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MISSISSIPPI RIVER SPECIAL SPORT FISHING CREEL CENSUS IN POOL 7
March 1, 1968 - April 30, 1968

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INTRODUCTION

A creel census was conducted in Pool 7 from March 1 to April 30, 1968, to determine the extent of usage of the Upper Mississippi River sport fishery and to evaluate the fishing pressure and success during a two month period previously closed to fishing for large game fish. The 1968 special 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.¹

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. Located between Lock and Dam No. 7 at Dresbach, Minnesota and Lock and Dam No. 6 at Trempealeau, Wisconsin, Pool 7 is 12 miles long and contains 13,600 acres. The navigation pools of the Mississippi River are divided into six habitat types (see Appendix for definitions of river habitats).

The navigation channel in Pool 7 follows the Minnesota shoreline closely in much of the pool. It is maintained at a minimum depth of 9 feet by Corps of Engineers dredging and is marked by lights and bouys. The shoreline along the channel is riprapped with rock in many places to increase bank stability. A series of islands, which were created by flooding of bottomland when the dam was completed, border the channel for much of the pool's length.

Extending outward from the shoreline towards the channel are many rock wing dams. Prior to construction of the large navigation dams, these wing dams were used to maintain a 6-foot channel by constricting the river's flow. The establishment of the present 9-foot channel has submerged most of these structures. They now provide a focal point for some of the better fishing on the Upper Mississippi River.

Included in Pool 7 are a number of backwater lakes which are directly connected to the navigation channel. The most important of these is Lake Onalaska, a 7,300-acre area impounded when Lock and Dam No. 7 and its dike were built. Lake Onalaska is virtually flat and shallow throughout, with a maximum depth of approximately 6-8 feet. It contains numerous stump areas and many small islands, and is noted for the abundant weed growth which fills much of the lake by late summer. Lake Onalaska is the most important fishing area in Pool 7.

¹ 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.

Extensive marsh areas are present above Lake Onalaska, interlaced with numerous sloughs and side channels. Much of this portion of the pool is not easily accessible except to local fishermen who are familiar with channel locations.

A series of 5 natural backwater lakes known collectively as the Trempealeau Lakes lie at the upper end of Pool 7. These are all interconnected and exhibit typical backwater lakes characteristics such as scant current and an abundance of aquatic vegetation.

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 at most dams is known to provide excellent fishing for the larger game species. Just below Lock and Dam No. 6 is a permanently moored fishing barge.

The most important tributary entering Pool 7 is the Black River of Wisconsin. This stream enters the Mississippi River in Lake Onalaska, where its former channel has been submerged since the 1930's. Other tributaries of lesser volume are Halfway Creek, Tank Creek, and Shingle Creek in Wisconsin, and Dakota Creek in Minnesota.

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

Because it would have been impossible to census an area as large as a navigation pool completely and accurately for two months, a statistical sampling method was agreed upon by member states of the U.M.R.C.C. This method was based on the subsampling principle, in which pools would be divided into a number of smaller sections which could be censused completely in a matter of hours. The data from these sections could then be expanded by use of statistical formulas to give information for the entire pool. Pool 7 was divided into 12 sections and all data collected during the creel census was recorded separately by section as well as by season.

To insure an equal and random census of all sections, a work schedule was established which utilized a combination of four consecutive census days followed by two days off, plus a rotation between "early" days (census completed by 12:30 p.m.) and "late" days (census began after 12:30 p.m.). By following this pre-arranged schedule without deviation throughout the study period, the requisite randomness and equality were achieved.

RESULTS

The creel census was designed to evaluate the fishing pressure and success 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 1,268 fishermen contacted during March and April, 93.3 percent were men. The average age of all anglers was 44.1 years with male anglers averaging 44.0 years and women 45.3 years. Ages ranged from 5 to 83 years, with 16.3 percent of the fishermen 65 years of age or older (Tables 1, 2, and 3).

Fishing in Pool 7 during March and April was primarily a local sport with 62.4 percent of the anglers residing within 50 miles of the pool. Wisconsin residents comprised 86.1 percent of the anglers fishing Pool 7. Minnesota was second with 8.4 percent, Illinois third with 5.4 percent, and other states contributed 0.1 percent. Trempealeau County contributed the greatest fishing pressure followed by La Crosse, Kenosha, Clark, and Monroe Counties.

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 censused, 97.8 percent were fishing in Wisconsin statutory waters (Table 6).

The Angler (method and extent of fishing)

Projection of data collected during the census indicated that 11,087 fishing trips were made to Pool 7 during March and April 1968, with a total of 50,568 hours spent fishing (Tables 7 and 14).

Ice angling was by far the most popular type of fishing during March accounting for 91.9 percent of the total fishing hours. Boat fishing was the most frequently used fishing method during April accounting for 73.4 percent of the total fishing hours, followed by bank fishing with 21.7 percent, and barge fishing with 4.9 percent. There was no ice fishing during the month of April 1968 (Table 7).

The average length of all types of fishing trips was 4.7 hours, ranging from 1.5 hours for barge anglers to 7.2 hours for bank fishermen. The average for all open water fishing trips was 4.6 hours while the average ice fishing trip took 4.7 hours (Table 8).

Table 1

AGE COMPOSITION OF ANGLERS

Age	Male		Female		Combined	
	No.	%	No.	%	No.	%
Under 12	40	3.2	1	0.1	41	3.3
12 - 15	49	3.8	2	0.2	51	4.0
16 - 17	35	2.8	0	0.0	35	2.8
18 - 24	85	6.7	10	0.8	95	7.5
25 - 34	186	14.7	14	1.1	200	15.8
35 - 44	178	14.0	8	0.6	186	14.6
45 - 64	415	32.7	39	3.0	454	35.7
65 & over	195	15.4	11	0.9	206	16.3
TOTAL	1,183	93.3	85	6.7	1,268	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	379	40.4	16	43.1	395	40.5
Bank	113	40.9	13	49.8	126	41.9
Barge	11	44.3	2	21.5	13	40.8
Ice	680	46.4	54	45.8	734	46.4
TOTAL	1,183	44.0	85	45.3	1,268	44.1

Table 3

TOTAL NUMBER OF ANGLERS BY YEARS OF AGE

Age	Male	Female	Total	Age	Male	Female	Total	Age	Male	Female	Total
5	3	-	3	31	17	1	18	57	27	2	29
6	5	-	5	32	18	-	18	58	14	6	20
7	1	-	1	33	22	1	23	59	35	1	36
8	6	-	6	34	8	3	11	60	11	1	12
9	12	-	12	35	23	-	23	61	19	2	21
10	5	-	5	36	14	1	15	62	28	-	28
11	8	1	9	37	14	2	16	63	16	1	17
12	10	-	10	38	22	2	24	64	18	-	18
13	12	2	14	39	24	-	24	65	24	2	26
14	19	-	19	40	17	-	17	66	14	-	14
15	8	-	8	41	19	-	19	67	16	-	16
16	21	-	21	42	19	2	21	68	27	-	27
17	14	-	14	43	16	1	17	69	19	5	24
18	13	-	13	44	10	-	10	70	20	-	20
19	15	1	16	45	13	1	14	71	11	-	11
20	7	2	9	46	22	2	24	72	16	-	16
21	12	2	14	47	25	2	27	73	13	-	13
22	16	1	17	48	33	2	35	74	13	-	13
23	10	1	11	49	19	2	21	75	7	2	9
24	12	3	15	50	24	1	25	76	5	2	7
25	17	1	18	51	21	2	23	77	4	-	4
26	11	2	13	52	18	2	20	78	2	-	2
27	28	1	29	53	14	7	21	79	2	-	2
28	25	2	27	54	17	3	20	80	1	-	1
29	15	2	17	55	22	1	23	83	1	-	1
30	25	1	26	56	19	1	20				
									<u>1,183</u>	<u>85</u>	<u>1,268</u>

Table 4

ORIGIN OF ANGLERS BY STATE AND COUNTY

WISCONSIN			MINNESOTA			OTHER STATES		
County	No.	% of Total	County	No.	% of Total	State	No.	% of Total
Bayfield	2	.2	Anoka	6	0.5	Illinois	69	2.5
Buffalo	1	.1	Fillmore	9	0.7	Others	1	0.1
Chippewa	1	.1	Hennepin	2	0.2			
Clark	105	8.3	Houston	5	0.4			
Columbia	1	.1	Olmstead	7	0.6			
Dane	5	.4	Ramsey	1	0.1			
Dodge	2	.2	Winona	76	5.9			
Eau Claire	5	.4						
Fond du Lac	3	.2						
Jackson	43	3.4						
Jefferson	5	.4						
Juneau	2	.2						
Kenosha	110	8.7						
La Crosse	280	22.1						
Marathon	25	2.0						
Milwaukee	56	4.4						
Monroe	79	6.2						
Pierce	1	.1						
Portage	10	.8						
Racine	35	2.8						
Rock	5	.4						
Trempealeau	302	23.8						
Walworth	1	.1						
Washington	1	.1						
Waukesha	4	.3						
Wood	8	.6						
TOTAL	1,092	86.1		106	8.4		70	5.5

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	575	217	125	36	14	23	216	61	1
Percent	45.3	17.1	9.9	2.8	1.1	1.8	17.0	4.8	0.1

Table 6

ANGLER ORIGIN AND WATERS FISHED

Angler Origin	Wisconsin Statutory Waters	Minnesota Statutory Waters
Wisconsin	1,079	13
Minnesota	91	15
Illinois	69	0
Others	1	0
Total	1,240	28

Table 7

TOTAL PROJECTED NUMBER OF HOURS OF FISHING BY TYPE AND MONTH

Month	TYPE OF FISHING								TOTAL			
	Boat		Bank or Wading		Barge		Total Open Water		Ice			
	No. Hours	% ^{1/}	No. Hours	%	No. Hours	%	No. Hours	%	No. Hours	%		
March	2,730	6.7	481	1.2	76	0.2	3,287	8.1	37,120	91.9	40,407	79.9
April	7,456	73.4	2,205	21.7	500	4.9	10,161	100.0	0	0.0	10,161	20.1
TOTAL	10,186	20.1 ^{3/}	2,686	5.3	576	1.2	13,448	26.6	37,120	73.4	50,568	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	Barge	Total Open Water	Ice	Total All Types
Total Hours	311.5	79.0	3.0	393.5	132.0	525.5
Total Anglers Contacted	72	11	2	85	28	113
Average Hours	4.3	7.2	1.5	4.6	4.7	4.7

Table 9

CATCH PER MAN HOUR BY MONTH

	March	April	Total
Hours Fished	2,692.0	912.0	3,604.0
Fish Caught	3,235	613	3,848
Catch Per Man-Hour	1.202	0.672	1.068

March was the most active fishing month, with 74.7 of the total fishing hours and a catch rate of 1.202 fish per man-hour. In April the fishing was less active but the emphasis shifted from panfish to the larger game fish. Twenty-five percent of the total fishing hours occurred during the month of April with a catch rate of 0.672 fish per man-hour. The overall catch rate for March and April was 1.068 fish per man-hour, which is the same as the actual average for the twelve month period between April 1967 and March 1968 (Table 9).

Still fishing was the most popular method of fishing during the census period accounting for 92.0 percent of all angling. March anglers were found to be still fishing 96.8 percent of the time and April anglers 80.7 percent of the time (Table 10).

Multiple live and artificial baits were used 52.6 percent of the time during March while live bait was the most popular bait in April accounting for 52.3 percent of the total use. This again is due to the change of emphasis from panfish in March to larger game fish in April (Table 10).

Over 65 percent of all anglers fishing during March and April used the river lakes and ponds. March anglers used this habitat 80.1 percent of the time fishing mostly for panfish. The majority of April anglers (67.3 percent) were found in the tailwaters of Lock and Dam # 6 in pursuit of the larger game fish, while 30.3 percent of these anglers made use of the river lakes and ponds (Table 11).

Since the majority of March anglers fished in Lake Onalaska, which is a prime panfish producing area, it would be expected that many of these fishermen sought these species. This was the case, with at least 46.0 percent of the anglers seeking one or more panfish species. Bluegill was the preferred species, followed by crappie (Table 12).

The fact that the majority of April anglers were fishing the tailwaters is reflected in the fact that 55.7 percent of April fishermen sought the larger game fish species. Walleye and sauger were the preferred species (Table 12).

Access to Pool 7 was available in most areas on the Wisconsin side, with 8 developed public sites plus a number of private sites utilized. Virtually all access was obtained through sites in Wisconsin. Nearly 21 percent of the fishermen used private land to gain access to the water with all but two of 79 percent availing themselves of Wisconsin public areas (Table 13).

The Catch (general information)

Projection of the data obtained from the 1,268 fishermen contacted and 373 "instantaneous" angler counts revealed that during the 50,568 hours spent fishing in Pool 7 during March and April, 1968, a total of 55,990 fish were caught at a rate of 1.107 fish per man-hour (Table 14). This projected rate is only .002 fish per hour greater than the projected twelve month average experienced during the 1967-68 Pool 7 creel census.

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	14	1.6	47	12.6	61	4.8
Still fishing ^{1/}	866	96.8	301	80.7	1,167	92.0
Trolling	0	0.0	0	0.0	0	0.0
Multiple	15	1.7	25	6.7	40	3.2
TOTAL	895		373		1,268	
FISHING LURE						
Worms	69	7.7	62	16.6	131	10.3
Minnows	248	27.7	90	24.1	338	26.7
Other live bait	0	0.0	0	0.0	0	0.0
Multiple live bait	63	7.0	43	11.5	106	8.4
TOTAL LIVE BAIT	380	42.5	195	52.3	575	45.3
Prepared bait	0	0.0	0	0.0	0	0.0
Jigs	16	1.8	7	1.9	23	1.8
Flies	1	0.1	1	0.3	2	0.2
Other artificials	27	3.0	87	23.3	114	9.0
TOTAL ARTIFICIALS	44	4.9	95	25.5	139	11.0
Multiple live & artificial ^{2/}	471	52.6	83	22.3	554	43.7

^{1/}Includes ice.

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

Table 11

NUMBER OF ANGLERS USING THE VARIOUS HABITATS BY MONTH

HABITAT	MARCH		APRIL		TOTAL	
	Number	Percent	Number	Percent	Number	Percent
River Lakes and Ponds	716	80.1	113	30.3	829	65.4
Tailwater	166	18.5	251	67.3	417	32.9
Side Channel Chute	9	1.0	5	1.3	14	1.1
Main Channel Border	4	0.4	1	0.3	5	0.4
Slough	0	0.0	3	0.8	3	0.2
Main Channel	0	0.0	0	0.0	0	0.0
TOTALS	895	100.0	373	100.0	1,268	100.0

Table 12

PRIMARY SPECIES SOUGHT

Species	March	April	Total ^{1/}
Bluegill	268	33	301
Walleye and sauger	149	164	313
Largemouth bass	38	7	45
White bass	0	1	1
Northern pike	20	11	31
Yellow perch	0	10	10
Crappie (black and white)	108	11	119
Bullhead	0	2	2
Panfish ^{2/} (no panfish species specified)	36	12	48
Large game fish ^{3/} (no game fish species specified)	31	26	57
Anything	245	96	341
TOTAL	895	373	1,268

^{1/} Number of fishermen.

^{2/} Panfish includes bluegill, crappie, yellow perch, bullheads, white bass, rock bass, plus all species of sunfish.

^{3/} Large game fish includes walleye, sauger, northern pike, largemouth bass, and smallmouth bass.

Table 13

ACCESS SITE USAGE

WISCONSIN SITES			MINNESOTA SITES		
Public Site	No. of Anglers	%	Public Site	No. of Anglers	%
Trempealeau Landing	276	21.77	Dakota	2	0.16
Guide Wall, L&D # 6	106	8.36			
Brices Prairie	153	12.07			
Upper Onalaska	75	5.91			
Round Lake	5	0.39			
French Island # 1	9	0.71			
French Island # 3	3	0.24			
French Island # 5	9	0.71			
Other Public Land	364	28.71			
TOTAL	1,000	78.86	TOTAL	2	0.16

	No. of Anglers	%
TOTAL PUBLIC SITES Wisconsin and Minnesota	1,002	79.02

	No. of Anglers	%
TOTAL PRIVATE SITES Wisconsin and Minnesota	266	20.98

Table 14

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

SPECIES	MARCH				APRIL				TOTAL FOR MARCH AND APRIL				GRAND TOTAL	
	Boat	Bank	Barge	Ice	Total	Boat	Bank	Barge	Total	Boat	Bank	Barge		Ice
	Bowfin	-	-	-	63	63	-	-	-	-	-	-		-
Suckers & redbhorse	17	-	-	17	17	-	19	36	55	17	19	36	-	72
Carp	-	-	-	-	-	11	-	-	11	11	-	-	-	11
Channel catfish	-	-	-	-	-	11	-	-	11	11	-	-	-	11
Bullheads	9	-	-	39	39	91	125	-	216	100	125	-	30	255
Northern pike	9	34	-	726	726	136	48	-	184	145	82	-	683	910
White bass	-	-	-	15	15	136	-	-	136	136	-	-	15	151
Yellow perch	313	229	19	4,726	4,726	729	653	125	1,507	1,042	882	144	4,165	6,233
Sauger	1,372	11	5	1,485	1,485	1,720	77	36	1,833	3,092	88	41	97	3,318
Walleye	929	57	27	1,076	1,076	1,105	144	179	1,428	2,034	201	206	63	2,504
Largemouth bass	9	11	-	2,214	2,214	285	19	-	304	294	30	-	2,194	2,518
Pumpkinseed	-	-	-	97	97	-	-	-	-	-	-	-	97	97
Bluegill	-	-	-	27,340	27,340	308	48	-	356	308	48	-	27,340	27,696
White crappie	-	-	-	4,306	4,306	34	-	-	34	34	-	-	4,306	4,340
Black crappie	9	-	11	7,014	7,014	319	346	72	737	328	346	83	6,994	7,751
Freshwater drum	9	-	-	9	9	11	-	-	11	20	-	-	-	20
Rock bass	-	-	-	-	-	11	29	-	40	11	29	-	-	40
Projected number of fishermen	569	192	51	7,898	8,710	1,775	269	333	2,377	2,344	461	384	7,898	11,087
Projected number of fish	2,676	342	62	46,047	49,127	4,907	1,508	448	6,863	7,583	1,850	510	46,047	55,990
Projected hours fished	2,730	481	76	37,120	40,407	7,456	2,205	500	10,161	10,186	2,686	576	37,120	50,568
Projected fish per hour	.9802	.7110	.8158	1.2405	1.2158	.6581	.6839	.8960	.6754	.7445	.6888	.8854	1.2405	1.1072

Anglers spent 40,407 hours fishing during March to catch 49,127 fish at a catch rate of 1.216 fish per man-hour. April anglers spent 10,161 hours fishing to catch 6,863 fish at a catch rate of 0.6754 fish per man-hour (Table 14).

The Catch (composition)

The most abundant species in the overall catch was the bluegill, which made up 45.5 percent of the catch. Next in abundance were the crappies making up 20.3 percent of the catch (Table 15).

The most abundant species in the catch during March were the following in order of decreasing importance: bluegill, black crappie, yellow perch, white crappie, sauger, largemouth bass, walleye, and northern pike.

The most abundant species in the catch during April were the following in order of decreasing importance: sauger, yellow perch, walleye, black crappie, and bluegill (Table 15).

Projected data indicates that a total of 5,822 walleye and sauger were caught during the months of March and April 1968. This figure represents 28.7 percent of the total walleye and sauger caught during the associated twelve month 1967-68 creel census period (Table 14).

March anglers caught 2,561 walleye and sauger with April anglers catching the remaining 3,261.

March anglers caught 726 northern pike and 2,214 largemouth bass. April fishermen caught 184 northern pike and 304 largemouth bass.

March anglers caught 5,501 large game fish at a rate of .175 fish per man-hour, which was 13.3 percent of the total caught during the following twelve month period. Overall fishing success made March an above average fishing month with a catch rate of 1.216 fish per man-hour as compared to the average monthly catch rate for the following twelve months of 1.068 fish per man-hour (Table 15).

April was an above average month for catching large game fish. April fishermen caught 3,749 large game fish at a rate of 0.359 fish per hour which was 9.1 percent of the total large game fish caught during the twelve month 1967-68 creel census period. Overall, April was a below average month for fishing with a catch rate for all species of .6754 fish per hour (Table 15).

The Catch (catch rates for various methods and baits)

Ice fishing produced the highest catch rate of any type of fishing, 1.240 fish per man-hour. Barge fishermen caught fish at a rate of .8929 fish per man-hour, boat fishing had a yield of .7626 fish per man-hour, while bank fishing was least productive yielding .6888 fish per man-hour (Table 16).

Table 15

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
Bowfin	4	.0015	-	-	4	.0011
Suckers & redhorse	2	.0007	4	.0044	6	.0016
Carp	-	-	1	.0011	1	.0003
Channel catfish	-	-	1	.0011	1	.0003
Bullheads	3	.0012	21	.0230	24	.0067
Northern pike	47	.0175	17	.0186	64	.0178
White bass	1	.0004	12	.0132	13	.0036
Yellow perch	318	.1181	139	.1524	457	.1268
Sauger	165	.0613	161	.1765	326	.0905
Walleye	116	.0431	122	.1338	238	.0660
Largemouth bass	140	.0520	27	.0296	167	.0463
Pumpkinseed	6	.0022	-	-	6	.0017
Bluegill	1,720	.6389	32	.0351	1,752	.4861
White crappie	271	.1007	3	.0033	274	.0760
Black crappie	441	.1638	68	.0746	509	.1412
Drum	1	.0004	1	.0011	2	.0006
Rock bass	-	-	4	.0044	4	.0011
Total Fish Caught	3,235	1.2017	613	.6721	3,848	1.0677
Total Hours Fished	2,692.0		912.0		3,604.0	

Table 16

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

SPECIES	Boat		Bank		Barge		Ice		Total	
	No. Fish	Fish Per Man-Hour								
Bowfin	-	-	-	-	-	-	4	.0017	4	.0011
Suckers & redborse	2	.0021	2	.0074	2	.0714	-	-	6	.0016
Carp	1	.0010	-	-	-	-	-	-	1	.0003
Channel catfish	1	.0010	-	-	-	-	-	-	1	.0003
Bullheads	9	.0093	13	.0479	-	-	2	.0008	24	.0067
Northern pike	13	.0134	8	.0295	-	-	43	.0184	64	.0178
White bass	12	.0124	-	-	-	-	1	.0004	13	.0036
Yellow perch	100	.1032	88	.3241	7	.2500	262	.1122	457	.1268
Sauger	309	.3189	9	.0331	2	.0714	6	.0026	326	.0905
Walleye	204	.2105	20	.0737	10	.3571	4	.0017	238	.0660
Largemouth bass	26	.0268	3	.0110	-	-	138	.0591	167	.0463
Pumpkinseed	-	-	-	-	-	-	6	.0026	6	.0017
Bluegill	27	.0279	5	.0184	-	-	1,720	.7365	1,752	.4861
White crappie	3	.0031	-	-	-	-	271	.1160	274	.0760
Black crappie	29	.0299	36	.1326	4	.1429	440	.1884	509	.1412
Freshwater drum	2	.0021	-	-	-	-	-	-	2	.0006
Rock bass	1	.0010	3	.0110	-	-	-	-	4	.0011
Total Fish Caught	739	.7626	187	.6888	25	.8929	2,897	1.2404	3,848	1.0677
Total Hours Fished	969.0		271.5		28.0		2,335.5		3,604.0	

Still fishing (including ice fishing) was the most productive method yielding 1.097 fish per hour as compared to .404 for casting. Still fishing accounted for 97.4 percent of all fish taken in Pool 7 during March and April 1968 (Table 17).

Table 17

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

SPECIES	CASTING		STILL FISHING ^{1/}		TROLLING		MULTIPLE METHODS		ICE FISHING	
	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
Bowfin	-	-	4	.0012	-	-	-	-	4	.0017
Suckers & redhorse	1	.0099	5	.0015	-	-	-	-	-	-
Carp	-	-	1	.0003	-	-	-	-	-	-
Channel catfish	-	-	1	.0003	-	-	-	-	-	-
Bullheads	-	-	24	.0070	-	-	-	-	2	.0008
Northern pike	12	.1182	49	.0143	-	-	3	.0351	43	.0184
White bass	-	-	13	.0038	-	-	-	-	1	.0004
Yellow perch	-	-	451	.1320	-	-	6	.0702	262	.1122
Sauger	5	.0493	292	.0855	-	-	29	.3392	6	.0026
Walleye	6	.0591	221	.0647	-	-	11	.1287	4	.0017
Largemouth bass	17	.1675	144	.0421	-	-	6	.0702	138	.0591
Pumpkinseed	-	-	6	.0018	-	-	-	-	6	.0026
Bluegill	-	-	1,748	.5116	-	-	4	.0468	1,720	.7365
White crappie	-	-	274	.0802	-	-	-	-	271	.1160
Black crappie	-	-	509	.1490	-	-	-	-	440	.1884
Freshwater drum	-	-	2	.0006	-	-	-	-	-	-
Rock bass	-	-	4	.0012	-	-	-	-	-	-
Total Fish Caught	41	.4039	3,748	1.0969	0	0.0	59	.6901	2,897	1.2404
Total Hours Fished	101.5		3,417.0		0.0		85.5		2,335.5	

^{1/} Includes ice fishing.

Table 18

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

SPECIES	WORMS ^{1/}		MINNOWS		OTHER LIVE BAIT ^{2/}		MULTIPLE LIVE BAIT		TOTAL LIVE BAIT	
	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
Bowfin	-	-	4	.0042	-	-	-	-	4	.0027
Suckers & redborse	-	-	1	.0011	-	-	2	.0072	3	.0020
Carp	-	-	-	-	-	-	-	-	-	-
Channel catfish	1	.0038	-	-	-	-	-	-	1	.0007
Bullheads	11	.0415	3	.0032	-	-	3	.0108	17	.0115
Northern pike	1	.0038	29	.0308	-	-	1	.0036	31	.0209
White bass	-	-	1	.0011	-	-	-	-	1	.0007
Yellow perch	71	.2679	92	.0977	-	-	64	.2306	227	.1530
Sauger	2	.0075	138	.1466	-	-	12	.0432	152	.1024
Walleye	1	.0038	80	.0850	-	-	19	.0685	100	.0674
Largemouth bass	7	.0264	56	.0595	-	-	5	.0180	68	.0458
Pumpkinseed	-	-	1	.0011	-	-	1	.0036	2	.0013
Bluegill	323	1.2189	18	.0191	-	-	29	.1045	370	.2493
White crappie	11	.0415	67	.0712	-	-	22	.0793	100	.0674
Black crappie	28	.1057	188	.1997	-	-	45	.1622	261	.1759
Freshwater drum	-	-	-	-	-	-	1	.0036	1	.0007
Rock bass	-	-	1	.0011	-	-	3	.0108	4	.0027
Total Fish Caught	456	1.7208	679	.7212	0	0.0	207	.7459	1,342	.9043
Total Hours Fished	265.0		941.5		0.0		277.5		1,484.0	

^{1/} Worms include insect larvae.

^{2/} Other live bait includes frogs, adult insects, and all other live animals except worms and minnows.

Table 18 (continued)

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

SPECIES	JIG		FLY		OTHER ^{1/} ARTIFICIAL		TOTAL ARTIFICIAL		MULTIPLE LIVE AND ARTIFICIAL		PREPARED BAIT ^{2/}	
	No. Fish	Per Man-Hour	No. Fish	Per Man-Hour	No. Fish	Per Man-Hour	No. Fish	Per Man-Hour	No. Fish	Per Man-Hour	No. Fish	Per Man-Hour
Bowfin	-	-	-	-	-	-	-	-	-	-	-	-
Suckers & redborse	-	-	-	-	-	-	-	-	-	-	-	-
Carp	-	-	-	-	1	.0044	1	.0044	3	.0015	-	-
Channel catfish	-	-	-	-	-	-	-	-	-	-	-	-
Bullheads	-	-	-	-	-	-	-	-	7	.0037	-	-
Northern pike	-	-	-	-	13	.0582	13	.0582	20	.0109	-	-
White bass	-	-	-	-	-	-	-	-	12	.0065	-	-
Yellow perch	-	-	-	-	13	.0582	13	.0582	217	.1185	-	-
Sauger	14	.2434	3	.3333	57	.2556	74	.2556	100	.0546	-	-
Walleye	6	.1043	-	-	48	.2152	54	.1865	84	.0458	-	-
Largemouth bass	-	-	-	-	16	.0717	16	.0552	83	.0453	-	-
Pumpkinseed	-	-	-	-	-	-	-	-	4	.0021	-	-
Bluegill	2	.0347	-	-	-	-	2	.0069	1,380	.7538	-	-
White crappie	9	.1565	-	-	-	-	9	.0310	165	.0901	-	-
Black crappie	55	.9565	-	-	10	.0448	65	.2245	183	.0999	-	-
Freshwater drum	-	-	-	-	-	-	-	-	1	.0005	-	-
Rock bass	-	-	-	-	-	-	-	-	-	-	-	-
Total Fish Caught	86	1.4957	3	.3333	158	.7085	247	.8532	2,259	1.2341	0	0.0
Total Hours Fished	57.5		9.0		223.0		289.5		1,830.5		0.0	

^{1/} Other artificial baits include plugs, spoons, etc.^{2/} Prepared baits include homemade preparations such as cheese bait, dough balls, etc.

SUMMARY

1. A special creel census was conducted in Pool 7 of the Mississippi River from March 1, 1968 to April 30, 1968. The objectives were to evaluate fishing pressure and success 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. The creel census was set up on a statistical basis so that data collected in twelve subsampling sections could be projected into pool-wide totals.
3. All data was segregated by type of fishing (boat, bank, barge, ice), method of fishing (still, cast, troll, ice) and month (March, April) as well as by section.
4. A total of 1,268 fishermen were contacted during the census, of which 93.3 percent were men. The average age of all anglers was 44.1 years.
5. Fishing in Pool 7 during March and April was primarily a local sport with 62.4 percent of the anglers residing within 50 miles of the pool.
6. Fishermen censused in Wisconsin statutory waters composed 97.8 percent of all anglers fishing Pool 7.
7. Projected data indicates that 11,087 fishing trips were made to Pool 7 during March and April, 1968, with a total of 50,568 hours spent fishing.
8. Ice angling was by far the most popular type of fishing during March accounting for 91.9 percent of the total fishing hours. Boat fishing was the most frequently used fishing method during April accounting for 73.4 percent of the total fishing hours.
9. The average length of all completed fishing trips was 4.7 hours, with bank fishing trips longest (7.2 hours) and barge trips shortest (1.5 hours).
10. March was the most active fishing month, with 74.7 of the total fishing hours and a catch rate of 1.202 fish per man-hour. In April the fishing was less active but the emphasis shifted from panfish to the larger game fish.
11. Still fishing was the most popular method of fishing accounting for 92.0 percent of all angling.
12. Multiple live and artificial baits were used 52.6 percent of the time during March while live bait was the most popular bait in April accounting for 52.3 percent of the total use.
13. River lakes and ponds were most heavily fished during the month of March (80.1 percent of all March anglers), while the majority of April anglers (67.3 percent) were found in the tailwaters of Lock and Dam No. 6.

14. Panfish, especially bluegill, were the most sought-after species during March. Walleye and sauger were the preferred species sought during April.
15. March anglers caught 5,501 large game fish at a rate of .175 fish per man-hour, which was 13.3 percent of the total large game fish caught during the following twelve month period.
16. April was an above average month for catching large game fish. April fishermen caught 3,749 large game fish at a rate of 0.359 fish per hour which was 9.1 percent of the total large game fish caught during the twelve month 1967-68 creel census period. Overall, April was a below average month for fishing with a catch rate for all species of .675 fish per hour.
17. Still fishing (including ice fishing) was the most productive method yielding 1.097 fish per hour. Still fishing accounted for 97.4 percent of all fish taken in Pool 7 during March and April 1968.

APPENDIX A

Definitions of Mississippi River Habitats

The impounded river contains several distinctly different fish habitats. These are named and described by the Fish Technical Section of the Upper Mississippi River Conservation Committee as follows:

Main Channel

This includes only the portion of the river through which large commercial craft can operate. It is defined by combinations of contraction works (wing dams and riprap), river banks, islands, bouys, and other markers. It has a minimum depth of 9 feet and a minimum width of 400 feet. A current always exists, varying in velocity with water stages. The bottom type is mostly a function of the current. The upper section usually has a sand bottom, changing to silt over sand in the lower section. Occasional patches of gravel are present in a few areas. Most of the main channel is subject to scouring action during periods of rapid water flow and by passage of towboats in the shallower stretches. No rooted aquatic vegetation is present.

Main Channel Border

The zone between the 9-foot channel and the main river bank, islands, or submerged definitions of the old main river channel. It includes all areas in which wing dams occur along the main channel. This area is commonly thought of as being a part of the main channel, but for fisheries purposes it is considered as a separate habitat. Bouys often mark the channel edge of this zone. Where the main channel is defined only by the bank a narrow border still occurs, and often the banks have riprap and fair to good fish habitat. Dredge spoil has been placed in some sections of this zone, sometimes covering the wing dams. The bottom is mostly sand in the upper sections of the pool and silt in the lower. Little or no rooted aquatic vegetation is present. This zone provides some of the better fishing along the river at certain times of the year.

Tailwaters

These include the main channel, main channel border, and the areas immediately below the dams which are affected in turbulence by the passage of water through the gates of the dams and out of the locks. Since these areas change in size according to water stage, an arbitrary lower boundary for fishery purposes has been set at a distance of one-half mile below the dams. The bottom is mostly sand. No rooted aquatic vegetation is present.

Side Channels

These include all departures from the main channel in which there is current during normal river stage. The gradations in this category are widespread, ranging from fast flowing watercourses with high banks to sluggish streams winding through marshy areas. Unless they are former main channels the banks are usually unprotected. Undercut or eroded banks are common along the side channels near their departure from the main channel. Closing or diversion dams are usually present where the side channel leaves the main channel and infrequently at other locations. In the impounded section of the river these are mostly submerged. The bottom type usually varies from sand in the upper reaches to silt in the lower. In the swifter current there is no rooted aquatic vegetation, but vegetation is common in the shallower areas having silty bottoms and moderate to slight current.

River Lakes and Ponds

These are bodies of water connected in some way with the navigation channel but with little or no current except possibly during flood stages. Most of the bottoms are mud and silt, often consisting of a layer two or more feet thick. Many of these waters have an abundance of rooted vegetation, both submerged and emergent. They are often surrounded by marshland.

Sloughs

This category includes all of the remaining aquatic habitat found in the river. Sloughs often border on the "lake or pond" category on the one side and on the "side channel" category on the other. They may be former side channels that have been cut off or that have only intermittent flows in them. They may be relatively narrow branches or off-shoots of other bodies of water. They are characterized by having no current at normal water stage, muck bottoms, and an abundance of submerged and emergent aquatic vegetation.

APPENDIX B

Section Locations and Descriptions - Pool 7

Pool 7 was divided into twelve sections for purposes of the creel census. These are described briefly below. Refer to Figure 1 for section locations.

Section 1 begins at Lock and Dam No. 6 at river mile 714.3 and extends between both banks of the main channel to the channel marker at mile 712.0, excluding the area between Richmond Island the Minnesota shore.

Section 2 adjoins Section 1 and includes the Trempealeau Lakes area, covering Second, Third, Round and Long Lakes, and a portion of Webb Slough, extending to the C. B. & Q. Railroad tracks.

Section 3 includes Mud Lake and Spring Slough and extends between the river bank and the C. B. & Q. tracks to Shingle Creek and Hammond Chute on the southeast.

Section 4 includes Silver Lake and Hammond Chute and extends between the river bank and the C. B. & Q. tracks to and including Bullet Chute on the southeast.

Section 5 includes Dodge Chute and Gibbs Chute and extends between the river bank and Brices Prairie to the upper end of Lake Onalaska.

Section 6 is the largest section and comprises the upper half of Lake Onalaska south of Section 5, extending between the river bank and Brices Prairie, bounded on the south by a line drawn from river mile 705.0 just above Miller's Slough to the tip of French Island, and on the east by a line drawn from French Island to Rosebud Island and Hunter's Lodge.

Section 7 includes all of Lake Onalaska east of the easterly boundary of Section 6 and extends to the Onalaska Spillway.

Section 8 includes that portion of Lake Onalaska south of Section 6 and extends between the river bank and French Island south to the dike.

Section 9 extends between both banks of the river from Lock and Dam No. 7 at river mile 702.5 to mile 705.0 at the northern tip of Dresbach Island and includes Dresbach Slough.

Section 10 extends between both banks from mile 705.0 to the channel marker at river mile 707.5, but excludes that area between Island 91 and the Wisconsin shore.

Section 11 extends between both banks from river mile 707.5 to the channel marker at river mile 710.0 above Hammond Chute and includes the area between Island 91 and the Wisconsin shore.

Section 12 extends between both banks from river mile 710.0 to the south boundary of Section 1 at river mile 712.0, and includes part of Webb Slough and that portion of the river between Richmond Island and the Minnesota shore.

Lock
&
Dam 6

Figure 1

WISCONSIN CREEL CENSUS
SECTION LOCATIONS

Minnesota

Wisconsin

Lake Onalaska

Onalaska
Spillway

Lock & Dam No. 7

