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MISSISSIPPI RIVER SPECIAL TAILWATER SPORT FISHING CREEL CENSUS
IN POOL 7, MARCH 1, 1970 - APRIL 30, 1970

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INTRODUCTION

A creel census was conducted in the tailwaters of Pool 7 from March 1 to April 30, 1970 to evaluate the fishing pressure and harvest during a two month period previously closed to fishing for large game fish.^{1/} The 1970 special tailwater creel census survey was conducted under the auspices of the Fish Technical Section of the Upper Mississippi River Conservation Committee as part of a plan to maintain a continuing evaluation of the sport fishery.^{2/}

DESCRIPTION OF THE AREA

Pool 7 is one of 26 navigation pools created by the construction of locks and dams on the Mississippi River in the 1930's between Hastings, Minnesota, and Alton, Illinois--a distance of approximately 928 miles. Pool 7 is impounded by Lock and Dam No. 7 at Dresbach, Minnesota. Pool 7 is 12 miles long and contains 13,600 acres.

The upper boundary of the pool is Lock and Dam No. 6, located at Trempealeau, Wisconsin. The rapid passage of water through the gates of the dam influences the navigation channel for a distance of approximately one-half mile downstream, depending upon the volume of water passed. This area is classified as tailwater and is known to provide excellent fishing for the larger game species. It was in this tailwater area that the 1970 sport fishery creel census was conducted. Just below Lock and Dam No. 6 is a permanently moored fishing barge from which the public can fish for a small daily fee.

Towns found along Pool 7 are Trempealeau and Onalaska, Wisconsin, and Dresbach and Dakota, Minnesota. La Crosse, Wisconsin is located just below the pool and is the largest city in the area with a population of over 50,000.

METHODS

One man was stationed at the only boat landing located within the tailwater area of Pool 7. In addition to completing creel census forms (figures 2 and 3), lengths and weights of every walleye and sauger in the catch were recorded. Scale samples were taken from the first ten walleye and sauger landed of each size interval (total length); e.g. ten scale samples from walleye 12.0 - 12.9 inches long, ten from walleye 13.0 - 13.9 inches, etc. After ten scale samples were collected for a particular size interval, only length and weight were recorded for other fish of that length. The scales were aged and the data was used to arrive at tables within the results.

^{1/} Large game fish include walleye, sauger, northern pike, largemouth bass, and smallmouth bass.

^{2/} The U.M.R.C.C. is an organization consisting of representatives of Minnesota, Wisconsin, Iowa, Illinois, and Missouri whose objectives are to facilitate cooperation between the states for studies and management of the natural resources of the river, exchange information about the river and its problems at regular meetings, and to promote cooperation in resource management of interstate waters.

To insure a uniform and random census, a work schedule was established which utilized a combination of two consecutive census days followed by one day off, plus a rotation between "early" days (7:00 - 11:00 A.M.), "mid" days (11:00 A.M. - 3:00 P.M.), and "late" days (3:00 - 7:00 P.M.). By following this prearranged schedule without deviation throughout the two month study period, the requisite randomness and uniformity were achieved.

Due to an oversight in the method of angler contact, an inadequate number of bank anglers were contacted to obtain any useful data. Actual data is presented as it was obtained. Projected data includes an estimated projection of bank fishing figures based on a comparison of individual species catch rates by method of fishing for 1969 and 1970.

The use of a bait manufactured by Heddon with the trade name "sonar" has been criticized by a number of anglers and conservationists. Their concerns are: (1) that the sonar may be excessively effective in harvesting the large spawning walleye and sauger (2) that the sonar may be responsible for much of the foul hooking occurring on the river. Sonar catch data was analyzed separately in one section of this report and average lengths and weights of walleye and sauger creel were compared to those taken by other methods.

RESULTS

The creel census was designed to evaluate the fishing pressure and harvest during a two month period previously closed to fishing for large game fish, and to provide information on the angler, the catch, and relationship of various factors to the catch. These are discussed below in limited detail; the accompanying tables should be consulted for further information. Pertinent tables are grouped at the end of each section for reference.

The Angler (age and origin)

Of the 439 fishermen contacted during March and April, 94.8 percent were men. The average age of all anglers was 39.7 years with male anglers averaging 39.5 years and women 43.9 years. Ages ranged from 2 to 80 years, with 5.7 percent of the fishermen 65 years of age or older (Tables 1, 2, and 3).

Fishing in the tailwaters of Pool 7 during March and April was primarily a local sport with 86.1 percent of the anglers residing within 50 miles of the pool. Wisconsin residents comprised 92.5 percent of the anglers contacted. Trempealeau County contributed the greatest fishing pressure followed by La Crosse, Rock, and Jackson Counties (Tables 4 and 5).

Reciprocity between Minnesota and Wisconsin allows anglers from either state to fish the Mississippi River under the same regulations and one license. Of all fishermen contacted, 98.2 percent were fishing in Minnesota statutory waters (Table 6).

Table 1

AGE COMPOSITION OF ANGLERS

Age	Male		Female		Combined	
	No.	%	No.	%	No.	%
Under 12	13	3.0	0	0.0	13	3.0
12 - 15	18	4.1	0	0.0	18	4.1
16 - 17	10	2.3	0	0.0	10	2.3
18 - 24	31	7.1	1	0.2	32	7.3
25 - 34	108	24.6	6	1.4	114	26.0
35 - 44	72	16.4	5	1.1	77	17.5
45 - 64	141	32.1	9	2.0	150	34.1
65 and over	23	5.2	2	0.5	25	5.7
TOTAL	416	94.8	23	5.2	439	100.0

Table 2

AGE COMPOSITION OF ANGLERS ENGAGED IN DIFFERENT TYPES OF FISHING

Type of Fishing	Male		Female		Overall	
	No.	Avg.Age	No.	Avg.Age	No.	Avg.Age
Boat	405	39.1	23	43.9	428	39.4
Bank	1	65.0	0	-	1	65.0
Ice	10	49.5	0	-	10	49.5
TOTAL	416		23		439	
AVERAGE		39.5		43.9		39.7

Table 3

TOTAL NUMBER OF ANGLERS BY YEARS OF AGE

Age	Male	Female	Total	Age	Male	Female	Total	Age	Male	Female	Total
2	1	-	1	28	11	1	12	51	4	-	4
3	2	-	2	29	10	-	10	52	12	-	12
5	1	-	1	30	20	-	20	53	9	1	10
7	1	-	1	31	7	-	7	54	7	-	7
8	1	-	1	32	7	-	7	55	6	2	8
9	1	-	1	33	8	2	10	56	9	-	9
10	6	-	6	34	9	-	9	57	7	-	7
12	1	-	1	35	8	1	9	58	7	1	8
13	2	-	2	36	4	-	4	59	4	-	4
14	9	-	9	37	10	-	10	60	4	-	4
15	6	-	6	38	4	2	6	61	7	1	8
16	3	-	3	39	6	-	6	62	12	1	13
17	7	-	7	40	12	-	12	63	10	-	10
18	4	-	4	41	11	-	11	64	4	-	4
19	8	-	8	42	8	2	10	65	9	-	9
20	5	-	5	43	4	-	4	66	4	1	5
21	3	-	3	44	5	-	5	67	2	-	2
22	2	-	2	45	2	-	2	68	4	1	5
23	2	-	2	46	11	2	13	70	1	-	1
24	7	1	8	47	3	-	3	71	2	-	2
25	7	1	8	48	14	-	14	80	1	-	1
26	10	1	11	49	6	1	7	—	—	—	—
27	19	1	20	50	3	-	3		416	23	439
									==	==	==

Table 4

ORIGIN OF ANGLERS USING TREMPPEALEAU LANDING BY STATE AND COUNTY

WISCONSIN			MINNESOTA			OTHER STATES		
County	No.	% of Total	County	No.	% of Total	State	No.	% of Total
Buffalo	5	1.1	Fillmore	1	0.2	Illinois	4	0.9
Clark	4	0.9	Winona	15	3.4	Indiana	4	0.9
Dane	7	1.6	Houston	1	0.2			
Eau Claire	1	0.2	Olmstead	7	1.6			
Jackson	11	2.5	Other	1	0.2			
Kenosha	6	1.4						
La Crosse	78	17.8						
Milwaukee	6	1.4						
Monroe	5	1.1						
Rock	13	3.0						
Trempealeau	257	58.5						
Vernon	2	0.5						
Winnebago	8	1.8						
Wood	3	0.7						
TOTAL	406	92.5	TOTAL	25	5.7	TOTAL	8	1.8

Table 5

DISTANCE TRAVELED BY ANGLERS BASED ON ZONE

Zone	1	2	3	4	5	6	7	8	9
Miles	0-25	26-50	51-75	76-100	101-125	126-150	151-250	251-500	Over 500
Number	349	29	9	4	7	20	17	4	0
Percent	79.5	6.6	2.1	0.9	1.6	4.6	3.9	0.9	0.0

Table 6

ANGLER ORIGIN AND WATERS FISHED

Angler Origin	Wisconsin Statutory Waters	Minnesota Statutory Waters
Wisconsin	7	399
Minnesota	1	24
Illinois	0	4
Indiana	0	4
TOTAL	8	431

The Angler (method and extent of fishing)

Projection of data collected during the census indicated that 6,618 fishing trips were made to the tailwaters of Pool 7 during March and April 1970, with a total of 19,100 hours spent fishing (Tables 7 and 11).

Boat angling was more popular than ice fishing during March accounting for 75.5 percent of the total fishing hours. April anglers used a boat 71.4 percent of the time while fishing from the bank the remainder of the time (Table 7).

April was the most active fishing month, with 73.6 percent of the total hours and a catch rate of 0.466 fish per man-hour. In March the fishing was less active but more successful with a catch rate of 0.613 fish per man-hour. The overall catch rate for March and April was 0.505 fish per man-hour (Table 9).

Still fishing was the most popular method of fishing during the census period accounting for 97.9 of all angling (Table 10).

Live baits were used 73.3 percent of the time and artificial baits 26.4 percent. Prepared bait was not observed in use in the tailwater area during this census (Table 10).

Since the tailwater area is inhabited mainly by the larger game fish species during March and April, it would be expected that most of the anglers fishing this area were seeking these species. This was the case with 100.0 percent of the anglers contacted seeking walleye or sauger.

The Catch (general information)

Projection of the data obtained from the 439 fishermen contacted and 40 "instantaneous" angler counts revealed that during the 19,100 hours spent fishing in the tailwaters of Pool 7 during March and April, 1970, a total of 7,785 fish were caught at a rate of 0.408 fish per man-hour (Table 11).

Anglers spent 3,997 hours fishing during March to catch 2,260 fish at a catch rate of 0.565 fish per man-hour. April anglers were less successful catching 5,525 fish in 15,104 hours at a catch rate of 0.366 fish per man-hour (Table 11).

The Catch (composition)

The most abundant species in the overall catch was the sauger, which made up 73.0 percent of the catch. Next in abundance were walleye (22.7 percent) and white bass (1.9 percent) (Table 12).

Projected data indicates that a total of 7,336 walleye and sauger were caught during the months of March and April in the Pool 7 tailwater area. This figure represents 32.0 percent of the total walleye and sauger caught during a twelve month 1967-68 Pool 7 creel census period. March anglers caught 2,242 walleye and sauger at a catch rate of 0.561 fish per man-hour. April anglers caught the remaining 5,094 at a rate of 0.337 fish per man-hour (Table 11).

Table 7

TOTAL PROJECTED NUMBER OF HOURS OF FISHING BY TYPE AND MONTH

Month	TYPE OF FISHING									
	Boat		Bank or Wading		Total Open Water		Ice		TOTAL	
	No. Hours	% ^{1/}	No. Hours	%	No. Hours	%	No. Hours	%	No. Hours	% ^{2/}
March	3,018.0	75.5	518.5	13.0	3,536.5	88.5	460.0	11.5	3,996.5	20.1
April	10,778.0	71.4	4,325.5	28.6	15,103.5	100.0	0	0.0	15,103.5	79.1
TOTAL HOURS	13,796.0	72.2 ^{3/}	4,844.0	25.4	18,640.0	97.6	460.0	2.4	19,100.0	100.0

^{1/} Percentage by type of fishing for month.

^{2/} Percentage by month for the two month period.

^{3/} Percentage by type of fishing for the two month period.

Table 8

SUMMARY OF COMPLETED FISHING TRIPS

	Boat	Bank	Total Open Water	Ice	Total All Types
Total Hours	1,538	1.0	1,539	31.0	1,570
Total Anglers Contacted	423	1	424	10	434
Average Hours	3.6	1.0	3.6	3.1	3.6

Table 9

CATCH PER MAN-HOUR BY MONTH

	March	April	Total
Hours Fished	419.5	1,167	1,586.5
Fish Caught	257	544	801
Catch Per Man-Hour	0.613	0.466	0.505

Table 10

ACTUAL NUMBER OF ANGLERS BY FISHING METHOD AND LURE USED IN EACH MONTH

FISHING METHOD	MARCH		APRIL		TOTAL	
	No. Anglers	%	No. Anglers	%	No. Anglers	%
Casting	4	3.2	4	1.3	8	1.8
Still fishing ^{1/}	120	96.0	310	98.7	430	97.9
Multiple	1	0.8	0	0.0	1	0.2
TOTAL	125		314		439	
FISHING LURE						
Worms	1	0.8	0	0.0	1	0.2
Minnows	87	69.6	234	74.5	321	73.1
Other live bait	0	0.0	0	0.0	0	0.0
Multiple live bait	0	0.0	0	0.0	0	0.0
TOTAL LIVE BAIT	88	70.4	234	74.5	322	73.3
Prepared bait	0	0.0	0	0.0	0	0.0
Jigs	20	16.0	9	2.9	29	6.6
Flies	0	0.0	3	1.0	3	0.7
Sonar	16	12.8	68	21.7	84	19.1
Other artificial	0	0.0	0	0.0	0	0.0
TOTAL ARTIFICIALS	36	28.8	80	25.6	116	26.4
Multiple live and artificial ^{2/}	1	0.8	0	0.0	1	0.2

^{1/} Includes ice.

^{2/} Includes any combination of live and artificial baits used on the same line.

Table 11

PROJECTED NUMBER OF FISH CAUGHT BY TYPE OF FISHING DURING EACH MONTH

Species	MARCH			APRIL			TOTAL FOR MARCH AND APRIL			
	Boat	Bank ^{1/}	Ice	Boat	Bank ^{1/}	Total	Boat	Bank ^{1/}	Ice	Grand Total
Northern pike	-	-	-	55	122	177	55	122	-	177
White bass	16	2	18	120	13	133	136	15	-	151
Yellow perch	-	-	-	83	-	83	83	-	-	83
Sauger	1,410	-	1,811	3,482	-	3,482	4,892	-	401	5,293
Walleye	350	51	431	1,247	365	1,612	1,597	416	30	2,043
Smallmouth bass	-	-	-	10	-	10	10	-	-	10
Largemouth bass	-	-	-	10	-	10	10	-	-	10
Crappie	-	-	-	18	-	18	18	-	-	18
Projected number of fishermen	882	288	1,148	2,897	2,403	5,300	3,779	2,691	148	6,618
Projected number of fish	1,776	53	431	5,025	500	5,525	6,801	553	431	7,785
Projected hours fished	3,018.0	518.5	460.0	10,778.0	4,325.5	15,103.5	13,796.0	4,844.0	460.0	19,100.0
Projected fish per hour	0.5884	0.1022	0.9355	0.4662	0.1156	0.3658	0.4930	0.1142	0.9370	0.4076

^{1/} Projected bank data is estimated from a combination of 1969 and 1970 data.

Table 12

ACTUAL CATCH PER MAN-HOUR AND NUMBER OF FISH CAUGHT DURING EACH MONTH

SPECIES	MARCH		APRIL		TOTAL	
	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour
Northern pike	-	-	6	0.0051	6	0.0038
White bass	2	0.0048	13	0.0111	15	0.0095
Yellow perch	-	-	9	0.0077	9	0.0057
Sauger	208	0.4958	377	0.3231	585	0.3687
Walleye	47	0.1120	135	0.1157	182	0.1147
Smallmouth bass	-	-	1	0.0009	1	0.0006
Largemouth bass	-	-	1	0.0009	1	0.0006
Black crappie	-	-	2	0.0017	2	0.0013
Total Fish Caught	257		544		801	
		0.6126		0.4662		0.5049
Total Hours Fished	419.6		1,167.0		1,586.5	

March anglers caught 2,242 large game fish at a rate of 0.561 fish per man-hour. April anglers caught 5,291 large game fish at a rate of 0.350 fish per man-hour (Table 11).

The Catch (catch rates for various methods and baits)

Ice fishing produced the highest catch rate of any type of fishing, 0.936 fish per man-hour. Boat fishermen caught fish at a rate of 0.497 fish per man-hour (Table 13).

Ice fishing was the most productive method yielding 0.936 fish per man-hour as compared to 0.517 for casting and 0.505 for still fishing (Table 14).

Anglers using jigs had the highest catch rate, 1.115 fish per man-hour. The average for all artificials was 0.583 fish per man-hour while those fishermen using live bait averaged 0.477 fish per man-hour (Table 15).

Anglers using sonars caught walleye and sauger at a rate of 0.408 fish per man-hour, 0.075 fish per man-hour less than the rate for all baits combined. Walleye taken with sonars averaged 0.7 inches longer than those taken with other baits. Sauger taken with sonars averaged 0.2 inches longer than those taken with other baits. Neither figure represents a significant difference. Only 4.3 percent of the walleye caught with sonars were of the "lunker" class as compared to 7.1 percent taken with all other baits combined (Tables 15 and 16).

One interesting but presently unexplainable difference exists between the sonar catch and the catch with other baits. The proportion of sauger to walleye was 0.97/1.00 for sonar caught fish. The proportion for fish caught with all other baits was 4.62/1.00.

The Catch (length and age distribution of walleye and sauger)

The 1970 spring sauger fishery in the Pool 7 tailwaters was primarily dependent upon two year classes. Over half (57.6 percent) of the sauger creel were three year old fish with another 33.6 percent of the catch coming from the four year old fish. Only 0.3 percent of the sauger were over four years old and no one year old fish were creel (Table 17).

Nearly eighty percent (78.9) of the sauger caught were between 12.0 and 14.9 inches. Prior to 1950 there existed a statewide 13.0 inch minimum size limit on walleye and sauger. Over one-third (35.7 percent) of the sauger catch was smaller than 13.0 inches during March and April 1970 (Table 18).

The 1970 spring walleye fishery in the Pool 7 tailwaters was less dependent upon two year classes. Although three and four year old fish comprised 59.3 percent of the catch, three other year classes individually comprised more than ten percent of the total catch. In order of decreasing abundance in the creel the three year classes were: six year olds (12.6 percent), two year olds (11.6 percent), and five year olds (10.4 percent). "Lunker fish", those 20.0 inches and over, comprised 6.0 percent of the catch and ranged from five to eleven years old (Table 19).

Table 13

ACTUAL CATCH PER MAN-HOUR AND NUMBERS OF FISH CAUGHT BY TYPE OF FISHING

SPECIES	BOAT		BANK ¹		ICE		TOTAL	
	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour
Northern pike	6	0.0039	-	-	-	-	6	0.0038
White bass	15	0.0096	-	-	-	-	15	0.0095
Yellow perch	9	0.0058	-	-	-	-	9	0.0057
Sauger	558	0.3590	-	-	27	0.8710	585	0.3687
Walleye	180	0.1158	-	-	2	0.0645	182	0.1147
Smallmouth bass	1	0.0006	-	-	-	-	1	0.0006
Largemouth bass	1	0.0006	-	-	-	-	1	0.0006
Crappie	2	0.0013	-	-	-	-	2	0.0013
TOTAL FISH CAUGHT	772		0		29		801	
TOTAL HOURS FISHED	1,554.5	0.4966	1.0	0.0000	31.0	0.9355	1,586.5	0.5049

¹/ An inadequate number of bank anglers were contacted to lend any value to the actual data.

Table 14

ACTUAL CATCH PER MAN-HOUR AND NUMBER OF FISH CAUGHT BY FISHING METHOD

SPECIES	CASTING		STILL FISHING		MULTIPLE METHODS		ICE FISHING		TOTAL	
	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour
Northern pike	-	-	6	0.0039	-	-	-	-	6	0.0038
White bass	-	-	15	0.0098	-	-	-	-	15	0.0095
Yellow perch	-	-	9	0.0059	-	-	-	-	9	0.0057
Sauger	13	0.2921	570	0.3706	2	0.5000	27	0.8710	585	0.3687
Walleye	10	0.2247	172	0.1118	-	-	2	0.0645	182	0.1147
Smallmouth bass	-	-	1	0.0007	-	-	-	-	1	0.0006
Largemouth bass	-	-	1	0.0007	-	-	-	-	1	0.0006
Crappie	-	-	2	0.0013	-	-	-	-	2	0.0013
TOTAL FISH CAUGHT	23	0.5169	776	0.5046	2	0.5000	29	0.9355	801	0.5049
TOTAL HOURS FISHED	44.5		1,538.0		4.0		31.0		1,586.5	

Table 15

ACTUAL CATCH PER MAN-HOUR AND NUMBER OF FISH CAUGHT WITH VARIOUS BAITS

SPECIES	JIG		FLY		SONAR		TOTAL ARTIFICIAL		MULTIPLE LIVE AND ARTIFICIAL	
	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour
Northern pike	-	-	-	-	6	0.0191	6	0.0149	-	-
White bass	5	0.0641	-	-	5	0.0159	10	0.0249	-	-
Yellow perch	-	-	-	-	2	0.0064	2	0.0050	-	-
Sauger	63	0.8076	5	0.5263	68	0.2166	136	0.3387	3	1.0000
Walleye	18	0.2307	1	0.1052	60	0.1911	79	0.1968	-	-
Smallmouth bass	-	-	-	-	-	-	-	-	-	-
Largemouth bass	-	-	-	-	-	-	-	-	-	-
Crappies	1	0.0128	-	-	-	-	1	0.0025	-	-
TOTAL FISH CAUGHT	87		6		141		234		3	
TOTAL HOURS FISHED	78.0	1.1154	9.5	0.6316	314.0	0.4490	401.5	0.5828	3.0	1.0000

(continued)

Table 15 Continued

ACTUAL CATCH PER MAN-HOUR AND NUMBER OF FISH CAUGHT WITH VARIOUS BAITS

SPECIES	WORMS ^{1/}		MINNOWS		TOTAL LIVE BAIT		TOTAL ALL BAITS	
	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour
Northern pike	-	-	-	-	-	-	6	0.0038
White bass	-	-	5	0.0042	5	0.0042	15	0.0095
Yellow perch	-	-	7	0.0059	7	0.0059	9	0.0057
Sauger	-	-	446	0.3788	446	0.3773	585	0.3687
Walleye	-	-	103	0.0875	103	0.0871	182	0.1147
Smallmouth bass	-	-	1	0.0008	1	0.0008	1	0.0006
Largemouth bass	-	-	1	0.0008	1	0.0008	1	0.0006
Crappie	-	-	1	0.0008	1	0.0008	2	0.0013
TOTAL FISH CAUGHT	0	0.0000	564	0.4790	564	0.4772	801	0.5049
TOTAL HOURS FISHED	4.5		1,177.5		1,182.0		1,586.5	

^{1/} Worms include insect larvae.

Table 16

LENGTH DISTRIBUTION OF WALLEYE AND SAUGER TAKEN WITH SONARS^{1/}

Length (inches)	Walleye	Sauger
10.0 - 10.9	-	2
11.0 - 11.9	3	6
12.0 - 12.9	3	14
13.0 - 13.9	6	19
14.0 - 14.9	6	22
15.0 - 15.9	11	3
16.0 - 16.9	18	1
17.0 - 17.9	7	-
18.0 - 18.9	10	1
19.0 - 19.9	3	-
20.0 - 20.9	2	-
21.0 - 21.9	1	-
TOTAL	70	68
AVERAGE SIZE (inches)	16.2	13.5
AVERAGE SIZE OF FISH TAKEN BY OTHER METHODS	15.5	13.3

^{1/} Sonar is the trade name of a popular artificial bait manufactured by Heddon.

Table 17

AGE AND LENGTH COMPOSITION OF SAUGER IN THE CATCH

Inches	AGE						Total
	Numbers of Fish by Age ^{1/} and Length						
	II	III	IV	V	VI	VII	
9.0 - 9.9	2	-	-	-	-	-	2
10.0 - 10.9	17	12	-	-	-	-	29
11.0 - 11.9	5	46	-	-	-	-	51
12.0 - 12.9	26	102	-	-	-	-	128
13.0 - 13.9	-	143	61	-	-	-	204
14.0 - 14.9	-	26	106	-	-	-	132
15.0 - 15.9	-	10	24	-	-	-	34
16.0 - 16.9	-	-	6	-	-	-	6
17.0 - 17.9	-	-	1	-	-	-	1
18.0 - 18.9	-	-	-	-	-	-	-
19.0 - 19.9	-	-	-	-	-	-	-
20.0 - 20.9	-	-	-	-	-	-	-
21.0 - 21.9	-	-	-	-	-	2	2
TOTAL FISH	50	339	198	0	0	2	589
PERCENT OF TOTAL	8.5	57.6	33.6	0.0	0.0	0.3	100.0
ESTIMATED MEAN SIZE (inches)	11.5	12.9	14.3	-	-	21.4	-

^{1/} Ages are estimated from an aged sample of sauger collected during the 1969 and 1970 spring creel censuses and boom shocking investigations in the tailwaters of Pool 7.

Table 18

LENGTH FREQUENCY OF WALLEYE AND SAUGER IN THE CATCH

Size Range	WALLEYE						SAUGER					
	March		April		Total		March		April		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
9.5 - 9.9	-	-	-	-	-	-	-	-	2	0.5	2	0.3
10.0 - 10.4	-	-	1	0.7	1	0.5	5	2.5	5	1.3	10	1.7
10.5 - 10.9	-	-	2	1.5	2	1.1	8	3.9	11	3.0	19	3.2
11.0 - 11.4	1	2.1	3	2.2	4	2.2	7	3.4	19	4.9	26	4.4
11.5 - 11.9	1	2.1	4	3.0	5	2.7	6	2.9	19	4.9	25	4.2
12.0 - 12.4	2	4.2	2	1.5	4	2.2	19	9.3	37	9.6	56	9.5
12.5 - 12.9	5	10.4	4	3.0	9	5.0	29	14.3	43	11.2	72	12.4
13.0 - 13.4	1	2.1	7	5.2	8	4.5	38	18.6	64	16.6	102	17.3
13.5 - 13.9	2	4.2	6	4.5	8	4.5	36	17.6	66	17.1	102	17.3
14.0 - 14.4	1	2.1	10	7.6	11	6.1	31	15.2	51	13.2	82	13.9
14.5 - 14.9	4	8.2	11	8.2	15	8.2	13	6.4	37	9.6	50	8.5
15.0 - 15.4	5	10.4	12	9.0	17	9.3	9	4.4	17	4.4	26	4.4
15.5 - 15.9	5	10.4	14	10.4	19	10.4	2	1.0	6	1.6	8	1.4
16.0 - 16.4	6	12.5	11	8.2	17	9.3	1	0.5	3	0.8	4	0.7
16.5 - 16.9	4	8.2	13	9.7	17	9.3	-	-	2	0.5	2	0.3
17.0 - 17.4	2	4.2	2	1.5	4	2.2	-	-	-	-	-	-
17.5 - 17.9	1	2.1	4	3.0	5	2.7	-	-	-	-	1	0.2
18.0 - 18.4	3	6.3	7	5.2	10	5.6	-	-	1	0.3	-	-
18.5 - 18.9	2	4.2	6	4.5	8	4.4	-	-	-	-	-	-
19.0 - 19.4	2	4.2	1	0.7	3	1.6	-	-	-	-	-	-
19.5 - 19.9	-	-	4	3.0	4	2.2	-	-	-	-	-	-
20.0 - 20.4	-	-	5	3.7	5	2.7	-	-	-	-	-	-
20.5 - 20.9	-	-	-	-	-	-	-	-	-	-	-	-
21.0 - 21.4	1	2.1	1	0.7	2	1.1	-	-	2	0.5	2	0.3
21.5 - 21.9	-	-	-	-	-	-	-	-	-	-	-	-
22.0 - 22.4	-	-	2	1.5	2	1.1	-	-	-	-	-	-
22.5 - 22.9	-	-	-	-	-	-	-	-	-	-	-	-
23.0 - 23.4	-	-	-	-	-	-	-	-	-	-	-	-
23.5 - 23.9	-	-	-	-	-	-	-	-	-	-	-	-
24.0 - 24.4	-	-	-	-	-	-	-	-	-	-	-	-
24.5 - 24.9	-	-	-	-	2	1.1	-	-	-	-	-	-
25.0 - 25.4	-	-	2	1.5	-	-	-	-	-	-	-	-
TOTAL	48		134		182		204		385		589	
AVERAGE LENGTH (inches)	15.5		15.8		15.7		13.2		13.3		13.3	
AVERAGE WEIGHT (pounds)	1.49		1.57		1.55		0.78		0.80		0.79	

Table 19

AGE AND LENGTH COMPOSITION OF WALLEYE IN THE CATCH

Inches	AGE											Total	
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI		
10.0 - 10.9	2	1	-	-	-	-	-	-	-	-	-	-	3
11.0 - 11.9	-	7	2	-	-	-	-	-	-	-	-	-	9
12.0 - 12.9	-	8	5	-	-	-	-	-	-	-	-	-	13
13.0 - 13.9	-	5	11	-	-	-	-	-	-	-	-	-	16
14.0 - 14.9	-	-	23	3	-	-	-	-	-	-	-	-	26
15.0 - 15.9	-	-	18	11	4	3	-	-	-	-	-	-	36
16.0 - 16.9	-	-	10	17	4	3	-	-	-	-	-	-	34
17.0 - 17.9	-	-	-	4	3	2	-	-	-	-	-	-	9
18.0 - 18.9	-	-	-	4	4	7	3	-	-	-	-	-	18
19.0 - 19.9	-	-	-	-	3	3	1	-	-	-	-	-	7
20.0 - 20.9	-	-	-	-	1	3	1	-	-	-	-	-	5
21.0 - 21.9	-	-	-	-	-	2	-	-	-	-	-	-	2
22.0 - 22.9	-	-	-	-	-	-	-	2	-	-	-	-	2
23.0 - 23.9	-	-	-	-	-	-	-	-	-	-	-	-	-
24.0 - 24.9	-	-	-	-	-	-	-	-	-	-	-	-	-
25.0 - 25.9	-	-	-	-	-	-	-	-	-	1	1	-	2
TOTAL FISH	2	21	69	39	19	23	5	2	0	1	1		182
PERCENT OF TOTAL	1.1	11.6	37.9	21.4	10.4	12.6	2.7	1.1	0	0.6	0.6		
ESTIMATED MEAN SIZE (inches)	10.7	12.2	14.6	16.3	17.4	18.3	19.0	22.2	-	25.0	25.2		

1/ Ages are estimated from an aged sample of walleye collected during the 1969 and 1970 spring creel censuses and boom shocking investigations in the tailwaters of Pool 7.

Over fifty percent (52.6 percent) of the walleye caught were between 14.0 and 16.9 inches long. Less than fifteen percent (13.7 percent) were under 13.0 inches in length (Table 18).

Four year old walleye and sauger were quite apparent in the 1970 catch as compared to 1969 (Table 20). Apparently good year classes of both walleye and sauger were produced from the 1966 spring spawning season in Pool 7. No attempts have been made at this point to explain the apparent 1966 spawning success as there is very little reference for comparison at this date.

As a general observation, it appears that the walleye population in Pool 7 is very stable.

Table 20

COMPARATIVE AGE COMPOSITION OF THE MARCH-APRIL WALLEYE AND SAUGER CATCH, 1969 AND 1970

WALLEYE												
Years	Percentage Of Catch By Age											
	Ages											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	Total
1969	0.8 (2) ^{1/}	27.5 (76)	47.1 (130)	7.9 (22)	4.9 (14)	6.5 (17)	2.0 (6)	1.4 (4)	1.1 (3)	0.4 (1)	0.4 (1)	100.0 (276)
1970	1.1 (2)	11.6 (21)	37.9 (69)	21.4 (39)	10.4 (19)	12.6 (23)	2.7 (5)	1.1 (2)	0.6 (1)	0.6 (1)	0.0 (0)	100.0 (182)

SAUGER												
Years	Percentage Of Catch By Age											
	Ages											
	I	II	III	IV	V	VI	VII	Total				
1969	0.0 ^{1/} (0)	28.0 (58)	64.7 (134)	5.8 (12)	0.5 (1)	1.0 (2)	0.0 (0)	100.0 (207)				
1970	0.0 (0)	8.5 (50)	57.6 (339)	33.6 (198)	0.0 (0)	0.0 (0)	0.3 (2)	100.0 (589)				

^{1/} Figures in parenthesis are actual numbers of fish caught in a particular age group.

SUMMARY

1. A special creel census was conducted in the tailwaters of Pool 7 of the Mississippi River from March 1, 1970 to April 30, 1970. The objectives were to evaluate fishing pressure and harvest during a two month period previously closed to fishing for large game fish, and to provide information on the angler, the catch, and relationship of various factors to the catch.
2. All data was segregated by type of fishing (boat, bank, ice), method of fishing (still, cast, troll, ice), and month (March, April).
3. A total of 439 fishermen were contacted during the census, of which 94.8 percent were men. The average age of all anglers was 39.7 years.
4. Fishing in the tailwaters of Pool 7 during March and April was primarily a local sport with 86.1 percent of the anglers residing within 50 miles of the area.
5. Projected data indicates that 6,618 fishing trips were made to the tailwaters of Pool 7 during March and April, 1970, with a total of 19,100 hours spent fishing.
6. Boat angling was more popular than ice fishing during March accounting for 75.5 percent of the total fishing hours. April anglers used a boat 71.4 percent of the time while fishing from the bank the remainder of the time.
7. April was the most active but least productive month with 73.6 percent of the total fishing hours and a catch rate of 0.406 fish per man-hour.
8. Still fishing was the most popular method of fishing during the census period accounting for 97.9 percent of all angling.
9. One-hundred percent of the anglers contacted were fishing for walleye and sauger.
10. March anglers caught 2,242 large game fish at a rate of 0.561 fish per man-hour. April anglers caught 5,291 large game fish at a rate of 0.350 fish per man-hour.
11. Ice fishing produced the highest catch rate of any type of fishing, 0.936 fish per man-hour.
12. Anglers using jigs had the highest catch rate, 1.115 fish per man-hour.
13. Anglers using sonars caught walleye and sauger at a rate of 0.408 fish per man-hour, 0.075 fish per man-hour less than the rate for all baits combined.

14. The average size of walleye and sauger caught with sonar was not significantly larger than the average size of those caught with other baits.
15. Only 4.3 percent of the walleye caught with sonars were of the "lunker" class as compared to 7.1 taken with all other baits combined.
16. The proportion of sauger to walleye in the catch was 0.97/1.00 for sonar caught fish and 4.62/1.00 for fish caught with all other baits.
17. The spring sauger fishery was primarily dependent upon two year classes, three and four year old fish.
18. Nearly eighty percent of the sauger caught were between 12.0 and 14.9 inches.
19. Only one-third of the sauger catch was smaller than 13.0 inches long as compared to 86.8 percent during the 1969 census. A strong year class of four year old sauger 13.0 to 17.9 inches long accounted for the difference.
20. The spring walleye fishery was somewhat less dependent upon two year classes, three and four year old fish, however, three other year classes were also extremely important to the fishery.
21. Less than fifteen percent of the walleye caught were under 13.0 inches long.
22. Over fifty percent of the walleye caught were between 14.0 and 16.9 inches long.
23. "Lunker" walleye, those 20.0 inches and over, comprised 6.0 percent of the catch and ranged from five to eleven years old.
24. Four year old walleye and sauger were quite apparent in the 1970 catch as compared to 1969.
25. As a general observation, it appears that the walleye population in Pool 7 is very stable.

Figure 1. General Mississippi River Map

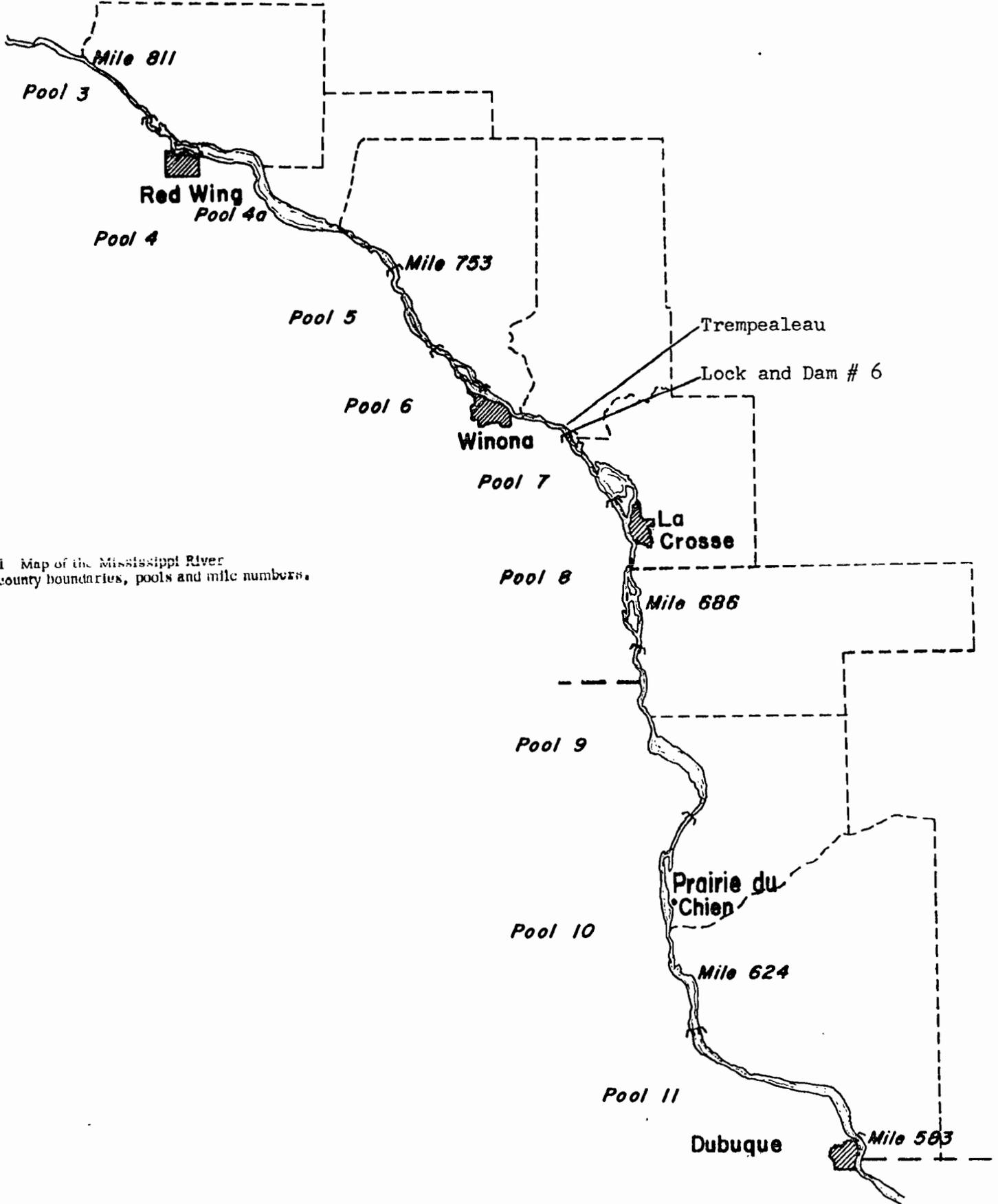


Fig. 1 Map of the Mississippi River with county boundaries, pools and mile numbers.

Figure 2.

Card Type 3 DEPARTMENT OF NATURAL RESOURCES Fi-299
(cc80) Division of Conservation

CREEL CENSUS - COVER SHEET

Pool and Section Number _____

DATE: Month _____ Day _____ Year _____

CONTACT SCHEDULE: Early _____ Late _____

Time of Beginning Angler Count _____

Time of Ending Angler Count _____

Total Time Spent on Count and Contacts _____

TOTAL NUMBER OF FISHERMEN COUNTED IN SECTION

Boat _____

Wading or Bank _____

Barge _____

Ice _____

Air Temperature _____

Water Temperature _____

WATER LEVEL: High _____ Low _____ Normal _____
Rising _____ Dropping _____

WEATHER: Clear _____ Cloudy _____ Bright _____ Overcast _____
Rain _____ Snow _____ Wind (over 15 mph) _____
Other _____

REMARKS: _____

(Other factors affecting fishing)

OBSERVER -----

Figure 3.

Card Type 1
(cc80)

DEPARTMENT OF NATURAL RESOURCES
Division of Conservation

FI-258

CREEL CENSUS

Interview No. _____ Pool and Section No. _____
 Date: Month _____ Day _____ Year _____
 Waters _____ Habitat Type _____
 Statutory Waters Fished: Wis. _____ Minn. _____ Ia. _____ Multiple _____
 Site: Boat _____ Wading or Bank _____ Barge _____ Ice _____
 Method: Cast _____ Still _____ Troll _____ Multiple _____
 Bait: Minnows _____ Worms _____ Other Live Bait _____ Jig _____ Fly _____
 Other Artificial Bait _____ Prepared Bait _____ Multiple _____
 Residence: City _____ State _____
 County _____
 Access: Private _____ Public _____
 Fishing Trip: Complete _____ Incomplete _____
 Sex and Age: Male _____ Female _____ Age _____
 Time of Day: Morning _____ Midday _____ Afternoon _____

12	1	2	3	4	5	6	7	8	9	10	11	12	a.m.
													p.m.

Total Hours _____
 Primary Species Sought _____

Card Type 2
(cc80)

SPECIES	CODE	NUMBER
Bluegill	2 8 6	_____
Black Crappie	2 9 1	_____
Yellow Perch	2 5 0	_____
White Crappie	2 9 0	_____
Sauger	2 5 1	_____
Northern Pike	2 0 6	_____
White Bass	2 4 0	_____
Walleye	2 5 2	_____
Largemouth Bass	2 8 1	_____
Rock Bass	2 8 9	_____
Freshwater Drum	3 0 5	_____
Smallmouth Bass	2 8 0	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____