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REPORT TO THE MONTANA STATE FISH & GAME COMMISSION CONCERNING COMMERCIAL FISHING ON FORT PECK RESERVOIR DECEMBER 1948

The worlds largest earth-filled barrier has created in Eastern Montana a great inland sea, Fort Peck Reservoir. With the creation of this immense lake, having a surface acreage of 245,000 at maximum elevation, comes a responsibility to the Fish and Game Department for the management of its fish resources.

To approach the problem, let us review first the information now available. From a letter dated December 6, 1945 Thomas G. Horn, Refuge Manager, Fort Peck Game Range, to O. H. Johnson, Regional Director, Fish and Wildlife Service, the following pertinent points are noted:

1. The channel closure was made June 24, 1937 although little change occurred in the river until 1938 when pool formation began.

2. Hook and line fishing is poor until mid or late June when the lake surface warms up. Good fishing ends about September 30.

3. The average fisherman using minnows probably caught fish in the following frequency in 1945:

Perch	200	Trend upward
Crappie	60	Trend upward
Bullhead	50	Trend not given
Walleye pike	30	Trend downward
Goldeye	20	Trend upward
Rainbow trout	10	Trend upward
Large mouth bass	5	Trend upward
Sucker	3	Trend upward
Fresh water drums	1	Trend appears to be up
Channel catfish	1	Trend upward

4. To the above list, the following should be added to complete a check list:

Burbot or Ling	Trend upward
Bluegill	None taken on hook and line
Carp	Trend upward
Skipjack	Trend downward to zero
Spoonbill catfish	Trend unknown
Sturgeon	Trend unknown
Sand pike	Trend upward

5. One phase of the management of fisheries in Fort Peck lake seems regrettable. From the histories of many large reservoirs like this we know that we can expect tremendous fish production

through the first few years of its life when terrestrial vegetation creates a "rich" lake. Later as the fertility is leached from the vegetation, the lake production levels off before the final drop to normal production. This means that with or without heavy fishing the fisheries resources will rise and fall whether or not it is utilized. In this lake I believe that 1948 or 1949 will be the peak productive years.

6. Hook and line fishermen intensively fish probably 20 miles of shoreline in five large bays.

7. Approximately 980 miles of shoreline of the lake and 35 large bays where the fish population is just as high are thus left untouched.

8. When the slump in available fish food occurs, a potential resource that would have produced thousands of tons of merchantable fish will have died unutelized.

In this state legislative action would be necessary to make this resource available commercially. Because the slump is almost inevitable and the State Game Commission fears that sportsmen will blame commercial fishing for the slump and not nature, they are reluctant to recommend it.

The following are excerpts from an informal talk by Thomas G. Horn at a meeting of representatives of fish and game departments of North Dakota, South Dakota, and Montana, and members of the Missouri River Basin Studies Staff at Billings, June 4, 1947:

1.

Species	Relative Abundance	Desirability
Burbot	A bundant	med.
Drum	A	med.
Carp	A	low
Wall-eye pike	A	high
Bullheads	A	low
Sturgeon	F ew	low
Suckers	C ommon	low
Catfish	A	high
Goldeye	A	low
Rainbow	F	high
Sandpike	A?	high
Spoon bill cats	?	high
Perch very	A	med.
Crappie	A	med.
Black Bass	F	high
Bluegill	none	----

2. At the present about twenty-five miles of approximately 1500 present shore miles are fished.

3. One hundred and fifty thousand fish (estimate for each of 1945 and 1946) were taken by hook and line fishermen many of whom had never fished before, from about twenty-five miles of 1500 miles of shoreline. There appears to be as many fish in these places now as at any time. Many large bays: Duck creek, Second Creek----------; all of several square miles in area and many miles of river-channel have never or rarely been fished because they are inaccessible except by boat. There must be a tremendous fish population in these areas with a total shoreline of about 1475 miles.

4. There appears to be one of two ways to handle the situation. Either pass up the opportunity and let the perishable resource go to waste or take the bull by the horns; utelize the resource and through education of the sportsmen preclude criticism.

Thus there is a picture of the problem available from the experiences, observations, and beliefs of a wildlife man who arrived at Fort Peck in 1940. To date this is all the information available concerning the lake.

Next let us review the potentialities of some of the most abundant species. Apparently the most abundant species is the yellow perch. This fish has the unfortunate attribute of extreme egg production (fecundity) together with a high ability to survive. A lake or stream can support only a certain poundage of fish. When the perch has filled its biological nitch in pounds, the resultant is a continued increase in numbers with smaller and smaller fish resulting. This is exemplified by stunting of perch in hundreds of Montana's lakes. Holter Lake, the Clearwater chain of lakes, Rainbow Lake near Plains, and Thompson Lakes in Lincoln County are excellent examples where 5 to 7 inch perch are the largest caught. They are so small as to have lost their value and appeal. Only one thing can prevent stunting and that is adequate harvest. Hook and line fishermen are unable under Montana's fishing pressure to harvest a sufficient number. Whether stunting will or will not occur in Fort Peck Reservoir is not known, but if the perch in this lake follow the rule set by nearly every other lake in the state where perch were introduced, stunting will occur.

Carp, bullheads, suckers, and goldeye are numerous in the reservoir, expecially the goldeye, according to recent conversation with Thomas Horn. He states that it is second only to the perch in abundance. These species are not looked upon by the sportsmen with favor. They are marketable in the east at a considerable demand and good price. They are a nuisance species and would aid sports fishing if removed.

Nature establishes balances. It is evident that Fort Peck has not reached its point of equilibrium. More often than not the balance, which comes in lakes with a large variety of species such as are present in Ft. Peck, is unfavorable to the sportsmen. Were it possible to

allow large scale harvesting of the Fort Peck fish populations, a balance could be established by selective fishing that would be favorable to the sportsmen. If the Commission should choose to wait and see what happens before a commercial fishery is allowed, it is possible that stunting will occur causing the species to lose even their commercial value.

There is another important aspect. We know nothing of the Fort Peck's potential production, but considering other impoundments, it must be large. Careful work has been done on four of the Tennessee Valley Authority's main stem reservoirs in Alabama; namely, Guntersville, Wheeler, Wilson, and Pickwick reservoirs. Below is a table presenting the physical aspects of the reservoirs.

Name	Acre Feet Storage	Meter of Shoreline	Surface Acres	Length in Miles
Pickwick	1,091,400	496	42,800	53
Wilson	562,500	154	15,800	15
Wheeler	1,150,400	1,063	67,100	74
Gunterville	1,018,700	962	69,100	82
Total	3,823,000	2,675	194,800	224
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Fort Peck	19,412,000	1,600	245,000	189

For comparison, the corresponding figures for Fort Peck are given below the others in the table. Fort Peck compares favorably with the other four. An actual comparison of the productivity of the four TVA reservoirs with Fort Peck cannot be made, but if seems reasonable to assume Fort Peck's must be large. One thing is certain -- the TVA projects are in a much more heavily populated area than is Fort Peck Reservoir. They are entirely accessible to the sportsmen while at present only 25 miles of approximately 1500 to 1600 miles of Fort Peck shoreline are accessible. The four TVA reservoirs received 1.2 million fishing trips in 1940. A comparable figure is not available for Fort Peck, but reason shown this would necessarily be many times smaller. In spite of the heavy fishing, it was determined that only 10% of the adult game fish in the four TVA reservoirs were removed annually by anglers; therefore a commercial fishing was allowed The catch of the commercial interests from July 1, 1946 to June 30, 1947 for the four main stem lakes was:

Catfish	626,970	pounds
Buffalo	181,310	"
Spoonbill	151,555	"
Carp	97,940	"
Drum	49,995	"
Sturgeon	8,565	"
Total	1,116,335	pounds

This catch brought an amount of $218,000 to the local fishermen.

It was figured on TVA projects that sports' fisheries are 15 times as valuable to a community as commercial fisheries, but when angling cannot harvest the crop, it is best to allow commercial utilization. The sporting interests must be protected from commercial over exploitation, but this can be done through proper management.

Fort Peck Reservoir has a tremendous unutilized fishing potential. Fish by the thousands of pounds are dying each year of old age and should be harvested. This is good economy. No farmer plants a crop of wheat and then allows it to fall to the ground unused. A commercial fishery in eastern Montana would aid the economy of the area. The market for fishery products in this state would be small. Most would be sent east to Chicago and south to Utah, Colorado, and California. This would bring an industry to the state such that money from other states would be brought into Montana.

Trout should not be fished, for there is no known natural reproduction. All must come from hatchery plants. While sauger and walleye pike might well be fished, it seems best from the public relation's standpoint to withhold these species from commercial exploitation pending further investigation. The other species should be harvested. Some controversy exists as to the status of the catfish. It is a desirable sports fish, but certainly logical reasoning points to the need for its harvest. Then too, beginning a commercial fishery is a gamble. The methods and places of catch must be found. Most commercial interests will demand a subsidy or guarantee of some sort to begin operations. Catfish can easily be taken by known methods and would sustain an operation during initial, experimental stages. It might be wise to allow catfish to be taken for a period of three years to stabalize the industry and give the department technicians an opportunity to study the catfish's biology. This proposes another question.

It has been stated that a complete investigation should precede the allowing of commercial fishing. Fort Peck is now so lightly fished that it can be considered, for all practical purposes, unfished. Were the department to measure population sizes, fish migrations, growth rates, and mortality rates, it would be attaching a problem of first magnitude. It would have to catch all the fish for sampling and tagging, and then turn about and exercise a fishery of commercial magnitude to recover the tags. This would have to be continued from three to five years. This would cost the department about $50,000 the first year and about $20,000 to $30,000 for each succeeding year and would result in the destruction of many tons of fish. Were a commercial operation allowed, the department could operate in cooperation with them and establish management measures based on scientifically gathered data at a yearly cost of only around $10,000. Once the fishery was established, taxation would more than repay the cost of biological investigations.

The sportsmen in the Glasgow, Scobey, and Glendive areas have signified their support of this fishery. Operations would be carried on away from recreation areas so that sportsmen would be unmolested, and management policies on a sustained yield basis would insure no detrimental effect on the sports' fishery.

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