr.	112	
1864-5	8 Dec.	2 Apr.	115	
1865-6	16 Dec.	17 Apr.	121	
1866-7	27 Dec.	18 Apr.	112	
1867-8	31 Dec.	25 Mar.	85	
1868-9	11 Dec.	16 Mar.	95	
1869-70	21 Dec.	12 Apr.	112	
1870-1	24 Dec.	20 Mar.	86	
1871-2	9 Dec.	15 Apr.	128	
1872-3	4 Dec.	8 Apr.	125	
1873-4	21 Dec.	12 Apr.	112	
1874-5	20 Dec.	15 Apr.	116	
1875-6	27 Dec.	10 Apr.	105	
1876-7	6 Dec.	13 Apr.	128	
1877-8	7 Jan.	21 Feb.	45	
1878-9	23 Dec.	13 Apr.	111	
1879-80	18 Dec.	3 Mar.	76	
1880-1	23 Nov.	6 May	164	
1881-2	2 Jan.	1 Mar.	58	
1882-3	16 Dec.	13 Apr.	118	
1883-4	19 Dec.	13 Apr.	116	
1884-5	31 Dec.	20 Apr.	110	
1885-6	7 Dec.	3 Jan.	27	
1886-7	19 Dec.	2 Apr.	104	
1887-8	28 Dec.	12 Apr.	106	
1888-9	11 Jan.	31 Mar.	79	
1889-90	17 Jan.	9 Apr.	82	
1890-1	3 Jan.	13 Apr.	100	
1891-2	3 Jan.	2 Apr.	90	
1892-3	20 Dec.	5 Apr.	106	
1893-4	7 Dec.	11 Mar.	94	
1894-5	--	6 Apr.	--	
1895-6	6 Dec.	6 Apr.	121	
1896-7	18 Jan.	7 Apr.	79	

No. 9 Geneva Lake, Wisconsin (Continued)

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1897-8	17 Dec.	25 Mar.	98	
1898-9	8 Dec.	14 Apr.	127	
1899-900	29 Dec.	17 Apr.	109	
1900-1	--	11 Apr.	--	Yerkes Observatory,
1901-2	19 Jan.	15 Mar.	55	Williams Bay,
1902-3	18 Jan.	18 Mar.	59	Wisconsin
1903-4	16 Dec.	15 Apr.	121	
1904-5	5 Jan.	28 Mar.	82	
1905-6	23 Jan.	7-9 Apr.	75	
1906-7	23 Jan.	24 Mar.	60	
1907-8	28 Jan.	26 Mar.	58	
1908-9	7-8 Jan.	5 Apr.	88	
1909-10	28 Dec.	24 Mar.	86	
1910-1	3 Jan.	25 Mar.	81	
1911-2	2 Jan.	13 Apr.	102	
1912-3	8 Jan.	29 Mar.	80	
1913-4	5 Feb.	1 Apr.	55	
1914-5	24 Dec.	7-9 Apr.	105	
1915-6	13-30 Jan.	2 Apr.	79	
1916-7	26 Dec.	31 Mar.	95	
1917-8	15 Dec.	30 Mar.	105	
1918-9	10-11 Feb.	12 Mar.	30	
1919-20	16 Dec.	26 Mar.	101	
1920-1	12 Jan.	15 Feb.	34	
1921-2	22-23 Jan.	25 Mar.	62	
1922-3	23 Jan.	15 Apr.	82	
1923-4	14 Jan.	9 Apr.	86	
1924-5	28 Dec.	26 Mar.	88	
1925-6	29 Dec.	20 Apr.	112	
1926-7	28 Dec.	14 Mar.	76	
1927-8	27 Jan.	24 Mar.	57	
1928-9	15 Jan.	27 Mar.	71	
1929-30	23 Dec.	17 Mar.	84	
1930-1	15 Jan.	26 Mar.	70	
1931-2	10 Mar.	30 Mar.	20	
1932-3	8 Feb.	2 Apr.	53	

No. 9 Geneva Lake, Wisconsin (Continued)

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1933-4	2 Feb.	3 Apr.	60	
1934-5	18 Jan.	21 Mar.	62	
1935-6	27 Dec.	26 Mar.	90	
1936-7	10 Jan.	13 Apr.	93	
1937-8	9 Jan.	12 Mar.	62	
1938-9	4 Feb.	27 Mar.	51	
1939-40	7 Jan.	15 Apr.	99	
1940-1	21 Jan.	10 Apr.	79	
1941-2	10 Jan.	4 Apr.	84	
1942-3	19 Jan.	31 Mar.	71	
1943-4	7 Jan.	13 Feb.	37	
1944-5	10 Jan.	16 Mar.	65	
1945-6	24 Dec.	17 Mar.	83	
1950-1	17 Dec.	9 Apr.	113	

No. 10 Island Lake, Vilas County, Wisconsin - $46^{\circ}8'N$, $89^{\circ}47'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Date and Remarks
1948-9	--	21 Apr.	--	John LaFave
1949-50	19 Nov.	13 May	175	
1950-1	--	3 May	--	
1951-2	--	25 Apr.	--	
1952-3	22 Nov.	16 Apr.	145	
1953-4	27 Nov.	21 Apr.	145	
1954-5	30 Nov.	18 Apr.	139	
1955-6	--	23 Apr.	--	
1956-7	17 Nov.	24 Apr.	158	
1957-8	25 Nov.	--	--	

No. 11 Julia Lake, Wisconsin - $45^{\circ}18'N$, $87^{\circ}48'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	--	4 Apr.	--	Warren Churchill
1958-9	25 Nov.	16 Apr.	152	Oscar Reams

No. 12 Lake Kegonsa, Wisconsin - 42°58'N, 89°15'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1904-5	--	1 Apr.	--	Eric R. Miller, Local Forecaster, Madison Office, U. S. Weather Bureau, Department of Agriculture, letter dated December 26, 1912 and written to E. A. Birge.
1905-6	3 Dec.	7 Apr.	125	
1906-7	7 Dec.	25 Mar.	108	
1907-8	5 Dec.	25 Mar.	111	
1909-10	9 Dec.	--	--	
1910-1	--	21 Mar.	--	
1911-2	--	10 Apr.	--	
1912-3	11 Dec.	--	--	
1921-2	--	31 Mar.	--	
1922-3	9 Dec.	--	--	
1923-4	--	18 Apr.	--	
1924-5	8 Dec.	--	--	
1927-8	28 Dec.	23 Mar.	85	
1928-9	--	28 Mar.	--	<u>Stoughton newspapers, Stoughton Courier, Stoughton Hub, Stoughton Courier-Hub.</u>
1929-30	5 Dec.	--	--	
1933-4	--	1 Apr.	--	
1934-5	28 Dec.	--	--	
1935-6	--	28 Mar.	--	
1937-8	8 Dec.	16 Mar.	98	
1938-9	--	31 Mar.	--	
1939-40	28 Dec.	16 Apr.	109	
1941-2	--	24 Mar.	--	
1942-3	10 Dec.	5 Apr.	116	
1944-5	7 Dec.	--	--	
1945-6	--	21 Mar.	--	
1946-7	2 Dec.	--	--	
1947-8	1 Dec.	29 Mar.	119	
1948-9	--	25 Mar.	--	
1949-50	23 Dec.	--	--	
1952-3	--	21 Mar.	--	
1953-4	7 Dec.	15 Mar.	99	
1954-5	--	3 Apr.	--	

No. 13 Lilly Lake, Wisconsin - $42^{\circ}34'N$, $88^{\circ}12'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	--	29 Mar.	--	Francis L. Paulin
1958-9	27 Nov.	2 Apr.	127	

No. 14 Mary Lake, Wisconsin - $45^{\circ}19'N$, $87^{\circ}48'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	--	4 Apr.	--	Warren Churchill
1958-9	25 Nov.	16 Apr.	152	Oscar Reams

No. 15 Lake Mendota, Wisconsin -

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1852-3	--	5 Apr.	--	"Unofficial Records,"
1853-4	27 Dec.	--	--	Madison Airport
1855-6	18 Dec.	14 Apr.	118	Station of the U. S.
1856-7	6 Dec.	6 May	151	Weather Bureau.
1857-8	25 Nov.	26 Mar.	121	
1858-9	8 Dec.	14 Mar.	96	
1859-60	7 Dec.	26 Mar.	110	
1860-1	14 Dec.	10 Apr.	117	
1861-2	2 Dec.	13 Apr.	132	
1862-3	26 Dec.	9 Apr.	104	
1863-4	18 Dec.	21 Apr.	125	
1864-5	8 Dec.	5 Apr.	118	
1865-6	14 Dec.	18 Apr.	125	
1866-7	18 Dec.	20 Apr.	123	
1867-8	12 Dec.	31 Mar.	110	
1868-9	10 Dec.	16 Apr.	127	
1869-70	2 Dec.	12 Apr.	131	
1870-1	24 Dec.	2 Apr.	99	
1871-2	19 Dec.	23 Apr.	126	
1872-3	30 Nov.	23 Apr.	144	
1873-4	29 Nov.	14 Apr.	136	
1874-5	10 Dec.	15 Apr.	126	
1875-6	10 Jan.	10 Apr.	91	
1876-7	8 Dec.	17 Apr.	130	
1877-8	6 Jan.	9 Mar.	62	
1878-9	21 Dec.	12 Apr.	112	
1879-80	17 Dec.	25 Mar.	99	
1880-1	23 Nov.	3 May	161	
1881-2	2 Jan.	21 Mar.	78	
1882-3	10 Dec.	13 Apr.	124	
1883-4	18 Dec.	15 Apr.	119	
1884-5	17 Dec.	20 Apr.	124	
1885-6	12 Dec.	19 Apr.	128	
1886-7	5 Dec.	15 Apr.	131	
1887-8	24 Dec.	15 Apr.	113	
1888-9	2 Jan.	31 Mar.	88	
1889-90	14 Jan.	30 Mar.	75	

No. 15 Lake Mendota, Wisconsin (Continued)

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1890-1	26 Dec.	16 Apr.	111	
1891-2	27 Dec.	2 Apr.	97	
1892-3	16 Dec.	7 Apr.	112	
1893-4	4 Dec.	15 Mar.	101	
1894-5	28 Dec.	8 Apr.	101	
1895-6	5 Jan.	5 Apr.	91	
1896-7	21 Dec.	10 Apr.	110	
1897-8	17 Dec.	27 Mar.	100	
1898-9	9 Dec.	18 Apr.	130	
1899-900	27 Dec.	17 Apr.	112	
1900-1	25 Dec.	11 Apr.	107	
1901-2	15 Dec.	30 Mar.	105	
1902-3	25 Dec.	24 Mar.	89	
1903-4	13 Dec.	17 Apr.	126	
1904-5	14 Dec.	1 Apr.	108	
1905-6	1 Jan.	8 Apr.	97	
1906-7	20 Dec.	24 Mar.	94	
1907-8	1 Jan.	24 Mar.	83	
1908-9	22 Dec.	7 Apr.	106	
1909-10	18 Dec.	26 Mar.	98	
1910-1	9 Dec.	20 Mar.	101	
1911-2	28 Dec.	14 Apr.	108	
1912-3	24 Dec.	2 Apr.	99	
1913-4	12 Jan.	10 Apr.	88	
1914-5	16 Dec.	10 Apr.	115	
1915-6	28 Dec.	8 Apr.	102	
1916-7	16 Dec.	11 Apr.	116	
1917-8	11 Dec.	5 Apr.	115	
1918-9	3 Jan.	26 Mar.	82	
1919-20	9 Dec.	28 Mar.	110	
1920-1	25 Dec.	16 Mar.	81	
1921-2	25 Dec.	31 Mar.	96	
1922-3	16 Dec.	20 Apr.	125	
1923-4	1 Jan.	14 Apr.	104	
1924-5	19 Dec.	3 Apr.	105	
1925-6	16 Dec.	19 Apr.	124	
1926-7	6 Dec.	19 Mar.	103	

No. 15 Lake Mendota, Wisconsin (Continued)

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1927-8	17 Dec.	1 Apr.	106	
1928-9	21 Dec.	27 Mar.	96	
1929-30	3 Dec.	20 Mar.	107	
1930-1	16 Dec.	24 Mar.	98	
1931-2	30 Jan.	4 Apr.	65	
1932-3	10 Dec.	4 Apr.	115	
1933-4	25 Dec.	26 Mar.	91	
1934-5	24 Dec.	28 Mar.	94	
1935-6	20 Dec.	30 Mar.	101	
1936-7	5 Jan.	13 Apr.	98	
1937-8	7 Dec.	22 Mar.	105	
1938-9	28 Dec.	4 Apr.	97	
1939-40	2 Jan.	16 Apr.	105	
1940-1	5 Jan.	11 Apr.	96	
1941-2	3 Jan.	26 Mar.	82	
1942-3	7 Dec.	2 Apr.	118	
1943-4	16 Dec.	8 Apr.	114	
1944-5	18 Dec.	20 Mar.	92	
1945-6	13 Dec.	21 Mar.	98	
1946-7	30 Dec.	10 Apr.	101	
1947-8	21 Dec.	3 Apr.	104	
1948-9	24 Dec.	30 Mar.	96	
1949-50	23 Dec.	11 Apr.	109	
1950-1	11 Dec.	12 Apr.	122	
1951-2	16 Dec.	8 Apr.	114	
1952-3	30 Dec.	21 Apr.	112	
1953-4	30 Dec.	25 Mar.	85	
1954-5	2 Jan.	4 Apr.	92	
1955-6	12 Dec.	4 Apr.	114	
1956-7	14 Dec.	4 Apr.	111	
1957-8	30 Dec.	4 Apr.	95	
1958-9	9 Dec.	14 Apr.	126	
1959-60	29 Dec.			

No. 16 Mercer Lake, Wisconsin - 46°10'N, 90°4'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	28 Nov.	21 Apr.	145	Robert M. Blosser

No. 17 Lake Minocqua, Wisconsin - 45°53'N, 89°43'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1909-10	--	20 Mar.	--	
1949-50	--	11 May	--	
1955-6	--	26 Apr.	--	
1956-7	22 Nov.	--	--	
1958-9	27 Nov.	--	--	

No. 18 Lake Monona, Wisconsin - 43°4'N, 89°22'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1851-2	13 Dec.	25 Mar.	103	"Unofficial Records," Madison Airport Station of the U. S. Weather Bureau
1853-4	21 Dec.	--	--	
1855-6	18 Dec.	14 Apr.	118	
1856-7	4 Dec.	4 May	151	
1857-8	23 Nov.	22 Mar.	119	
1858-9	11 Dec.	15 Mar.	94	
1859-60	6 Dec.	26 Mar.	111	
1860-1	2 Dec.	10 Apr.	129	
1861-2	1 Dec.	13 Apr.	133	
1862-3	7 Dec.	5 Apr.	119	
1863-4	11 Dec.	20 Apr.	131	
1864-5	9 Dec.	5 Apr.	117	
1865-6	14 Dec.	18 Apr.	125	
1866-7	12 Dec.	19 Apr.	128	
1867-8	14 Dec.	31 Mar.	108	
1868-9	10 Dec.	15 Apr.	126	
1869-70	24 Nov.	11 Apr.	138	
1870-1	22 Dec.	1 Apr.	100	
1871-2	30 Nov.	20 Apr.	142	
1872-3	28 Nov.	18 Apr.	141	
1873-4	29 Nov.	14 Apr.	136	
1874-5	12 Dec.	14 Apr.	123	
1875-6	10 Jan.	10 Apr.	91	
1876-7	5 Dec.	16 Apr.	132	
1877-8	6 Jan.	9 Mar.	62	
1878-9	16 Dec.	10 Apr.	115	
1879-80	16 Dec.	18 Mar.	93	
1880-1	22 Nov.	1 May	160	
1881-2	1 Jan.	19 Mar.	77	
1882-3	7 Dec.	13 Apr.	127	
1883-4	17 Dec.	15 Apr.	120	
1884-5	17 Dec.	17 Apr.	121	
1885-6	7 Dec.	17 Apr.	131	
1886-7	5 Dec.	15 Apr.	131	
1887-8	28 Nov.	13 Apr.	137	
1888-9	29 Dec.	26 Mar.	87	
1889-90	14 Jan.	29 Mar.	74	

No. 18 Lake Monona, Wisconsin (Continued)

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1890-1	24 Dec.	16 Apr.	113	
1891-2	27 Dec.	1 Apr.	96	
1892-3	11 Dec.	7 Apr.	117	
1893-4	2 Dec.	11 Mar.	99	
1894-5	25 Dec.	8 Apr.	104	
1895-6	4 Dec.	1 Apr.	119	
1896-7	3 Dec.	5 Apr.	123	
1897-8	15 Dec.	26 Mar.	101	
1898-9	7 Dec.	15 Apr.	129	
1899-900	25 Dec.	16 Apr.	113	
1900-1	14 Dec.	11 Apr.	118	
1901-2	14 Dec.	27 Mar.	103	
1902-3	26 Dec.	21 Mar.	85	
1903-4	27 Nov.	15 Apr.	140	
1904-5	13 Dec.	3 Apr.	111	
1905-6	14 Dec.	8 Apr.	115	
1906-7	8 Dec.	24 Mar.	106	
1907-8	11 Dec.	26 Mar.	106	
1908-9	9 Dec.	6 Apr.	118	
1909-10	18 Dec.	24 Mar.	96	
1910-1	8 Dec.	21 Mar.	103	
1911-2	18 Dec.	9 Apr.	113	
1912-3	19 Dec.	2 Apr.	104	
1913-4	27 Dec.	2 Apr.	96	
1914-5	15 Dec.	9 Apr.	115	
1915-6	15 Dec.	4 Apr.	111	
1916-7	16 Dec.	11 Apr.	116	
1917-8	8 Dec.	3 Apr.	116	
1918-9	27 Dec.	20 Mar.	83	
1919-20	3 Dec.	28 Mar.	116	
1920-1	21 Dec.	16 Mar.	85	
1921-2	19 Dec.	25 Mar.	96	
1922-3	13 Dec.	19 Apr.	127	
1923-4	1 Jan.	13 Apr.	103	
1924-5	14 Dec.	27 Mar.	103	
1925-6	10 Dec.	15 Apr.	126	
1926-7	5 Dec.	17 Mar.	102	

No. 18 Lake Monona, Wisconsin (Continued)

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1927-8	9 Dec.	26 Mar.	108	
1928-9	21 Dec.	27 Mar.	96	
1929-30	3 Dec.	17 Mar.	104	
1930-1	16 Dec.	24 Mar.	98	
1931-2	30 Jan.	30 Mar.	60	
1932-3	10 Dec.	27 Mar.	107	
1933-4	13 Dec.	26 Mar.	103	
1934-5	20 Dec.	28 Mar.	98	
1935-6	11 Dec.	27 Mar.	107	
1936-7	5 Jan.	12 Apr.	97	
1937-8	1 Dec.	22 Mar.	111	
1938-9	19 Dec.	31 Mar.	102	
1939-40	31 Dec.	11 Apr.	102	
1940-1	3 Dec.	9 Apr.	127	
1941-2	29 Dec.	24 Mar.	85	
1942-3	7 Dec.	31 Mar.	114	
1943-4	14 Dec.	24 Mar.	101	
1944-5	18 Dec.	17 Mar.	89	
1945-6	12 Dec.	21 Mar.	99	
1946-7	18 Dec.	5 Apr.	108	
1947-8	9 Dec.	26 Mar.	108	
1948-9	24 Dec.	26 Mar.	92	
1949-50	15 Dec.	7 Apr.	113	
1950-1	11 Dec.	8 Apr.	118	
1951-2	16 Dec.	6 Apr.	112	
1952-3	17 Dec.	20 Mar.	93	
1953-4	30 Dec.	12 Mar.	72	
1954-5	31 Dec.	24 Mar.	83	
1955-6	6 Dec.	24 Mar.	109	
1956-7	13 Dec.	15 Mar.	92	
1957-8	12 Dec.	31 Mar.	109	
1958-9	8 Dec.	--	--	
1959-60				

No. 19 Lake Nagawicka, Wisconsin - $43^{\circ}5'N$, $88^{\circ}23'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1946-7	--	17 Apr.	--	Thomas McNulty, Delafield, Wisconsin
1947-8	--	25 Mar.	--	
1948-9	--	28 Mar.	--	
1949-50	--	1 Apr.	--	
1950-1	--	7 Apr.	--	
1951-2	--	3 Apr.	--	
1952-3	--	31 Mar.	--	
1953-4	--	5 Apr.	--	
1954-5	--	6 Apr.	--	
1955-6	--	30 Mar.	--	
1956-7	--	2 Apr.	--	
1957-8	--	5 Apr.	--	

No. 20 Lake Nocquebay, Wisconsin - $45^{\circ}15'N$, $87^{\circ}55'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	--	6 Apr.	--	Warren Churchill
1958-9	29 Nov.	19 Apr.	141	Henry J. Walder

No. 21 Rock Lake, Wisconsin - 43°5'N, 88°54'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1886-7	--	14 Apr.	--	<u>Lake Mills Leader</u> 1955, "Lake Opening Dates," Lake Mills, Wisconsin
1887-8	--	3 Apr.	--	
1888-9	--	29 Mar.	--	
1889-90	--	4 Apr.	--	
1890-1	--	30 Mar.	--	
1891-2	--	3 Apr.	--	
1892-3	--	6 Apr.	--	
1893-4	--	11 Mar.	--	
1894-5	--	5 Apr.	--	
1895-6	--	2 Apr.	--	
1896-7	--	5 Apr.	--	
1897-8	--	27 Mar.	--	
1898-9	--	15 Apr.	--	
1899-900	--	16 Apr.	--	
1900-1	--	12 Apr.	--	
1901-2	--	26 Mar.	--	
1902-3	--	21 Mar.	--	
1903-4	--	15 Apr.	--	
1904-5	--	3 Apr.	--	
1905-6	--	9 Apr.	--	
1906-7	--	23 Mar.	--	
1907-8	--	26 Mar.	--	
1908-9	--	7 Apr.	--	
1909-10	--	26 Mar.	--	
1910-1	--	21 Mar.	--	
1911-2	--	10 Apr.	--	
1912-3	--	1 Apr.	--	
1913-4	--	2 Apr.	--	
1914-5	--	10 Apr.	--	
1915-6	--	5 Apr.	--	
1916-7	--	11 Apr.	--	
1917-8	--	2 Apr.	--	
1918-9	--	20 Mar.	--	
1919-20	--	28 Mar.	--	
1920-1	--	16 Mar.	--	
1921-2	--	25 Mar.	--	
1922-3	--	19 Apr.	--	

No. 21, Rock Lake, Wisconsin (Continued)

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1923-4	--	14 Apr.	--	
1924-5	--	27 Mar.	--	
1925-6	--	16 Apr.	--	
1926-7	--	19 Mar.	--	
1927-8	--	24 Mar.	--	
1928-9	--	28 Mar.	--	
1929-30	--	18 Mar.	--	
1930-1	--	25 Mar.	--	
1931-2	--	4 Apr.	--	
1932-3	--	19 Mar.	--	
1933-4	--	21 Mar.	--	
1934-5	--	30 Mar.	--	
1935-6	--	29 Mar.	--	
1936-7	--	12 Apr.	--	
1937-8	--	22 Mar.	--	
1938-9	--	4 Apr.	--	
1939-40	--	15 Apr.	--	
1940-1	--	11 Apr.	--	
1941-2	--	1 Apr.	--	
1942-3	--	4 Apr.	--	
1943-4	--	4 Apr.	--	
1944-5	--	24 Mar.	--	
1945-6	--	22 Mar.	--	
1946-7	--	12 Apr.	--	
1947-8	--	31 Mar.	--	
1948-9	--	29 Mar.	--	
1949-50	--	11 Apr.	--	
1950-1	--	14 Apr.	--	
1951-2	--	9 Apr.	--	
1952-3	--	21 Mar.	--	
1953-4	--	24 Mar.	--	
1954-5	--	5 Apr.	--	

No. 22 Shawano Lake, Wisconsin - $44^{\circ}46'N$, $88^{\circ}30'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	--	12 Apr.	--	O. K. Johnson
1958-9	24 Nov.	18 Apr.	145	

No. 23 Shell Lake, Wisconsin - 45°44'N, 91°54'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1891-2	--	22 Apr.	--	data from records at Washburn County Courthouse (not official)
1892-3	--	10 May	--	
1893-4	--	19 Apr.	--	
1904-5	--	19 Apr.	--	
1905-6	30 Nov.	20 Apr.	142	
1906-7	3 Dec.	5 May	154	
1907-8	1 Dec.	17 Apr.	139	
1908-9	5 Dec.	11 May	158	
1909-10	7 Dec.	27 Apr.	141	
1910-1	28 Nov.	28 Apr.	151	
1911-2	16 Nov.	15 Apr.	152	
1912-3	8 Dec.	23 Apr.	136	
1913-4	18 Dec.	25 Apr.	128	
1914-5	18 Dec.	21 Apr.	124	
1915-6	2 Dec.	21 Apr.	141	
1916-7	25 Nov.	3 May	159	
1917-8	4 Dec.	22 Apr.	139	
1918-9	6 Dec.	14 Apr.	129	
1919-20	26 Nov.	25 Apr.	151	
1920-1	17 Dec.	6 Apr.	110	
1921-2	6 Dec.	28 Apr.	143	
1922-3	6 Dec.	2 May	147	
1923-4	5 Dec.	26 Apr.	143	
1924-5	29 Nov.	27 Apr.	149	
1925-6	24 Nov.	24 Apr.	141	
1926-7	21 Nov.	14 Apr.	143	
1927-8	1 Dec.	1 May	152	
1928-9	5 Dec.	7 Apr.	123	
1929-30	24 Nov.	12 Apr.	139	
1930-1	28 Nov.	11 Apr.	134	
1931-2	1 Dec.	22 Apr.	144	
1932-3	16 Nov.	23 Apr.	158	
1933-4	15 Nov.	25 Apr.	161	
1934-5	2 Dec.	22 Apr.	141	
1935-6	22 Nov.	1 May	161	
1936-7	25 Nov.	26 Apr.	152	

No. 23 Shell Lake, Wisconsin (Continued)

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1937-8	22 Nov.	11 Apr.	140	
1938-9	23 Nov.	25 Apr.	153	
1939-40	14 Dec.	30 Apr.	138	
1940-1	28 Nov.	14 Apr.	137	
1941-2	10 Dec.	17 Apr.	128	
1942-3	28 Nov.	24 Apr.	147	
1943-4	20 Nov.	25 Apr.	157	
1944-5	12 Dec.	31 Mar.	109	
1945-6	25 Nov.	3 Apr.	129	
1946-7	25 Nov.	29 Apr.	155	
1947-8	26 Nov.	18 Apr.	144	
1948-9	7 Dec.	17 Apr.	131	
1949-50	2 Dec.	9 May	158	
1950-1	24 Nov.	1 May	158	
1951-2	18 Nov.	26 Apr.	160	Lake Froze 11-7 in cold wave, clear 11-11
1952-3	19 Nov.	16 Apr.	148	
1953-4	10 Dec.	20 Apr.	131	
1954-5	2 Dec.	17 Apr.	136	
1955-6	19 Nov.	28 Apr.	161	
1956-7	8 Dec.	24 Apr.	137	
1957-8	2 Dec.	16 Apr.	135	
1958-9	28 Nov.	22 Apr.	145	Leonard J. Druschba

No. 24 Spooner Lake, Wisconsin - 45°51'N, 91°48'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1955-6	--	11 Apr.	--	Leonard J. Druschba, District Fish Manager Spooner, Wisconsin
1956-7	--	22 Apr.	--	
1957-8	--	12 Apr.	--	
1958-9	27 Nov.	17 Apr.	142	

No. 25 Summit Lake, Wisconsin - 46°28'N, 92°15'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	--	21 Apr.	--	Wilbur Borne Edward S. Thrall
1958-9	17 Nov.	23 Apr.	157	

No. 26 Trout Lake, Wisconsin - $46^{\circ}3'N$, $89^{\circ}40'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1941-2	--	30 Apr.	--	Donald L. Halverson (Unpublished diary) Director of Residence Halls, University of Wisconsin, Madison, Wisconsin.
1942-3	--	1 May	--	
1943-4	--	3 May	--	
1946-7	--	6 May	--	
1947-8	--	23 Apr.	--	
1949-50	--	15 May	--	
1951-2	--	27 Apr.	--	
1952-3	--	23 Apr.	--	
1953-4	--	22 Apr.	--	
1958-9	--	29 Apr.	--	

No. 27 Lake Waubesa, Wisconsin - 43°1'N, 89°19'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1938-9	--	27 Mar.	---	Andrew Aaroen, Waubesa resident (Unpublished diary).
1939-40	--	10 Apr.	---	
1940-1	--	9 Apr.	---	
1941-2	--	24 Apr.	---	
1942-3	--	2 Apr.	---	
1943-4	--	30 Mar.	---	
1944-5	--	17 Mar.	---	
1945-6	--	19 Mar.	---	
1946-7	--	6 Apr.	---	
1947-8	--	27 Mar.	---	
1948-9	--	27 Mar.	---	Wealti, Waubesa resident (Unpublished diary). Christenson, Waubesa resident (Unpublished diary).
1949-50	14 Dec.	7 Apr.	114	
1950-1	23 Nov.	11 Apr.	139	
1951-2	14 Dec.	5 Apr.	113	
1952-3	6 Dec.	21 Mar.	105	
1953-4	18 Dec.	18 Mar.	90	
1954-5	10 Dec.	3 Apr.	114	

No. 28 Weber Lake, Wisconsin - 46°6'N, 89°6'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1945-6	--	3 Apr.	--	Milton Burdick, Woodruff, Wisconsin
1946-7	--	1 May	--	
1947-8	--	15 Apr.	--	
1948-9	--	18 Apr.	--	
1949-50	--	8 May	--	
1950-1	--	29 Apr.	--	
1951-2	--	25 Apr.	--	

No. 29 White Lake, Wisconsin - 45°12'N, 88°46'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1917-8	24 Nov.	14 Apr.	141	data from Yawkey-Bissell Corp, White Lake, Wisconsin
1918-9	25 Nov.	10 Apr.	136	
1919-20	15 Nov.	17 Apr.	154	
1920-1	16 Nov.	5 Apr.	140	
1921-2	20 Nov.	23 Apr.	154	
1922-3	1 Dec.	28 Apr.	148	
1923-4	28 Nov.	26 Apr.	150	
1924-5	--	6 Apr.	--	
1925-6	25 Nov.	23 Apr.	149	
1926-7	22 Nov.	7 Apr.	136	
1927-8	19 Nov.	24 Apr.	157	
1928-9	27 Nov.	7 Apr.	131	
1929-30	22 Nov.	8 Apr.	137	
1930-1	26 Nov.	10 Apr.	135	
1931-2	7 Dec.	19 Apr.	134	
1932-3	17 Nov.	23 Apr.	157	
1933-4	15 Nov.	23 Apr.	159	
1934-5	6 Dec.	14 Apr.	129	
1935-6	23 Nov.	24 Apr.	153	
1936-7	--	19 Apr.	--	
1937-8	22 Nov.	10 Apr.	139	
1938-9	23 Nov.	22 Apr.	150	
1939-40	14 Dec.	26 Apr.	134	
1940-1	15 Nov.	11 Apr.	147	
1941-2	7 Dec.	14 Apr.	128	
1942-3	28 Nov.	22 Apr.	145	
1943-4	16 Nov.	22 Apr.	158	
1944-5	2 Dec.	27 Mar.	115	
1945-6	26 Nov.	29 Mar.	133	
1946-7	23 Nov.	22 Apr.	150	
1947-8	27 Nov.	11 Apr.	136	
1948-9	29 Nov.	12 Apr.	134	
1949-50	26 Nov.	5 May	160	
1950-1	23 Nov.	27 Apr.	155	
1951-2	20 Nov.	22 Apr.	154	
1952-3	30 Nov.	14 Apr.	135	
1953-4	15 Dec.	15 Apr.	121	

No. 29 White Lake, Wisconsin (Continued)

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1954-5	5 Dec.	14 Apr.	130	
1955-6	27 Nov.	22 Apr.	147	
1956-7	27 Nov.	21 Apr.	145	
1957-8	4 Dec.	16 Apr.	133	
1958-9	27 Nov.	18 Apr.	142	Arnold A. Buettner

No. 30 Lake Wingra, Wisconsin - 43°3'N, 89°25'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1877-8	29 Dec.	9 Mar.	70	Wayland E. Noland, "The Hydrography, Fish, and Turtle Population of Lake Wingra," <u>Trans. of the Wis. Academy of Science, Arts and Letters, 40, part 2: 5-58, 1950.</u>
1878-9	6 Dec.	29 Mar.	113	
1879-80	19 Nov.	23 Mar.	125	
1880-1	16 Nov.	29 Apr.	164	
1881-2	20 Nov.	2 Mar.	102	
1882-3	2 Dec.	10 Apr.	129	
1883-4	15 Nov.	13 Apr.	150	
1884-5	24 Nov.	13 Apr.	140	
1885-6	5 Dec.	15 Apr.	131	
1886-7	24 Nov.	--	--	
1887-8	20 Nov.	13 Apr.	145	
1888-9	12 Dec.	24 Mar.	102	
1889-90	--	24 Mar.	--	
1890-1	4 Dec.	--	--	
1891-2	--	2 Apr.	--	
1892-3	18 Nov.	5 Apr.	138	
1893-4	17 Nov.	10 Mar.	113	
1894-5	15 Nov.	--	--	
1895-6	--	30 Mar.	--	
1913-4	2 Nov.	--	--	
1914-5	29 Nov.	--	--	
1915-6	--	20 Mar.	--	
1916-7	27 Nov.	--	--	
1926-7	20 Nov.	--	--	
1927-8	--	24 Mar.	--	
1928-9	29 Nov.	25 Mar.	116	
1929-30	17 Nov.	--	--	
1934-5	--	25 Mar.	--	
1935-6	--	24 Mar.	--	
1936-7	--	10 Apr.	--	
1937-8	--	21 Mar.	--	
1938-9	25 Nov.	25 Mar.	120	
1939-40	--	9 Apr.	--	
1940-1	13 Nov.	--	--	
1943-4	--	24 Mar.	--	
1944-5	2 Dec.	17 Mar.	105	
1945-6	24 Nov.	20 Mar.	116	

No. 30 Lake Wingra, Wisconsin (Continued)

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1947-8	--	26 Mar.	--	
1948-9	7 Dec.	27 Mar.	110	
1949-50	25 Nov.	7 Apr.	133	
1950-1	23 Nov.	9 Apr.	137	
1952-3	28 Nov.	--	--	
1958-9	27 Nov.	--	--	
1959-60	15 Nov.			

No. 31 Lake Winnebago, Wisconsin - $44^{\circ}0'N$, $88^{\circ}24'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1956-7	--	2 Apr. (center)	--	Observer unknown
1957-8	7 Dec.	5 Apr.	119 (north shore)	
1958-9	29 Nov.	17 Apr.	140 (north shore)	

No. 32 Bear Lake, Michigan

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1949-50	18 Dec.	25 Mar.	98	Dept. of Zoology Univ. of Michigan
1950-1	15 Dec.	1 Mar.	76	
1951-2	22 Dec.	12 Mar.	80	
1952-3	30 Dec.	28 Feb.	60	
1953-4	20 Dec.	22 Feb.	63	

No. 33 Big Portage Lake, Michigan - 42°19'N, 84°15'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1949-50	18 Dec.	25 Mar.	97	
1950-1	12 Dec.	5 Mar.	83	
1951-2	20 Dec.	13 Mar.	84	
1952-3	28 Dec.	26 Feb.	60	
1953-4	22 Dec.	22 Feb.	62	
1954-5	16 Dec.	10 Mar.	84	
1955-6	15 Dec.	16 Mar.	92	
1956-7	1 Jan.	12 Mar.	70	
1957-8	1 Jan.	25 Mar.	83	

No. 34 Deer Lake, Minnesota - 47°23'N, 93°40'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	--	30 Apr.	--	

No. 35 Fife Lake, Michigan - 44°34'N, 85°21'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1949-50	15 Dec.	10 Apr.	116	Dept. of Zoology Univ. of Michigan
1950-1	1 Dec.	3 Apr.	127	
1951-2	18 Dec.	1 Apr.	104	
1952-3	5 Dec.	1 Apr.	116	
1953-4	16 Dec.	4 Apr.	109	
1954-5	8 Dec.	4 Apr.	117	
1955-6	3 Dec.	25 Mar.	113	
1956-7	5 Dec.	31 Mar.	116	
1957-8	4 Dec.	3 Apr.	120	

No. 36 Fine Lake, Barry Co., Michigan - 42°25'N, 85°16'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1949-50	17 Dec.	26 Mar.	98	Dept. of Zoology Univ. of Michigan
1950-1	16 Dec.	2 Mar.	76	
1951-2	20 Dec.	22 Mar.	92	
1952-3	1 Jan.	13 Mar.	71	
1953-4	27 Dec.	2 Mar.	65	
1954-5	18 Dec.	12 Mar.	84	
1955-6	8 Dec.	31 Mar.	114	
1956-7	2 Jan.	13 Mar.	70	
1957-8	14 Dec.	26 Mar.	102	

No. 37 King Lake, Baraga County, Michigan - 46°32'N, 88°24'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1937-8	--	12 Apr.	--	Michigan Dept. of Conservation
1938-9	3 Nov.	3 May	181	
1939-40	26 Oct.	1 May	187	
1940-1	7 Nov.	14 Apr.	158	
1941-2	5 Nov.	19 Apr.	165	
1942-3	9 Nov.	2 May	173	
1943-4	11 Nov.	29 Apr.	170	
1944-5	23 Nov.	26 Mar.	123	
1945-6	4 Nov.	1 Apr.	147	
1946-7	12 Nov.	6 May	175	
1947-8	10 Nov.	19 Apr.	161	
1948-9	12 Nov.	20 Apr.	159	
1949-50	3 Nov.	15 May	193	
1950-1	11 Nov.	1 May	171	
1951-2	1 Nov.	24 Apr.	175	
1952-3	8 Nov.	24 Apr.	167	
1953-4	27 Nov.	22 Apr.	146	
1954-5	2 Nov.	18 Apr.	167	
1955-6	7 Nov.	6 May	181	
1956-7	16 Nov.	24 Apr.	159	
1957-8	10 Nov.	--	--	

No. 38 Pike Bay, Cass Lake, Minnesota - 47°21'N, 94°34'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	--	28 Apr.	--	

No. 50 Brereton Lake, Whiteshell Reserve, Manitoba - $49^{\circ}54'N$,
 $94^{\circ}35'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	last wk in Nov.	15 Apr.	140	C. H. Watson

No. 51 Caddy Lake, Whiteshell Reserve, Manitoba - $49^{\circ}49'N$,
 $94^{\circ}43'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	last wk in Nov.	15 Apr.	140	C. H. Watson

No. 52 English River, Ontario - $49^{\circ}13'N$, $90^{\circ}58'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1956-7	--	19 Apr.	--	earliest clearing on record
1958-9	23 Nov.	--	--	

No. 53 Falcon Lake, Manitoba - 49°42'N, 95°15'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1951-2	--	27 May	--	
1952-3	1 Dec.	--	--	
1953-4	7 Dec.	--	--	
1954-5	17 Dec.	13 Apr.	117	
1955-6	24 Nov.	11 May	169	
1956-7	4 Dec.	5 May	152	
1957-8	30 Nov.	17 Apr.	139	
1958-9	first wk in Dec.	17 Apr.	133	

No. 54 Klotz Lake, Ontario - 49°49'N, 85°53'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	--	11 May	--	
1959-60	--	26 Nov.	--	

No. 55 Raven Lake, Ontario - 49°17'N, 91°16'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	22 Nov.	5 May	--	Average freeze-up is 10 Nov.
1959-60	4 Nov.			F. C. MacDonald

No. 56 Remi Lake, Ontario - 49°26'N, 82°10'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	early Nov.	10 May	180	

No. 57 West Hawk Lake, Manitoba - 49°46'N, 95°11'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1954-5	26 Dec.	13 Apr.	108	
1955-6	--	11 May	--	
1956-7	--	7 May	--	
1957-8	30 Dec.	17 Apr.	108	C. H. Watson
1959-60	8 Dec.			

No. 100 Athapapuskow Lake, Manitoba - 54°33'N, 101°40'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1954-5	--	5 June	--	
1955-6	--	4 June	--	
1956-7	--	29 May	--	
1957-8	--	21 May	--	
1959-60	--	31 May	--	R. A. Ragotzkie

No. 101 Barrington Lake, Manitoba - 56°56'N, 100°15'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	22 Nov.	--	--	Don Linn, Manitoba Div. Mines and Natural Resources

No. 102 Cedar Lake, Manitoba - 53°16'N, 100°9'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	28 Nov.	24 May	177	A. D. Clark

No. 103 Cross Lake, Manitoba - $54^{\circ}44'N$, $97^{\circ}30'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	15 Nov.	19 May	184	

No. 104 Goose Lake, Manitoba - $54^{\circ}23'N$, $101^{\circ}25'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	21 Dec.	--	--	A. Benedictson
1958-9	--	23 May	--	

No. 105 Granville Lake, Manitoba - $56^{\circ}18'N$, $100^{\circ}30'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	22 Nov.	--	--	Don Linn, Manitoba Div. Mines and Natural Resources

No. 106 Little Athapapuskow Lake, Manitoba - $54^{\circ}38'N$, $101^{\circ}40'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1954-5	--	2 June	--	
1955-6	--	28 May	--	
1956-7	--	19 May	--	
1957-8	--	16 May	--	

No. 107 Little Playgreen Lake, Manitoba - $54^{\circ}0'N$, $97^{\circ}50'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	14 Nov.	8 May	174	

No. 108 Moosenose Lake, Manitoba - $56^{\circ}4'N$, $95^{\circ}46'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1949-50	15 Oct.	--	--	Moosenose breaks up 7-10 days later than Split Lake on the average according to Mike Hatley
1950-1	4 Nov.	--	--	
1951-2	17 Nov.	--	--	
1952-3	14 Oct.	--	--	
1958-9	6 Nov.	--	--	

No. 109 Rocky Lake, Manitoba - $54^{\circ}9'N$, $101^{\circ}30'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	7 Nov.	12 May	186	

No. 110 South Indian Lake, N. Manitoba - $56^{\circ}49'N$, $98^{\circ}32'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	9 Nov.	11 June	214	Gerald L. Gustafson
1958-9	26 Nov.	--	--	Don Linn

No. 111 Split Lake, Manitoba - $56^{\circ}13'N$, $96^{\circ}17'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1947-8	--	21 May	--	
1948-9	--	21 May	--	
1949-50	--	30 May	--	
1950-1	--	17 May	--	
1951-2	--	6 May	--	

No. 112 Walker Lake, Manitoba - 54°43'N, 97°0'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	9 Nov.	20 May	192	Charlie McLeod, Cross Lake Manitoba

No. 113 Waterhen Lake, Manitoba - 52°7'N, 99°35'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1957-8	9 Nov.	21 Apr.	163	S. Oliver

No. 114 Wheatcroft Lake, Manitoba - $56^{\circ}49'N$, $101^{\circ}1'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	20 Nov.	--	--	Don Linn

No. 115 Whiskeyjack Lake, Manitoba - $58^{\circ}23'N$, $101^{\circ}55'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	25 Nov.	--	--	Don Linn

No. 116 White Lake, Manitoba - $50^{\circ}2'N$, $95^{\circ}33'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	30 Nov.	2 May	153	
1959-60	5 Nov.			

No. 117 Zed Lake, Manitoba - $56^{\circ}55'N$, $101^{\circ}24'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	15 Nov.	--	--	Don Linn

No. 118 Clearwater Lake, Manitoba - $54^{\circ}2'N$, $101^{\circ}1'W$

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1956-7	1 Dec.	31 May	181	D. O. T.
1957-8	27 Nov.	15 May	169	
1958-9	--	28 May	--	R. A. Ragotzkie

No. 119 Grace Lake, Manitoba - 53°50'N, 101°10'W

Year	First Ice*	Freeze-Up	Break-Up	Duration of Ice Cover (days)	Source of Data and Remarks
1948-9	--	--	5 May	--	D. O. T.
1949-50	21 Oct.	--	20 May	211	
1950-1	30 Oct.	--	2 May	184	
1951-2	21 Oct.	--	1 May	192	
1952-3	27 Oct.	--	12 May	197	
1953-4	2 Nov.	--	21 May	200	
1954-5	1 Nov.	--	29 Apr.	179	
1955-6	29 Oct.	--	22 May	206	
1956-7	28 Oct.	--	--	--	
1957-8	23 Oct.	20 Nov.	--	--	

*date ice first formed.

No. 120 Lake Dauphin, Manitoba - 51°15'N, 99°45'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1948-9	5 Nov.	--	--	D. O. T.
1949-50	--	--	--	
1950-1	9 Nov.	30 Apr.	172	
1951-2	1 Nov.	26 Apr.	177	
1952-3	23 Nov.	29 Apr.	157	
1953-4	22 Nov.	13 May	172	
1954-5	27 Nov.	28 Apr.	152	
1955-6	6 Nov.	--	--	

No. 121 Lake Manitoba, Manitoba - 50°30'N, 98°20'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1956-7	30 Nov.	8 May	159	D. O. T.
1957-8	29 Nov.	7 May	159	

No. 122 Reindeer Lake, Manitoba - 57°50'N, 101°40'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1946-7	19 Oct.	13 June	237	D. O. T., Brochet, Man.
1947-8	9 Nov.	31 May	204	
1948-9	11 Nov.	3 June	204	Mean closing date: 31 Oct.
1949-50	25 Oct.	6 June	224	
1950-1	31 Oct.	5 June	217	Mean Opening date: 4 June
1951-2	21 Oct.	19 May	211	
1952-3	2 Nov.	8 June	219	
1953-4	1 Nov.	6 June	217	
1954-5	1 Nov.	31 May	211	
1955-6	27 Oct.	9 June	226	
1956-7	29 Oct.	15 June	229	
1957-8	8 Nov.	30 May	204	

No. 123 Lake Winnipegosis, Manitoba - 52°30'N, 100°10'W

Year	Closing Date	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1945-6	--	8 May	--	D. O. T.
1946-7	16 Nov.	16 May	181	
1947-8	9 Nov.	19 May	192	Mean closing date:
1948-9	12 Nov.	6 May	175	12 Nov.
1949-50	18 Nov.	5 May	168	Mean opening date:
1950-1	10 Nov.	12 May	183	13 May
1951-2	29 Oct.	5 May	188	
1952-3	12 Nov.	15 May	184	
1953-4	24 Nov.	20 May	177	
1954-5	14 Nov.	15 May	182	
1955-6	5 Nov.	22 May	199	

Note: Data for all lakes in Northwest Territories except Valliant Lake are from "Break-up and Freeze-up dates of rivers and lakes in Canada" published by the Meteorological Branch of the Department of Transport, Canada.

No. 200 Baker Lake, Keewatin, N. W. T. - 64°10'N, 95°20'W

Year	Closing Date	First Movement	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1925-6	22 Oct.	--	--	--	D. O. T. Mean Date of Freezing 21 Oct.
1926-7	25 Oct.	--	--	--	
1927-8	19 Oct.	--	--	--	
1928-9	27 Oct.	--	--	--	
1929-30	21 Oct.	--	--	--	
1930-1	20 Oct.	--	--	--	
1931-2	29 Oct.	--	--	--	
1932-3	23 Oct.	--	--	--	
1933-4	14 Oct.	--	--	--	
1934-5	17 Oct.	--	--	--	
1935-6	27 Oct.	--	--	--	
1936-7	22 Oct.	--	--	--	
1937-8	14 Oct.	4 July	--	--	
1938-9	26 Oct.	--	--	--	
1939-40	19 Oct.	--	--	--	
1940-1	20 Oct.	--	--	--	
1952-3	--	17 July	--	--	
1953-4	18 Oct.	30 July	--	--	
1954-5	20 Oct.	--	--	--	
1955-6	25 Oct.	--	--	--	
1956-7	16 Oct.	8 July	2 Aug.	--	
1957-8	29 Oct.	3 July	29 July	--	
1958-9	--	9 July	--	--	Chas. Weber, Transair, Ltd.

No. 201 Ennadai Lake, Keewatin, N.W.T. - 61°8'N, 100°45'W

Year	Closing Date	First Movement	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1955-6	28 Nov.	29 May	24 June	208	D. O. T.
1956-7	18 Oct.	15 June	8 July	262	
1957-8	23 Oct.	5 July	17 July	267	
1958-9	---	18 June	19 July	--	

No. 202 Frame Lake, MacKenzie, N.W.T. - 62°27'N, 114°21'W

Year	Closing Date	First Movement	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1954-5	--	20 May	22 May	--	D. O. T.
1955-6	--	--	28 May	--	
1956-7	13 Oct.	--	1 June	231	
1957-8	17 Oct.	19 May	23 May	218	

No. 203 Great Bear Lake, Mackenzie, N.W.T. - 66°6'N, 118°0'W

Year	Closing Date	First Movement	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1951-2	--	12 June	5 July	--	D. O. T.
1952-3	17 Nov.	15 June	4 July	229	
1953-4	15 Nov.	20 June	8 July	235	
1954-5	20 Nov.	12 June	5 July	227	
1955-6	16 Nov.	24 June	12 July	239	
1956-7	13 Nov.	4 July	26 July	255	
1957-8	19 Nov.	24 June	11 July	234	

No. 204 Great Slave Lake at Ft. Resolution, Mackenzie, N.W.T. - 61°10'N, 113°40'W

Year	Closing Date	First Movement	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1947-8	--	--	8 June	--	D. O. T.
1948-9	--	--	--	--	
1949-50	--	15 May	8 June	--	
1950-1	--	1 June	6 June	--	
1951-2	--	29 May	3 June	--	
1952-3	--	--	3 June	--	
1953-4	--	21 May	9 June	--	
1954-5	--	21 May	9 June	--	
1955-6	--	21 May	5 June	--	
1956-7	26 Nov.	21 May	24 June	210	
1957-8	24 Nov.	13 May	29 May	217	

No. 205 Great Slave Lake of Yellowknife, Mackenzie, N. W. T. -
62°25'N, 114°20'W

Year	Closing Date	First Movement	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1946-7	--	--	25 June	--	Clear dates are those on which first boat arrived at Yellowknife. Close dates are those on which last boat of season departed.
1947-8	17 Oct.	--	9 June	236	
1948-9	18 Oct.	--	16 June	242	
1949-50	22 Oct.	--	14 June	235	
1950-1	25 Oct.	--	15 June	233	
1951-2	29 Oct.	--	5 June	220	
1952-3	16 Oct.	--	9 June	236	
1953-4	15 Oct.	--	17 June	245	
1954-5	26 Oct.	--	13 June	230	
1955-6	28 Oct.	--	15 June	231	
1956-7	--	--	20 June	--	D. O. T.
1957-8	--	--	10 June	--	
1956-7	17 Oct.	28 May	11 June	237	Actual movement and clear and freeze dates at Yellowknife Bay
1957-8	31 Oct.	24 May	25 May	206	

No. 206 Great Slave Lake at Ft. Reliance, Mackenzie, N. W. T. -
62°43'N, 109°10'W

Year	Closing Date	First Movement	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1952-3	27 Oct.	3 June	6 July	252	D. O. T.
1953-4	7 Nov.	18 June	30 June	235	
1954-5	12 Nov.	26 May	21 June	221	Closing date for 1956-7 and 1957-8 refer to Charlton Bay at Ft. Reliance.
1955-6	18 Oct.	3 June	18 July	274	
1956-7	13 Nov.	16 June	9 July	238	
1957-8	25 Nov.	2 June	24 June	211	

No. 207 Vaillant Lake, Mackenzie, N.W.T. - $66^{\circ}12'N$, $114^{\circ}29'W$

Year	Closing Date	First Movement	Opening Date	Duration of Ice Cover (days)	Source of Data and Remarks
1958-9	--	--	19 July	--	Arctic Unit, Fisheries Research Board of Canada.