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MISSISSIPPI RIVER SPECIAL SPORT FISHING CREEL CENSUS IN POOL 7

March 1, 1967 - April 30, 1967

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## TABLE OF CONTENTS

	Page
Introduction	1
Description of the Area	1
Methods	2
Results	3
The Angler (age and origin)	3
The Angler (method and extent of fishing)	3
The Catch (general information)	10
The Catch (composition)	16
The Catch (rates for various methods and baits)	16
Summary	23
Appendices	
A. Definitions of Mississippi River Habitats	25
B. Section Location and Description - Pool 7	27
Tables	
1. Age composition of anglers	4
2. Age composition of anglers engaged in different types of fishing	4
3. Total number of anglers by years of age	5
4. Origin of anglers by state and county	6
5. Distance traveled by anglers based on zone	7
6. Angler origin and waters fished	7
7. Total projected number of hours of fishing by type and month	8
8. Summary of completed fishing trips	9
9. Catch per man-hour by month	9
10. Actual number of anglers by fishing method and lure used in each month	11
11. Number of anglers using the various habitats by month	12
12. Primary species sought	13
13. Access site usage	14
14. Projected number of fish caught by type of fishing during each month	15
15. Actual catch per man-hour and number of fish caught during each month	17
16. Actual catch per man-hour and numbers of fish caught by type of fishing	18
17. Actual catch per man-hour and number of fish caught by fishing method	20
18. Actual catch per man-hour and number of fish caught with various baits.	21
Figures	
1. Creel census section locations in Pool 7 (map)	28

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## INTRODUCTION

A creel census was conducted in Pool 7 from March 1 to April 30, 1967 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 1967 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.<sup>1</sup>

## 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.

<sup>1</sup> 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 1,074 fishermen contacted during March and April, 93.7 percent were men. The average age of all anglers was 46.8 years slightly older than the average found during the 1962 and 1967 twelve month creel census. Male anglers averaged 46.6 years and women 49.9 years, during the two month census period. Ages ranged from 7 to 88 years, with 20.3 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 78.1 percent of the anglers residing within 50 miles of the pool. Wisconsin residents comprised 83.8 percent of the anglers fishing Pool 7, Minnesota was second with 13.7 percent and other states contributed 2.5 percent. Trempealeau County contributed the greatest fishing pressure, followed by La Crosse County and Winona County, Minnesota (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 censused, 97.1 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 8,907 fishing trips were made to Pool 7 during March and April 1967 with a total of 21,676 hours spent fishing.

Ice angling was by far the most popular type of fishing during March accounting for 97.9 percent of the total fishing hours. Boat fishing was the most frequently used fishing method during April accounting for 56.9 percent of the total fishing hours, followed by bank fishing with 43.1 percent of the total fishing hours. There was no barge or ice fishing during the month of April 1967 (Table 7).

The average length of all types of fishing trips was 2.4 hours, ranging from 1.7 hours for bank or wading anglers to 3.0 hours for boat fishermen. The average for all open water fishing trips was 2.4 hours while the average ice fishing trip took 2.5 hours (Table 8).

Table 1

AGE COMPOSITION OF ANGLERS

Age	Male		Female		Combined	
	No.	%	No.	%	No.	%
Under 12	12	1.2	1	1.5	13	1.2
12 - 15	29	2.9	1	1.5	30	2.8
16 - 17	14	1.4	0	0.0	14	1.3
18 - 24	81	8.0	2	2.8	83	7.8
25 - 34	163	16.2	8	11.8	171	15.9
35 - 44	137	13.7	8	11.8	145	13.5
45 - 64	366	36.3	37	54.4	403	37.5
65 & over	204	20.3	11	16.2	215	20.0
TOTAL	1,006	93.7	68	6.3	1,074	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	215	42.0	15	50.0	230	43.3
Bank	180	39.2	12	47.1	192	39.7
Ice	611	50.2	41	50.6	652	50.3
TOTAL	1,006	46.0	68	47.7	1,074	46.0

Table 3

TOTAL NUMBER OF ANGLERS BY YEAR OF AGE

Age	Male	Female	Total	Age	Male	Female	Total	Age	Male	Female	Total
7	1	1	2	34	17	1	18	61	12	-	12
8	2	-	2	35	9	-	9	62	19	1	20
9	1	-	1	36	12	-	12	63	16	-	16
10	3	-	3	37	15	1	16	64	25	4	29
11	5	-	5	38	17	-	17	65	24	2	26
12	3	1	4	39	19	-	19	66	24	-	24
13	6	-	6	40	17	-	17	67	33	2	35
14	8	-	8	41	8	3	11	68	17	-	17
15	12	-	12	42	10	2	12	69	25	1	26
16	4	-	4	43	13	-	13	70	17	-	17
17	10	-	10	44	17	2	19	71	8	2	10
18	4	-	4	45	25	2	27	72	12	1	13
19	7	1	8	46	12	2	14	73	3	1	4
20	8	-	8	47	19	3	22	74	8	-	8
21	18	-	18	48	12	1	13	75	10	1	11
22	8	-	8	49	30	3	33	76	3	-	3
23	20	1	21	50	20	2	22	77	5	-	5
24	16	-	16	51	20	1	21	78	3	-	3
25	16	-	16	52	18	4	22	79	1	-	1
26	26	1	27	53	16	3	19	80	5	-	5
27	16	-	16	54	22	3	25	81	1	-	1
28	16	1	17	55	16	1	17	82	2	-	2
29	13	-	13	56	18	-	18	84	1	-	1
30	18	-	18	57	17	7	24	85	-	1	1
31	22	2	24	58	15	-	15	87	1	-	1
32	11	2	13	59	16	-	16	88	1	-	1
33	8	1	9	60	18	-	18	TOTAL	1,006	68	1,074

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	1	0.1	Dakota	3	0.3	Illinois	27	2.4
Buffalo	8	0.7	Hennepin	1	0.1	Iowa	2	0.2
Chippewa	4	0.4	Houston	6	0.6	Others	1	0.1
Clark	66	0.1	Olmstead	21	1.9			
Dane	4	0.4	Winona	115	10.8			
Eau Claire	4	0.4	Others	1	0.1			
Jackson	69	6.4						
Juneau	6	0.6						
Kenosha	34	3.2						
La Crosse	194	18.1						
Langlade	2	0.2						
Marathon	17	1.6						
Marquette	1	0.1						
Milwaukee	22	2.0						
Monroe	34	3.2						
Portage	2	0.2						
Racine	1	0.1						
Rock	1	0.1						
Sauk	5	0.5						
Sheboygan	1	0.1						
Trempealeau	405	37.8						
Walworth	1	0.1						
Waukesha	6	0.6						
Wood	9	0.8						
TOTAL	897	83.5	TOTAL	147	13.8	TOTAL	30	2.7

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	100-125	126-150	151-250	251-500	Over 500
Number	610	229	99	34	3	5	81	12	1
Percent	56.8	21.3	9.2	3.2	0.3	0.5	7.6	1.1	0.1

Table 6

ANGLER ORIGIN AND WATERS FISHED

Angler Origin	Wisconsin Statutory Waters	Minnesota Statutory Waters
Wisconsin	891	9
Minnesota	130	17
Illinois	21	3
Iowa	0	2
Others	1	0
TOTAL	1,043	31

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	% <sup>1/</sup>	No. Hours	%	No. Hours	%	No. Hours	%	No. Hours	% <sup>2/</sup>		
March	244	1.8	40	0.3	0	0.0	281	2.1	13,299	97.9	13,580	62.6
April	4,606	56.9	3,490	43.1	0	0.0	8,096	100.0	0	0.0	8,096	37.4
TOTAL HOURS	4,847	22.4 <sup>3/</sup>	3,530	16.2	0	0.0	8,377	38.6	13,299	61.4	21,276	100.0

<sup>1/</sup> Percentage by type of fishing for month

<sup>2/</sup> Percentage by month for the two month period

<sup>3/</sup> 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	80.0	40.0	0.0	120.0	65.5	185.5
Total Anglers Contacted	27	23	0	50	26	76
Average Hours	3.0	1.7	0.0	2.4	2.5	2.4

Table 9

## CATCH PER MAN HOUR BY MONTH

	March	April	Total
Hours Fished	1,810.0	816.5	2,626.5
Fish Caught	3,173	835	4,008
Catch Per Man-Hour	1.753	1.023	1.526

March was the most active fishing month, with 68.9 of the total fishing hours and a catch rate of 1.753 fish per man-hour. In April the fishing was less active but the emphasis shifted from panfish to the larger game fish. Thirty-one percent of the total fishing hours occurred during the month of April with a catch rate of 1.023 fish per man-hour. The overall catch rate for March and April was 1.526 fish per man-hour, which is .458 fish per man-hour greater than the 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 84.3 percent of all angling. March anglers were found to be still fishing 96.7 percent of the time and April anglers 62.7 percent of the time (Table 10).

Multiple live and artificial baits were used 66.6 percent of the time during March while artificials alone were the most popular in April accounting for 68.5 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).

River lakes and ponds were most heavily fished during the month of March with 89.5 percent of anglers using this habitat, most fishing for panfish. In April 87.5 percent of the anglers were found in the tailwaters of Lock and Dam # 6 in pursuit of the larger game fish. Sixty-one percent of all anglers fishing during March and April used 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 the majority of these fishermen sought these species. This was the case, with 63.4 percent of the anglers seeking one or more panfish species. Bluegill was the preferred species followed by crappies (Table 12).

The fact that the majority of April anglers were fishing the tailwaters is reflected in the fact that 78.5 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 thirty-two percent of the fishermen used private land to gain access to the water with the remaining 68.1 percent availing themselves of Wisconsin public areas (Table 13).

### The Catch (general information)

Projection of the data obtained from the 1,074 fishermen contacted and 384 "instantaneous" angler counts revealed that during the 21,676 hours spent fishing in Pool 7 during March and April, 1967, a total of 32,129 fish were caught at a rate of 1.482 fish per man-hour (Table 14). This projected rate is 0.377 fish per hour greater than the 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	20	2.9	133	34.0	153	14.2
Still fishing <sup>1/</sup>	660	96.7	245	62.7	905	84.3
Trolling	0	0.0	0	0.0	0	0.0
Multiple	3	0.4	13	3.3	16	1.5
TOTAL	683		391		1,074	
FISHING LURE						
Worms	69	10.2	34	8.8	103	9.7
Minnows	64	9.3	34	8.8	98	9.1
Other live bait	0	0.0	1	0.3	1	0.1
Multiple live bait	27	3.9	18	4.6	45	4.2
TOTAL LIVE BAIT	160	23.5	87	22.3	247	23.1
Prepared bait	1	0.1	0	0.0	1	0.1
Jigs	39	5.7	23	6.0	62	5.7
Flies	2	0.3	2	0.5	4	0.4
Other artificials	26	3.8	243	62.1	269	25.0
TOTAL ARTIFICIALS	67	9.8	268	68.5	335	31.1
Multiple live and <sup>2/</sup> artificial	455	66.6	36	9.2	491	45.7

<sup>1/</sup> Includes ice fishing.

<sup>2/</sup> 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	611	89.5	41	10.4	652	60.6
Tailwater	58	8.5	342	87.5	400	37.3
Side Channel Chute	7	1.0	7	1.8	14	1.3
Main Channel Border	7	1.0	1	0.3	8	0.7
Slough	0	0.0	0	0.0	0	0.0
Main Channel	0	0.0	0	0.0	0	0.0
TOTAL	683	100.0	391	100.0	1,074	100.0

Table 12

PRIMARY SPECIES SOUGHT

SPECIES	MARCH	APRIL	TOTAL <sup>1/</sup>
Bluegill	214	5	219
Walleye and sauger	49	278	327
Channel catfish	2	0	2
Largemouth bass	3	2	5
White bass	0	4	4
Northern pike	27	12	39
Crappie (black and white)	31	9	40
Yellow perch	0	6	6
Carp	0	2	2
Panfish <sup>2/</sup> (no panfish species specified)	188	27	215
Large game fish <sup>3/</sup> (no game fish species specified)	5	15	20
Anything (no species specified)	164	31	195
TOTAL	683	391	1,074

<sup>1/</sup> Number of fishermen.

<sup>2/</sup> Panfish includes bluegill, crappie, yellow perch, bullheads, white bass, rock bass, plus all species of sunfish.

<sup>3/</sup> 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	243	22.6			
Guide Wall, L&D # 6	126	11.8			
Brices Prairie	122	11.4			
Upper Onalaska	107	10.0			
Round Lake	94	8.7			
Long Lake	7	.7			
French Island # 5	1	.1			
Other Public Land	31	2.9			
TOTAL	731	68.1	TOTAL	0	0.0

TOTAL PUBLIC SITES	No. of Anglers	%
Wisconsin and Minnesota	731	68.1
TOTAL PRIVATE SITES	No. of Anglers	%
Wisconsin and Minnesota	342	31.9

Table 14

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

Species	MARCH				APRIL			TOTAL FOR MARCH AND APRIL			
	Boat	Bank	Ice	Total	Boat	Bank	Total	Boat	Bank	Ice	Grand Total
Mooneye	-	-	-	-	9	-	9	9	-	-	9
Suckers & redborse	-	-	-	-	9	-	9	9	-	-	9
Carp	-	-	8	8	46	11	57	46	11	8	65
Channel catfish	-	-	8	8	28	-	28	28	-	8	36
Flathead catfish	-	-	45	45	-	-	-	-	-	45	45
Bullheads	-	-	-	-	18	101	119	18	101	-	119
Northern pike	-	-	188	188	174	11	185	174	11	188	373
White bass	-	-	23	23	329	227	556	329	227	23	579
Yellow perch	-	-	555	555	493	1,994	2,487	493	1,994	555	3,042
Sauger	11	-	367	378	659	261	920	670	261	367	1,298
Walleye	23	5	15	43	1,811	634	2,445	1,834	639	15	2,488
Smallmouth bass	-	-	-	-	9	11	20	9	11	-	20
Largemouth bass	-	-	630	630	36	-	36	36	-	630	666
Warmouth	-	-	-	-	-	11	11	-	11	-	11
Pumpkinseed	-	-	261	261	-	-	-	-	-	261	261
Green sunfish	-	-	8	8	-	-	-	-	-	8	8
Bluegill	-	-	9,409	9,409	18	11	29	18	11	9,409	9,438
White crappie	-	-	1,583	1,583	18	125	143	18	125	1,583	1,726
Black crappie	-	-	10,669	10,669	476	736	1,212	476	736	10,669	11,881
Freshwater drum	-	-	-	-	55	-	55	55	-	-	55
Projected number of fishermen	80	33	5,320	5,433	1,535	1,939	3,474	1,615	1,972	5,320	8,907
Projected number of fish	34	5	23,769	23,808	4,188	4,133	8,321	4,222	4,138	23,769	32,129
Projected hours fished	241	40	13,299	13,580	4,606	3,490	8,096	4,847	3,530	13,299	21,676
Projected fish per hour	.1411	.1250	1.7873	1.7532	.9092	1.1842	1.0278	.8711	1.1722	1.7873	1.4822

Anglers spent 13,580 hours fishing during March to catch 23,808 fish at a catch rate of 1.753 fish per man-hour. April anglers spent 8,096 hours fishing to catch 8,321 fish at a catch rate of 1.028 fish per man-hour (Table 14).

#### The Catch (composition)

The most abundant species in the overall catch were the crappies, which made up 44.0 percent of the catch. Next in abundance was the bluegill making up 31.4 percent of the catch (Table 15).

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

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

Projected data indicates that a total of 3,786 walleye and sauger were caught during the months of March and April 1967. This figure represents 18.3 percent of the total walleye and sauger caught during the 1967-1968 creel census period (Table 14).

March anglers caught 421 walleye and sauger with April anglers catching the remaining 3,365.

March anglers caught 188 northern pike and 630 largemouth bass. April fishermen caught 185 northern pike, 20 smallmouth bass, and 36 largemouth bass.

March was a below average fishing month as far as large game fish were concerned. March anglers caught 1,239 large game fish which was only 2.9 percent of the total caught during the following twelve month period. Panfishing success made March an exceptional fishing month with an overall catch rate of 1.753 fish per man-hour (Table 15).

April was an above average month for catching large game fish. April fishermen caught 3,606 large game fish at a rate of 0.445 fish per hour which was 8.4 percent of the total large game fish caught during the 1967-68 creel census period. Overall, April was an average month for fishing with a catch rate for all species of 1.028 fish per hour (Table 15).

#### The Catch (catch rates for various methods and baits)

Ice fishing produced 1.7873 fish per hour, bank fishing 1.1310 fish per hour and boat fishing .8789 fish per hour (Table 16). The boat fishing catch per hour rate was low primarily because most boat fishermen were fishing for the large game species such as walleye, sauger, and northern pike.

Table 15

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

	MARCH		APRIL		TOTAL	
	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour	No. Fish	Fish Per Man-Hour
Mooneye	-	-	1	.0012	1	.0004
Suckers & redhorse	-	-	1	.0012	1	.0004
Carp	1	.0006	6	.0073	7	.0027
Channel catfish	1	.0006	3	.0037	4	.0015
Flathead catfish	6	.0033	-	-	6	.0023
Bullheads	-	-	11	.0134	11	.0042
Northern Pike	25	.0138	20	.0245	45	.0171
White bass	3	.0017	56	.0686	59	.0225
Yellow perch	74	.0409	230	.2817	304	.1157
Sauger	50	.0276	98	.1200	148	.0563
Walleye	6	.0033	262	.3209	268	.1020
Smallmouth bass	-	-	2	.0024	2	.0008
Largemouth bass	84	.0464	4	.0049	88	.0335
Warmouth	-	-	1	.0012	1	.0004
Pumpkinseed	35	.0193	-	-	35	.0133
Green sunfish	1	.0006	-	-	1	.0004
Bluegill	1,254	.6928	3	.0037	1,257	.4786
White crappie	211	.1166	13	.0159	224	.0853
Black crappie	1,422	.7856	118	.1445	1,540	.5863
Drum	-	-	6	.0073	6	.0023
<b>TOTAL</b>	<b>3,173</b>	<b>1.7530</b>	<b>835</b>	<b>1.0227</b>	<b>4,008</b>	<b>1.5260</b>

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								
Mooneye	1	.0019	-	-	-	-	-	-	1	.0004
Suckers & redborse	1	.0019	-	-	-	-	-	-	1	.0004
Carp	5	.0095	1	.0031	-	-	1	.0006	7	.0027
Channel catfish	3	.0057	-	-	-	-	1	.0006	4	.0015
Flathead catfish	-	-	-	-	-	-	6	.0034	6	.0023
Bullheads	2	.0038	9	.0278	-	-	-	-	11	.0042
Northern pike	19	.0362	1	.0031	-	-	25	.0141	45	.0171
White bass	36	.0686	20	.0616	-	-	3	.0017	59	.0225
Yellow perch	54	.1030	176	.5424	-	-	74	.0417	304	.1157
Sauger	75	.1392	23	.0709	-	-	50	.0276	148	.0563
Walleye	204	.3813	60	.1787	-	-	4	.0011	268	.1020
Smallmouth bass	1	.0019	1	.0031	-	-	-	-	2	.0008
Largemouth bass	4	.0076	-	-	-	-	84	.0474	88	.0335
Warmouth	-	-	1	.0031	-	-	-	-	1	.0004
Pumpkinseed	-	-	-	-	-	-	35	.0197	35	.0133
Green sunfish	-	-	-	-	-	-	1	.0006	1	.0004
Bluegill	2	.0038	1	.0031	-	-	1,254	.7075	1,257	.4786
White crappie	2	.0038	11	.0339	-	-	211	.1190	224	.0853
Black crappie	52	.0991	65	.2003	-	-	1,423	.8023	1,540	.5863
Freshwater drum	6	.0114	-	-	-	-	-	-	6	.0023
TOTAL	467	.8789	369	1.1310	-	-	3,172	1.7873	4,008	1.5260

Still fishing was the most productive method yielding 1.632 fish per hour as compared to .671 for casting. Still fishing accounted for 95.4 percent of all fish taken in Pool 7 during March and April 1967 (Table 17).

Table 17

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

SPECIES	CASTING		STILL FISHING <sup>1/</sup>		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
Mooneye	-	-	1	.0004	-	-	-	-	-	-
Suckers & redborse	1	.0040	-	-	-	-	-	-	-	-
Carp	2	.0079	5	.0021	-	-	-	-	1	.0006
Channel catfish	-	-	4	.0017	-	-	-	-	1	.0006
Flathead catfish	-	-	6	.0026	-	-	-	-	6	.0034
Bullheads	2	.0079	9	.0038	-	-	-	-	-	-
Northern pike	19	.0754	26	.0111	-	-	-	-	25	.0141
White bass	51	.2024	8	.0034	-	-	-	-	3	.0017
Yellow perch	-	-	302	.1290	-	-	-	-	74	.0417
Sauger	29	.1151	117	.0500	-	-	-	2	50	.0276
Walleye	58	.2302	197	.0841	-	-	-	13	4	.0011
Smallmouth bass	-	-	2	.0009	-	-	-	-	-	-
Largemouth bass	4	.0159	84	.0359	-	-	-	-	84	.0474
Warmouth	-	-	1	.0004	-	-	-	-	-	-
Pumpkinseed	-	-	35	.0149	-	-	-	-	35	.0197
Green sunfish	-	-	1	.0004	-	-	-	-	1	.0006
Bluegill	-	-	1,257	.5368	-	-	-	-	1,254	.7075
White crappie	-	-	224	.0957	-	-	-	-	211	.1190
Black crappie	3	.0119	1,537	.6564	-	-	-	-	1,423	.8023
Freshwater drum	-	-	6	.0026	-	-	-	-	-	-
TOTAL	169	.6706	3,822	1.6323	0	0.0	17	.5152	3,172	1.7873

<sup>1/</sup> Includes ice fishing.

Table 18

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

SPECIES	WORMS <sup>1/</sup>		MINNOWS		OTHER LIVE BAIT <sup>2/</sup>		MULTIPLE LIVE BAIT		TOTAL LIVE BAIT	
	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
Mooneye	1	.0036	-	-	-	-	-	-	1	.0016
Suckers & redborse	-	-	-	-	-	-	-	-	-	-
Carp	-	-	-	-	-	-	-	-	-	-
Channel catfish	2	.0073	-	-	-	-	-	-	2	.0033
Flathead catfish	-	-	-	-	-	-	-	-	-	-
Bullheads	2	.0073	-	-	-	-	1	.0091	3	.0049
Northern pike	-	-	17	.0769	-	-	2	.0182	19	.0313
White bass	1	.0036	1	.0045	-	-	-	-	2	.0033
Yellow perch	70	.2550	75	.3394	-	-	90	.8182	235	.3871
Sauger	-	-	5	.0226	-	-	4	.0364	9	.0148
Walleye	4	.0146	7	.0317	-	-	10	.0909	21	.0346
Smallmouth bass	-	-	-	-	-	-	-	-	-	-
Largemouth bass	5	.0182	2	.0090	-	-	-	-	7	.0115
Warmouth	-	-	-	-	-	-	1	.0091	1	.0016
Pumpkinseed	2	.0073	-	-	-	-	-	-	2	.0033
Green sunfish	-	-	-	-	-	-	-	-	-	-
Bluegill	83	.3024	5	.0226	-	-	39	.3545	127	.2092
White crappie	28	.1020	21	.0950	-	-	9	.0818	58	.0956
Black crappie	95	.3461	173	.7828	-	-	29	.2636	297	.4893
Freshwater drum	-	-	-	-	-	-	-	-	-	-
TOTAL	293	1.0674	306	1.3846	0	0.0	185	1.6818	784	1.2916

<sup>1/</sup> Worms include insect larvae.

<sup>2/</sup> 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 <sup>1/</sup> ARTIFICIAL		TOTAL ARTIFICIAL		MULTIPLE LIVE AND ARTIFICIAL		PREPARED BAIT <sup>2/</sup>	
	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	No. Fish	Fish Per Man-Hour
Mooneye	-	-	-	-	-	-	-	-	-	-	-	-
Suckers & redhorse	-	-	-	-	1	.0019	1	.0015	-	-	-	-
Carp	-	-	-	-	6	.0115	6	.0095	1	.0007	-	-
Channel catfish	1	.0092	-	-	1	.0019	2	.0031	-	-	-	-
Flathead catfish	6	.0552	-	-	-	-	6	.0095	-	-	-	-
Bullheads	1	.0092	-	-	6	.0115	7	.0110	1	.0007	-	-
Northern pike	-	-	-	-	19	.0366	19	.0300	7	.0050	-	-
White bass	19	.1751	-	-	35	.0675	54	.0855	3	.0021	-	-
Yellow perch	-	-	2	.4000	17	.0328	19	.0300	50	.0360	-	-
Sauger	21	.1935	-	-	81	.1563	102	.1615	37	.0266	-	-
Walleye	19	.1751	4	.8000	184	.3552	207	.3277	40	.0288	-	-
Smallmouth bass	-	-	-	-	1	.0019	1	.0015	1	.0007	-	-
Largemouth bass	3	.0276	1	.2000	4	.0077	8	.0126	73	.0526	-	-
Warmouth	-	-	-	-	-	-	-	-	-	-	-	-
Pumpkinseed	-	-	-	-	-	-	-	-	33	.0237	-	-
Green sunfish	-	-	-	-	-	-	-	-	1	.0007	-	-
Bluegill	6	.0552	7	1.4000	-	-	13	.0205	1,117	.8050	-	-
White crappie	8	.0737	-	-	-	-	8	.0126	158	.1138	-	-
Black crappie	115	1.0599	4	.8000	5	.0096	124	.1963	1,119	.8064	-	-
Freshwater drum	-	-	-	-	6	.0115	6	.0095	-	-	-	-
<b>TOTAL</b>	<b>199</b>	<b>1.8341</b>	<b>18</b>	<b>3.6000</b>	<b>366</b>	<b>.7066</b>	<b>583</b>	<b>.9232</b>	<b>2,641</b>	<b>1.9034</b>	<b>0</b>	<b>0.0</b>

<sup>1/</sup> Other artificial baits include plugs, spoons, etc.

<sup>2/</sup> 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, 1967 to April 30, 1967. 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 1,074 fishermen were contacted during the census, of which 93.7 percent were men. The average age of all anglers was 46.8 years.
5. Fishing in Pool 7 during March and April was primarily a local sport with 78.1 percent of the anglers residing within 50 miles of the pool.
6. Fishermen censused in Wisconsin statutory waters composed 97.1 percent of all anglers fishing Pool 7.
7. Projected data indicates that 8,907 fishing trips were made to Pool 7 during March and April 1967, with a total of 21,676 hours spent fishing.
8. Ice angling was by far the most popular type of fishing during March accounting for 97.9 percent of the total fishing hours. Boat fishing was the most frequently used fishing method during April accounting for 56.9 percent of the total fishing hours.
9. The average length of all completed fishing trips was 2.4 hours, with boat fishing trips longest (3.0 hours) and bank trips shortest (1.7 hours).
10. March was the most active fishing month, with 68.9 of the total fishing hours and a catch rate of 1.753 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 84.3 percent of all angling.
12. Multiple live and artificial baits were used 66.6 percent of the time during March while artificials alone were the most popular in April accounting for 68.5 percent of the total use.
13. River lakes and ponds were most heavily fished during the month of March (89.5 percent of all March anglers), while most April anglers (87.5 percent) were found in the tailwaters of Lock and Dam # 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 was a below average fishing month as far as large game fish were concerned. March anglers caught 1,239 large game fish which was only 2.9 percent of the total caught during the following twelve month period. Panfishing success made March an exceptional fishing month with an overall catch rate of 1.753 fish per man-hour.
16. April was an above average month for catching large game fish. April fishermen caught 3,606 large game fish at a rate of 0.445 fish per hour which was 8.4 percent of the total large game fish caught during the 1967-68 creel census period. Overall, April was an average month for fishing with a catch rate for all species of 1.028 fish per man-hour.
17. Still fishing was the most productive method yielding 1.632 fish per hour as compared to .671 for casting. Still fishing accounted for 95.4 percent of all fish taken in Pool 7 during March and April 1967.

## 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 and 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.

Figure 1

