Job Completion Report

FILE

State of ___TEXAS___

Project No. ___F-3-R-6___

Name: Fisheries Investigations and Surveys of
the Waters of Region 5-B.

Job No. ___E-4___

Title: Studies of Netting Methods Used for Taking
Fish in Jasper and Tyler Counties.

Period Covered:

June 1, 1958 through May 31, 1959

Abstract:

In order to have some facts and figures available to support mesh size regulations in Jasper and Tyler Counties, which have become regulatory authority counties, this job was conducted. Gill nets with mesh sizes ranging from one inch bar measure to four inches bar measure were used in making this study. Numbers and weights of each species of fish taken from each size mesh were recorded and compiled over an eleven months period. These data, shown in Table I, revealed that the three inch mesh is most effective for capturing rough or commercial fish species without endangering the game fish species. These data clearly indicate that the use of three inch mesh nets would be beneficial to this fishery in removing large numbers of rough fish while only taking a very small percentage of game species.

Objectives:

To determine the effect of the present legal netting methods on game fish and rough fish in Jasper and Tyler Counties.

Procedure:

Jasper County and certain precincts of Tyler County have become regulatory counties under Game and Fish Commission jurisdiction. It was felt that some data should be obtained before making any recommendations as to a legal minimum mesh size for nets. The principle public waters concerned in this job are the Neches and Angelina Rivers and Dam "B" Reservoir lying within Jasper and Tyler Counties.

Gill nets were used in making this study. The dimensions of the nets are as follows: one inch bar measure up to three inches bar measure graduating one-half inch every 25 feet, making a total of five mesh sizes for a 125 foot net; one and one-half inch bar measure up to four inches bar measure graduated one-half inch every 25 feet, making a total of six mesh sizes for a 150 foot net. These nets were eight feet deep. Therefore, seven mesh sizes were used ranging from one inch to four inches. The nets were marked with red paint where the mesh size changed so that the fish could be kept separate as they were removed from the net. There was a total of 128 overnight net sets made over the eleven months period. The nets were set in all areas of Dam "B" Reservoir, and upstream in the Angelina and Neches Rivers for several miles, and downstream to the Toll Ferry crossing on the Neches River. The nets were usually set singly but sometimes in pairs in order to get a wide distribution of sets. As the fish were removed from the

nets, they were placed in containers for each mesh size (See photograph). They were then counted and weighed by species and mesh size. At the end of the job all of these data was compiled into Table I which gives the total numbers, weight and average weight for each mesh size by fish species.

Because the larger mesh nets were not used until October the total lengths of net by mesh size is not uniform. Considering this, the figures of the total catch (actual catch) in numbers do not give a fair picture of what each size mesh really catches. The 1, 3½ and 4 inch meshes are the ones that are not in line with the others. To correct these figures so as to make them all from the same lengths of net, the total number figures were computed for 3,250 feet of mesh. This makes all the figures on the basis of 3,250 feet of each size mesh, which was the actual amount of 1½, 2, 2½ and 3 inch mesh used. The percentage figures and the average weights remain the same for both sets of data.

For the purpose of this study all catfish species, except the bullheads, were classified as game fish because of the heavy fishing pressure on them by sportsmen.

Findings:

As can be seen by looking at the figures at the bottom of Table I the three inch mesh stands out from all the others by being the most effective in catching rough or commercial fish. The percentage figures are 84.17% rough fish and 15.83% game fish compared to 69.92% rough fish and 30.08% game fish in the 2½ inch mesh. The total numbers of fish caught drops from 266 in the 2½ inch mesh to 120 in the 3 inch mesh. However, the average weight jumps from 2.14 pounds in the 2½ inch mesh to 3.65 pounds in the 3 inch mesh. The figures for the 4 inch mesh are based on only one fish caught out of a total of 900 feet of net. The figures for 3½ inch mesh are 66.67% rough fish and 33.33% game fish or a total of only 54 in numbers but an average weight of 3.44 lbs.

A total of 17,050 feet of net was used and 2,501 fish weighing 2927.82 pounds were caught. There were 28 fish species caught.

Conclusions and Recommendations:

Considering the data collected in this job, 3 inch bar measure mesh is the most efficient mesh size for nets used in the area of Jasper and Tyler Counties. It is therefore recommended that a minimum bar mesh size of 3 inches be used in these waters. These figures can be used as a basis for making future net regulation recommendations in the Southeast Texas area.

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Date ___May 19, 1959___

Table I. Results of Dam "B" Reservoir Netting Showing Catch by Mesh Size.

Mesh Size	1 Inch			1½ Inch			2 Inch			2½ Inch			3 Inch			3½ Inch			4 Inch			Totals	
Feet of Net	2250 Feet			3250 Feet			3250 Feet			3250 Feet			3250 Feet			900 Feet			900 Feet			17,050 Feet	
Species	No.	Wt.	Avg.Wt	No.	Wt.	Avg.Wt	No.	Wt.	Avg.Wt	No.	Wt.	Avg.Wt	No.	Wt.	Avg.Wt	No.	Wt.	Avg.Wt	No.	Wt.	Avg.Wt	No.	Wt.
Alligator gar	2	8.62	4.31	1	6.50	6.50	2	5.75	2.87				1	9.25	9.25								
Longnose gar	41	11.35	2.72	17	62.36	3.67	9	42.69	4.74	5	23.75	4.75	6	42.81	7.14								
Shortnose gar				2	4.50	2.25																	
Spotted gar	18	19.24	1.07	57	112.17	1.97	26	71.38	2.75	9	37.50	4.17	5	26.13	5.23	2	8.00	4.00					
Bowfin	2	11.88	5.94	4	10.32	2.58	8	36.69	4.84	3	21.94	7.31											
Gizzard shad	115	17.30	0.15	193	83.73	0.43	87	62.43	0.72	12	11.07	0.92											
Blacktail redhorse	8	3.32	0.42	1	0.75	0.75																	
Spotted sucker	33	18.19	0.55	68	65.69	0.97	29	43.20	1.49	4	7.25	1.81											
Blue sucker										2	5.81	2.91											
Gray redhorse				3	4.63	1.54	3	5.44	1.81														
Chubsucker	2	0.44	0.22																				
Carpsucker	2	3.25	1.62	30	42.13	1.40	40	65.75	1.64	41	74.51	1.82	11	23.13	2.10								
Carp				2	14.13	7.07	4	10.44	2.61	7	17.44	2.49	7	26.50	3.79								
Smallmouth buffalo	29	22.60	0.78	197	140.87	0.72	173	198.12	1.15	84	195.58	2.33	63	235.63	3.74	7	33.69	4.81					
Yellow bullhead	5	1.63	0.33	5	3.07	0.61	1	1.19	1.19	1	1.00	1.00											
Black bullhead				1	0.75	0.75	1	1.50	1.50	2	3.63	1.82											
Freshwater drum	1	1.25	1.25	12	8.76	0.73	26	32.46	1.25	16	27.93	1.75	8	19.01	2.38	1	1.25	1.25					
Channel catfish	64	25.05	0.39	67	53.62	0.80	16	21.63	1.35	6	18.34	3.06	1	0.19	0.19	1	2.50	2.50					
Blue catfish	23	9.07	0.39	27	30.57	1.13	10	19.24	1.92	1	4.25	4.25	3	7.01	2.34	3	4.69	1.56	1	12.31	12.31		
Flathead catfish	1	6.25	6.25	1	1.62	1.62	6	12.75	2.13	4	14.07	3.52	3	19.19	6.40								
Largemouth bass	15	6.88	0.46	36	30.82	0.86	18	29.75	1.65	11	25.75	2.25	4	15.18	3.80								
Spotted bass	1	0.13	0.13	3	2.31	0.77	2	1.50	0.75														
Warmouth	5	1.37	0.27	5	2.32	0.46	2	1.00	0.50														
Bluegill sunfish	48	6.88	0.14	51	11.37	0.22	7	1.69	0.24														
Longear sunfish	3	0.24	0.09																				
Redear sunfish	23	5.09	0.22	71	23.86	0.34	1	0.31	0.31														
White crappie	69	14.43	0.21	88	44.18	0.50	64	65.72	1.03	36	49.00	1.36	7	11.69	1.67	1	1.25	1.25					
Black crappie	22	7.87	0.36	39	20.68	0.53	51	43.80	0.86	22	29.37	1.34	1	1.75	1.75								
Total Rough Fish	258	119.07	0.46	593	560.36	0.95	409	577.04	1.41	186	427.41	2.30	101	382.46	3.79	10	42.94	4.29					
Total Game Fish	274	83.26	0.30	388	221.35	0.57	177	197.39	1.12	80	140.78	1.75	19	55.01	2.90	5	8.44	1.69	1	12.31	12.31		
% Rough Fish	48.49	58.85		60.44	71.68		69.79	74.51		69.92	75.22		84.17	87.42		66.67	83.57		0	0			
% Game Fish	51.51	41.15		39.56	28.32		30.21	25.49		30.08	24.78		15.83	12.58		33.33	16.43		100.00	100.00			
Total All Fish	532	202.33	0.57	981	781.71	0.80	586	774.43	1.32	266	568.19	2.14	120	437.47	3.65	15	51.38	3.43	1	12.31	12.31	2501	2827.82
Data corrected to 3250 feet of net																							
Total Rough Fish	373	171.99	0.46	593	560.36	0.95	409	577.04	1.41	186	427.41	2.30	101	382.46	3.79	36	155.06	4.31					
Total Game Fish	396	120.26	0.30	388	221.35	0.57	177	197.39	1.12	80	140.78	1.76	19	55.01	2.90	18	30.48	1.69	3.61	44.44	12.31		
% Rough Fish	48.49	58.85		60.44	71.68		69.79	74.51		69.92	75.22		84.17	87.42		66.67	83.57		0	0			
% Game Fish	51.51	41.15		39.56	28.32		30.21	25.49		30.08	24.78		15.83	12.58		33.32	16.43		100.00	100.00			
Total All Fish	768	292.25	0.57	981	781.71	0.80	586	774.43	1.32	266	568.19	2.14	120	437.47	3.65	54	185.54	3.44	3.61	44.44	12.31		

Note: Weights are given in pounds.

As fish were removed from the nets, they were placed
in a container for each size mesh. Field Assistants
Larry Fisher and Kenneth Bales are shown.