Job Completion Report

State of TEXAS

Project No. F-5-R-8 Name: Fisheries Investigations and Surveys of the Waters of Region 3-B.

Job No. E-1 Title: Experimental Stocking of Channel Bass, Scaenops ocellatus, in Red Bluff Reservoir and the Pecos of Texas.

Period covered: April 1, 1960 - March 31, 1961

OBJECTIVES

To determine if any of the above game species may be successfully introduced into these inland waters and to obtain data pertaining to their ecological requirements.

PROCEDURE

All personnel assigned to this project traveled to the Texas coast in April of 1960. Seining was the method used to capture the young fish required for experimental release, and 100 foot, $\frac{1}{2}$-inch mesh, straight seines and 30 foot, $\frac{1}{4}$-inch mesh, bag seines were the equipment used. Four days were spent seining in the Laguna Madre in the Flour Bluff coastal area, near Corpus Christi, Texas. The fish captured were transported by truck to Imperial Reservoir on the Pecos River, near Imperial, Texas, where the following releases were made:

1. Channel bass or redfish, 246 individuals averaging about 76.3 mm. in length.
2. 300 golden croakers, Micropogon undulatus, averaging about 59 mm. in length.
3. 30 spotted squeteague, Cynoscion nebulosus, averaging about 96 mm. in length.
4. 50 southern flounder, Paralichthys lethostigma, averaging about 85 mm. in length.

In addition to the above, a few fish were released in Red Bluff Reservoir near the New Mexico border. Included in these releases were:

1. 30 spotted squeteague
2. 50 red fish
3. 25 flounder

Six months after the fish were transplanted, gill nets were set in Imperial Reservoir in an attempt to recapture some of the fish released.

(Note: It was impossible, for practical reasons, to complete the procedure approved in the job description. An insufficient number of redfish were captured and the physical condition of these fish, after being transported in trucks for a distance of more than 300 miles, was such that it was deemed essential to the success of the entire effort that the fish be released as soon as was possible. Discussions with Marine Biologist Earnest Simmons, and with other marine personnel, were the basis for

deciding to include the other marine species in the experimental transplantations. These fish were also included because they were secured at no additional cost.)

RESULTS

According to reports and observations by the lake keeper at Imperial Reservoir several of the released fish were caught by fishermen within a few months after they were introduced into the lake. On September 8, 1960, gill nets set by project personnel captured two of the redfish released in April. After less than five months in the inland waters these fish averaged 450 grams in weight and were in excellent condition. There was no recognizable evidence of sexual development. At the same time one golden croaker that weighed 93 grams was caught in the nets. The stomach of this fish was empty and there was no evidence of sexual development.

Two jaw tags were recovered during the year. These identifying tags were attached to the adult redfish released in the Pecos River near Imperial in December, 1959. Since the person capturing these fish did not weigh the fish or retain them, no growth or other data such as sexual development was obtained. The two fish from which the tags were taken were described as weighing about three pounds and being over a foot in length.

COSTS

The following estimates are believed to be a near maximum figure because they include items that could partly be charged to other work.

Title	Man days on job	Supervision & Labor: Salary (dollars) per day	Supervision & Labor: Salary (dollars) total	Number of days	Travel Expenses: Per diem (dollars) total cost	Travel Expenses: Mileage miles	Travel Expenses: (dollars) cost
Project leader	6	25	150	4	36	1000	80.00
Asst. leader	4	22	88	4	36	1800	144.00
Field assistants	16	11	176	16	144		100.00
Total			414		216		324.00

Total costs equals $954.00

If the above total cost estimate is used and only living fish delivered at the reservoirs are considered, then the estimated cost per fish delivered was $1.31. It is pointed out that of the above costs $630.00, or 66 percent of total costs, were required for salaries and in-the-field-maintenance of personnel. If salaries are not included in the costs of this job the cost of each fish was about 73 cents.

CONCLUSIONS AND RECOMMENDATIONS

Although a lesser number of redfish than was desired were captured, it is believed that a colony of at least several individual fish survived the transplantation in Imperial Reservoir. It is not expected that a large percentage of the fish released in Red Bluff survived. Since the primary step of determining if survival of the fish

has been answered in an affirmative manner by the recapture of a few fish, it is concluded that further investigation is desirable. However, a reduction of the costs involved is necessary and is believed to be possible through a reduction in the vehicles and personnel used to secure the fish on the coast, and also it is believed that a less expensive means of transporting the fish to the inland waters may be found. It is recommended that this work be continued during the next segment.

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