JOB COMPLETION REPORT

INVESTIGATIONS PROJECTS

State of Montana

Project No. F-11-R-1 Job No. I

Title of Job Cataloging the Waters of the Project Area

Abstract:

The Fort Peck Reservoir Study is a part of the inclusive study, Cataloging the Waters of the Project Area.

To determine fish population changes in Fork Peck Reservoir, experimental gill net sets made in 1949 were duplicated in 1953. The net catches showed a considerable increase in goldeye and carp numbers. Yellow perch decreased in number while sauger numbers were very nearly the same in 1953 as in 1949; weights of the sauger, however, were much smaller. The results of the experimental gill net catches were substantially borne out by reports from fishermen contacted.

Depth distributions were very similar for both years; yellow perch at about 20 feet, goldeye near the surface, and sauger most abundant from 8 to 15 feet. Fish became progressively fewer in the greater depths. The $1\frac{1}{4}$ and the $1\frac{1}{2}$ inch mesh were definitely the most selective for the goldeye.

A total of 28,000 fingerling mackinaw trout were liberated along the upstream face of the dam during the summer of 1953. In this area the large quarry-stone and the deep, cool water could closely approach the natural habitat of the species. Should the mackinaw become established in the reservoir, it would support a considerable sport fishery.

In the upper reservoir area, goldeye were predominant in number; however, there were a greater number of catfish and buffalo than were found nearer the dam. Only one paddlefish (Polyodon spathula) was taken in a forty-five hour net set in the upper reservoir area. Other paddlefish were observed singly throughout the upper reservoir, but no large schools, as reported by the Towne Bros. in 1949, were seen.

The shoreline and shoals of Fort Peck Reservoir are made up almost entirely of barren Bear Paw shale. Water levels fluctuate up to twenty feet or more. These conditions tend to favor more the random spawning goldeye and carp, and to limit the more desirable fish, the sauger, perch, trout, and salmon, that are more restricted in their spawning habitat requirements.

Commercial fishing for rough fish is recommended, and has this year been investigated by officials of the Montana Fish and Game Department, Fisheries Division. Should a commercial fishery program prove feasible for Fort Peck Reservoir, a resource now going to waste could be utilized and the desirable fish should benefit through a lessened competition.

Objectives:

The overall purpose of the project is to determine the physical, chemical, and biological characteristics of the various waters in the project area and to catalog these waters. The Fort Peck Reservoir study is a part of the inclusive project; more specifically, a comparison of fish population changes in Fort Peck Reservoir over a four year period as determined by experimental gill net catches.

Techniques Used:

During the summer of 1949, the Montana Fish and Game Department employed Mr. H. W. Newman to make investigations on Fort Peck Reservoir. Fish population sampling was done by setting experimental gill nets. The present studies have attempted to duplicate, in both time and location, as many as possible of the gill net sets made during the 1949 studies, and to obtain from the comparisons, an index of fish population changes over the four year period.

The experimental gill nets used in most of the 1949 sets were furnished by the Fish and Wildlife Service, Missouri River Basin Studies, as was assistance in making the net sets and recording data. The nets used were 250 feet in length and 6 feet deep, with 50 foot sections each of 3/4, 1, 1 1/4, 1 1/2, and 2 inch mesh. Since the same nets were not available for the 1953 studies, Fish and Game Department nets, 125 feet in length and 6 feet deep, were used, with 25 foot sections each of the same mesh sizes as the longer nets.

During the summer of 1953, 1375 feet of experimental gill net were set for 147 hours. Comparable 1949 sets totaled 4125 feet set for 143 hours.

It is quite probable that some error in calculations may result from the use of the shorter nets, since the various mesh sizes would not lie in just the same positions. However, by converting the catch data to percentages for both years, definite trends can be observed.

Original data by Newman and by the Fish and Wildlife Service, Missouri River Basin Studies, and tables from The Fort Peck Reservoir Fishery Survey (Phenicie, 1950), have been used for comparisons. Appreciation for the use of the material is acknowledged, as is assistance wherever possible by the Fort Peck Game Range and the U. S. Army Corps of Engineers.

Findings:

Description of the area:

Fort Peck Reservoir and the surrounding area is very well described in the report prepared by the Missouri River Basin Studies (1952), and there is no need here for a detailed description.

Comparisons of gill net catches:

Perhaps the most striking feature of the comparisons of the gill net catches made in 1949 and 1953 is the 39 percent increase in the number of goldeye taken. (Table 1) Bearing in mind the size of Fort Peck Reservoir (245,000 surface acres at maximum level), and the relatively few gill net sets made, this figure cannot be interpreted as showing a direct increase of 39 percent in the goldeye population. It does, however, show that the trend of the goldeye population has been upward.

The decline in perch numbers is more difficult to assess. As pointed out by Phenicie (1950), perch are very likely more easily caught in a gill net than are the goldeye. The decline would then be even more significant than is shown by the percentage figures.

Sauger numbers showed very little actual change over the four-year period. Their weights, however, showed a considerable decline.

Carp numbers and weights increased substantially. Since the carp are usually less easily gilled than are some of the other species, their increase could be greater than is shown.

Other species were taken in numbers too few on which to base any conclusions.

The percentages and average lengths of the catch made by the various mesh sizes of the gill nets are shown in Table 2. The 1949 data includes figures from net sets not duplicated in 1953; still, general comparisons can be made. Again, the 1 1/4 inch and 1 1/2 inch mesh sizes were apparently quite selective for the goldeye.

Depth distribution studies, as such, were not carried out during the summer of 1953; however, depths of the net sets made were recorded and compared to results of the 1949 studies. The 1953 figures followed very closely the findings of the 1949 sets. Perch were again most abundant in the vicinity of 20 feet. Goldeye were most abundant near the surface, especially from 4 to 15 feet, with progressively smaller numbers being taken as depths increased. No goldeye were taken below 38 feet. Sauger numbers were greatest from 8 to 15 feet, again with fewer numbers being taken at greater depths.

Observations:

On still, sunny days great numbers of carp could be seen near the surface of the water. While carp have always been present in the reservoir, reports from fishermen who have fished the reservoir rather consistently for the past 5 to 10 years all point to an increase in carp numbers. The fisherman contacts made during the summer further supported the findings of the gill net sets in that an increase in the catch of goldeye was reported and a decrease in the number of perch and larger sauger.

Fishing pressure was relatively light during the summer of 1953, due largely to rather poor success. While the spillway was open during the

TABLE 1

RESULTS OF COMPARABLE GILL NET SETS, 1949 AND 1953.

Date and Location	Feet-Hours of Net Set	Species	Total Number	Total Weight	Av. Weight	Av. Length	% by Weight	% by Number
June 20-21, 1949 Rec. area, Fish & Wildlife Service Bay	125 - 12	Goldeye	27	13.14	.48	11.3	76.5	71.1
		Perch	8	1.21	.15	6.8	7.1	21.1
		Sauger	1	.98	.98	15.3	5.7	2.6
		Crappie	1	.54	.54	10.3	3.1	2.6
		Carp	1	1.30	1.30	14.4	7.6	2.6
June 20-21, 1953 Rec. area, Fish & Wildlife Service Bay	125 - 12	Goldeye	2	1.34	.67	12.7	11.6	11.8
		Perch	6	1.95	.33	9.1	17.0	35.3
		Sauger	6	4.18	.69	12.6	36.4	35.3
		Sucker	2	2.36	1.18	14.5	20.5	11.8
		Sturgeon	1	1.66	1.66	25.3	14.5	5.8
July 6-7, 1949 Rec. area	250 - 12	Goldeye	3	2.08	.69	13.6	37.3	50.0
		Sturgeon	2	2.98	1.49	25.2	53.4	33.3
		Sucker	1	.52	.52	11.1	9.3	16.7
July 6-7, 1953 Rec. area	250 - 12	Goldeye	1	.72	.72	13.1	5.9	6.7
		Perch	7	2.15	.31	9.0	17.6	46.7
		Sauger	2	.78	.39	11.1	6.4	13.3
		Sturgeon	2	4.13	2.07	27.0	33.7	13.3
		Carp	3	4.47	1.49	15.0	36.4	20.0
July 7-9, 1949 Off point near face of dam.	500 - 12	Goldeye	46	26.74	.58	12.2	68.1	63.0
		Perch	21	6.11	.29	7.9	15.6	28.8
		Sauger	2	3.35	1.68	17.6	8.5	2.7
		Sucker	2	1.42	.71	11.8	3.6	2.7
		Sturgeon	1	1.12	1.12	23.7	2.9	1.4
		Ling	1	.55	.55	13.2	1.3	1.4
July 7-8, 1953 Off point near face of dam.	250 - 12	Goldeye	110	64.39	.59	12.0	74.7	84.6
		Perch	4	1.44	.36	9.8	1.7	3.1
		Sauger	8	6.66	.83	14.4	7.7	6.2
		Sucker	1	1.28	1.28	14.7	1.5	0.8
		Carp	5	8.90	1.78	15.4	10.3	3.8
		Rb trout	2	3.57	1.79	18.4	4.1	1.5
July 7-8, 1949 S. of dike, E. of rec. area.	500 - 12	Goldeye	25	13.62	.54	12.0	36.0	37.9
		Perch	29	5.34	.18	6.9	14.1	43.9
		Sauger	8	13.40	1.68	16.8	35.4	12.1
		Sucker	3	3.90	1.30	14.3	10.3	4.5
		Carp	1	1.60	1.60	15.7	4.2	1.6
July 7-8, 1953 S. of dike, E. of rec. area.	250 - 12	Goldeye	88	52.47	.60	11.9	73.4	80.0
		Perch	7	2.08	.30	8.8	2.9	6.4
		Sauger	8	6.19	.77	13.8	8.7	7.3
		Sucker	1	1.78	1.78	16.0	2.5	0.8
		Carp	6	8.93	1.49	13.9	12.5	5.5

TABLE 1. (Continued)

Date and Location	Feet-Hours of Net Set	Species	Total Number	Total Weight	Av. Weight	Av. Length	% by Weight	% by Number
July 8-9, 1949 Point near spillway.	500 - 13	Goldeye	4	3.23	.81	13.2	9.3	4.0
		Perch	87	16.57	.19	7.2	47.5	87.0
		Sauger	7	12.93	1.85	18.0	37.1	7.0
		Sturgeon	1	1.15	1.15	24.2	3.3	1.0
		Ling	1	.97	.97	15.7	2.8	1.0
July 8-9, 1953 Point near spillway.	500 - 17	Goldeye	114	55.11	.48	11.3	58.1	68.4
		Perch	32	8.99	.28	8.5	9.5	19.5
		Sauger	3	1.30	.43	11.8	1.4	1.8
		Sucker	1	.98	.98	13.8	1.0	0.6
		Carp	8	12.17	1.52	14.8	12.8	4.9
		Sturgeon	1	1.91	1.91	26.0	2.0	0.6
		Buffalo	3	10.60	3.53	18.7	11.2	1.8
		Flathead Chub	1	.68	.68	13.5	0.7	0.6
		Rb trout	3	3.13	1.04	14.8	3.3	1.8
July 14-15, 1949 Point off Duck Creek coulee.	500 - 17	Goldeye	49	24.50	.50	11.5	36.2	20.0
		Perch	175	21.08	.12	6.5	31.2	71.7
		Sauger	12	12.54	1.05	13.9	18.5	4.9
		Sucker	5	2.80	.56	12.4	4.1	2.1
		Ling	2	3.78	1.89	20.2	5.6	0.8
		Rb trout	1	2.98	2.93	20.7	4.4	0.5
Sept. 14-15, 1953 Point off Duck Creek coulee.	250 - 17	Goldeye	16	9.67	.60	12.1	37.9	33.3
		Perch	26	7.27	.28	8.2	28.5	54.2
		Sauger	3	1.94	.65	13.4	7.6	6.3
		Sturgeon	2	2.81	1.41	24.8	11.1	4.2
		Buffalo	1	3.79	3.79	18.8	14.9	2.0
July 14-15, 1949 Duck Creek coulee.	500 - 16	Goldeye	49	27.76	.57	12.1	33.2	20.8
		Perch	164	20.72	.13	6.5	24.8	69.4
		Sauger	17	29.68	1.75	17.1	35.5	7.2
		Sucker	3	1.18	.39	9.8	1.4	1.3
		Ling	3	4.35	1.45	15.6	5.1	1.3
Sept. 15-16, 1953 Duck Creek coulee	250 - 16	Goldeye	42	23.42	.56	11.6	34.6	59.2
		Perch	16	4.59	.29	8.5	6.8	22.6
		Sauger	5	4.67	.93	15.1	6.9	7.0
		Sucker	1	.11	.11	6.8	0.2	1.4
		Sturgeon	1	25.00	25.00	41.2	36.9	1.4
		Carp	5	8.88	1.78	15.8	13.1	7.0
		Drum	1	1.03	1.03	13.6	1.5	1.4

TABLE 1. (Continued)

Date and Location	Feet-Hours of Net Set	Species	Total Number	Total Weight	Av. Weight	Av. Length	% by Weight	% by Number
August 2-3, 1949 Dredge cut below dam.	250 - 24	Goldeye	5	2.43	.49	11.7	12.5	16.1
		Perch	1	.16	.16	7.5	0.8	3.2
		Sauger	2	.58	.29	10.9	2.9	6.4
		Sucker	1	.54	.54	11.3	2.8	3.2
		Sturgeon	7	5.69	.81	20.5	29.2	22.6
		Catfish	10	6.04	.60	12.9	31.0	32.3
		Carpsucker	4	3.20	.80	12.3	16.4	13.0
		Drum	1	.86	.86	13.2	4.4	3.2
August 6-7, 1953 Dredge cut below dam.	250 - 24	Goldeye	5	1.38	.28	10.0	12.2	27.8
		Sauger	2	.92	.46	12.2	8.2	11.1
		Sucker	1	.16	.16	7.8	1.4	5.6
		Sturgeon	1	.74	.74	20.4	6.6	5.6
		Catfish	7	5.36	.77	12.9	47.6	38.8
		Carpsucker	2	2.71	1.36	14.5	24.0	11.1
August 26-27, 1949 Off Coordinate #77	1000 - 25	Ling	2	1.18	.59	13.8	39.2	66.7
		Sturgeon	1	1.83	1.83	27.2	60.8	33.3
August 26-27, 1953 Off Coordinate #77	250 - 25	Sockeye	5	9.52	1.90	17.2	95.8	83.3
		Sauger	1	.42	.42	13.2	4.2	16.7

SUMMARY OF COMPARABLE GILL NET SETS, 1949 AND 1953

Species	1949 4125 feet - 143 hours Total Number	% by Number	Total Weight	% by Weight	1953 1375 feet - 147 hours Total Number	% by Number	Total Weight	% by Weight
Goldeye	208	26.1	113.50	36.8	378	65.1	208.50	53.4
Perch	485	60.9	71.19	23.1	98	16.8	28.47	7.3
Sauger	49	6.1	73.46	23.8	38	6.5	27.06	6.9
Carp	2	0.3	2.90	0.9	27	4.6	43.35	11.1
Sturgeon	12	1.5	12.77	4.1	8	1.4	36.25	9.2
Sucker	15	1.9	10.36	3.4	7	1.2	6.67	1.7
Catfish	10	1.3	6.04	2.0	7	1.2	5.36	1.4
Ling	9	1.1	10.83	3.5	0			
Rb trout	1	0.1	2.93	0.9	5	0.9	6.70	1.7
Drum	1	0.1	.86	0.3	1	0.2	1.03	0.3
Carpsucker	4	0.5	3.20	1.0	2	0.3	2.71	0.7
Crappie	1	0.1	.54	0.2	0			
Sockeye	0				5	0.9	9.52	2.4
Buffalo	0				4	0.7	14.39	3.7
Flathead Chub	0				1	0.2	.68	0.2
Totals	797	100.0	308.58	100.0	581	100.0	390.69	100.0

TABLE 2.

Comparisons of percentages of catch and average length of goldeye, perch, and sauger by mesh size from sampling gill net sets in Fort Peck Reservoir, 1949 and 1953.

	GOLDEYE					PERCH					SAUGER				
Mesh size	3/4	1	1-1/4	1-1/2	2	3/4	1	1-1/4	1-1/2	2	3/4	1	1-1/4	1-1/2	2
Percent by species 1949 1/	1.4	9.1	43.4	44.4	1.7	55.1	18.1	18.1	7.4	1.3	8.5	8.5	18.9	23.6	40.5
Percent by species 1953	4.7	21.3	41.1	31.1	1.8	15.8	50.5	33.7	0	0	27.1	31.3	20.8	4.2	16.6
Percent by mesh size 1949 1/	2.1	28.9	65.0	79.6	21.9	96.5	68.0	31.8	15.6	19.2	1.4	3.1	3.1	4.8	58.9
Percent by mesh size 1953	40.8	58.0	80.0	98.5	50.0	32.7	32.5	15.5	0	0	26.5	9.5	4.5	1.5	50.0
Av. length by mesh size 1949	9.4	10.1	11.5	12.3	12.9	5.9	7.2	9.4	10.2	10.3	12.2	11.6	14.7	16.6	18.8
Av. length by mesh size 1953	11.7	11.2	11.5	12.2	12.8	7.8	8.3	9.2			11.6	13.3	14.3	18.5	21.1
Total number 1949 1/	13	85	407	417	16	608	200	199	82	14	9	9	19	25	43
Total number 1953	20	91	176	133	8	16	51	34	0	0	13	15	10	2	8

1/ Figures from The Fort Peck Reservoir Fishery Survey (Phenicie, 1950).

latter part of the summer, catches of perch improved in a rather limited area near the head of the spillway channel. This area was accessible only to the boat fishermen. Of the rainbow trout caught, most were taken along the upstream face of the dam. Trolling was reported to be more successful than casting from shore. The lure used by most of the trout fishermen was a plain, copper-colored spoon. Trout fishing in the reservoir furnishes but a small amount of the total fisherman-use of the reservoir. By far the greatest amount of fishing done by the average fisherman is still-fishing for perch or sauger with minnow bait. Spinning seems to be increasing in popularity. Quite a few of the fishermen contacted during the summer expressed interest in spinning gear, and quite a few new spinning outfits were seen.

Trout fishermen caught a few sockeye salmon near the face of the dam and a few salmon were also taken in a gill net set in the same vicinity. These fish were probably returning spawners from the plants made in that area in 1949 and 1950.

In May, 1953, a total of 24,000 mackinaw trout from the Somers Hatchery were liberated along the face of the dam. The following July, 4000 more were brought from Canada and were released in the same area. Salmon were to have been planted in 1953 but were not available.

Nearly all of the reservoir shoreline and shoal area is composed of Bear Paw shale. Aquatic vegetation is almost non-existent and water levels fluctuate up to 20 feet. These conditions decidedly do not make for suitable spawning habitats for the more desirable species of fish, the perch, sauger, trout, or salmon, that have somewhat restricted spawning habitat requirements. Favored more, perhaps, would be the random spawners, the goldeye and the carp.

The Upper Reservoir:

In mid-July a trip was made to the upper reservoir area in conjunction with a migratory waterfowl count being made by the Fort Peck Game Range personnel. Experimental gill net sets were made at the mouth of Billy Creek and near the mouth of the Musselshell River (Table 3). Catfish and buffalo were more numerous in the upper reservoir than in the area closer to the dam. In numbers, however, the goldeye maintained a definite lead.

TABLE 3.

RESULTS OF GILL NET SETS IN THE UPPER RESERVOIR

Date and Location	Feet-Hours of Net Set	Species	Total Number	Total Weight	Av. Weight	Av. Length	% by Weight	% by Number
July 18-19, 1953 Mouth of Musselshell River	125 - 14	Goldeye	41			11.3		46.6
		Carp	4	4.63	1.16	13.5		4.5
		Buffalo	19	49.63	2.61	17.1		21.6
		Catfish	24	35.63	1.48	15.2		27.3
July 17-18, 1953 Mouth of Billy Creek	125 - 11	Goldeye	9	4.50	.50	11.1	7.9	27.2
		Perch	3	.94	.31	8.4	1.7	9.1
		Sauger	5	4.50	.90	14.6	7.9	15.2
		Carp	2	3.94	1.97	15.9	6.9	6.1
		Carpsucker	2	1.00	.50	10.5	1.8	6.1
		Buffalo	4	12.63	3.16	18.3	22.1	12.1
		Catfish	7	26.13	3.73	19.4	45.9	21.2
		Sturgeon	1	3.31	3.31	29.1	5.8	3.0

A paddlefish gill net, 200 feet in length and 10 feet deep, with 4 inch mesh, was set near the mouth of the Musselshell River for a total of 45 hours. In the catch were 37 buffalo which averaged from 12 to 15 pounds in weight; 4 catfish averaging 12 pounds; and 1 paddlefish (Polyodon spathula) which weighed slightly over 35 pounds. Several paddlefish were observed in the upper reservoir in the vicinity of the U-L Bend, though no large schools, as reported by the Towne brothers in 1949, were seen.

Over a two day period, one fisherman was seen on the Musselshell River; he reported catches of catfish to be good.

Analysis and Recommendations:

From the results of comparable gill net catches, and from fishermen reports, the goldeye and carp populations in Fort Peck Reservoir are increasing. To the sport fishermen in the area, these fish are undesirable and are classed as rough fish. The magnitude of the reservoir, the considerable drainage of the Missouri River above Fort Peck Dam, and the expense involved would preclude such sport fishery management measures as poisoning, selective planting in numbers sufficient to show results, or rough fish removal. Considered too, in any management program, should be the use of the area for sport fishing. Of the 1600 miles of shoreline, the Missouri River Basin Studies (1952) report that the 15 miles in the vicinity of Fort Peck Dam receives twice as much use as the remaining 1585 miles. Use of the area is due largely to the inaccessibility of much of the upstream shoreline. The area surrounding Fort Peck Reservoir, for a considerable radius, is sparsely settled, and at no time would the fishermen who utilize the 15 miles of shoreline, exert what could be termed heavy fishing pressure. However, should sport fishing improve, more fishermen, from a larger radius, would make greater use of the area.

It would seem then that the only logical program in rough fish control would be to investigate the possibility of a commercial fishery on Fort Peck Reservoir. This is being done at present. Mr. Walter M. Allen, State Superintendent of Fisheries; Mr. Charles K. Phenicie, Chief Fisheries Management Biologist; and Mr. Iver S. Hoglund, Fish Culturist, have had discussions with officials from Manitoba, Saskatchewan, Wisconsin and Minnesota. Such problems as regulations and licensing, marketing of products, species of fish handled, types of gear, processing plants, and the State's stand and part in the commercial program were considered. Should controlled commercial fishing prove feasible for Fort Peck Reservoir, utilization of the rough fish resource now going to waste could be realized. And with reduction of competition, the more desirable species would thrive better; though with the rather limited spawning facilities, no exceptional increase could be expected.

It is possible that some of the vegetation spawners would be benefited by the construction of brush shelters. The shelters would also, if anchored securely to the bottom near the more heavily fished areas, tend to concentrate the fish. In a body of water the size of Fort Peck Reservoir, concentration would be a very desirable feature. Permission to construct a brush shelter has been obtained from the U. S. Army Corps of Engineers, and will be completed by the spring of 1954.

Further plantings of rainbow trout and sockeye salmon in the reservoir proper would be considered of little value. Plantings of these species would be best concentrated in upper tributaries, where more chance of reproduction could be expected.

Conditions found along the upstream face of the dam where the mackinaw trout were planted, should very nearly approximate the natural habitat of that species, cool, deep water, with rocky ledges formed by the large quarry-stone of the dam facing. It will be several years before results of the mackinaw plantings can be observed; but should they become established, they would support a considerable sport fishery and would, to some extent, help control the rough fish populations.

Reliable reports of considerable numbers of paddlefish in the upper reservoir should warrant investigation of this species. Very little is actually known of the spawning habits and the life history of the paddlefish. It would be desirable to have such information, if possible, before the paddlefish enters into the Fort Peck Reservoir fishery.

Summary:

1. Experimental gill net sets made in Fort Peck Reservoir during the summer of 1949 were duplicated during the summer of 1953. Comparisons of catches were made to obtain a general picture of fish population changes over the four-year period.

2. Goldeye and carp numbers showed the greatest increase, and perch showed the greatest decrease. Sauger showed a slight increase in numbers, but an overall decrease in size. Other fish were taken in numbers too few on which to base any conclusions.

3. Findings of the gill net sets were borne out by creel checks and fisherman contacts made during the summer of 1953.

4. The 1 1/4 and 1 1/2 inch size gill net meshes were found to be most selective for goldeye.

5. Depth distributions of the goldeye, perch, and sauger for the 1953 studies followed very closely the findings of 1949. Perch were most abundant at about 20 feet; goldeye were most abundant near the surface, especially from 4 to 15 feet; and sauger numbers were greatest from 8 to 15 feet.

6. Fishing pressure was light during the summer of 1953 and success, in general, was poor. Perch fishing improved toward the latter part of the summer in a rather restricted area near the head of the spillway channel, accessible to boat fishermen. Most of the trout fishermen that reported any success trolled from a boat and used a plain, copper-colored spoon. The greatest proportion of fishing was still-fishing for perch and sauger with minnow bait.

7. A total of 28,000 mackinaw trout were liberated along the upstream face of the dam. The large quarry-stones and deep, cool water in that area could approximate their natural habitat. Establishment of the mackinaw would support a considerable sport fishery and help control rough fish populations.

8. The shoreline and shoal area of the reservoir is composed of Bear Paw shale. Aquatic vegetation is nearly non-existent. These conditions, accompanied by a fluctuating water level (up to 20 feet), do not create suitable spawning habitats for the more desirable species of fish, but tend to favor more the random spawning rough fish.

9. One trip was made to the upper reservoir. Experimental gill net catches showed goldeye to be greatest in number, with numbers of catfish and buffalo greater than were found in the lower reservoir. One paddlefish was taken in a 4 inch mesh paddlefish net set for 45 hours.

10. Fort Peck Reservoir is too large, has too much drainage area, and receives too little fisherman-use to carry out the usual management measures of poisoning, selective planting, or rough fish removal.

11. The possibility of a commercial fishery on Fort Peck Reservoir is being investigated this year by officials of the Fishery Division. Should a commercial fishery program prove feasible, sport fishing would be favored by a lessened competition and the rough fish resource, which now goes to waste, could be utilized.

12. Construction of brush shelters in the more heavily fished areas is recommended. They would improve the habitat in that they could be used by the vegetation spawners, and would also tend to concentrate the fish. An experimental brush shelter will be completed by the spring of 1954.

13. It is recommended that some life history studies of the paddlefish be made to see what part this fish may take in the Fort Peck fishery.

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