

FILE

JOB PROGRESS REPORT

As required by

FEDERAL AID IN FISHERIES RESTORATION ACT

TEXAS

Federal Aid Project No. F-4-R-19

REGION 2-A FISHERIES STUDIES

Job. No. 8: Evaluation of the Tailrace Fishery of Possum Kingdom Dam

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February 20, 1973

ABSTRACT

Categorization of the existing fishery of the Brazos River below Possum Kingdom Dam prior to stocking rainbow trout, Salmo gairdneri, was conducted from January 1, 1972 through December 31, 1972. A twelve months creel census was conducted.

Based on creel census data, the average length of time per fishing trip was 3.23 hours, with an average of 0.54 fish per man-hour, at an average cost of \$1.65 per man-hour.

Job Progress Report

State of Texas

Name: Region 2-A Fisheries Studies

Project No. F-4-R-19

Title: Evaluation of the Tailrace Fishery
of Possum Kingdom Dam

Job No. 8

Period Covered: January 1, 1972 to December 31, 1972

Background:

During 1972, a survey was conducted on the Brazos River below Possum Kingdom Reservoir in Palo Pinto County. It was found that all the requirements for a trout fishery do exist in the first four miles of tailrace. Recommendations for stocking rainbow trout were made. Background information on this project may be found in Job Progress Report B-42, Project No. F-4-R-18, Investigation of a Portion of the Brazos River.

Objective:

To measure the economic and recreational outputs of the existing fishery of the Brazos River below Possum Kingdom Dam.

Procedures:

To categorize the existing fishery of the Brazos River below Possum Kingdom Dam, a creel census was conducted during the months of January through December. Two consecutive weekend days and two consecutive weekdays, randomly chosen, were checked each month. The census day consisted of checking the river every two hours from dawn until dusk. The censused area extended for the first three miles of river below Possum Kingdom Dam.

Use counts were made at the beginning of each two-hour interval. Upon completion of the use count, the remainder of the two-hour period was devoted to angler interviews. An interview consisted of examination of the angler's catch and collection of economic information.

Results:

During the period, 831 fishermen were logged by census takers. Use counts had a total of 870 fishermen, indicating 95% of the fishermen were contacted.

Examination of the census data (Table 1) indicated a difference in weekday and weekend fishing. Weekend fishing exhibited greater fishing pressure and harvest.

During the census period, weekend fishermen spent an average of 3.41 hours per fishing trip and harvested 4.51 fish. The weekday fishermen averaged 2.67 hours and 3.05 fish per trip.

The average catch per man-hour per fishing trip for all fish caught was 0.54 and ranged from 0.00 to 5.33. Catch per man-hour fluctuated considerably with different seasons. During winter months (December through February) the catch per man-hour was 0.20 fish. This increased to 0.49 fish during the spring, to

0.56 fish during the summer and to 1.39 fish during the fall.

Economic information indicated fishermen spent an average of \$1.65 per man hour fishing trip. This figure represents what the fishermen spent in the immediate area for lodging, bait, tackle, food, ice, etc. The cost of gasoline used in making the trip is not included.

Angler county of residence data indicates 31% of the anglers censused were from Palo Pinto County, 26% from Dallas and Tarrant Counties, 7% from Young County and 4% from Wichita County (Table 2).

A total of 1,480 fish were caught during the survey. Sunfish (Lepomis spp.) comprised 49% of the total number. Largemouth and spotted bass comprised 12%, white bass 5%, channel catfish 11%, carp 13% and freshwater drum 6%.

Discussion and Recommendations:

It is the opinion of project personnel that the sampling of the economic and recreational outputs of the existing fishery of the Brazos River below Possum Kingdom Dam will be sufficient to attain the objectives of this job and that further pre-stocking categorization is not needed. Data obtained during this segment will be used as a comparison with post-stocking data.

It is recommended that this job be continued as scheduled.

Prepared by: Allen A. Forshage

Approved by: David L. Pritchard

Date: February 20, 1973

Robert L. Bounds
Regional Director for Inland Fisheries

Table 1

1972 Creel Census Summary

	Weekend	Weekday	Total for 1972
Use Count	673	197	870
Total Number of Fishing Trips	268	89	357
Total Number of Fishermen	653	178	831
Average Number of Fishermen per Fishing Trip	2.4	2.0	2.3
Total Hours Fished	914.5	238.0	1152.5
Total Man-Hours Fished	2285.0	473.5	2758.5
Average Hours Fished per Fishing Trip	3.41	3.67	3.23
Average Man-Hours Fished per Fishing Trip	8.53	5.32	7.73
Total Number of Fish Caught	1208	272	1480
Average Catch per Fishing Trip	4.51	3.05	4.15
Average Catch per Trip Hour	1.32	1.14	1.48
Average Catch per Man-Hour per Fishing Trip	0.53	0.57	0.54
Total Expenditures *	\$1596.77	\$305.31	\$1902.08
Mean Cost per Fishing Trip	\$5.96	\$3.43	\$5.32
Average Cost per Man-Hour per Fishing Trip	\$1.75	\$0.93	\$1.65

* Total expenditures - The amount fishermen spent in the immediate area for lodging, bait, tackle, food, ice, etc.

Table 2
Number of Anglers by County of Residence

County	Number	County	Number
Carson	4	Palo Pinto	302
Dallam	2	Parker	36
Dallas	65	Randall	1
Dawson	3	Smith	5
Denton	4	Stephens	3
Eastland	10	Stonewall	2
Ellis	11	Wichita	43
Erath	1	Wise	7
Harris	3	Tarrant	194
Jack	7	Taylor	40
Lubbock	5	Young	72
Nueces	4		
Non-resident			
Oklahoma	7		
		Total	831