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ANGLER USE

AND

SPORT FISHING CATCH SURVEY

ON

FORT PECK RESERVOIR,

MONTANA

MAY 28 THROUGH OCTOBER 17, 2004

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ABSTRACT

A combined roving and access point creel survey was conducted on Fort Peck Reservoir from May 28 through October 17, 2004. An estimated total of 137,613 boat angler hours and 3,828 shore angler hours were compiled during the survey period. Peak boat angler effort (50,710 angler hours) occurred during July, while peak shore angler effort (1,207 angler hours) occurred during June. Combined boat and shore angler effort resulted in 22,702 angler days and 9,967 angler trips.

An estimated 12,877 sport fish and 18,883 kg (0.12 kg per acre) of fish were harvested by anglers. Walleye were the primary species fished for by anglers. Walleye comprised 67 percent of sport fish caught and 71 percent of sport fish harvested. For combined boat and shore anglers, overall walleye harvest and catch rates (fish per hour) were 0.069 and 0.160, respectively. An estimated 9,094 walleye were harvested by anglers, followed by 1,064 lake trout, 917 smallmouth bass, 675 northern pike, 470 yellow perch, 349 channel catfish, 191 sauger, and 117 other sport fish.

Overall, 80 percent of anglers were males and 82 percent were residents of Montana. Anglers averaged 6.4 hours of fishing per trip and 207 miles of one-way travel per trip. Approximately 10 percent of anglers were less than 16 years of age and seven percent of anglers were greater than 65 years of age.

INTRODUCTION

A major regional sport fishery has developed in Fort Peck Reservoir since the Fort Peck Dam was closed in 1937. The fishery has slowly become more diversified and changed in species composition as the reservoir has aged and matured.

The game fish populations of Fort Peck Reservoir are seldom in equilibrium, largely as a result of water management and operations, and the cyclic nature of forage fish populations. Management of the fishery in Fort Peck Reservoir requires up-to-date information on changes in rates of catch, composition, year-class strengths, age and growth and other biological parameters of the fish harvested.

Montana Fish, Wildlife and Parks (MTFWP) recognizes the importance of properly managing Fort Peck Reservoir to maximize fishing potential. In an effort to continue enhancement of this fishery, a creel survey was conducted from May 28 through October17, 2004. Previous creel surveys were conducted on Fort Peck Reservoir during April 7 through September 30, 1990 and April 12 through September 30, 1997, hereinafter referred to as the 1990 and 1997 creel surveys, respectively.

Under the direction of the MTFWP, Western Aquatic Technology and Environmental Resource Services (WATERS) coordinated and conducted the 2004 creel survey. WATERS was responsible for survey design, data collection, and reporting the results to MTFWP. MTFWP personnel assisted with overall survey planning and coordination, reviewing results, providing length-weight equations, and drafting the discussion section. The information collected was used to estimate angler effort and number of fish caught, calculate actual catch rates, and identify angler characteristics, attitudes and perception.

DESCRIPTION OF STUDY SITE

Fort Peck Reservoir is formed by a large earth-filled dam located on the Missouri River in northeastern Montana. Completed in 1937, it is the largest body of water in the state, with 240,000 surface acres and 1,500 miles of shoreline at full pool. The reservoir is 130 miles in length and has a maximum depth of 220 feet when full. Administration of all land and water within the executive boundary of the Charles M. Russell National Wildlife Refuge is

shared by the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers in accordance with Memorandum of Agreement DACW 45-9-97-6039. The reservoir is operated by the Corps of Engineers to provide water for power, flood control, irrigation, navigation and recreation.

The Fort Peck fishery is managed by MTFWP through Region 6 Headquarters which is located in Glasgow, approximately 18 miles northwest of the dam. Approximately 50 species of fish occupy the reservoir, most of which are native to the Missouri River system. Sixteen species, mostly game fish, have been introduced to develop sportfishing opportunities. The reservoir's walleye fishery has been of most interest to resident anglers and in recent years has begun to attract non-resident anglers as well.

DEVELOPMENT OF THE FORT PECK RESERVOIR FISHERY

The Corps of Engineers started construction on Fort Peck Dam in 1933 with completion some seven years later in 1940. Statistics relating to the size of the dam are impressive, as it is the longest embankment dam in the Unites States and the fifth largest man-made reservoir. The dam is also the sixth largest volume dam in the world, and the largest hydraulic fill dam in the world. The primary purposes of the dam at the time of construction were flood control and improvement of navigation on the Missouri River. Today it is looked at as a multi-purpose project regulated for flood control, navigation, power generation, irrigation, public water supply, fish and wildlife conservation, and recreation.

In the reservoir's early years, little was recorded regarding the quality of its fishery. Scattered reports indicate sauger, perch, crappie, drum, catfish, and goldeye comprised the bulk of the fishery. Over the years, some sixteen species, mostly game fish, have been introduced to develop sportfishing opportunities. Walleye and northern pike were both introduced in 1951 followed by lake trout in the mid-1950's. Smallmouth bass were introduced in 1981 and chinook salmon in 1983. During the 1980's, two new species of forage fish, spottail shiners and cisco, were introduced.

During the 1950's and early 1960's rising water levels inundated vegetation and produced an outstanding fishery for northern pike, crappie, and yellow perch. Management

efforts to maintain this high quality fishery were continued by additional stocking and efforts to obtain suitable water levels. However, this was not successful due to reservoir operation that resulted in variable water levels.

Attempts to improve habitat in an effort to enhance the fishery have been undertaken by local sportsmen's groups over the years, in the form of spawning fences and Christmas tree reefs. However, due to the vastness of the reservoir, very little impact to the fishery has been realized. Cobble or rock spawning reefs have been considered to aid natural reproduction of walleye, but the cost is prohibitive. Even if walleye spawning reefs could be constructed, long-term effectiveness is doubtful, due to water level fluctuations and significant siltation in some areas. An artificial structure that may accommodate natural reproduction of walleye on a limited basis is the breakwater at Fort Peck Marina. It was initially constructed of large rock in 1996, which was too large to be utilized by spawning walleye. However, smaller rock of suitable size was to be placed on the face of breakwater by the Corps of Engineers in 2001. It is anticipated this project will be completed before lake levels rise.

The outstanding and varied sport fishery found in the reservoir today is the result of the success of recent management efforts by MTFWP. Key to this effort has been an understanding by MTFWP of the erratic natural reproduction of game fish, which is augmented by stocking. Also important has been the introduction and establishment of new forage species, which are less influenced by water levels fluctuations than the riverine-type native forage fish. Continued evaluation of management success is done by angler surveys, which allow estimates of catch rates, average size of fish, and overall angler satisfaction with the fishery.

DEVELOPMENT OF FISHERIES MANAGEMENT IN FORT PECK RESERVOIR

The fishery in Fort Peck is diverse with approximately 50 different fish species, most of which are native to the Missouri River. Sixteen species, mostly game fish, have been introduced to develop sportfishing opportunities. Managing such an array of fish species can be difficult, especially when attempting to allocate limited resources and manpower. It must be understood that fish populations and management efforts can not be expanded indefinitely,

both are finite resources. Increasing effort and funding for one species, results in reduced effort and funds for another. MTFWP will strive to maintain the unique diversity of the Fort Peck fishery, with management of game fish species based on available resources and consideration of angler preference to aid MTFWP in allocating its resources and efforts.

The Fort Peck fishery is a very complex and dynamic biological ecosystem with fish populations that will definitely fluctuate over time. While certain environmental conditions may favor one fish population at any given time, it may not be ideal for another. As an example, attempting to maximize abundance of one predator population by stocking without considering the present status of another predator species, or the present or predicted abundance of forage fish populations, could result in severe declines in forage. This may lead to loss in growth and condition of several game fish species, from which recovery can be agonizingly slow. Fortunately, Fort Peck has not experienced a collapse in its forage, however these situations can and do occur.

There have been significant reductions in the relative abundance of forage fish, including cisco, emerald and spottail shiners, and yellow perch, during the past three years. In turn, these reductions have likely lead to decreased survival and relative abundance of predator fish. In 2004, modest increases were documented in the forage base which lead to improved relative weights of walleye. During the current draw down period, cover and spawning habitat is severely limited for many forage and game fish species. However, habitat conditions should improve once the reservoir begins to fill and existing shoreline vegetation becomes inundated. This would represent a huge benefit and turning point for the Fort Peck Reservoir fishery.

To direct future management of Fort Peck Reservoir, MTFWP developed the Fort Peck Reservoir Fisheries Management Plan in 2002. This plan involved utilizing data from the 1997 creel survey and holding a series of scoping meetings, advisory committee meetings, and public reviews. The result of this effort was a compilation of existing fisheries data and resource capacity coupled with angler's desires, possible management options, and recommended management actions. The following is an example of management goals/recommendations for walleye:

1) Continue to place the major management effort on walleye.

2) An angler catch rate which attains or approaches 0.5 walleye per hour.

3) 60 percent of anglers rating their overall fishing experience as good or excellent

METHODS

A creel survey was conducted from May 28 through October 17, 2004 on Fort Peck Reservoir in Montana. Survey dates and times were stratified by weekday and weekend day or holiday, and randomly selected. Survey locations (boat ramps) were also randomly selected (Figure 1). Surveys occurred at eight boat and shore fishing locations on Fort Peck Reservoir. See Supplement for a schedule of survey dates, times and locations. Survey data was entered into ACCESS software and reduced by using EXCEL software. Figures were generated using EXCEL software. Each data entry was verified at the end of the survey season. Throughout this report references are made to supplement data, which are available upon request from MTFWP.

Angler Effort

During each ten-hour shift, creel clerks recorded absolute hourly counts of the number of shore anglers and boat trailers. These counts were used to generate daily use or effort curves by location, month, and angler type. See Supplement for a schedule of survey dates, times, and locations. Weekday and weekend day or holiday effort estimates were calculated independently. This effort information was summed and expanded to obtain an estimate of total monthly effort (angler hours).

Angler days were calculated by dividing the estimated total monthly angler hours by the monthly mean number of hours fished per angler for each angler type. Boat angler days and shore angler days are summed to derive total angler days.

Catch Rate

Anglers were interviewed to obtain information needed to estimate catch, harvest and release rates of fish species by each angler type. During each month of the survey, separate

catch rate estimates were made for non-salmonid boat anglers, salmonid boat anglers, and shore anglers by dividing the number of fish caught by the total hours fished for each angler group. A separate estimate of the number of fish harvested, released, and caught by boat anglers and shore anglers was obtained by multiplying the respective catch rate (number of fish per hour) times estimated effort (angler hours). Pounds per surface acre and number of fish per surface acre were calculated using 154,000 surface acres, the estimated area of Fort Peck Reservoir during July 2004, as the denominator.

Total Length Data

Total lengths (rounded to the nearest ten millimeter interval) were measured on fish harvested by interviewed anglers. A mean and median total length for each species was calculated. Total length frequency distributions were generated in 10 mm intervals for each fish species harvested.

Angler Use Characteristics

Anglers were interviewed to determine number of anglers per party, residence, one-way distance traveled, age, hours fished, and ratio of male to female anglers. Anglers were also asked several additional attitude and preference questions. See Supplement for an example of the angler questionnaire.

RESULTS AND DISCUSSION

Interviews

A total of 3,483 boat angler parties (combined salmonid and non-salmonid) were interviewed from May 28 through October 17, 2004, encompassing 8,127 boat anglers (Table 1). In addition, 170 shore angler parties encompassing 321 shore anglers were interviewed.

Table 1. Summary of interview data and effort estimates for boat, shore, and combined anglers for Fort Peck Reservoir, May 28 through October17, 2004.

	Boat	Shore	Combined
Number of angler interviews	3,313	170	3,483
Number of anglers encompassed by interviews	7,806	321	8,127
Total estimated number of angler hours	137,613	3,828	141,441
Total estimated number of angler days	22,110	592	22,702
Total estimated number of angler trips	9,513	454	9,967

Angler Effort

An estimated combined total of 141,441 angler hours of fishing were compiled by boat and shore anglers on Fort Peck Reservoir from May 28 through October17, 2004 (Table 1 and Appendix A). This resulted in 22,702 angler days and 9,967 angler trips (Appendix B and C). Boat anglers (salmonid and non-salmonid) accounted for approximately 97 percent of the total angler use. July received the most use by boat anglers, while June received the most use by shore anglers (Figure 2).

Zone 3 received the greatest percent of overall use by boat anglers, followed by Zone 2, Zone 1, and Zone 4, respectfully (Figure 3). Only 11 percent of the total boat angler effort occurred in Zone 4. Zone 1 received the greatest percent of overall use by shore anglers, followed by the Zone 3, Zone 2, and Zone 4, respectively.

Of the estimated 137,613 total boat angler hours, an estimated 9,743 salmonid boat angler hours were compiled in 2004 (Appendix A). Salmonid boat angler effort accounted for almost eight percent of the total boat angler effort. Approximately 91 percent of documented salmonid boat angler use occurred in the Zone 2, with August accounting for 44 percent of the total salmonid boat angler use. No salmonid boat anglers were observed in Zone 4.

A comparison of angler effort was made with the 1990 creel survey. Total combined angler hours were 137,601 in 1990 and 141,441 in 2004 (Table 3). These data represent a three percent increase from 1990. For the 1990 and 2004 creel surveys, the majority of angler effort occurred during the month of July and steadily decreased on a monthly basis thereafter.

Compared to the 1990 creel survey, the trend of monthly boat angler use was generally similar in 2004 (Figure 4).

Ancillary data from the MTFWP mail survey revealed a trend of continuous annual increases in angler pressure on Fort Peck Reservoir from 1985 (37,411 angler days) through 1999 (112,018 angler days) (MTFWP 1985, 1993, 1995, 1997, 1999). However, angler pressure decreased from 109,564 angler days in 2001 to 56,375 angler days in 2003 (MTFWP 2001, 2003).

Catch and Harvest

An estimated 12,877 sport fish and 18,883 kg (0.12 kg/acre) of fish were harvested by anglers on Fort Peck Reservoir from May 28 through October17, 2004 (Table 2). A total of 9,094 walleye, 1,064 lake trout, 917 smallmouth bass, 675 northern pike, 470 yellow perch, 191 sauger, 349 channel catfish, and 117 other sport were harvested in 2004. (Note: The aforementioned data includes incidental harvest by salmonid boat anglers).

Compared to the 1990 creel survey, significantly fewer fish were caught and harvested in 2004 (Table 3). Overall number of fish harvested in 2004 was 50 percent of that in 1990. Overall catch in 2004 was 78 percent of that in 1990.

Walleye

Walleye accounted for 72 and 30 percent of all sport fish harvested from boat and shore, respectively (Figure 5). An estimated 21,518 and 9,094 walleye were respectively caught and harvested by all anglers during the survey period (Table 2). Approximately 58 percent of walleye caught were released. Anglers harvested 10,841 kg of walleye during the survey period. These data represent 0.06 walleye and 70 grams of walleye harvested per acre.

The greatest number of walleye were caught and harvested in Zone 3 (Figure 6). Overall, monthly catch and harvest rates for combined non-salmonid boat and shore anglers averaged 0.069 and 0.160 walleye per hour, respectively (Table 2). July was the month with the highest number of walleye caught and harvested. The highest catch and harvest rates were also observed in July (Figure 7) and Zone 4 had the highest overall catch rate among zones

Table 2. Summary of combined boat and shore angler catch and harvest for sport fish, Fort Peck Reservoir, May 28 through October 17, 2004.

Species	Catch Rate	Number Caught[b]	Harvest Rate	Number Harvested[b]	Kilograms Harvested[b]
Walleye	0.160	21,518	0.069	9,094	10,841
Smallmouth bass	0.027	3,933	0.006	917	1,133
Lake trout[a]	0.165	2,048	0.088	1,064	3,219
Yellow perch	0.013	2,317	0.002	470	47
Northern pike	0.009	1,207	0.005	675	2,348
Sauger (+ Saugeye)	0.004	471	0.001	191	161
Channel catfish	0.002	441	0.001	349	765
Crappie	0.002	190	<0.001	40	8
Chinook salmon[a]	0.004	81	0.004	72	348
Rainbow trout[a]	0.001	8	<0.001	5	13
Total	******	32,214	*******	12,877	18,883

[a] Catch and harvest data for lake trout, chinook salmon, and rainbow trout encompassed boat anglers that were fishing primarily for salmonids and incidental catch by non-salmon anglers.

[b] Includes incidental catch by salmon boat anglers.

(Figure 8 and Appendix D). Catch, catch rates, harvest, and harvest rates of walleye were lower in 2004 than in 1990.

The overall walleye catch and harvest rate for all non-salmonid boat anglers was 0.167 and 0.072 walleye per hour, respectively. However, in comparing catch and harvest rates of walleye among non-salmonid boat anglers fishing specifically for walleye and those fishing for other species, significant differences were observed. Non-salmonid boat anglers targeting walleye had a catch and harvest rate of 0.186 and 0.081 walleye per hour, respectively, while non-salmonid boat anglers not targeting walleye had a catch and harvest rate of 0.008 and 0.005 walleye per hour, respectively.

Creel clerks measured 2,598 walleye in 2004 (Figure 9). Mean and median total lengths for walleye were 459 mm and 430 mm respectively, and total lengths ranged from 200 to 960 mm. Mean and median total lengths and mean weight of walleye harvested were highest in Zone 2 followed by Zone 3 (Appendix D). The overall mean weight of walleye harvested was 1,188 grams.

Compared to the 1990 creel survey, walleye catch and harvest rates were lower in 2004 (Table 3). An estimated 9,094 walleye were harvested in 2004 compared to 18,695 walleye in 1990. This represents a 51 percent decrease in the number of walleye harvested when compared to 1990. However, the mean length of walleye harvested did not change much between the two creel surveys, with walleye having a mean length of 457 mm in 1990.

Walleye in Fort Peck Reservoir remain relatively abundant in lake-wide netting surveys compared to previous years. Higher relative abundance and survival of stocks was recorded in the mid-1990's as the reservoir filled following a long drought. In 2004, the highest netting catch rates recorded for walleye recorded was 5.4 walleye per net in the Upper Big Dry Arm compared to 2.4 walleye per net in the Lower and Middle Missouri Arms. The creel survey documented the lowest walleye catch and harvest rates in the Dry Arm. Lake-wide, the relative weights of walleye were 92 for walleye over 457 mm and 85 for walleye between 254 and 451 mm. Proportional stock density of walleye was 50 percent in 2004. Walleye numbers in Fort Peck Reservoir are maintained with intense annual stocking of fry and fingerling. The management plan goal of 0.5 walleye caught per hour was not met; the overall

Table 3. Comparison of selected data from the 1990 and 2004 Fort Peck Reservoir creel surveys.

		1990	2004
Time period		April 7 - Sept. 30	May 28 - Oct. 17
No. Interviews		2,677	3,483
No. Anglers Encompassed		6,157	8,127
Angler Hours		137,601	141,441
Angler Days		38,118	22,702
No. Fish Caught		48,502	37,792
No. Fish Harvested		25,943	13,057
Walleye	Harvest rate	0.120	0.069
	Catch rate	0.193	0.160
	No. harvested	18,695	9,094
	Mean length (mm)	457	459
Smallmouth bass	Harvest rate	0.005	0.006
	Catch rate	0.010	0.027
	No. harvested	1,071	917
	Mean length (mm)	363	381
Lake trout	Harvest rate	0.021	0.088
	Catch rate	0.028	0.165
	No. harvested	1,383	1,064
	Mean length (mm)	668	739
Northern pike	Harvest rate	0.005	0.005
	Catch rate	0.007	0.009
	No. harvested	749	675
	Mean length (mm)	775	770
Sauger	Harvest rate	0.017	0.001
	Catch rate	0.023	0.004
	No. harvested	3,128	191
	Mean length (mm)	516	450

boat catch rate was 0.167 walleye per hour. The highest monthly average catch rate for boat anglers not targeting salmonids (0.219 walleye per hour) was documented during July 2005.

Smallmouth Bass

Smallmouth bass accounted for seven and 18 percent of all sport fish harvested from boat and shore, respectively (Figure 5). An estimated 3,933 and 917 smallmouth bass were respectively caught and harvested by all anglers during the survey period (Table 2). Approximately 81 percent of smallmouth bass caught were released. Overall, anglers harvested 1,133 kg of smallmouth bass during the survey period. These data represent 0.01 smallmouth bass and 9 grams of smallmouth bass harvested per acre.

The greatest number of smallmouth bass were caught and harvested in Zone 3 (Appendix E). Overall, monthly catch and harvest rates for combined non-salmonid boat and shore anglers averaged 0.027 and 0.006 smallmouth bass per hour, respectively. Zone 4 had the highest overall catch and harvest rates.

The overall smallmouth bass catch and harvest rate for all non-salmonid boat anglers was 0.028 and 0.006 smallmouth bass per hour, respectively. However, in comparing catch and harvest rates of smallmouth bass among non-salmonid boat anglers fishing specifically for smallmouth bass and those fishing for other species, significant differences were observed. Non-salmonid boat anglers targeting smallmouth bass had a catch and harvest rate of 0.550 and 0.028 smallmouth bass per hour, respectively, while non-salmonid boat anglers not targeting smallmouth bass had a catch and harvest rate of 0.019 and 0.006 smallmouth bass per hour, respectively.

Creel clerks measured 184 smallmouth bass in 2004 (Figure 10). Mean and median total lengths for smallmouth bass were 380 mm and 390 mm, respectively, and total lengths ranged from 130 to 580 mm. Mean and median total lengths and mean weight of smallmouth bass harvested were highest for Zone 4 (Appendix E). The overall mean weight of smallmouth bass harvested was 1,236 grams.

While fewer smallmouth bass were harvested in 2004, catch and harvest rates were higher for smallmouth bass than during the 1990 creel survey (Table 3). In addition, the mean

length of smallmouth bass harvested in 2004 was higher than during the 1990 creel survey.

Smallmouth bass rely on natural reproduction in Fort Peck Reservoir. No specific monitoring program for this species exists on Fort Peck Reservoir, however, information from seining for young-of-year and forage fish indicates an annual increase in catch rates of young-of-year smallmouth bass since 1994. Adult smallmouth bass were only gill netted in the Missouri Arms during 2004, while young-of-year bass were found throughout the reservoir with the highest catch rate of 9.2 bass per seine in the Lower Missouri Arm.

Lake Trout

Lake trout accounted for eight and two percent of all sport fish harvested from boat and shore, respectively (Figure 5). An estimated 2,048 and 1,064 lake trout were respectively caught and harvested by all anglers during the survey period (Table 2). Approximately 48 percent of lake trout caught were released. The greatest number of lake trout were caught and harvested in Zone 2 (Appendix F). Zone 2 also had the highest overall catch and harvest rates. Overall, anglers harvested 3,219 kg of lake trout during the survey period. These data represent 0.01 lake trout and 23 grams of lake trout harvested per acre.

The overall lake trout catch and harvest rate for all salmonid boat anglers was 0.165 and 0.088 lake trout per hour, respectively. However, in comparing catch and harvest rates of walleye among salmonid boat anglers fishing specifically for lake trout and those fishing for other species, significant differences were observed. Salmonid boat anglers targeting lake trout had a catch and harvest rate of 0.287 and 0.172 lake trout per hour, respectively, while salmonid boat anglers not targeting walleye had a catch and harvest rate of 0.081 and 0.030 lake trout per hour, respectively.

Creel clerks measured 277 lake trout in 2004 (Figure 11). Mean and median total lengths for lake trout were 648 mm and 640 mm respectively, and total lengths ranged from 200 to 960 mm. The mean length was highest for Zone 2, while the median total length was highest for Zone 3 (Appendix F). The overall mean weight of lake trout harvested was 3,031 grams.

Although fewer lake trout were harvested in 2004, catch and harvest rates were

significantly higher in 2004 than in 1990 (Table 3). The mean length of lake trout harvested increased from 688 mm in 1990 to 739 mm in 2004.

Other than by creel surveys, lake trout have not ben monitored long-term in Fort Peck. During the drought in the late 1980's and early 1990's, the average size of lake trout increased as fewer small fish were recruited into the fishery. It is believed the only suitable spawning areas for lake trout are found in the smaller rocks on the face of the dam. In 2004, less than 20 percent of the suitable rock habitat was available for use and it appeared the average size of lake trout was relatively large. The majority of lake trout harvested during the 2004 creel survey were greater than 500 mm and were similar to netting catches. The management plan goals of catch rates exceeding 0.15 fish per hour in the spring and 0.10 fish per hour in the fall were met in 2004. It should be noted that catch rates exceeded 0.2 fish per hour in both May and October 2004 for boat anglers targeting salmonids on Fort Peck Reservoir.

Yellow Perch

Yellow perch accounted for four and ten percent of all sport fish harvested from boat and shore, respectively (Figure 5). An estimated 2,317 and 470 yellow perch were respectively caught and harvested by all anglers during the survey period (Table 2). Overall, anglers harvested 47 kg of yellow perch during the survey period. These data represent <0.01 yellow perch and <4.5 grams of yellow perch harvested per acre.

The majority of yellow perch were caught and harvested in Zone 3 (Appendix G). Overall, monthly catch and harvest rates for combined non-salmonid boat and shore anglers averaged 0.013 and 0.002 yellow perch per hour, respectively.

Creel clerks measured 16 yellow perch in 2004. Mean and median total lengths for yellow perch were 214 mm and 205 mm respectively, and total lengths ranged from 160 to 280 mm (Appendix G).

Yellow perch do not represent a major fishery on Fort Peck Reservoir. The abundance of perch is at near all time lows in net and seine catches and the average length of yellow perch caught in gill nets is typically less than 200 mm. As the reservoir has been drawn down, spawning habitat for yellow perch is very limited. It has been over six years since

yellow perch had good spawning success on Fort Peck Reservoir.

Northern Pike

Northern pike accounted for five and 18 percent of all sport fish harvested from boat and shore, respectively (Figure 5). An estimated 1,207 and 675 northern pike were respectively caught and harvested by all anglers during the survey period (Table 2). Approximately 44 percent of the northern pike harvested were released. Overall, anglers harvested 2,348 kg of northern pike during the survey period. These data represent <0.01 northern pike and 14 grams of northern pike harvested per acre.

Overall, monthly catch and harvest rates by combined non-salmonid boat and shore anglers averaged 0.009 and 0.005 northern pike per hour, respectively (Appendix H). Zone 1 had the highest overall catch and harvest rates, while the estimated harvest and catch of northern pike was highest in Zone 3.

The overall northern pike catch and harvest rate for all non-salmonid boat anglers was 0.009 and 0.005 northern pike per hour, respectively. However, in comparing catch and harvest rates of northern pike among non-salmonid boat anglers fishing specifically for northern pike and those fishing for other species, significant differences were observed. Non-salmonid boat anglers targeting northern pike had a catch and harvest rate of 0.038 and 0.022 northern pike per hour, respectively, while non-salmonid boat anglers not targeting northern pike had a catch and harvest rate of 0.008 and 0.005 northern pike per hour, respectively.

Creel clerks measured 202 northern pike in 2004 (Figure 12). Mean and median total lengths for northern pike were 769 mm and 760 mm, respectively, and total lengths ranged from 360 to 1,410 mm (Appendix H). Mean and median total lengths and mean weight of northern pike harvested were highest for Zone 3. The overall mean weight of northern pike harvested was 3,463 grams.

Compared to the 1990 creel survey, the estimated number of northern pike harvested and northern pike harvest and catch rates was lower in 2004 (Table 3). The mean length of northern pike harvested was similar in 1990 and 2004.

Northern pike, like yellow perch, have not had a good spawn in over six years.

Spawning habitat is limited and continues to decrease as the reservoir is further drawn down. Unlike walleye, stocking is limited for northern pike in the reservoir. However, the population relative abundance is better than during similar drought conditions of the past. The current population of northern pike is a result of a huge population increase when the reservoir filled in the mid-1990's. The pike fishery is dominated by fish larger than 710 mm as documented by both creel and netting surveys. In 2004, the average relative weight of northern pike was 100.1.

Sauger (and Saugeye)

Sauger (and saugeye) accounted for one and three percent of all fish harvested from boat and shore, respectively (Figure 5). An estimated 471 and 191 sauger were respectively caught and harvested by all anglers during the survey period (Table 2). Approximately 59 percent of sauger caught were released. Overall, anglers harvested 161 kg of sauger during the survey period. These data represent <0.01 sauger and <4.5 grams of sauger harvested per acre.

The majority of sauger were caught and harvested in Zone 3 (Appendix I). Overall, monthly catch and harvest rates for combined non-salmonid boat and shore anglers averaged 0.004 and 0.001 sauger per hour, respectively.

Creel clerks measured 52 sauger in 2004. Mean and median total lengths for sauger were 450 mm and 435 mm respectively, and total lengths ranged from 250 to 640 mm (Appendix I). Mean and median total lengths and mean weight of sauger harvested were highest for Zone 2. The overall mean weight of sauger harvested was 843 grams.

Catch rates of sauger have decreased from 0.023 fish per hour in 1990 to 0.004 fish per hour in 2004 (Table 3). The mean length of sauger harvested also decreased from 516 mm in 1990 to 450 mm in 2004.

A decline in sauger numbers have been documented in the Missouri River System above Fort Peck Dam. Recent regulations reduced the possession limit of sauger from five to one fish. This past year (2004) represents the first year that no young-of-year sauger were captured during seining in the reservoir and Missouri River above Fort Peck Dam. Since the mid-1980's, there have been substantial declines in gill net catch rates for sauger which have

continued to remain low since the onset of the last drought.

Other Sport Fish

Other sport fish accounted for three and 19 percent of all fish harvested from boat and shore, respectively (Figure 5). An estimated 349 channel catfish, 40 crappie, 72 chinook salmon, and five rainbow trout, and 1,134 kg of these other sport fish were harvested by all anglers during the survey period (Table 2 and Appendix J through O). Additionally, several other non-sport fish species were caught by anglers (Appendix P). Non-sport fish accounted for 17 and one percent of all fish caught and harvested by all anglers, respectively. Harvest rates are generally low for these species and they are mostly caught incidentally by anglers.

The chinook salmon fishery on Fort Peck Reservoir is poorly understood. A few salmon persist annually, but a good return of adult fish has not been documented since 1996. Changes in stocking strategies are being implemented in hopes to improve the return of adult fish to the fishery and spawning station.

Angler Characteristics and Trip Information

A summary of general angler characteristics and trip information pertaining to all anglers (boat and shore) is presented in the following text. All data are found in the Supplement to this report.

Overall, 80 percent of boat and 82 percent of shore anglers were male. Approximately eight percent of all Fort Peck Reservoir anglers were nonresidents. Fort Peck Reservoir anglers averaged 207 miles of one-way travel per trip. Approximately 23 percent of all anglers traveled less than 30 miles one-way to fish and 65 percent of the anglers traveled more than 100 one-way miles (Figure 13). On average, anglers fished 6.4 hours per fishing trip, with boat anglers fishing 1.4 hours longer per trip than shore anglers. Ten percent of anglers were less than 16 years of age and seven percent of anglers were 65 years of age and older. Seventy-seven percent of the boat anglers were between 26 and 65 years old and 67 percent of the shore anglers fell within this age range. The least represented age group for both boat and shore anglers was anglers between 17-25 years of age (Figure 14).

shore anglers was anglers between 17-25 years of age (Figure 14).

Angler Attitudes and Preference

Anglers were asked a number of questions regarding their fishing experience, attitudes, and preference (Appendix Q).

The vast majority (71 percent) of anglers fished primarily for walleye, followed by any fish (10 percent), and salmon (five percent). The majority (73 percent) of boat anglers primarily targeted walleye, while the largest percentage of shore anglers (47 percent) fished primarily for "any fish."

Collectively, 27 percent of combined boat and shore anglers rated the overall quality of fishing on Fort Peck as either "Excellent" or "Good." Fifty percent of combined boat and shore anglers rated the overall quality of fishing as "Poor" or "Very Poor." Boat anglers generally rated the quality of fishing higher than shore anglers.

Thirty-six percent of anglers were satisfied with the average size of the fish they caught during the day they were interviewed. The two most commonly cited reasons for not being satisfied with the average size of fish caught were "didn't catch any fish" (55 percent) and the fish were "too small" (35 percent).

When asked if they were satisfied with the number of fish caught today, only 22 percent of anglers said "Yes." The two most commonly cited reasons for not being satisfied with the number of fish caught were "too few fish" (50 percent) and "didn't catch any fish" (45 percent).

The majority (78 percent) of boat anglers fished in Zone 2 and 3, while the majority (75 percent) of shore anglers fished in Zones 1 and 2. In addition, the majority (62 percent) of all anglers had been previously interviewed on Fort Peck Reservoir during 2004.

Anglers were asked to list, in order, the top three species they would prefer MTFWP to manage on Fort Peck Reservoir. The first choice of anglers was walleye (85 percent), followed by northern pike (five percent), and smallmouth bass, chinook salmon and lake trout (two percent each). The second choice of anglers was northern pike (34 percent), followed by smallmouth bass (12 percent), sauger (11 percent), walleye (nine percent), and chinook salmon

and lake trout (six percent each). As with the second choice, the third choice of anglers was northern pike (17 percent), followed by smallmouth bass (16 percent), lake trout (11 percent), "bass" (eight percent), yellow perch (seven percent), and sauger (six percent). Surprisingly, 10 percent of anglers had no second choice and 17 percent of anglers had no third choice.

Anglers overwhelmingly believe the biggest threats to fishing on Fort Peck are "water levels" (79 percent) and the "Corps of Engineers" (nine percent). This is not surprising given the current lake elevation which many anglers associated with a poor or very poor quality of fishing.

Relative to the past five years, the majority (58 percent) of anglers fish Fort Peck Reservoir the same amount of time. Nineteen percent of anglers indicated they fish Fort Peck more, while 23 percent of anglers indicated they fish Fort Peck less. Responses were generally similar between boat and shore anglers.

When asked what aquatic nuisance species poses the greatest threat to Montana waters, 66 percent of anglers didn't know or weren't aware of any. Anglers believed the species that poses the greatest threat were zebra mussels (16 percent), followed by carp (seven percent).

Given the responses to the previous question, it is not surprising that 72 percent of anglers did not know what should be done to prevent the spread of aquatic nuisance species. However, 15 percent of anglers stated that washing their boat and trailer could help prevent the spread of aquatic nuisance species. Data collected during this survey would suggest that anglers are not well educated about aquatic nuisance species.

Nonresident anglers were asked why they chose to fish Fort Peck Reservoir. The number one response was "visiting friends/relatives" (26 percent), followed by "annual trip" (14 percent), "good fishing (10 percent), "tournaments" (10 percent), "catch big fish" (nine percent), and "fish for walleye" (seven percent).

Figure 1. Map of Fort Peck Reservoir with interview locations.

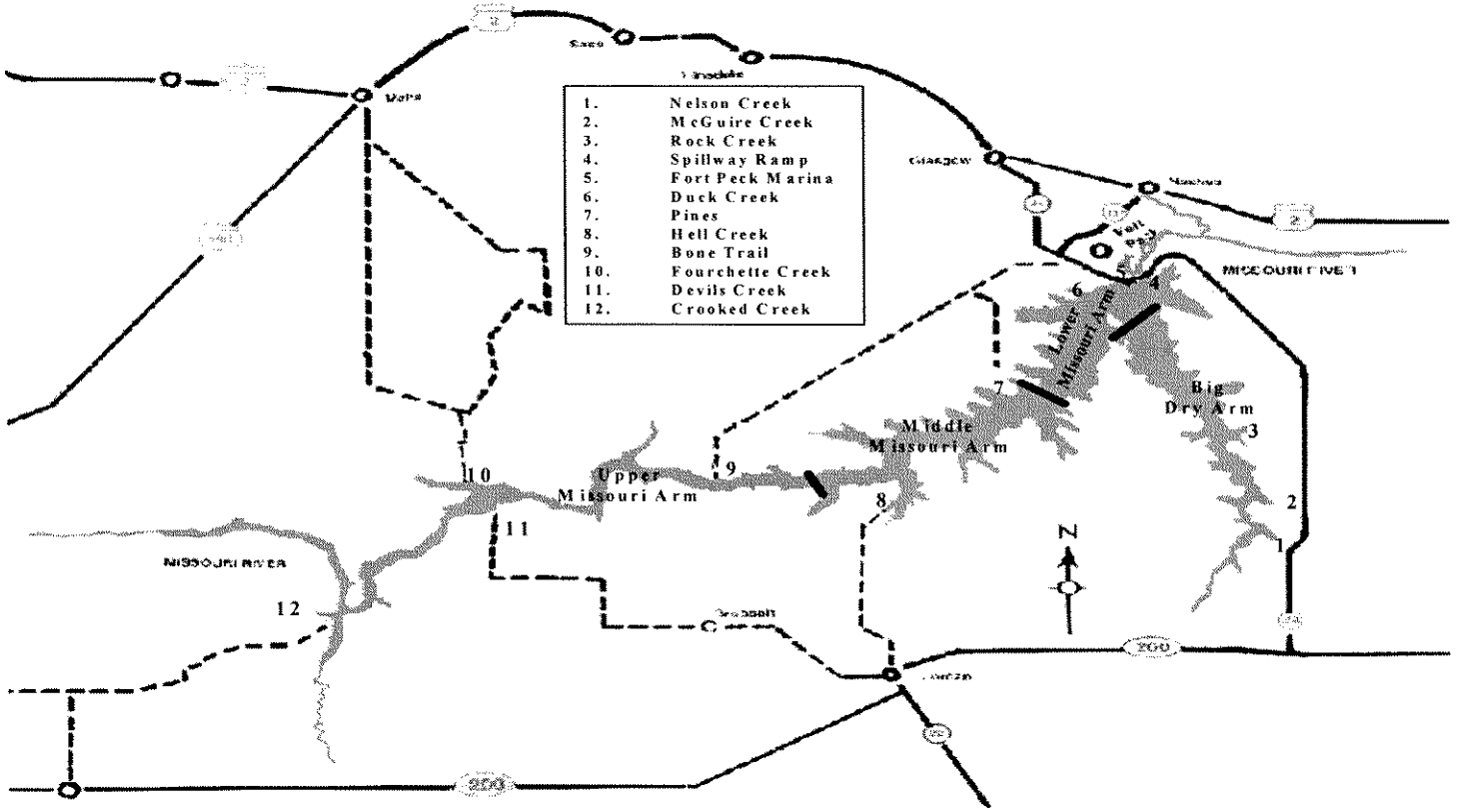


Figure 1. Fort Peck study area describing major zones and select specific locations.

Figure 2. Monthly angler effort on Fort Peck Reservoir, May 28 through October 17, 2004.

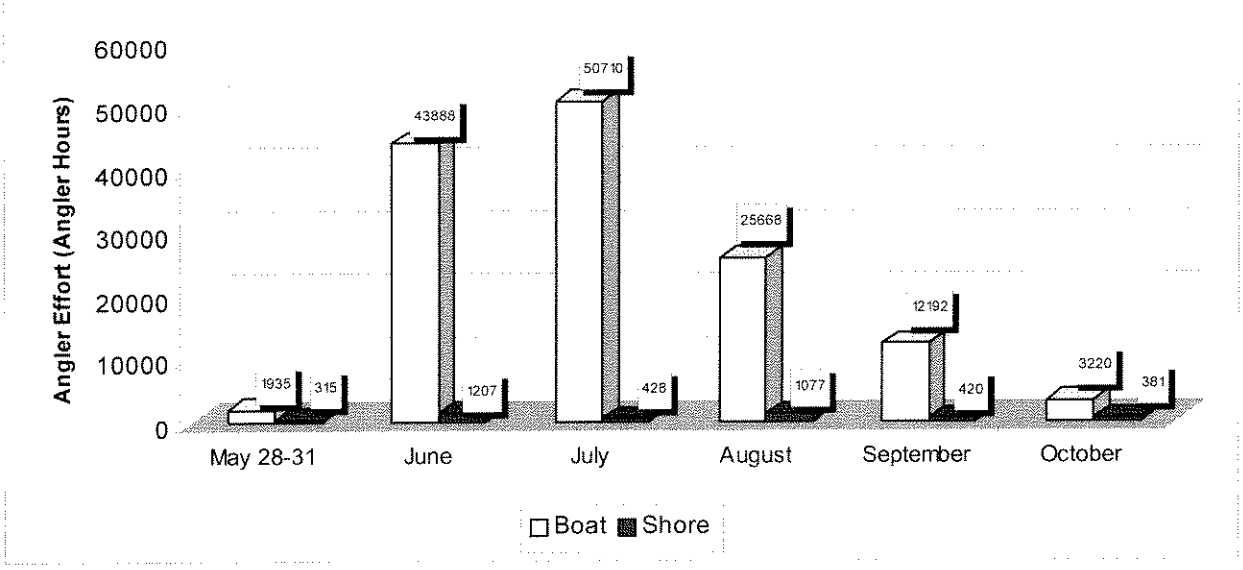


Figure 4. Monthly percent of overall boat angler effort for the 1990 and 2004 Fort Peck Reservoir creel surveys.

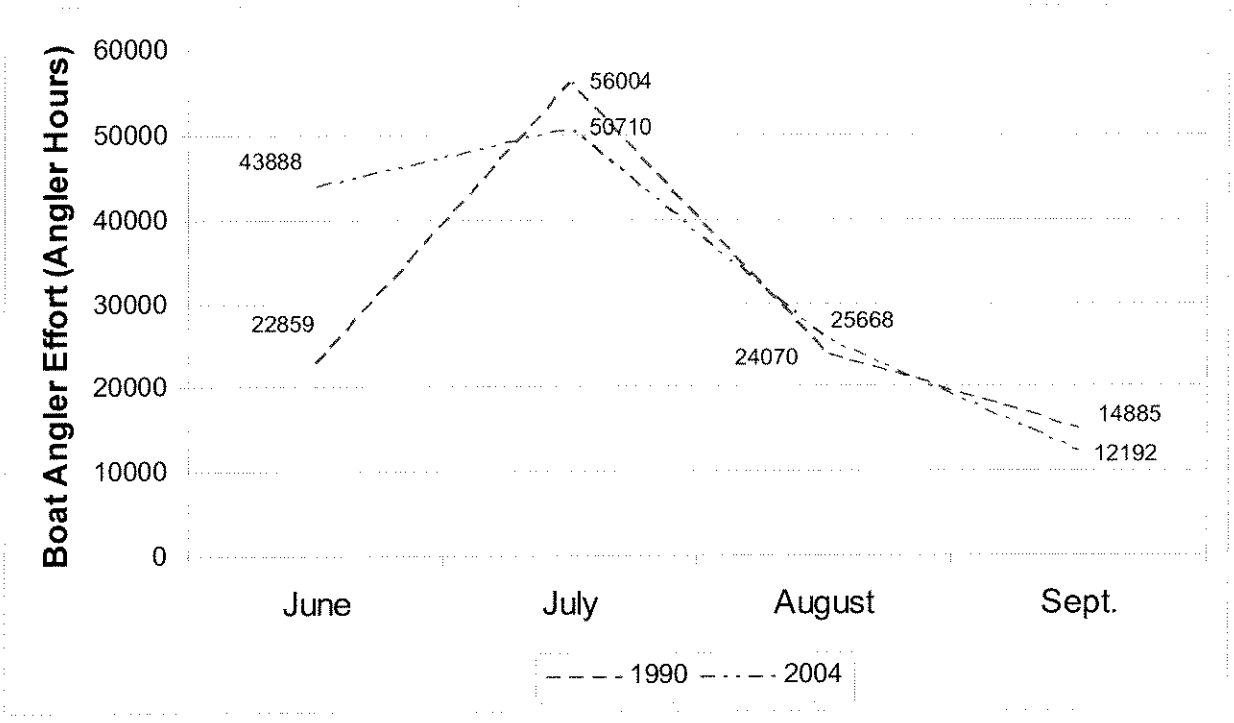


Figure 5. Percent of sport fish harvested by boat and shore anglers on Fort Peck Reservoir, May 28 through October 17, 2004.

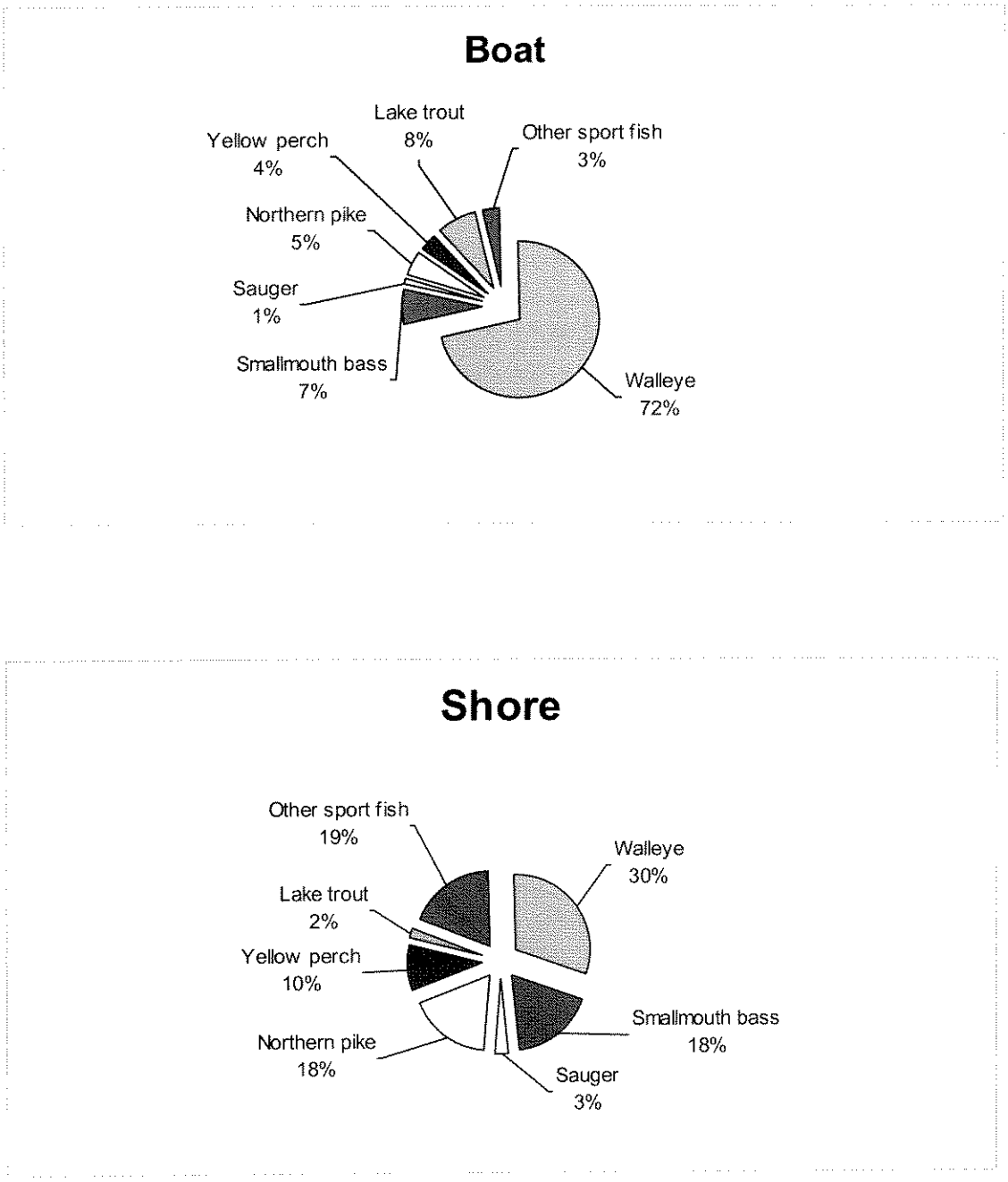


Figure 6. Estimated walleye catch by boat and shore anglers (by zone) on Fort Peck Reservoir, May 28 through October 17, 2004.

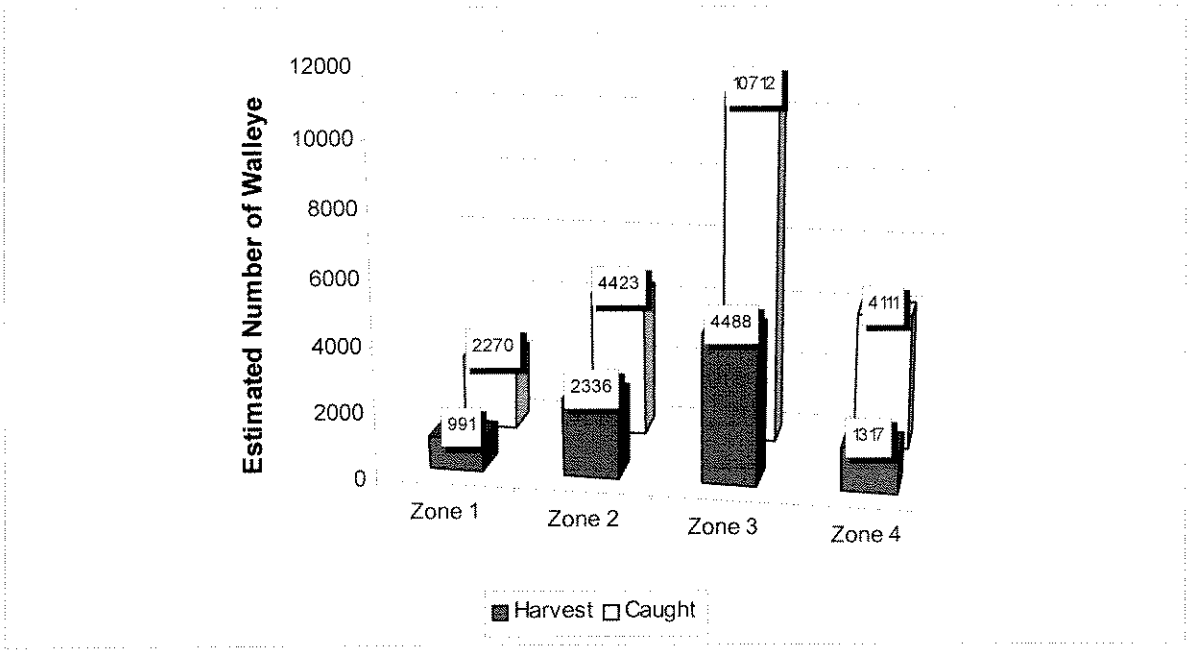
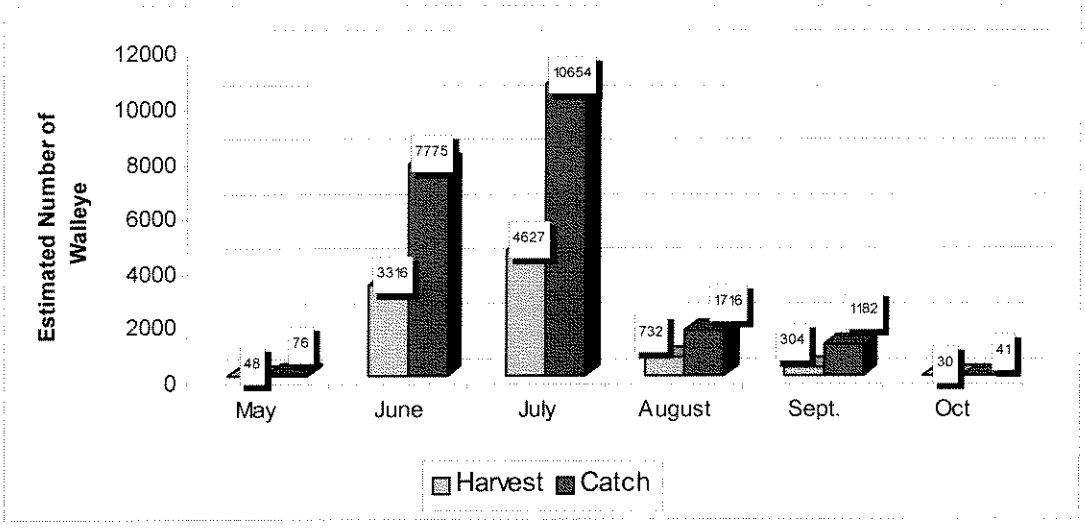


Figure 7. Monthly estimated walleye catch and harvest and walleye catch and harvest rates (fish per hour) for combined boat and shore anglers on Fort Peck Reservoir, May 28 through October 17, 2004.



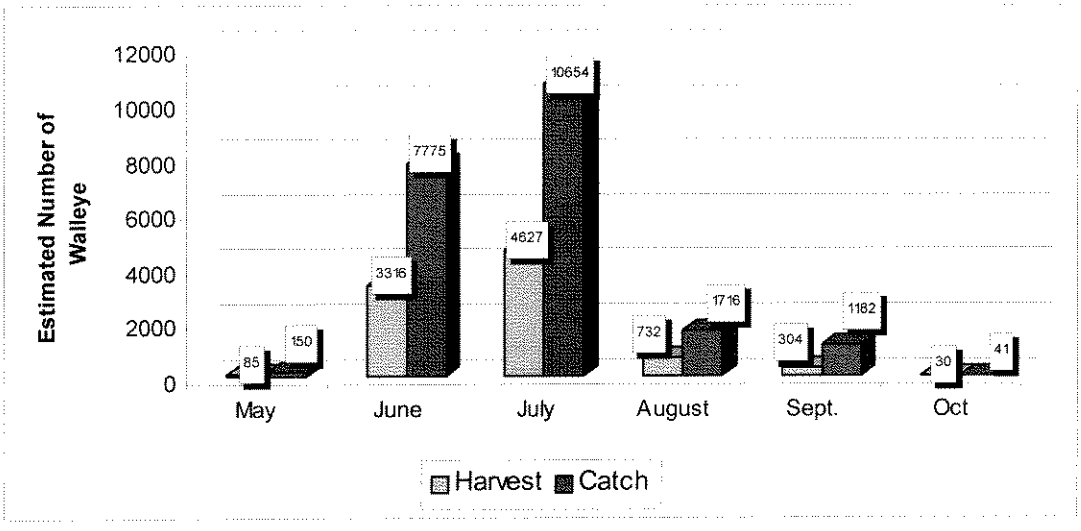


Figure 8. Monthly walleye catch rates (fish per hour) by zone for combined boat and shore anglers on Fort Peck Reservoir, May 28 through October 17, 2004.

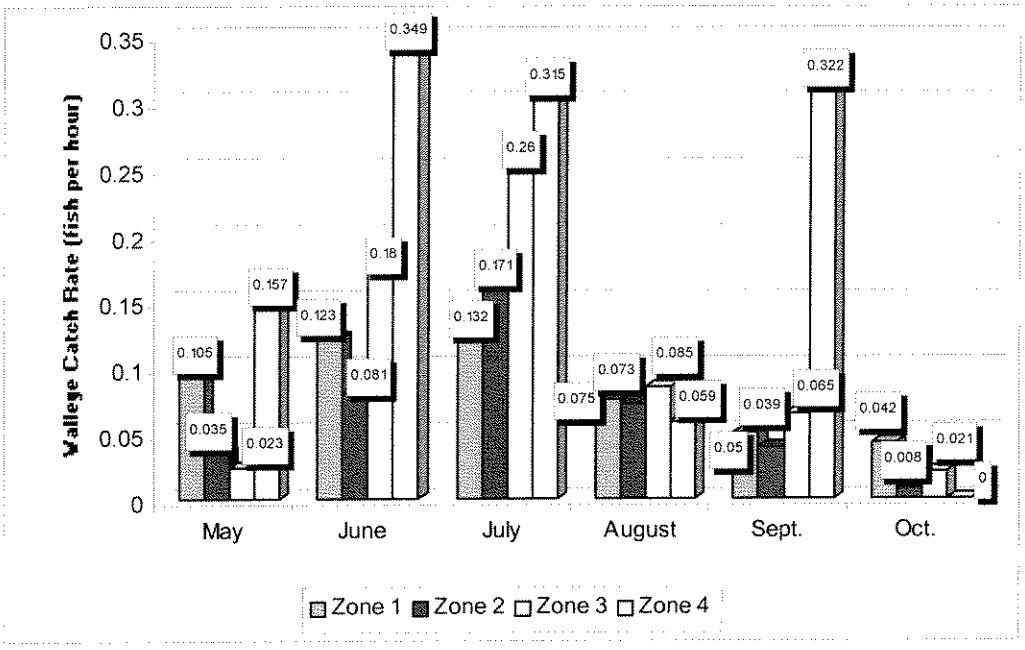


Figure 9. Walleye total length frequency distribution, Fort Peck Reservoir, May 28 through October 17, 2004.

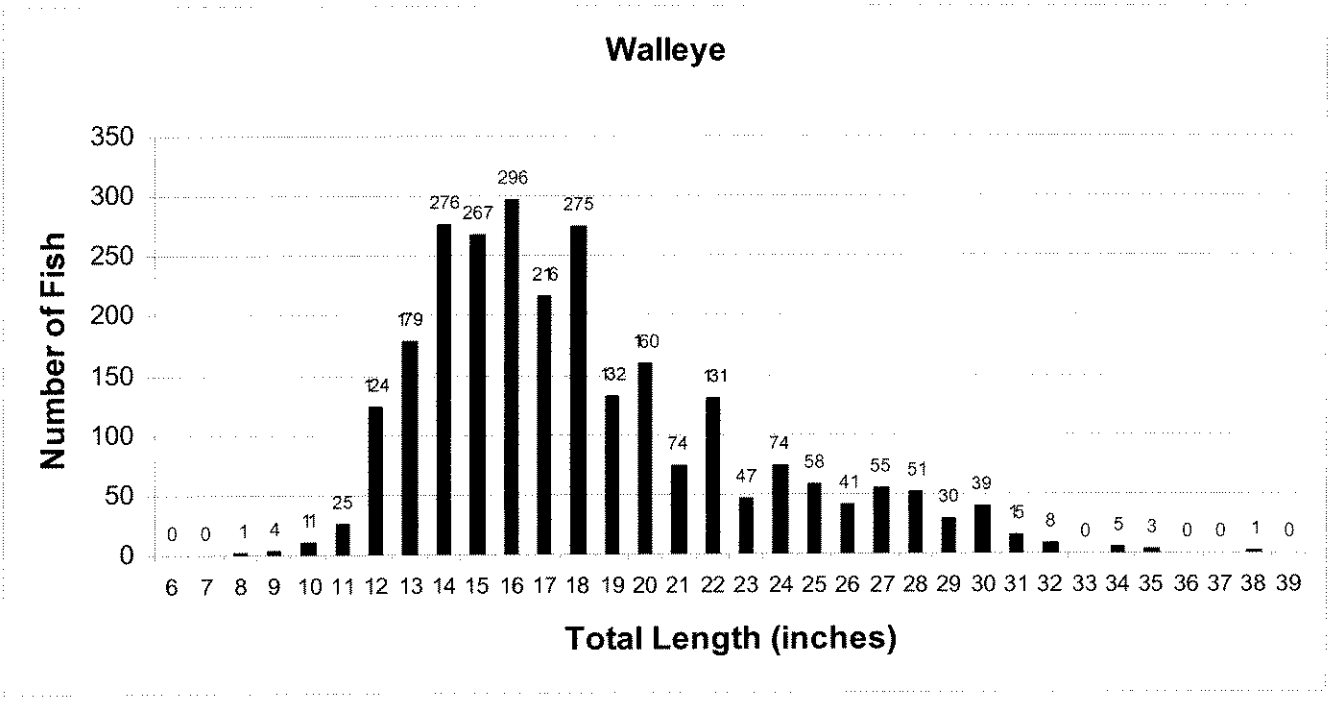


Figure 10. Smallmouth bass total length frequency distribution, Fort Peck Reservoir, May 28 through October 17, 2004.

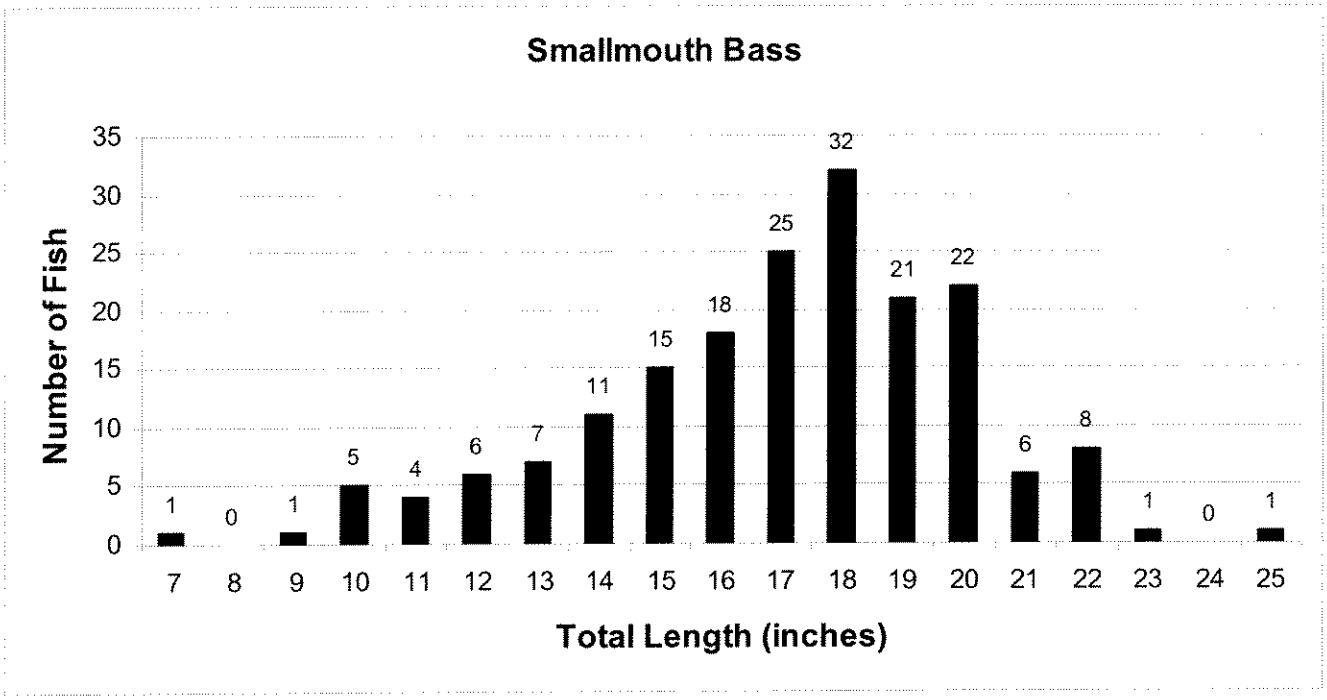


Figure 11. Lake trout pike total length frequency distribution, Fort Peck Reservoir, May 28 through October 17, 2004.

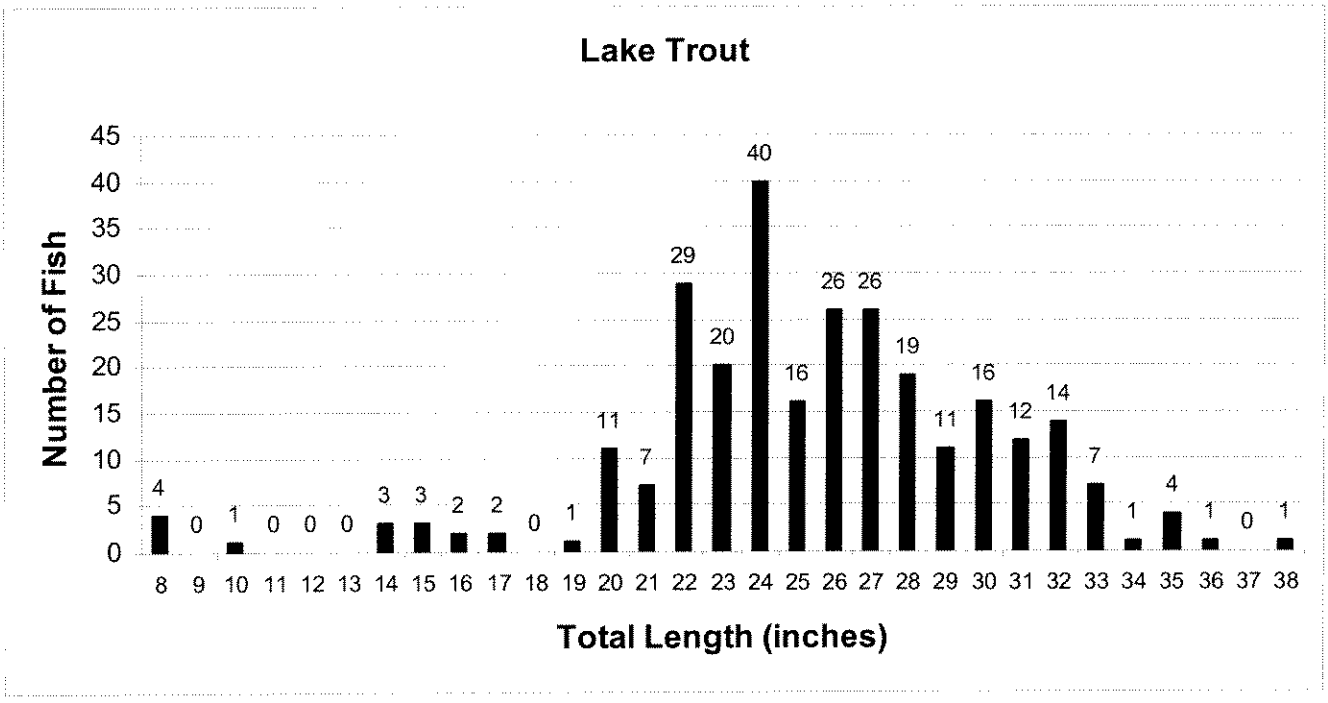


Figure 12. Northern pike total length frequency distribution, Fort Peck Reservoir, May 28 through October 17, 2004.

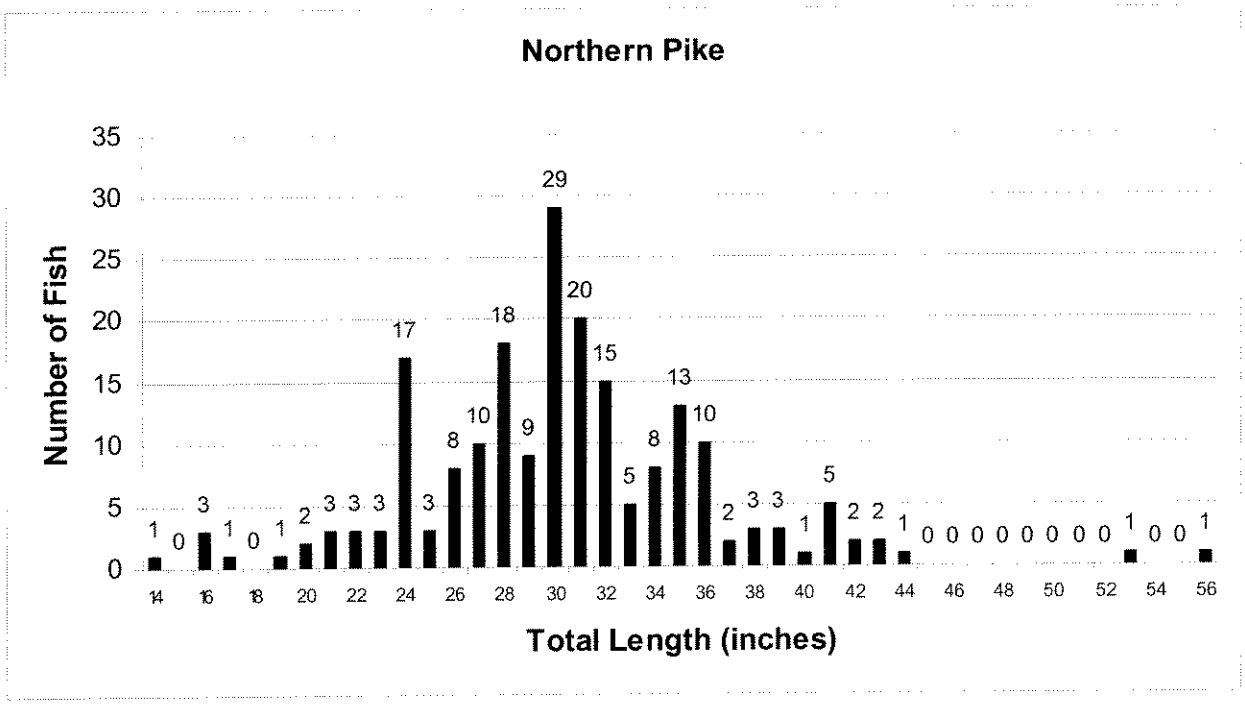
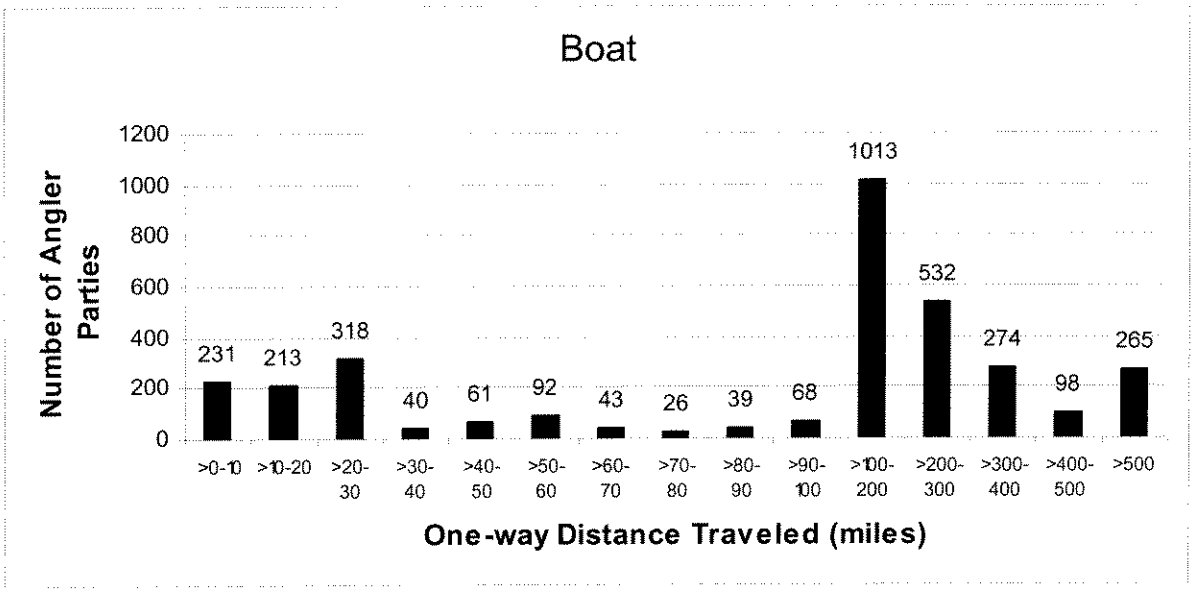


Figure 13. Summary of one-way distance traveled (miles) by boat and shore anglers to fish Fort Peck Reservoir, May 28 through October 17, 2004.



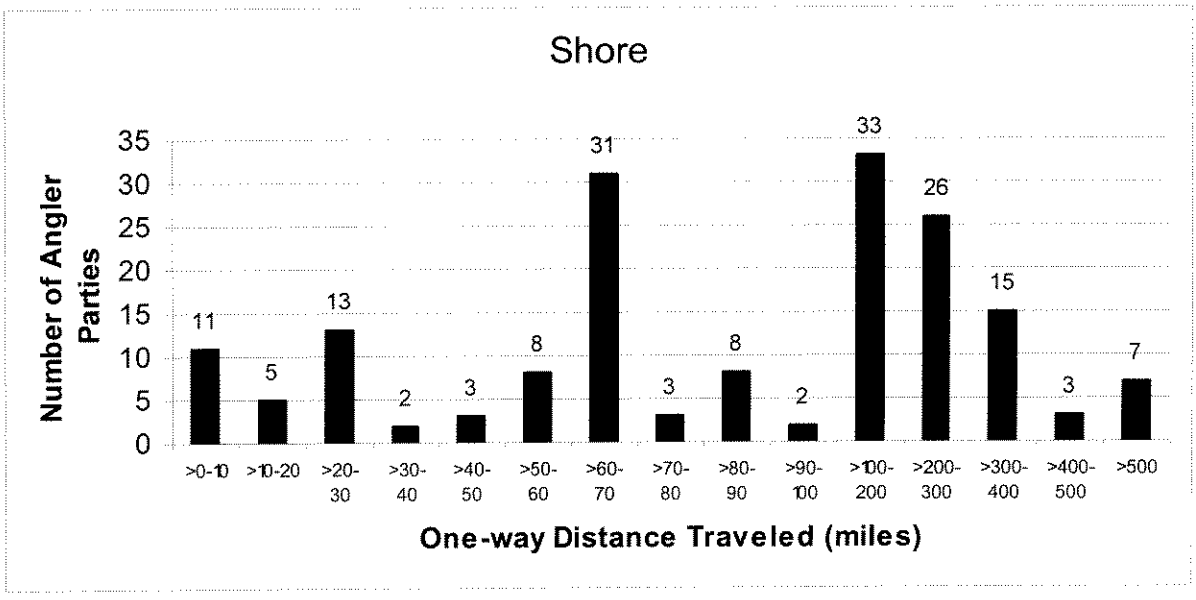
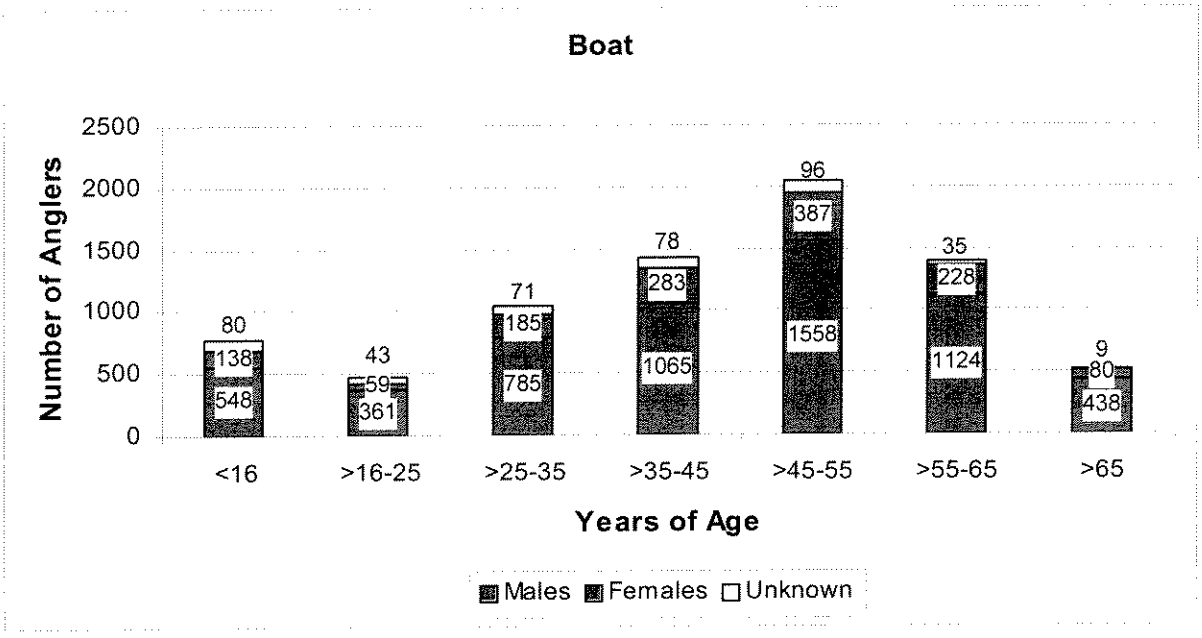
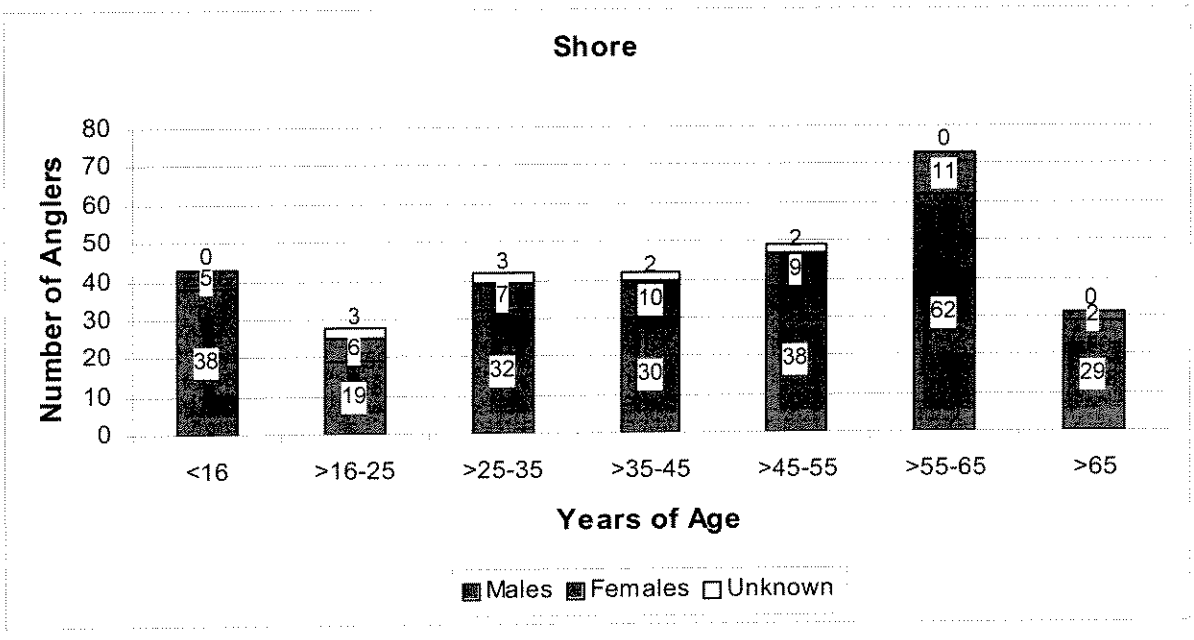


Figure 14. Summary of boat and shore angler age distribution, Fort Peck Reservoir, May 28 through October 17, 2004.





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APPENDICES

Appendix A. Monthly boat, shore, and combined angler effort (angler hours) by zone on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type	Zone	May	June	July	August	September	October	Overall
Boat (Non-salmonid)	Zone 1	585	5,488	6,767	2,402	1,263	178	16,683
	Zone 2	321	11,712	15,674	8,017	2,169	216	38,109
	Zone 3	759	17,783	24,219	8,218	5,627	1,173	57,779
	Zone 4	154	7,442	2,113	2,708	1,992	890	15,299
	Total	1,819	42,425	48,773	21,345	11,051	2,457	127,870
Boat (Salmonid)	Zone 1	20	446	132	114	0	0	712
	Zone 2	96	976	1,760	4,180	1,098	763	8,873
	Zone 3	0	41	45	29	43	0	158
	Zone 4	0	0	0	0	0	0	0
	Total	116	1,463	1,937	4,323	1,141	763	9,743
Shore	Zone 1	45	549	329	540	344	176	1,983
	Zone 2	58	211	61	40	76	204	650
	Zone 3	212	323	38	83	0	1	657
	Zone 4	0	124	0	414	0	0	538
	Total	315	1,207	428	1,077	420	381	3,828
Total	Zone 1	650	6,483	7,228	3,056	1,607	354	19,378
	Zone 2	475	12,899	17,495	12,237	3,343	1,183	47,632
	Zone 3	971	18,147	24,302	8,330	5,670	1,174	58,594
	Zone 4	154	7,566	2,113	3,122	1,992	890	15,837
	Total	2,250	45,095	51,138	26,745	12,612	3,601	141,441

Appendix B. Monthly boat, shore, and combined angler effort (angler days) by zone on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type	Zone	May	June	July	August	September	October	Overall
Boat (Non-salmonid)	Zone 1	117	844	1,091	407	197	29	2,685
	Zone 2	75	2,019	2,612	1,485	425	39	6,655
	Zone 3	129	2,505	3,670	1,467	922	286	8,979
	Zone 4	23	886	243	410	312	171	2,045
	Total	344	6,254	7,616	3,769	1,856	525	20,364
Boat (Salmonid)	Zone 1	2	99	20	15	0	0	136
	Zone 2	20	171	326	708	200	159	1,584
	Zone 3	0	8	5	6	7	0	26
	Zone 4	0	0	0	0	0	0	0
	Total	22	278	351	729	207	159	1,746
Shore	Zone 1	4	15	50	41	31	16	157
	Zone 2	16	64	10	10	26	107	132
	Zone 3	42	56	9	24	0	1	132
	Zone 4	0	24	0	46	0	0	70
	Total	62	159	69	121	57	124	592
Total	Zone 1	123	958	1,161	463	228	45	2,978
	Zone 2	111	2,254	2,948	2,203	651	305	8,472
	Zone 3	171	2,569	3,684	1,497	929	287	9,137
	Zone 4	23	910	243	456	312	171	2,115
	Total	428	6,691	8,036	4,619	2,120	808	22,702

Appendix C. Monthly boat, shore, and combined angler effort (angler trips) by zone on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type	Zone	May	June	July	August	September	October	Overall
Boat (Non-salmonid)	Zone 1	46	357	460	175	82	14	1,134
	Zone 2	35	862	1,175	666	198	24	2,960
	Zone 3	45	1,027	1,477	616	399	108	3,672
	Zone 4	9	388	97	145	155	103	897
	Total	135	2,634	3,209	1,602	834	249	8,663
Boat (Salmonid)	Zone 1	1	41	9	7	0	0	58
	Zone 2	8	78	173	354	97	69	779
	Zone 3	0	3	3	3	4	0	13
	Zone 4	0	0	0	0	0	0	0
	Total	9	122	185	364	101	69	850
Shore	Zone 1	1	8	146	25	23	16	219
	Zone 2	8	38	5	6	26	55	138
	Zone 3	14	27	4	10	0	1	56
	Zone 4	0	12	0	29	0	0	41
	Total	23	85	155	70	49	72	454
Total	Zone 1	48	406	615	207	105	30	1,411
	Zone 2	51	978	1,353	1,026	321	148	3,877
	Zone 3	59	1,057	1,484	629	403	109	3,741
	Zone 4	9	400	97	174	155	103	938
	Total	167	2,841	3,549	2,036	984	390	9,967

Appendix D. Summary of combined boat and shore angler catch and total length data by zone for walleye on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type		Zone 1	Zone 2	Zone 3	Zone 4	Overall
Boat	No. Harvested	979	2,249	4,433	1,317	8,978
	Harvest Rate	(0.057)	(0.056)	(0.078)	(0.111)	(0.072)
	No. Released	1,273	2,055	6,259	2,794	12,381
	Release Rate	(0.073)	(0.052)	(0.107)	(0.202)	(0.096)
	No.Caught	2,252	4,304	10,692	4,111	21,359
	Catch Rate	(0.129)	(0.108)	(0.184)	(0.313)	(0.167)
Shore	No. Harvested	11	28	15	0	54
	Harvest Rate	(0.008)	(0.041)	(0.036)	(0.000)	(0.017)
	No. Released	6	3	5	0	14
	Release Rate	(0.002)	(0.015)	(0.014)	(0.000)	(0.006)
	No. Caught	17	31	20	0	68
	Catch Rate	(0.011)	(0.057)	(0.050)	(0.000)	(0.023)
Combined	No. Harvested	990	2,277	4,488	1,317	9,032
	Harvest Rate	(0.047)	(0.055)	(0.077)	(0.110)	(0.069)
	No. Released	1,279	2,058	6,264	2,794	12,395
	Release Rate	(0.058)	(0.051)	(0.105)	(0.200)	(0.091)
	No. Caught	2,269	4,335	10,712	4,111	21,427
	Catch Rate	(0.104)	(0.107)	(0.181)	(0.311)	(0.160)
Incidental[a]	No. Harvested	1	59	0	NA	62
	Harvest Rate	(0.001)	(0.003)	(0.000)	NA	(0.004)
	No. Released	0	29	0	NA	29
	Release Rate	(0.000)	(0.003)	(0.000)	NA	(0.003)
	No. Caught	1	88	0	NA	91
	Catch Rate	(0.001)	(0.006)	(0.000)	NA	(0.006)
Kilograms Harvested		941	3,232	5,474	1,195	10,841
Mean weight (grams)		949	1,384	1,220	907	1,188
Mean total length (mm)		415	480	456	413	459
Median total length (mm)		360	460	430	370	430

[a] Incidental includes incidental catch by salmonid boat anglers.

Appendix E. Summary of combined boat and shore angler catch and total length data by zone for smallmouth bass on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type		Zone 1	Zone 2	Zone 3	Zone 4	Overall
Boat	No. Harvested	63	139	425	248	875
	Harvest Rate	(0.003)	(0.004)	(0.007)	(0.013)	(0.006)
	No. Released	181	225	1,246	1,318	2,970
	Release Rate	(0.012)	(0.006)	(0.021)	(0.080)	(0.022)
	No.Caught	244	364	1,671	1,566	3,845
	Catch Rate	(0.015)	(0.009)	(0.028)	(0.093)	(0.028)
Shore	No. Harvested	1	28	2	0	31
	Harvest Rate	(0.001)	(0.038)	(0.004)	(0.000)	(0.005)
	No. Released	3	18	4	0	25
	Release Rate	(0.001)	(0.030)	(0.006)	(0.000)	(0.005)
	No. Caught	4	46	6	0	56
	Catch Rate	(0.002)	(0.068)	(0.010)	(0.000)	(0.010)
Combined	No. Harvested	64	167	427	248	906
	Harvest Rate	(0.003)	(0.004)	(0.007)	(0.012)	(0.006)
	No. Released	184	243	1,256	1,320	3,003
	Release Rate	(0.010)	(0.006)	(0.021)	(0.080)	(0.021)
	No. Caught	248	410	1,683	1,568	3,909
	Catch Rate	(0.012)	(0.011)	(0.028)	(0.092)	(0.027)
Incidental[a]	No. Harvested	0	11	0	NA	11
	Harvest Rate	(0.000)	(0.001)	(0.000)	NA	(0.001)
	No. Released	0	13	0	NA	13
	Release Rate	(0.000)	(0.001)	(0.000)	NA	(0.001)
	No. Caught	0	24	0	NA	24
	Catch Rate	(0.000)	(0.003)	(0.000)	NA	(0.002)
Kilograms Harvested		67	143	414	508	1,133
Mean weight (grams)		1,052	806	970	2,051	1,236
Mean total length (mm)		399	351	384	503	380
Median total length (mm)		430	370	390	500	390

[a] Incidental includes incidental catch by salmonid boat anglers.

Appendix F. Summary of combined boat and shore angler catch and total length data by zone for lake trout on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type		Zone 1	Zone 2	Zone 3	Zone 4	Overall
Incidental Boat[a]	No. Harvested	21	72	16	0	109
	Harvest Rate	(0.001)	(0.002)	(<0.001)	(0.000)	(0.001)
	No. Released	33	57	2	0	92
	Release Rate	(0.002)	(0.001)	(<0.001)	(0.000)	(0.001)
	No.Caught	54	129	18	0	201
	Catch Rate	(0.004)	(0.003)	(<0.001)	(0.000)	(0.002)
Incidental Shore[a]	No. Harvested	0	4	0	0	4
	Harvest Rate	(0.000)	(0.004)	(0.000)	(0.000)	(<0.001)
	No. Released	0	0	0	0	0
	Release Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No. Caught	0	4	0	0	4
	Catch Rate	(0.000)	(0.004)	(0.000)	(0.000)	(<0.001)
Incidental Combined[a]	No. Harvested	21	76	16	0	113
	Harvest Rate	(<0.001)	(0.003)	(<0.001)	(0.000)	(0.001)
	No. Released	33	57	2	0	92
	Release Rate	(<0.001)	(0.002)	(<0.001)	(0.000)	(0.001)
	No. Caught	54	133	18	0	205
	Catch Rate	(<0.001)	(0.005)	(<0.001)	(0.000)	(0.002)
Salmonid Boat	No. Harvested	150	801	0	NA	951
	Harvest Rate	(0.193)	(0.081)	(0.000)	NA	(0.088)
	No. Released	40	852	0	NA	890
	Release Rate	(0.048)	(0.080)	(0.000)	NA	(0.076)
	No. Caught	190	1,653	0	NA	1,843
	Catch Rate	(0.242)	(0.160)	(0.000)	NA	(0.165)
Kilograms Harvested		453	2,722	43	NA	3,219
Mean weight (grams)		2,650	3,105	2,682	NA	3,025
Mean total length (mm)		622	649	567	NA	648
Median total length (mm)		590	650	690	NA	640

[a] Incidental includes incidental catch by non-salmonid anglers.

Appendix G. Summary of combined boat and shore angler catch and total length data by zone for yellow perch on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type		Zone 1	Zone 2	Zone 3	Zone 4	Overall
Boat	No. Harvested	18	12	120	302	452
	Harvest Rate	(0.001)	(<0.001)	(0.002)	(0.006)	(0.002)
	No. Released	44	99	1,183	509	1,835
	Release Rate	(0.003)	(0.002)	(0.018)	(0.020)	(0.012)
	No.Caught	62	111	1,303	811	2,287
	Catch Rate	(0.004)	(0.003)	(0.020)	(0.026)	(0.013)
Shore	No. Harvested	3	5	2	8	18
	Harvest Rate	(0.001)	(0.008)	(0.006)	(0.065)	(0.004)
	No. Released	5	5	2	0	12
	Release Rate	(0.002)	(0.008)	(0.006)	(0.000)	(0.004)
	No. Caught	8	10	4	8	30
	Catch Rate	(0.004)	(0.015)	(0.012)	(0.065)	(0.007)
Combined	No. Harvested	21	17	122	310	470
	Harvest Rate	(0.001)	(<0.001)	(0.002)	(0.006)	(0.002)
	No. Released	49	104	1,185	509	1,847
	Release Rate	(0.003)	(0.002)	(0.018)	(0.020)	(0.011)
	No. Caught	70	121	1,307	819	2,317
	Catch Rate	(0.004)	(0.003)	(0.020)	(0.026)	(0.013)
Incidental[a]	No. Harvested	0	0	0	NA	0
	Harvest Rate	(0.000)	(0.000)	(0.000)	NA	(0.000)
	No. Released	0	0	0	NA	0
	Release Rate	(0.000)	(0.000)	(0.000)	NA	(0.000)
	No. Caught	0	0	0	NA	0
	Catch Rate	(0.000)	(0.000)	(0.000)	NA	(0.000)
Kilograms Harvested		1	2	14	29	47
Mean weight (grams)		65	141	115	93	99
Mean total length (mm)		180	232	218	205	214
Median total length (mm)		180	220	220	NA	205

[a] Incidental includes incidental catch by salmonid boat anglers.

Appendix H. Summary of combined boat and shore angler catch and total length data by zone for northern pike on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type		Zone 1	Zone 2	Zone 3	Zone 4	Overall
Boat	No. Harvested	141	133	308	50	632
	Harvest Rate	(0.008)	(0.003)	(0.005)	(0.002)	(0.005)
	No. Released	89	161	251	22	523
	Release Rate	(0.005)	(0.004)	(0.004)	(0.002)	(0.004)
	No.Caught	230	294	559	72	1,155
	Catch Rate	(0.014)	(0.007)	(0.010)	(0.004)	(0.009)
Shore	No. Harvested	9	14	11	0	31
	Harvest Rate	(0.005)	(0.015)	(0.016)	(0.000)	(0.008)
	No. Released	1	1	0	0	2
	Release Rate	(0.001)	(0.004)	(0.000)	(0.000)	(0.001)
	No. Caught	10	15	11	0	33
	Catch Rate	(0.005)	(0.019)	(0.016)	(0.000)	(0.009)
Combined	No. Harvested	150	147	319	50	663
	Harvest Rate	(0.008)	(0.004)	(0.006)	(0.002)	(0.005)
	No. Released	90	162	251	22	525
	Release Rate	(0.004)	(0.004)	(0.004)	(0.002)	(0.004)
	No. Caught	240	309	570	72	1,188
	Catch Rate	(0.012)	(0.008)	(0.010)	(0.004)	(0.009)
Incidental[a]	No. Harvested	0	12	0	NA	12
	Harvest Rate	(0.000)	(0.002)	(0.000)	NA	(0.001)
	No. Released	0	7	0	NA	7
	Release Rate	(0.000)	(0.001)	(0.000)	NA	(0.001)
	No. Caught	0	19	0	NA	19
	Catch Rate	(0.000)	(0.003)	(0.000)	NA	(0.002)
Kilograms Harvested		541	429	1,202	176	2,348
Mean weight (grams)		3,603	2,699	3,768	3,518	3,463
Mean total length (mm)		770	717	789	747	769
Median total length (mm)		750	710	780	760	760

[a] Incidental includes incidental catch by salmonid boat anglers.

Appendix I. Summary of combined boat and shore angler catch and total length data by zone for sauger (and saugeye) on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type		Zone 1	Zone 2	Zone 3	Zone 4	Overall
Boat	No. Harvested	8	51	99	25	183
	Harvest Rate	(<0.001)	(0.001)	(0.002)	(0.002)	(0.002)
	No. Released	17	13	204	42	270
	Release Rate	(0.001)	(<0.001)	(0.004)	(0.003)	(0.002)
	No.Caught	25	64	303	67	459
	Catch Rate	(0.001)	(0.002)	(0.006)	(0.006)	(0.004)
Shore	No. Harvested	0	4	1	0	5
	Harvest Rate	(0.000)	(0.004)	(0.002)	(0.000)	(0.001)
	No. Released	0	1	1	0	2
	Release Rate	(0.000)	(0.004)	(0.002)	(0.000)	(0.001)
	No. Caught	0	5	2	0	7
	Catch Rate	(0.000)	(0.008)	(0.004)	(0.000)	(0.002)
Combined	No. Harvested	8	55	100	25	188
	Harvest Rate	(<0.001)	(0.001)	(0.002)	(0.002)	(0.001)
	No. Released	17	14	207	42	280
	Release Rate	(0.001)	(<0.001)	(0.004)	(0.003)	(0.002)
	No. Caught	25	69	307	67	468
	Catch Rate	(0.001)	(0.002)	(0.006)	(0.005)	(0.004)
Incidental[a]	No. Harvested	0	3	0	NA	3
	Harvest Rate	(0.000)	(<0.001)	(0.000)	NA	(<0.001)
	No. Released	0	0	0	NA	3
	Release Rate	(0.000)	(0.000)	(0.000)	NA	(0.000)
	No. Caught	0	3	0	NA	3
	Catch Rate	(0.000)	(<0.001)	(0.000)	NA	(<0.001)
Kilograms Harvested		6	69	76	10	161
Mean weight (grams)		726	1,190	760	409	843
Mean total length (mm)		NA	511	433	NA	450
Median total length (mm)		NA	500	430	NA	435

[a] Incidental includes incidental catch by salmonid boat anglers.

Appendix J. Summary of combined boat and shore angler catch and total length data by zone for channel catfish on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type		Zone 1	Zone 2	Zone 3	Zone 4	Overall
Boat	No. Harvested	3	5	13	299	320
	Harvest Rate	(<0.001)	(<0.001)	(<0.001)	(0.006)	(0.001)
	No. Released	45	5	16	24	90
	Release Rate	(0.003)	(<0.001)	(<0.001)	(<0.001)	(0.001)
	No.Caught	48	10	29	324	410
	Catch Rate	(0.004)	(<0.001)	(0.001)	(0.006)	(0.002)
Shore	No. Harvested	1	0	28	0	29
	Harvest Rate	(0.001)	(0.000)	(0.040)	(0.000)	(0.008)
	No. Released	1	0	1	0	2
	Release Rate	(0.001)	(0.000)	(0.002)	(0.000)	(0.001)
	No. Caught	2	0	29	0	31
	Catch Rate	(0.001)	(0.000)	(0.042)	(0.000)	(0.009)
Combined	No. Harvested	4	5	41	299	349
	Harvest Rate	(<0.001)	(<0.001)	(<0.001)	(0.006)	(0.001)
	No. Released	46	5	17	24	92
	Release Rate	(0.003)	(<0.001)	(<0.001)	(<0.001)	(0.001)
	No. Caught	50	10	58	323	441
	Catch Rate	(0.003)	(<0.001)	(0.002)	(0.006)	(0.002)
Incidental[a]	No. Harvested	0	0	0	NA	0
	Harvest Rate	(0.000)	(0.000)	(0.000)	NA	(0.000)
	No. Released	0	0	0	NA	0
	Release Rate	(0.000)	(0.000)	(0.000)	NA	(0.000)
	No. Caught	0	0	0	NA	0
	Catch Rate	(0.000)	(0.000)	(0.000)	NA	(0.000)
Kilograms Harvested		1	19	102	643	765
Mean weight (grams)		382	3,697	2,486	2,151	2,192
Mean total length (mm)		350	NA	625	570	599
Median total length (mm)		NA	NA	620	610	615

[a] Incidental includes incidental catch by salmonid boat anglers.

Appendix K. Summary of combined boat and shore angler catch and total length data by zone for crappie on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type		Zone 1	Zone 2	Zone 3	Zone 4	Overall
Boat	No. Harvested	0	0	0	40	40
	Harvest Rate	(0.000)	(0.000)	(0.000)	(0.003)	(<0.001)
	No. Released	3	0	20	127	150
	Release Rate	(<0.001)	(0.000)	(<0.001)	(0.011)	(0.001)
	No.Caught	3	0	20	167	190
	Catch Rate	(<0.001)	(0.000)	(<0.001)	(0.014)	(0.002)
Shore	No. Harvested	0	0	0	0	0
	Harvest Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No. Released	0	0	0	0	0
	Release Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No. Caught	0	0	0	0	0
	Catch Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Combined	No. Harvested	0	0	0	40	40
	Harvest Rate	(0.000)	(0.000)	(0.000)	(0.003)	(<0.001)
	No. Released	3	0	20	127	150
	Release Rate	(<0.001)	(0.000)	(<0.001)	(0.011)	(<0.001)
	No. Caught	3	0	20	167	190
	Catch Rate	(<0.001)	(0.000)	(<0.001)	(0.014)	(0.002)
Incidental[a]	No. Harvested	0	0	0	0	0
	Harvest Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No. Released	0	0	0	0	0
	Release Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No. Caught	0	0	0	0	0
	Catch Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Kilograms Harvested		0	0	0	8	8
Mean weight (grams)		NA	NA	NA	205	205
Mean total length (mm)		NA	NA	NA	250	250
Median total length (mm)		NA	NA	NA	NA	NA

[a] Incidental includes incidental catch by salmonid boat anglers.

Appendix L. Summary of combined boat and shore angler catch and total length data by zone for chinook salmon on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type		Zone 1	Zone 2	Zone 3	Zone 4	Overall
Incidental Boat[a]	No. Harvested	3	3	3	7	16
	Harvest Rate	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
	No. Released	0	0	0	0	0
	Release Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No.Caught	3	3	3	7	16
	Catch Rate	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Incidental Shore[a]	No. Harvested	0	5	0	0	5
	Harvest Rate	(0.000)	(0.008)	(0.000)	(0.000)	(0.001)
	No. Released	0	0	0	0	0
	Release Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No. Caught	0	5	0	0	5
	Catch Rate	(0.000)	(0.008)	(0.000)	(0.000)	(0.001)
Incidental Combined[a]	No. Harvested	3	8	3	7	21
	Harvest Rate	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
	No. Released	0	0	0	0	0
	Release Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No. Caught	3	8	3	7	21
	Catch Rate	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Salmonid Boat	No. Harvested	0	51	0	NA	51
	Harvest Rate	(0.000)	(0.005)	(0.000)	NA	(0.004)
	No. Released	0	9	0	NA	9
	Release Rate	(0.000)	(<0.001)	(0.000)	NA	(<0.001)
	No. Caught	0	60	0	NA	60
	Catch Rate	(0.000)	(0.006)	(0.000)	NA	(0.004)
Kilograms Harvested		14	294	10	31	348
Mean weight (grams)		4,453	4,982	3,239	4,453	4,836
Mean total length (mm)		NA	752	625	NA	740
Median total length (mm)		NA	760	NA	NA	760

[a] Incidental includes incidental catch by non-salmonid anglers.

Appendix M. Summary of combined boat and shore angler catch and total length data by zone for rainbow trout on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type		Zone 1	Zone 2	Zone 3	Zone 4	Overall
Incidental Boat[a]	No. Harvested	0	0	0	0	0
	Harvest Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No. Released	0	0	0	0	0
	Release Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No.Caught	0	0	0	0	0
	Catch Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Incidental Shore[a]	No. Harvested	0	0	0	0	0
	Harvest Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.00)
	No. Released	0	0	0	0	0
	Release Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No. Caught	0	0	0	0	0
	Catch Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Incidental Combined[a]	No. Harvested	0	0	0	0	0
	Harvest Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No. Released	0	0	0	0	0
	Release Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	No. Caught	0	0	0	0	0
	Catch Rate	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Salmonid Boat	No. Harvested	0	2	3	NA	5
	Harvest Rate	(0.000)	(<0.001)	(0.026)	NA	(<0.001)
	No. Released	0	3	0	NA	3
	Release Rate	(0.000)	(<0.001)	(0.000)	NA	(<0.001)
	No. Caught	0	5	3	NA	8
	Catch Rate	(0.000)	(0.001)	(0.026)	NA	(0.001)
Kilograms Harvested		0	5	8	0	13
Mean weight (grams)		NA	2,562	2,569	NA	2,567
Mean total length (mm)		NA	600	550	NA	575
Median total length (mm)		NA	NA	NA	NA	575

[a] Incidental includes incidental catch by non-salmonid anglers.

Appendix N. Summary of combined boat and shore angler catch data by zone for non-sport fish[b] on Fort Peck Reservoir, May 28 through October 17, 2004.

Angler Type		Zone 1	Zone 2	Zone 3	Zone 4	Overall
Boat	No. Harvested	10	15	88	35	148
	Harvest Rate	(0.001)	(<0.001)	(0.001)	(0.001)	(0.001)
	No. Released	364	451	3,538	920	5,273
	Release Rate	(0.022)	(0.012)	(0.058)	(0.063)	(0.040)
	No.Caught	374	466	3,626	955	5,421
	Catch Rate	(0.023)	(0.012)	(0.059)	(0.065)	(0.041)
Shore	No. Harvested	16	0	0	0	16
	Harvest Rate	(0.006)	(0.000)	(0.000)	(0.000)	(0.004)
	No. Released	28	30	34	4	96
	Release Rate	(0.015)	(0.045)	(0.056)	(0.032)	(0.027)
	No. Caught	44	30	34	4	112
	Catch Rate	(0.022)	(0.045)	(0.056)	(0.032)	(0.031)
Combined	No. Harvested	26	15	88	35	164
	Harvest Rate	(0.002)	(<0.001)	(0.001)	(0.002)	(0.001)
	No. Released	392	481	3,572	924	5,369
	Release Rate	(0.021)	(0.012)	(0.058)	(0.063)	(0.039)
	No. Caught	418	496	3,660	959	5,533
	Catch Rate	(0.023)	(0.013)	(0.059)	(0.065)	(0.040)
Incidental[a]	No. Harvested	0	0	16	NA	16
	Harvest Rate	(0.000)	(0.000)	(0.158)	NA	(0.002)
	No. Released	0	15	0	NA	15
	Release Rate	(0.000)	(0.002)	(0.000)	NA	(0.001)
	No. Caught	0	15	16	NA	31
	Catch Rate	(0.000)	(0.002)	(0.158)	NA	(0.003)

[a] Incidental includes incidental catch by salmonid boat anglers.

[b] Non-sport fish includes bullhead, common carp, cisco, river carpsucker, freshwater drum, goldeye, paddlefish, redhorse, and white sucker.

Appendix O. Responses to management and angler preference questions on Fort Peck Reservoir, May 28 to October 17, 2004.

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1. What was the primary species you were fishing for today?

	Boat (n=3,282)	Shore (n=169)	Overall (n=3,451)
Walleye	2,405 (73%)	35 (21%)	2,440 (71%)
Salmon	157 (5%)	19 (11%)	176 (5%)
Northern pike	77 (2%)	13 (8%)	90 (3%)
Lake trout	111 (3%)	2 (1%)	113 (3%)
Lake trout/salmon	26 (1%)	0 (0%)	26 (1%)
Smallmouth bass	14 (<1%)	3 (2%)	17 (<1%)
Walleye/N. Pike	0 (0%)	10 (6%)	10 (<1%)
Any fish	281 (9%)	80 (47%)	361 (10%)
Other fish[a]	211 (6%)	7 (4%)	218 (6%)

Other fish includes carp/drum, channel catfish, channel catfish/northern pike, crappie, northern pike/bass, northern pike/smallmouth bass, walleye/bass, walleye/channel catfish, walleye/lake trout, walleye/sauger, and walleye/smallmouth bass.

2. How would you rate the overall fishing on Fort Peck?

	Boat (n=3,254)	Shore (n=168)	Overall (n=3,422)
Excellent	147 (5%)	1 (1%)	148 (4%)
Good	763 (23%)	35 (21%)	798 (23%)
Fair	713 (22%)	25 (15%)	738 (22%)
Poor	938 (29%)	49 (29%)	987 (29%)
Very Poor	657 (20%)	54 (32%)	711 (21%)
No opinion	36 (1%)	4 (2%)	40 (1%)

3a. Were you satisfied with the average size of fish caught today?

	Boat (n=3,180)	Shore (n=168)	Overall (n=3,348)
Yes	1,145 (36%)	44 (26%)	1,189 (36%)
No	2,035 (64%)	124 (74%)	2,159 (64%)

3b. If "NO" to 3a, why not?

	Boat (n=1,752)	Shore (n=121)	Overall (n=1,873)
Didn't catch any fish	943 (54%)	88 (73%)	1,031 (55%)
Too small	639 (36%)	24 (20%)	663 (35%)
Too few fish	100 (6%)	1 (1%)	101 (5%)
Low water affects fish	1 (<1%)	0 (0%)	1 (<1%)
Poor weather	8 (<1%)	0 (0%)	8 (<1%)
Didn't catch certain species	57 (3%)	8 (7%)	65 (3%)
Tournaments	1 (<1%)	0 (0%)	1 (<1%)
No mid-range fish	2 (<1%)	0 (0%)	2 (<1%)
No salmon	1 (<1%)	0 (0%)	1 (<1%)
	(%)	(%)	(%)

4a. Were you satisfied with the number of fish caught today?

	Boat (n=3,178)	Shore (n=168)	Overall (n=3,346)
Yes	711 (22%)	27 (16%)	738 (22%)
No	2,467 (78%)	141 (84%)	2,608 (78%)

4b. If "NO" to 4a, why not?

	Boat (n=2,153)	Shore (n=138)	Overall (n=2,291)
Didn't catch any fish	941 (44%)	90 (65%)	1,031 (45%)
Too small	18 (1%)	0 (0%)	18 (1%)
Poor fishing	2 (<1%)	1 (1%)	3 (<1%)
Too few fish	1,115(52%)	39 (28%)	1,154 (50%)
Low water affects fish	2 (<1%)	0 (0%)	2 (<1%)
Poor weather	9 (<1%)	1 (1%)	10 (<1%)
Didn't catch certain species	64 (3%)	7 (5%)	71 (3%)
No salmon	2 (<1%)	0 (0%)	2 (<1%)
	(%)	(%)	(%)

5. In what zone did you fish most today?

	Boat (n=3,219)	Shore (n=169)	Overall (n=3,388)
Zone 1	461 (14%)	70 (41%)	531 (16%)
Zone 2	1,257 (39%)	57 (34%)	1,314 (39%)
Zone 3	1,260 (39%)	36 (21%)	1,296 (38%)
Zone 4	241 (7%)	6 (4%)	247 (7%)

6. Have you been surveyed previously while fishing on Fort Peck Reservoir this year? (If"YES", survey ended.)

	Boat (n=3,312)	Shore (n=170)	Overall (n=3,482)
Yes	2,077 (63%)	78 (46%)	2,155 (62%)
No	1,235 (37%)	92 (54%)	1,327 (38%)

7. List, in order the top three species you would prefer MT FWP to manage on Fort Peck.

	Boat (n=1,231)	Shore (n=91)	Overall (n=1,322)
#1-Walleye	1,067 (87%)	61 (67%)	1,128 (85%)
#1-Northern pike	45 (4%)	15 (16%)	60 (5%)
#1-Smallmouth bass	25 (2%)	2 (2%)	27 (2%)
#1-Chinook salmon	29 (2%)	3 (3%)	32 (2%)
#1-Lake trout	20 (2%)	0 (0%)	20 (2%)
#1-Rainbow trout	2 (<1%)	1 (1%)	3 (<1%)
#1-Coho salmon	0 (0%)	1 (1%)	1 (<1%)
#1-"Bass"	14 (1%)	0 (0%)	14 (1%)
#1-Sauger	6 (<1%)	2 (2%)	8 (1%)
#1-Yellow perch	6 (<1%)	0 (0%)	6 (<1%)
#1-Crappie	4 (<1%)	1 (1%)	5 (<1%)
#1-Channel catfish	1 (<1%)	1 (1%)	2 (<1%)
#1-Burbot (Ling)	1 (<1%)	1 (1%)	2 (<1%)
#1-Sturgeon	0 (0%)	2 (2%)	2 (<1%)
#1-Muskie	2 (<1%)	0 (0%)	2 (<1%)
#1-Largemouth bass	1 (<1%)	0 (0%)	1 (<1%)
#1-Paddlefish	1 (<1%)	0 (0%)	1 (<1%)
#1-Cisco	1 (<1%)	0 (0%)	1 (<1%)
#1-Bait fish	1 (<1%)	0 (0%)	1 (<1%)
#1-Goldye	0 (0%)	1 (1%)	1 (<1%)
#1-Carp	1 (<1%)	0 (0%)	1 (<1%)
#1-Any fish	4 (<1%)	0 (0%)	4 (<1%)

Appendix O. (continued)

	Boat (n=1,231)	Shore (n=91)	Overall (n=1,322)
#2-Walleye	95 (8%)	19 (21%)	114 (9%)
#2-Northern pike	416 (34%)	29 (32%)	445 (34%)
#2-Smallmouth bass	156 (13%)	8 (9%)	164 (12%)
#2-Chinook salmon	114 (9%)	6 (7%)	84 (6%)
#2-Lake trout	77 (6%)	7 (8%)	84 (6%)
#2-Rainbow trout	3 (<1%)	2 (2%)	5 (<1%)
#2-Brown trout	1 (<1%)	0 (0%)	1 (<1%)
#2-"Trout"	2 (<1%)	0 (0%)	2 (<1%)
#2-"Bass"	53 (4%)	2 (2%)	55 (4%)
#2-Sauger	132 (11%)	7 (8%)	139 (11%)
#2-Yellow perch	32 (3%)	8 (9%)	40 (3%)
#2-Crappie	6 (<1%)	0 (0%)	6 (<1%)
#2-Channel catfish	2 (<1%)	0 (0%)	2 (<1%)
#2-Burbot (Ling)	2 (<1%)	1 (1%)	3 (<1%)
#2-Largemouth bass	2 (<1%)	0 (0%)	2 (<1%)
#2-Paddlefish	0 (0%)	1 (1%)	1 (<1%)
#2-Cisco	3 (<1%)	0 (0%)	3 (<1%)
#2-Bait fish	1 (<1%)	0 (0%)	1 (<1%)
#2-Drum	1 (<1%)	0 (0%)	1 (<1%)
#2-Blowfish (?)	1 (<1%)	0 (0%)	1 (<1%)
#2-No second choice	131 (11%)	1 (<1%)	132 (10%)

Appendix O. (continued)

	Boat (n=1,231)	Shore (n=91)	Overall (n=1,322)
#3-Walleye	36 (3%)	5 (5%)	41 (3%)
#3-Northern pike	209 (17%)	17 (19%)	226 (17%)
#3-Smallmouth bass	203 (16%)	12 (13%)	215 (16%)
#3-Chinook salmon	86 (7%)	11 (12%)	97 (7%)
#3-Lake trout	142 (12%)	9 (10%)	151 (11%)
#3-Chinook salm/Lake trt	3 (<1%)	0 (0%)	3 (<1%)
#3-Rainbow trout	2 (<1%)	0 (0%)	2 (<1%)
#3-Brown trout	2 (<1%)	0 (0%)	2 (<1%)
#3-Cutthroat trout	1 (<1%)	0 (0%)	1 (<1%)
#3-"Bass"	94 (8%)	7 (8%)	101 (8%)
#3-Sauger	70 (6%)	10 (11%)	80 (6%)
#3-Yellow perch	85 (7%)	6 (7%)	91 (7%)
#3-Crappie	19 (2%)	0 (0%)	19 (1%)
#3-Channel catfish	5 (<1%)	1 (1%)	6 (<1%)
#3-Burbot (Ling)	3 (<1%)	0 (0%)	3 (<1%)
#3-Sturgeon	2 (<1%)	1 (1%)	3 (<1%)
#3-Muskie	3 (<1%)	0 (0%)	3 (<1%)
#3-Tiger muskie	4 (<1%)	0 (0%)	4 (<1%)
#3-Largemouth bass	3 (<1%)	1 (1%)	4 (<1%)
#3-White bass	2 (<1%)	0 (0%)	2 (<1%)
#3-Bluegill	2 (<1%)	0 (0%)	2 (<1%)
#3-Paddlefish	4 (<1%)	1 (1%)	5 (<1%)

Appendix O. (continued)

#3-Cisco	25 (2%)	0 (0%)	25 (2%)
#3-Bait fish	3 (<1%)	1 (1%)	4 (<1%)
#3-Goldeye	1 (<1%)	0 (0%)	1 (<1%)
#3-Drum	1 (<1%)	0 (0%)	1 (<1%)
#3-Any fish	3 (<1%)	0 (0%)	3 (<1%)
#3-No third choice	218 (18%)	9 (10%)	227 (17%)

Appendix O. (continued)

8. What do you believe are the biggest threats to fishing on Fort Peck? (Record all answers)

	Boat (n=1,224)	Shore (n=92)	Overall (n=1,316)
A-Killing big walleye	2 (<1%)	0 (0%)	2 (<1%)
B-Water levels	962 (79%)	75 (82%)	1,037 (79%)
C-Corps of Engineers	101 (8%)	13 (14%)	114 (9%)
D-Downsteam flows	1 (<1%)	1 (1%)	2 (<1%)
E-Poor management	12 (1%)	2 (2%)	14 (1%)
F-Over use	7 (1%)	0 (0%)	7 (1%)
G-Lack of forage	15 (1%)	0 (0%)	15 (1%)
H-Weather	28 (2%)	3 (3%)	31 (2%)
I-Lack of access	7 (1%)	0 (0%)	7 (1%)
J-Lack of catch & release	4 (<1%)	0 (0%)	4 (<1%)
K-ANS	3 (<1%)	0 (0%)	3 (<1%)
L-MT FWP	19 (2%)	1 (1%)	20 (2%)
M-Humans/fishermen	5 (<1%)	0 (0%)	5 (<1%)
N-Jet skis	2 (<1%)	0 (0%)	2 (<1%)
O-Politicians	4 (<1%)	0 (0%)	4 (<1%)
P-Salmon	6 (<1%)	0 (0%)	6 (<1%)
Q-Lake trout	12 (1%)	0 (0%)	12 (1%)
R-Poor facilities/maintenance	6 (<1%)	0 (0%)	6 (<1%)
S-Not enough fish	30 (2%)	2 (2%)	32 (2%)
T-Tournaments	6 (<1%)	2 (2%)	8 (1%)
U-Fish disease	1 (<1%)	0 (0%)	1 (<1%)
V-No length/slot limits	10 (1%)	0 (0%)	10 (1%)
W-Cold water	1 (<1%)	0 (0%)	1 (<1%)

Appendix O. (continued)

	Boat (n=)	Shore (n=)	Overall (n=)
Y-Barges	6 (<1%)	0 (0%)	6 (<1%)
Z-Don't know	53 (4%)	3 (3%)	56 (4%)
AA-Northern pike	7 (1%)	1 (1%)	8 (1%)
BB-Limit on pike	2 (<1%)	0 (0%)	2 (<1%)
CC-US FWS	2 (<1%)	0 (0 %)	2 (<1%)
DD-Lake structure	5 (<1%)	1 (1%)	6 (<1%)
EE-Lack of habitat	10 (1%)	0 (0%)	10 (1%)
FF-Nothing	2 (<1%)	0 (0%)	2 (<1%)
GG-Environmentalists	2 (<1%)	0 (0%)	2 (<1%)
HH-Not cleaning boats	0 (0%)	1 (1%)	1 (<1%)
II-Canadian thistle	1 (<1%)	0 (0%)	1 (<1%)
JJ-Boating	0 (0%)	1 (1%)	1 (<1%)
KK-Pro fishermen	1 (<1%)	0 (0%)	1 (<1%)
LL-Seagulls	1 (<1%)	1 (1%)	2 (<1%)
MM-Pelicans	1 (<1%)	1 (1%)	2 (<1%)
NN-Herbicides	2 (<1%)	0 (0%)	2 (<1%)
OO-Overharvest of fish	5 (<1%)	0 (0%)	5 (<1%)
PP-Trophy fishing	1 (<1%)	0 (0%)	1 (<1%)
QQ-Out of state boats	1 (<1%)	0 (0%)	1 (<1%)
RR-Too large of limit	1 (<1%)	0 (0%)	1 (<1%)
TT-Pollution	2 (<1%)	0 (0%)	2 (<1%)
UU-Over conservation	1 (<1%)	0 (0%)	1 (<1%)
VV-Carp (all species)	1 (<1%)	0 (0%)	3 (<1%)

Appendix O. (continued)

	Boat (n=)	Shore (n=)	Overall (n=)
WW-Rough/trash fish	1 (<1%)	0 (0%)	1 (<1%)
XX-Gill nets	1 (<1%)	0 (0%)	1 (<1%)
YY-No beer	1 (<1%)	0 (0%)	1 (<1%)
ZZ-Zebra mussel	1 (<1%)	0 (0%)	1 (<1%)
AAA-BLM	1 (<1%)	0 (0%)	1 (<1%)
BBB-Government employees	1 (<1%)	0 (0%)	1 (<1%)
CCC-Garbage	1 (<1%)	0 (0%)	1 (<1%)

9a. Relative to the past 5 years, do you fish Fort Peck MORE, LESS or the same amount of time?

	Boat (n=1,228)	Shore (n=88)	Overall (n=1,316)
More	229 (19%)	20 (23%)	249 (19%)
Less	289 (24%)	19 (22%)	308 (23%)
Same	710 (58%)	49 (56%)	759 (58%)

9b. If "MORE" or "LESS", what percent more or less?

	Boat	Shore	Overall
MORE-Range	10 - 200	10 - 100	10 - 100
MORE-Mean	51	41	47
MORE-Median	50	28	50
MORE (n)	104	10	114
LESS-Range	10 - 99	10 - 75	10 - 99
LESS-Mean	50	38	49
LESS-Median	50	50	50
LESS (n)	261	17	278
First time anglers	107	10	117

10. In your opinion, what aquatic nuisance species poses the greatest threat to MT waters?

	Boat (n=1,234)	Shore (n=91)	Overall (n=1,325)
A-Carp	85 (7%)	7 (8%)	92 (7%)
B-Zebra mussel	197 (16%)	12 (13%)	209 (16%)
C-Whirling disease	14 (1%)	2 (2%)	16 (1%)
D-Corps of Engineers	19 (2%)	2 (2%)	21 (2%)
E-Lake trout	7 (1%)	1 (1%)	8 (1%)
F-Northern pike	13 (1%)	1 (1%)	14 (1%)
G-Clams/molluscs	2 (<1%)	1 (1%)	3 (<1%)
H-Rainbow trout	1 (<1%)	0 (0%)	1 (<1%)
I-Humans	4 (<1%)	0 (0%)	4 (<1%)
J-Snails	9 (1%)	2 (2%)	11 (1%)
K-Milfoil	16 (1%)	1 (1%)	17 (1%)
L-Suckers	6 (<1%)	1 (1%)	7 (1%)
M-Goldeye	30 (2%)	3 (3%)	33 (2%)
N-Seagulls	3 (<1%)	0 (0%)	3 (<1%)
O-Nothing	2 (<1%)	0 (0%)	2 (<1%)
P-Beavers	1 (<1%)	1 (<1%)	2(<1%)
Q-Cormorants	1 (<1%)	0 (0%)	1 (<1%)
R-MT FWP	4 (<1%)	0 (0%)	4 (<1%)
S-Smallmouth bass	2 (<1%)	0 (0%)	2 (<1%)
T-Jet skis	5 (<1%)	0 (0%)	5 (<1%)
U-Fly fishermen	0 (0%)	1 (1%)	1 (<1%)
V-Bull trout	1 (<1%)	0 (0%)	1 (<1%)
W-Perch	1 (<1%)	0 (0%)	1 (<1%)

Appendix O. (continued)

	Boat (n=)	Shore (n=)	Overall (n=)
Y-Drum	5 (<1%)	0 (0%)	5 (<1%)
Z-Don't know	819 (66%)	61 (67%)	880 (66%)
AA-Politicians	2 (<1%)	0 (0%)	2 (<1%)
BB-Whitefish	2 (<1%)	0 (0%)	2 (<1%)
CC-Bullheads	2 (<1%)	0 (0%)	2 (<1%)
DD-Weeds	7 (1%)	0 (0%)	7 (1%)
EE-Poor management	2 (<1%)	0 (0%)	2 (<1%)
FF-Salt cedar	2 (<1%)	1 (1%)	3 (<1%)
GG-Methane gas	1 (<1%)	0 (0%)	1 (<1%)
HH-Non-native species	8 (1%)	0 (0%)	8 (1%)
II-Mysis shrimp	1 (<1%)	0 (0%)	1 (<1%)
JJ-Purple loosestrife	1 (<1%)	0 (0%)	1 (<1%)
KK-Tiger muskie	1 (<1%)	0 (0%)	1 (<1%)
LL-Salmon	2 (<1%)	0 (0%)	2 (<1%)
MM-Garbage	1 (<1%)	0 (0%)	1 (<1%)
NN-Pelicans	2 (<1%)	0 (0%)	2 (<1%)
OO-Gobies	3 (<1%)	0 (0%)	3 (<1%)
QQ-Unclean boats	2 (<1%)	0 (0%)	2 (<1%)
RR-Moss	1 (<1%)	0 (0%)	1 (<1%)
SS-Bighead carp	1 (<1%)	0 (0%)	1 (<1%)
TT-Gizzard shad	3 (<1%)	0 (0%)	3 (<1%)
UU-Rough/trash fish	1 (<1%)	0 (0%)	1 (<1%)
VV-Walleye	1 (<1%)	0 (0%)	1 (<1%)

Appendix O. (continued)

	Boat (n=)	Shore (n=)	Overall (n=)
WW-Cisco	1 (<1%)	0 (0%)	1 (<1%)
XX-Lamprey	1 (<1%)	0 (0%)	1 (<1%)
YY-Bacteria	1 (<1%)	0 (0%)	1 (<1%)
ZZ-Barges	1 (<1%)	0 (0%)	1 (<1%)
AAA-Out of state boats	1 (<1%)	0 (0%)	1 (<1%)
BBB-Unclean bait	1 (<1%)	0 (0%)	1 (<1%)
CCC-Lake trout and brook trout in Yellowstone Lake	1 (<1%)	0 (0%)	1 (<1%)

Appendix O. (continued)

11. What should be done to prevent the spread of aquatic nuisance species?

	Boat (n=1,233)	Shore (n=91)	Overall (n=1,324)
A-Nothing	4 (<1%)	0 (0%)	4 (<1%)
B-More information	6 (<1%)	3 (3%)	9 (1%)
C-Education	26 (2%)	6 (7%)	32 (2%)
D-Stop bucket planting	2 (<1%)	1 (1%)	3 (<1%)
E-Wash boat/trailer	188 (15%)	9 (10%)	197 (15%)
F-Boat washing station	4 (<1%)	1 (1%)	5 (<1%)
G-Clean all equipment	25 (2%)	1 (1%)	26 (2%)
H-Legislation	3 (<1%)	0 (0%)	3 (<1%)
I-Prohibit NA Free Trade	2 (<1%)	0 (0%)	2 (<1%)
J-No limit on pike	6 (<1%)	0 (0%)	6 (<1%)
K-Check/clean nonresident boats	10 (1%)	1 (1%)	11 (1%)
L-Clean live-wells	8 (1%)	0 (0%)	8 (1%)
M-Kill/net carp	7 (1%)	3 (3%)	10 (1%)
N-Raise or maintain water levels	3 (<1%)	0 (0%)	3 (<1%)
O-Commercial fishing	27 (2%)	1 (1%)	28 (2%)
P-Open season	2 (<1%)	0 (0%)	2 (<1%)
Q-Prohibit nonresident boats	1 (<1%)	0 (0%)	1 (<1%)
R-checkpoints/Boat inspections	19 (2%)	0 (0%)	19 (1%)
S-Trap beavers	0 (0%)	1 (1%)	1 (<1%)
T-Kill cormorants	1 (<1%)	0 (0%)	1 (<1%)
U-Spray/remove weeds	5 (<1%)	1 (1%)	6 (<1%)
V-Tend to Fort Peck	2 (<1%)	0 (0%)	2 (<1%)
W-Better management	2 (<1%)	0 (0%)	2 (<1%)

Appendix O. (continued)

	Boat	Shore	Overall
Y-Signs	1 (<1%)	0 (0%)	1 (<1%)
Z-Don't know	883 (72%)	64 (70%)	947 (72%)
AA-Don't stock tiger muskie, salmon or lake trout	2 (<1%)	0 (0%)	2 (<1%)
BB-Buy clean bait	11 (1%)	0 (0%)	11 (1%)
CC-Bait inspection	19 (2%)	0 (0%)	19 (1%)
DD-Clean tackle	1 (<1%)	0 (0%)	1 (<1%)
EE-Less or control access	3 (<1%)	0 (0%)	3 (<1%)
FF-No transport of bait	1 (<1%)	0 (0%)	1 (<1%)
GG-Eliminate Corps	3 (<1%)	0 (0%)	3 (<1%)

Appendix O. (continued)

12. Non-residents only - Why did you chose to fish Fort Peck Reservoir?

	Boat (n=224)	Shore (n=7)	Overall (n=231)
A-Catch big fish	21 (9%)	0 (0%)	21 (9%)
B-Good fishing	23 (10%)	1 (14%)	24 (10%)
C- Annual trip	31 (14%)	1 (14%)	32 (14%)
D-Close distance	2 (1%)	1 (14%)	3 (1%)
E-Tournament	24 (11%)	0 (0%)	24 (10%)
F-Visiting friend/relatives	58 (26%)	2 (29%)	60 (26%)
G-Not overcrowded	5 (2%)	0 (0%)	5 (2%)
H-Favorite lake	5 (2%)	0 (0%)	5 (2%)
I-Walleye fishing	16 (7%)	1 (14%)	17 (7%)
J-Lake size	2 (1%)	0 (0%)	2 (1%)
K-Vacation/New adventure	13 (6%)	1 (14%)	14 (6%)
L-Passing through	1 (<1%)	0 (0%)	1 (<1%)
M-Word of mouth	7 (3%)	0 (0%)	7 (3%)
N-Advertisements	4 (2%)	0 (0%)	4 (2%)
O-Scenery	1 (<1%)	0 (0%)	1 (<1%)
P-Poor fishing at home	1 (<1%)	0 (0%)	1 (<1%)
Q-Own cabin/property	9 (4%)	0 (0%)	9 (4%)
R-Hunting	1 (<1%)	0 (0%)	1 (<1%)
S-Archeological dig	1 (<1%)	0 (0%)	1 (<1%)
T-Lake trout fishing	3 (1%)	0 (0%)	3 (1%)
U-Salmon fishing	7 (3%)	0 (0%)	7 (3%)
W-Sakakawea was slow	1 (<1%)	0 (0%)	1 (<1%)
Y-Business trip	1 (<1%)	0 (0%)	1 (<1%)
BB-Used to live hear	1 (<1%)	0 (0%)	1 (<1%)