Department of Natural Resources
Bureau of Fish Management
Management Report No. 41

CISCO AND WHITEFISH SPORT NETTING

in

NORTHEASTERN WISCONSIN

by

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October, 1970

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INTRODUCTION

Cisco (Coregonus artedii) and whitefish (Coregonus clupeaformis) are present in a number of Northeastern Wisconsin waters. This paper summarizes the distribution and reports on the sport-netting fishery for these species based on three years of creel census. Most of Northeastern Wisconsin's cisco and whitefish waters are in Vilas and Oneida Counties, but a few are also present in Forest, Florence, Iron and Marinette Counties. No cisco or whitefish are known in the inland waters of Shawano, Menominee, Oconto, Lincoln or Langlade Counties.

Cisco and whitefish spawn in the fall, usually between late October and early December. The hook and line fishery for these species in most Northeastern Wisconsin waters is insignificant. Some angling, however, does take place for whitefish in Lake Lucerne, Forest County, Trout Lake, Vilas County, and Keyes Lake, Florence County.

The seasons for seining and/or dip-netting cisco and whitefish in inland waters (except Lake Lucerne, Forest County) are from the Saturday nearest October 10 to January 15. No seining or dip-netting of whitefish is allowed in Lake Lucerne. In Keyes Lake, Florence County, dip-netting is permitted during the regular fall season, but seines are prohibited. Seiners and dippers must have a special cisco license which costs one dollar; this license is also good for whitefish. Bag limits of whitefish and/or cisco are 25 pounds and one fish in aggregate, except on Keyes Lake, Florence County, where the bag limit is three fish. Possession limits are the same whether seining or dip-netting.

Seines are not to exceed 75 feet in length, have a depth greater than six feet, nor mesh exceeding two inches stretch measure. Dip nets must not exceed eight feet in diameter, nor eight feet square. A numbered metal tag is issued with each license and is to be attached to either type of net.

Most fishermen eat their cisco and whitefish smoked. Some, however, have been known to fry, bake or broil them, and a few are pickled.

Previous work with Northeastern Wisconsin Coregonids has been mainly on distribution, growth and classification. Churchill (1951), however, described the netting fishery in three Northeastern Wisconsin cisco lakes and one whitefish lake. Churchill noted a direct correlation between maximum depths of lakes, spawning dates and sizes of fish. Deeper lakes generally had later runs and larger fish. Churchill also suggested that spawning populations of cisco in the study lakes were composed largely of two consecutive year classes, and unless harvested, much of the spawning population would die naturally before the following season. Churchill (1967) also conducted a state-wide cisco fishermen survey by mailed questionnaires. Most of the respondents fished in the northeast part of the state. The average number of fishing trips made by those reporting was four. The average seining party was 3½ people; the average fishing trip lasted approximately 3 hours. An average catch of 8 pounds of cisco (and/or whitefish) per trip (2⅔ pounds per hour) was reported. The estimated state-wide harvest of Coregonids in 1966 was estimated at 26,400 fish weighing 14,900 pounds. Koelz (1931), Greene (1935), Frankenberger (1957), and Johnson and Becker (1970) reported on the Coregonid distribution in Wisconsin. Hile (1936)(1937) described the

age, growth and morphometry of cisco in several northeast Wisconsin lakes. Cross (1934) described some Coregonid parasites in several lakes of the same region. Black, Andrews and Threinen (1963), and Andrews and Threinen (1966) noted the presence of cisco in a number of Vilas and Oneida County waters. Couey (1935) studied the food habits of cisco and whitefish in a number of Northeastern Wisconsin lakes.

MATERIALS AND METHODS

A comprehensive list of cisco and whitefish waters in Northeastern Wisconsin was prepared primarily from Department of Natural Resources records. Personal contacts were also made with various Department personnel and other persons knowledgeable on cisco fishing. The Michigan Department of Natural Resources was contacted for additional information on Wisconsin-Michigan border waters.

Creel censuses were made on various nights during the fall spawning seasons of 1967, 1968, and 1969. Most censuses were made during early darkness hours, between 7:00 p.m. and midnight, the hours when netting takes place. There was no set schedule for checking, and census men did not usually wait if no one was fishing at the time they checked. Water temperatures and notes of spawning run locations and dates were taken on some waters.

FINDINGS

In 1967 there were 441 cisco (and whitefish) netting licenses sold in the entire State of Wisconsin. In 1968, 491 were sold, and in 1969 there were 465. Substantial portions of these licenses were purchased in Northeast Wisconsin. Following is a breakdown of the license sales by various counties in Northeastern Wisconsin:

Table 1. Cisco license sales in Northeast Wisconsin in 1967, '68 and '69.

	1967	1968	1969
Vilas	92	85	146
Oneida	52	158	119
Forest	9	5	1
Florence	4	3	3
Lincoln	12	36	33
Iron	0	30	0
Marathon	9	12	10
Totals	178	329	312

No cisco licenses were sold in Langlade, Marinette, Oconto, Menominee or Shawano Counties from 1967 through 1969.

Cisco are present in 70 lakes in Northeastern Wisconsin; whitefish are known to be present in 4 lakes and 2 rivers. Following are the waters where cisco and whitefish populations exist:

X = Presence known, * = Presence likely (from history)

County	Water	Cisco	Whitefish
Florence	Brule River		X
	Keyes Lake		X
Forest	Butternut Lake	*	
	Franklin Lake	*	
	Julia Lake	*	
	Lucerne Lake		X
Iron	Pike Lake	*	
Marinette	Menominee River		X
Oneida	Big Carr Lake	X	
	Blue Lake	*	
	Clear Lake	X	
	Dam Lake	X	
	Katherine Lake	X	
	Kawaguesaga Lake	X	
	Lee Lake	X	
	Little Bass Lake (T39N,R7E,S15)	X	
	Minocqua Lake	X	
	North Nokomis Lake	X	
	Sand Lake	X	
	Squash Lake	X	
	Tomahawk Lake	X	
	Two Sisters Lake	X	
	Yawkey Lake	X	
Vilas	Allequash Lake	X	X
	Arrowhead Lake	X	
	Big Lake (T42,R6,S4)	*	
	Big Crawling Stone Lake	X	
	Big Muskellunge Lake	X	
	Big Sand Lake	X	
	Big St. Germain Lake	X	
	Boulder Lake	X	
	Black Oak Lake	X	
	Brandy Lake	X	
	Catfish Lake	X	
	Clear	*	
	Crab Lake	*	
	Dead Pike	*	
	Eagle Lake	X	
	Fence Lake	X	
	Flambeau Lake	X	
	Forest Lake	X	
	Harris Lake	X	
	Interlaken (Long) Lake	X	
	Island Lake	X	
	Johnson Lake	X	
	Kentuck Lake	X	
	Little Crawling Stone Lake	X	
	Little St. Germain Lake	X	
	Little Trout Lake	*	

County	Water	Cisco	Whitefish
Vilas (continued)			
	Lower Buckatabon Lake	X	
	Lower Sugarbush Lake	X	
	Long Lake	X	
	Mamie	*	
	Manitowish Lake	X	
	Middle Sugarbush Lake	X	
	North Turtle Lake	X	
	North Twin Lake	X	
	Oxbow Lake	X	
	Pallette Lake	X	
	Papoose Lake	X	
	Plum Lake	X	
	Pokegama Lake	X	
	Presque Isle Lake	X	
	Rest Lake	X	
	Smoky Lake	X	
	South Turtle Lake	X	
	South Twin Lake	X	
	Sparkling (Silver) Lake	X	
	Spider Lake	X	
	Star Lake	X	
	Stormy Lake	X	
	Trout Lake	X	X
	Upper Buckatabon Lake	X	
	Upper Sugarbush Lake	X	
	Whitefish Lake	X	
	White Sand Lake (T41,R5,S23)	X	
	White Sand Lake (T42,R7,S26)	X	

Sport netting pressure for cisco and whitefish was light to non-existent for most waters. The greatest pressure encountered was 30 men one night on White Sand Lake (T42,R7); the highest success was one party seining 100 cisco per man hour on Lake Tomahawk one evening.

Table 3 is a consolidation of the creel census information obtained.

The numbers of fishermen indicated in Table 3 can be somewhat misleading. Often there were no fishermen at the various lakes, so our Department personnel seined in order to acquire some information. These Department personnel represent about one-half of the numbers of fishermen recorded.

The majority of cisco fishermen observed used seines between 50 and 60 feet long. Few longer or shorter nets were seen. Mesh size varied from ¼" to 2". The fishermen using larger-size mesh, and lighter synthetic net materials seem to be somewhat more successful.

A few cisco fishermen also use dip nets. These nets are often made of wire mesh to keep the "bag" open, and facilitate fast dipping. Dipnetters often use spot lights which are sometimes attached to head gear. Most seiners, however, avoid casting lights on the water, as cisco seem to be easily disturbed by lights and/or noise. As a result, most cisco fishermen do not want any competition in their favorite areas. For this reason, acquiring voluntary information from these types of cisco fishermen is usually difficult if not impossible.

Table 3. Creel census of cisco and whitefish netters

County	Water	Date Checked	No. Fishermen	Catch/man-hr.	Sizes of Fish	Remarks
Florence	Keyes Lake	Var.'67,'68, & '69	Low	Low	20-25" (Some 4-6 lbs.)	Est. 25 fish taken all season. whitefish declining in recent years Pressure & success sporadic, but ge low.
Forest	Franklin Lake	Var. '67	1	0	-	No success.
	Julia Lake	Var. '67	2	0	-	Tried 6 seine hauls; took no fish.
Iron	Pike Lake	Var. '67,'68, &'69	0	-	-	No seining activity noted on spot c '67, '68 and '69.
Oneida	Big Carr Lake	Var.'67, '68, & '69	0	-	-	No seining activity noted in '67,'6
	Clear Lake	11-13-67	0	-	-	
		10-25-68	0	-	-	
	Dam Lake	11-10-67	0	-	-	
		11-12-67	0	-	-	
	Lee Lake	11-10-67	0	-	-	
		11-9-68	0	-	-	
	Minocqua Lake	11-9-68	4	18 cisco	7-13"	Light pressure.
	No. Nokomis Lake	11-12-68	0	-	-	
		11-18-69	2	0.5 cisco	-	Only one cisco caught.
	Sand Lake	11-12-67	0	-	-	No activity noted in 1968
		Var.'68	0	-	-	
	Squash Lake	Var. '68	0	-	-	" " " " "
	Tomahawk Lake	11-12-67	2	)		
		11-16-67	2	) 0-100 cisco	7-12"	
		11-17-67	2	)		
		11-11-68	2	0	-	Tried seining by Retreat house - no
		11-12-68	3	26 cisco	-	Most fish spawned out.
		11-13-68	2	4.3 cisco	6-14"	Saw four walleyes & one 16" splake, tured and released.

Table 3 continued

County	Water	Date checked	No. Fishermen	Catch/man-hr.	Sizes of Fish	Remarks
Oneida	Tomahawk Lake (Cont'd)	11-11-69	2	20 cisco	8-14"	10" average.
		11-12-69	3	5 cisco	8-14"	10" average.
		11-14-69	2	14 cisco	7-16½"	10" average, snow flurries
		11-14-69	2	0	-	Tried daylight seining. Snowing.
		11-18-69	2	9 cisco	8-15"	10" average.
	Two Sisters (Black) Lake	Var.'67	1	0	-	
		10-29-68	3	1 cisco	7-14"	
		11-5-68	2	6 cisco	7-14"	
	Yawkey Lake	11-10-67	0	-	-	Not checked in '68 or '69.
Vilas	Big Crawling Stone Lake	11-11-68	2	0	-	
		11-12-68	0	0	-	
	Big Muskellunge Lake	Var. '67	Few	0-30 cisco	9-12"	
		11-12-68	0	-	-	
		11-18-69	4	0	-	Only one party seen in three nigh
	Big St. Germain Lake	Var. '69	0	-	-	No activity noted in '69.
	Black Oak Lake	Var. '67	0	-	8-10"	No activity noted in '67.
		11-8,12,13-68	0	-	-	No activity noted in '68.
		Var. '69	0	-	-	No activity noted in '69.
	Fence Lake	Var. '67	0	-	-	No activity noted in '67.
		11-12-68	0	-	-	No activity noted in '68.
	Forest Lake	10-11,12-'67	Many	Many limits per hr.	10-13½"	
		11-11-68	4	Approx. 30 cisco	-	
		11-13-68	0	-	-	
		10-28-69	4-6/night	3 cisco	10-16"	12" average. Reports of better fi heard.
		11-3-69				
		11-10-69				
		11-12-69				

Table 3 continued

County	Water	Date checked	No. Fishermen	Catch/man-hr.	Sizes of Fish	Remarks
Vilas	Harris	11-13-68	0	-	-	
	Island Lake	11-11-68	0	-	-	
	Kentuck Lake	11-8-67	Moderate	15 est.cisco	9-12"	Fishing pressure dropping fast.
		11-12-68	2	15 cisco	-	
		10-10-69	0	-	-	Checked 4 nights; no one fishing at
		10-28-69	0	-	-	
		11-3-69	0	-	-	
		11-5-69	0	-	-	
		11-10-69	2	(Creels not checked)	-	
		11-11-69	4	" " "	-	
		11-12-69	4	" " "	-	
		11-15-69	4	0.7	12"	One more party not checked.
	Little Crawling Stone Lake	11-11-68	0	-	-	
	Lower Buckatabon Lake	11-12-69	0	-	-	No seining reported by residents for 7-9 years.
	Lower Sugarbush Lake	11-12-68	0	-	-	
	No. Turtle Lake	Var. '67	0	-	-	Missed run.
		11-8-68	0	-	-	No activity noted in '68.
	No. Twin Lake	11-12-69	0	-	-	No activity noted in '69.
	Oxbow Lake	Var.'67	0	-	8-10"	Sizes from netting records. No acti noted in '67.
	Pallette Lake	All season '67	59	24 cisco	9-11"	3,143 cisco harvested in '67 (945 lb
		All season '68	6	3 cisco	-	215 cisco taken all season.
		All season '69	10	0.6 cisco	7.1-10.2"	9.4" average. Higher water levels d couraged seiners. 23 cisco (4 lb.) se
	Papoose Lake	Var. '67	0	-	-	No activity noted in '67 & '68. Som
		11-8-68	0	-	-	residents claim "whitefish" present.

Table 3 continued

County	Water	Date checked	No. Fishermen	Catch/man-hr.	Sizes of Fish	Remarks
Vilas	Pokegama Lake	11-12-68	0	-	-	
		11-13-68	0	-	-	
	Presque Isle Lake	Var. '67	0	-	-	No activity noted in '67, '68 or '
		11-8-68	0	-	-	
		Var. '69	0	-	-	
	Rest Lake	11-19-68	2	2 cisco	-	
	Sparkling (Silver) Lake	Var. '67	0	-	-	
	Star Lake	Var. '67	0	-	-	No activity noted in '67 or '68.
		11-8-68	0	-	-	
	Trout Lake	11-8-67	6	5 whitefish	14-17"	Pressure and success spotty.
		11-12-68	0	-	-	
		11-19-68	2	4 whitefish	11-19"	Whitefish - 14" average.
		10-28-69	0	-	-	
		11-3-69	0	-	-	
		11-5-69	0	-	-	
		11-10-69	0	-	-	
		11-11-69	0	-	-	
		11-14-69	5	3 whitefish	-	Most parties on south lake, one par
				0.2 cisco	7-11"	north.
		11-15-69	12	3 Whitefish	12-16"	
				0.2 cisco	7-11"	Cisco - 9" average.
	White Sand Lake (T41,R5,S23)	Var. '67	Light	20 est. cisco	-	Past year's pressure higher.
		11-11-68	4	2 cisco	9-14"	12" average.
		11-12-68	3	2 cisco	9-13"	12" average.
		11-13-68	3	2 cisco	9-12"	
		11-14-68	3	4 cisco	8-14"	
		11-15-68	3	0	-	
		11-20-68	2	0	-	
		11-11-69	4	2 cisco	10-16½"	

Table 1 . continued

County	Water	Date checked	No. Fishermen	Catch/man-hr.	Sizes of Fish	Remarks
Vilas	White Sand Lake (T42,R7,S26)	11-15-68	3	0.3 cisco	10-13"	12" average.
		11-16-68	30	10.0 cisco	7-16"	14" average.
		11-11-69	6	23 cisco	"	12" average.
		11-12-69	6	6 cisco	10.2-13.3"	
		11-15-69	10	0.2 cisco	10-12"	
		11-18-69	7	0	-	

The main fishery for whitefish in Trout Lake and Lake Lucerne is angling through the ice. Jigging with various spoons such as the "Swedish Pimple" and color-beaded hooks is the most common method. Few people try for whitefish during the open water seasons. A number of 6 and 7-pound whitefish are taken from Lake Lucerne each winter. Trout Lake usually produces whitefish between 0.7 and 3 pounds. Many of Trout Lake's ice fishermen value whitefish as much as lake trout. Many cisco are also taken by jigging through the ice on Trout Lake. These small (7-9") cisco are often used as lake trout bait.

Cisco seining and spawning areas are usually located on firm bottom types. Sand, gravel and rubble bottoms are commonly used. Dip-netters, however, take a number of cisco over weed beds, and sometimes softer bottom types.

Cisco spawning in Northeastern Wisconsin usually commences in about mid-October. The earliest runs usually occur in Kentuck Lake (Vilas and Forest Counties), Fence and White Sand Lakes (Vilas County). Runs in late November have been known in Trout Lake, Vilas County and Lake Tomahawk in Oneida County. Some spawning undoubtedly extends into December in a number of waters. Cisco spawning has been noted beneath the ice of Pallette Lake, Vilas County in early December. (Engel, pers. comm.). It is felt that some cisco may spawn as late as January.

The effect of wind direction and intensity on spawning activity was not determined. Many fishermen feel that windy, stormy nights are best, but some feel that calm, still nights are good. There are also differing opinions on the effect of bright moonlight.

Table 4 contains information on Coregonid spawning in selected Northeastern Wisconsin waters. Geographical locations of spawning areas fished, approximate run dates and water temperatures were tabulated in 1967, '68 and '69.

Most Coregonid spawning appears to have taken place when water temperatures were in the mid-40's to low 30's. John (1954) reported that Lake Mendota (Wisconsin) cisco first arrive at the spawning grounds when temperatures fall to 6°C (43°F) and that spawning peaks usually occur below 4°C (39°F).

Table 4. Cisco and whitefish spawning and sport netting information

CISCO

County	Water	Location of spawning areas fished	Spawning Seasons** Beginning dates	Peak Dates	End Dates	Shoal water temperatures Date	Temp. (°
Oneida	Minocqua Lake	Various shores	Early Nov.	Mid-Nov.	Late Nov.	11/9/68	40°
"	North Nokomis Lake	North shore	-	Mid-Nov.'69	11/18/69	-	-
"	Tomahawk Lake	Indian Mounds vicinity, Windy Point*	11/12/67	11/16/67	11/17/67	-	-
"	" "	Indian Mounds	-	Mid-Nov.'68	-	11/11/68 11/12/68 11/13/68	42° 41° 42°
"	" "	Indian Mounds	Late Oct.'69	Mid-Nov.'69	Late Nov.'69	11/11/69 11/12/69 11/14/69 11/18/69	39° 39° 39° 37°
"	Two Sisters Lake	-	Late Oct.	-	Mid-Nov.	10/29/68 11/5/68	42° 39°
Vilas	Big Muskellunge Lake	North shore	11/5/67	11/7/67	11/11/67	-	-
"	Fence Lake	Northeast end	11/6/67	11/9/67	11/12/67	-	-
"	Forest Lake	East side	11/4/67	11/7/67	11/13/67	-	-
	" "	" "	-	11/11/68	-	-	-
	" "	" "	10/28/69	11/10/69	11/15/69	10/28/69 11/3/69 11/5/69 11/11/69	38° 41° 42° 42°

Table 4. continued

CISCO

County	Water	Location of spawning areas fished	Spawning Seasons** Beginning dates	Peak Dates	End Dates	Shoal water temperatur Date	Temp. (
Vilas	Kentuck Lake	Northeast end	11/6/67	11/8/67	11/11/67	-	-
						10/28/69	38°
						11/3/69	40°
						11/5/69	40°
"	North Twin Lake		-	Mid-Nov.'67	-	-	-
"	Pallette Lake	Northwest, East and Southeast shores	11/1/67	11/7/67	11/14/67	-	-
	" "	" "	11/2/68	11/16/68	11/27/68	10/5/68	57°****
						10/26/68	51°****
						11/1/68	48°****
						11/8/68	45°****
						11/9/68	45°
						11/10/68	45°
						11/15/68	42°****
						11/16/68	42°
	" "	" "	10/30/69	11/17-19/69	12/13/69	9/29/69	61°****
						10/6/69	61°
						10/7/69	59°
						10/15-16/69	52°
						10/18/69	52°
						10/24/69	47°
						10/29/69	45°****
						11/10/69	45°
						11/15/69	43°
						11/16/69	42°
						11/21/69	Lake 80% cov
"	Stormy Lake	-	Probably late November				
"	Trout Lake	Southeast and West shores & probably other areas	Cisco run seems approximately same as whitefish (see whitefish data, next page)				

Table 4. continued

CISCO

County	Water	Location of spawning areas fished	Spawning Seasons** Beginning dates	Peak Dates	End Dates	Shoal water temperatur Date	Temp.
Vilas	White Sand Lake (T.41,R.5,S.23)	East Shore	11/8/67	11/11/67	11/16/67	-	-
"	" " "	" "	-	-	11/19/68	11/11/68 11/12/68	41° 41°
"	" " "	" "	11/8/69	11/12/69	11/15/69	11/11/69	42°
"	White Sand Lake (T.42,R.7,S.26)		11/11/69	11/12/69	11/18/69	11/12/69	41°
"	" " "					11/15/69	40°

WHITEFISH

Florence	Keyes Lake	East shore	Late Nov.	Early Dec.	Mid-Dec.	-	-
Vilas	Trout Lake	Southeast & West shores & probably other areas	11/5/67	11/8/67	11/15/67		
"	" "	"	11/13/69	11/15/69	11/17/69	11/3/69	43°
			(Whitefish sometimes run through late November)			11/14/69	40°

* Apparent spawning area; fish observed but not netted.

** These spawning dates are based primarily on fishing pressure and success, and should be considered approximations based on best available knowledge.

*** Surface temperatures, central part of lake.

SUMMARY

Cisco and whitefish occur in a large number of Northeastern Wisconsin waters. Sport netting is allowed for these species in the fall during their time of spawning. Creel census data indicate pressure and harvest are generally light. Peak seining dates usually fall in late October and early November. Many fishermen are probably deterred because this sport requires some specialized gear, takes place in cold water (and often in bad weather) and coincides with hunting.

ACKNOWLEDGEMENT

Appreciation is expressed to Messrs. James Kempinger and Sanford Engel for the data on Pallette Lake presented in Tables 3 and 4, Douglas Poole for the cisco license information in Table 1, and the various DNR field personnel who assisted with the field work.

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