

Report of Fisheries Investigations  
Experimental Introduction of Fish Species

by

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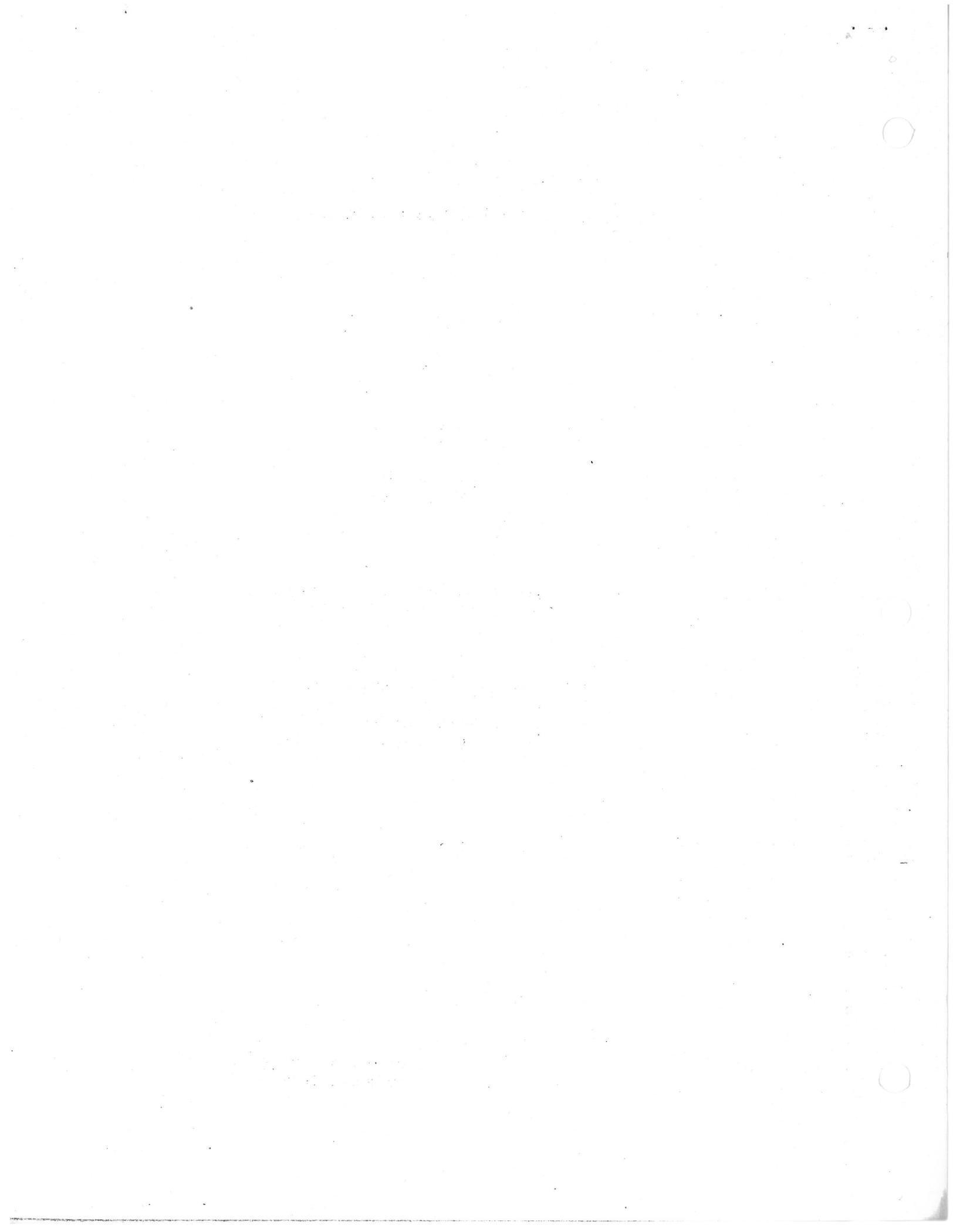
Dingell-Johnson Project F-7-R-6, Job F-1  
June 1, 1958 - May 31, 1959

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## Segment Completion Report

### Investigations Projects

State of TEXAS

Project No. F-7-R-6

Name: Fisheries Investigations and Surveys  
of the Waters of Region 1-B.

Job No. F-1

Title: Experimental Introduction of Fish  
Species.

Period Covered:

June 1, 1958 through May 31, 1959

#### Abstract:

A total of 1,382 redbfish and 184 speckled trout have been caught along the Texas Coast and transferred to Lake Kemp. Details of the capture and transplanting of these species are given in the Job Completion Reports F-7-R-3, Job F-1; F-7-R-4, Job F-1; and F-7-R-5, Job F-1. Due to the great expense and many difficulties involved, no additional stockings of these two species were made during the period covered by this report. Reliable information concerning survival and growth rate of the introduced marine species is still undetermined. Gill netting and seining in Lake Kemp has failed to produce redbfish and speckled trout of any size. Reports and rumors of capture by sports fishermen and bait seiners have been received and investigated for authenticity, but definite identifications have not been made. No additional stockings of marine species into Lake Kemp or any other waters of Region 1-B are planned until the feasibility and benefits of the work accomplished to date have been determined and the cost justified.

No additional stockings of white bass into Buffalo Lake were attempted during this segment. A fishery survey following extensive freeze-kills in January and February 1959, revealed that only carp, goldfish, carpsucker, black bullhead catfish and a relatively small number of channel catfish survived. Depletion of game fish populations justified total eradication of the remaining population and restocking. A total-kill treatment with toxaphene was given in April 1959. Restocking with white bass will not be attempted unless shad reinfest the lake in sufficient numbers to constitute a problem.

#### Objectives:

To experimentally introduce non-native species to provide either new sport species to improve the quality of sport fishing or to add a predacious species to aid in the control of rough fish and forage fish species.

#### Techniques:

In waters where survival conditions were considered favorable, sport species, not native to those waters, were experimentally introduced to aid in the development of better sports fishing. Predacious species were experimentally stocked into waters lacking

in efficient predators to aid in the natural control of rough fishes. Experimental stockings included the following fish species:

1. Redfish (Scianops ocellata) and speckled weakfish (Cynoscion nebulosus) were collected from the Gulf of Mexico along the Texas Coast and stocked into the saline waters of upper Big Wichita River and Lake Kemp, to provide a game fish for the upper river and a new game fish for Lake Kemp.
2. White bass (Roccus chrysops) were stocked in Buffalo Lake to provide a new game species and a badly needed open-water predator of the gizzard shad and other rough fish species that dominate the lake.

#### Findings and Discussion:

##### Redfish and Speckled Weakfish

Prior to this segment period, a total of 1,382 redfish and 184 speckled weakfish had been captured along the Texas Coast and experimentally stocked in Lake Kemp. Details of the capture and transplanting of these species are given in the Reports F-7-R-3, Job F-1; F-7-R-4, Job F-1 and F-7-R-5, Job F-1. Due to the great expense and many difficulties involved, no additional stockings of these two species were made during the segment covered by this report. Work during this segment has been confined primarily to determining results and benefits of previous stockings.

Reliable information concerning survival and growth rate of the introduced marine species is still undetermined. Although attempts were made during this period of study to collect some of the introduced species by gill nets and seines, none were taken. Several reports of catching redfish and speckled trout by sports fishermen and bait seiners were received, each of which were investigated for authenticity. Practically all specimens collected by bait seiners were identified as logperch (Percina caprodes). Several of the other reports could have been authentic, but positive identifications could not be made because the fish had either been released or eaten and their remains destroyed by the time the report was investigated. All redfish reports were from fishermen in the lower end of the lake (mostly along the dam) who were either trolling with lures or still-fishing with minnows. Most of the speckled trout reports came from the Coffee Creek and Flippin Creek Bay areas by crappie fishermen. All of these reports were of small fish from 5 to 7 inches long, which if true, indicates reproduction of speckled trout. No credence in any report will be accepted, however, unless a specimen is produced and positive identification can be made. All posters around the lake have been changed to instruct fishermen to keep fish suspected of being introduced marine species and to present them to gatekeeper, concessionaire, game warden or biologist for positive identification.

Noteworthy are reports of redfish catches from Lake Diversion, a 3,000 acre impoundment whose dam is 18 miles below Lake Kemp Dam on the same river system. Mr. Austin Holmes, who resides in Floydada, Texas, caught a fish that he could not identify from the irrigation canal immediately below Lake Diversion. Mr. Holmes delivered the fish to the south side concessionaire who identified it as a redfish using preserved redfish specimens, poster pictures and personal fishing experience along the coast as a guide. This fish was not measured, and no effort was made to contact the biologist or game warden. It was cleaned and eaten long before personal contact would be made with Mr. Holmes in Floydada, which is 190 miles from Lake Diversion. Another redfish report was received from Mrs. Lee Dowel, who resides at Lake Diversion. She caught and released a fish resembling a redfish, while fishing from the Diversion Dam in October, 1958. It was approximately 12 inches long and was caught on a minnow. No positive identification was made.

If redbfish are present in Lake Diversion, they have survived a sudden change in pressure from the bottom of Lake Kemp (approximately 75 feet deep) to the atmospheric pressure below the dam which kills many of the native freshwater fishes. Redfish have not been taken in gill nets which have been set monthly in Lake Diversion since June 1956, and twice monthly since June 1958. They have also failed to be taken in seine collections during the same period of time.

Efforts will be increased at Lake Kemp during the next segment period to determine status of these experimental introductions. Plans are to net, trap and seine extensively from the dam to the headwaters and tributary streams in an effort to catch a specimen that was either stocked originally or a progeny that was spawned in Lake Kemp. Sufficient time has lapsed since the original stocking for reproduction of redbfish and speckled trout in Lake Kemp, if it is going to occur.

No additional stockings of marine species into Lake Kemp or any other waters in Region 1-B are planned until the feasibility and benefits of the work accomplished to date have been determined and the cost justified.

#### White Bass

No additional stockings of white bass were attempted during the period covered by this report. Buffalo Lake has continued to be deprived of conditions that are conducive to the welfare and reproduction of white bass. Rains that have been common in practically all other parts of Texas failed to occur on the watershed of Buffalo Lake, and the lake has been reduced to abnormally low levels. To make matters worse, extensive freeze-kills occurred in both January and February 1959, killing large numbers of all species of fish. A fishery re-survey revealed that only carp, goldfish, carpsuckers, black bullhead catfish and a relatively small number of channel catfish survived. Depletion of game fish populations justified total eradication of the remaining population and restocking. A total-kill treatment with toxaphene was given in April 1959. Restocking with white bass will not be attempted unless shad reinfest the lake in sufficient numbers to constitute a problem. Buffalo Lake will be re-surveyed periodically to determine the status of the fishery.

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