

SEGMENT COMPLETION REPORT

As required by

FEDERAL AID IN FISHERIES RESTORATION ACT

TEXAS

Federal Aid Project No. F-5-R-15

REGION I-B FISHERIES STUDIES.

Job No. 2 Pollution Studies

Project Leader: Billy J. Follis

J. R. Singleton
Executive Director
Parks and Wildlife Department
Austin, Texas

Marion Toole
D-J Coordinator

Eugene A. Walker
Director, Wildlife Services

February 21, 1968

THE UNIVERSITY OF CHICAGO

PHILOSOPHY DEPARTMENT

PHILOSOPHY 101: INTRODUCTION TO PHILOSOPHY

LECTURE 1

THE NATURE OF PHILOSOPHY

1.1 THE SCOPE OF PHILOSOPHY

1.2 THE HISTORY OF PHILOSOPHY

1.3 THE METHOD OF PHILOSOPHY

LECTURE 2

THE FOUNDATIONS OF LOGIC

2.1 THE LOGIC OF PROPOSITIONS

2.2 THE LOGIC OF QUANTIFICATION

PHILOSOPHY 101: INTRODUCTION TO PHILOSOPHY

PHILOSOPHY DEPARTMENT

LECTURE 3

THE THEORY OF SETS

SEGMENT COMPLETION REPORT

STATE OF Texas

PROJECT NO. F-5-R-15

NAME Region I-B Fisheries Studies

JOB NO. 2

TITLE Pollution Studies

PERIOD COVERED March 1, 1967 to February 29, 1968

Objectives:

To determine the source and nature of pollution.

1. To determine extent of damage to fish populations.
2. To trace the source of pollution.
3. To attempt to determine the nature of the pollutant.
4. To report instances of violation and negligence to the State Water Pollution Control Board.

Procedures:

Field investigations were made where pollution was encountered or reported. The findings from these efforts were reported to appropriate authorities if remedial measures were possible or needed.

Findings:

A fish kill was reported on the Colorado River just below the farm road 2059 crossing (Coke County) in May 1967. Field investigations began the following day. Due to the low rainfall, the river was not running as normal and had receded to long shallow holes. Dead and dying fish were found over a 2-mile distance of the river. These fish were mainly gizzard shad, river carp sucker, channel catfish, various sunfish and a large number of minnows.

Fish sampling with gill nets, seines and rotenone showed complete fish kills in some holes and large reductions in the fish populations in most of the other areas. Water analysis revealed chlorides to be as high as 7,700 ppm, and dissolved oxygen varied between 1.0 and 3.0 ppm. Either of the above conditions could be lethal to fish over a short period of time. Most of this salt pollution is from natural sources and concentrated by dry weather. However, oil fields on the upper watershed are probably contributing to the high chloride content.

These more or less natural fish die-offs continued to occur on the Colorado River from Robert Lee (Coke County) almost to Colorado City (Mitchell County) until midsummer rains were sufficient to resume the flow. Periodic

checks made on the river during this time found water conditions and fish kills similar to that discussed earlier. The total number of fish killed could not be determined because of the extended period of time covered and the 40-mile distance of the river concerned. However, it is estimated that several thousand each of gizzard shad, river carpsucker and small channel catfish died. Other fish lost included an enormous number of minnows, several hundred sunfish, and a few longnose gar and flathead catfish.

These findings did not warrant reporting to the State Water Quality Board because they resulted from natural causes.

Recommendations:

It is recommended that this job be continued to cope with future pollution problems.

Prepared by Billy J. Follis
Project Leader

Approved by Marion Toole
Coordinator

Date February 21, 1968

Leo D. Lewis
Inland Fisheries Supervisor