

Report of Fisheries Investigations
Pollution Studies

by

Charles E. Gray
Project Leader

Dingell-Johnson Project F-3-R-6, Job C-1
June 2, 1958 - May 31, 1959

H. D. Dodgen - Executive Secretary

Texas Game and Fish Commission
Austin, Texas

Marion Toole
Coordinator

Kenneth C. Jurgens & William H. Brown
Assistant Coordinators

Segment Completion Report

Investigations Project

State of TEXAS

Project No. F-3-R-6

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

Job No. C-1

Title: Pollution Studies

Period Covered: June 2, 1958 - May 31, 1959

ABSTRACT

A fish kill on the Sabine River was attributed to the effluent from the Texas Eastman Company plant in western Harrison County. After a conference of officials of the Eastman Company, the Texas Game and Fish Commission and the Texas State Department of Health, a series of holding lagoons were built at the plant designed to reduce the B.O.D. of the effluent before it enters the river. The system seems to be effective thus far.

Pollution was reported on Big Sandy Creek in Upshur County but investigation failed to reveal any such condition.

A mining company was found to be dumping iron ore washings into Beans Creek in Cherokee County. Landowners along the creek obtained a court order restraining the company from further pollution of the stream.

One trip was made to a conference of officials from the Pollution Control Board and the East Texas Pulp and Paper Company at Evadale, Texas. Data was presented to the group showing conditions in the Neches River attributed to the paper mill effluent.

OBJECTIVES

To determine the source and nature of natural or man made pollutants which effect the fish population.

PROCEDURES

In conjunction with other jobs of this project, a search was made for sources of pollution in areas devoid of plant and animal life. When fish kills were reported, an investigation was made to determine if pollution was the cause. When pollution was found, an attempt was made to find its source and nature. This information was made available to law enforcement authorities when needed.

FINDINGS

Sabine River

A moderate fish kill occurred on the Sabine River below the Texas Eastman Company Plant on August 12, 1958. Dissolved oxygen was found to be very low in several locations and a good number of dead fish were found in the drifts and eddies for several miles below the plant. Then, on August 18, 1958, a levee broke on a ten-acre waste retention pond at the Eastman Plant pouring over ten million gallons of the effluent into the Sabine River. This resulted in a heavy fish kill below the plant for several miles. (See photographs)

On August 28, 1959, officials of the Texas Eastman Company met with the Pollution Control Board in Austin. At this meeting, Texas Eastman Company presented plans for a treatment system consisting of a series of additional retention ponds. Dr. J.K.G. Silvey was retained by Texas Eastman Company to increase algae growth in the ponds and thereby accelerate the reduction of the oxygen depleting substances in the effluent. These additional ponds have been completed and are now in operation.

The original two ponds used to retain the effluent were approximately 10 acres each in size and were approximately 4 feet in average depth. The five additional ponds increased the area to approximately 65 acres. This system is reported by Texas Eastman Company to retain the effluent about 70 days. Records are being kept by Texas Eastman Company of river flow and the B.O.D. of the effluent as it leaves the last holding pond. These figures are used to evaluate the effectiveness of the system and to calculate a theoretical rise in B.O.D. in the river as a result of the effluent.

Big Sandy Creek

On July 3, 1958, a pollution investigation was made on Big Sandy Creek, in Upshur County, as a result of a petition received by the Austin office of the Texas Game and Fish Commission. After talking with several of the signers of the petition, the writer found that they were not sure why the petition had been circulated. Water samples were then taken from the creek and analyzed for dissolved oxygen, carbon dioxide, alkalinity, pH, and chlorides. The water was found to be normal for the area and satisfactory for fish life at the time.

Beans Creek

On January 19, 1959, reported pollution was investigated on Beans Creek, a small tributary on the Neches River watershed, in Cherokee County. An iron ore mining operation was washing ore and allowing the washings, mostly clays, to run into Beans Creek. This resulted in heavy deposits of settleable solids in the stream and a very turbid condition in the water. A short time thereafter, several landowners along the stream sought a court order restraining the mining company from dumping these washings into Beans Creek. On February 23, 1959, the writer was subpoenaed to testify on the fishery aspects of this pollution. The case was heard in District Court in Rusk, Cherokee County, Texas. The Court ruled in favor of the plaintiffs.

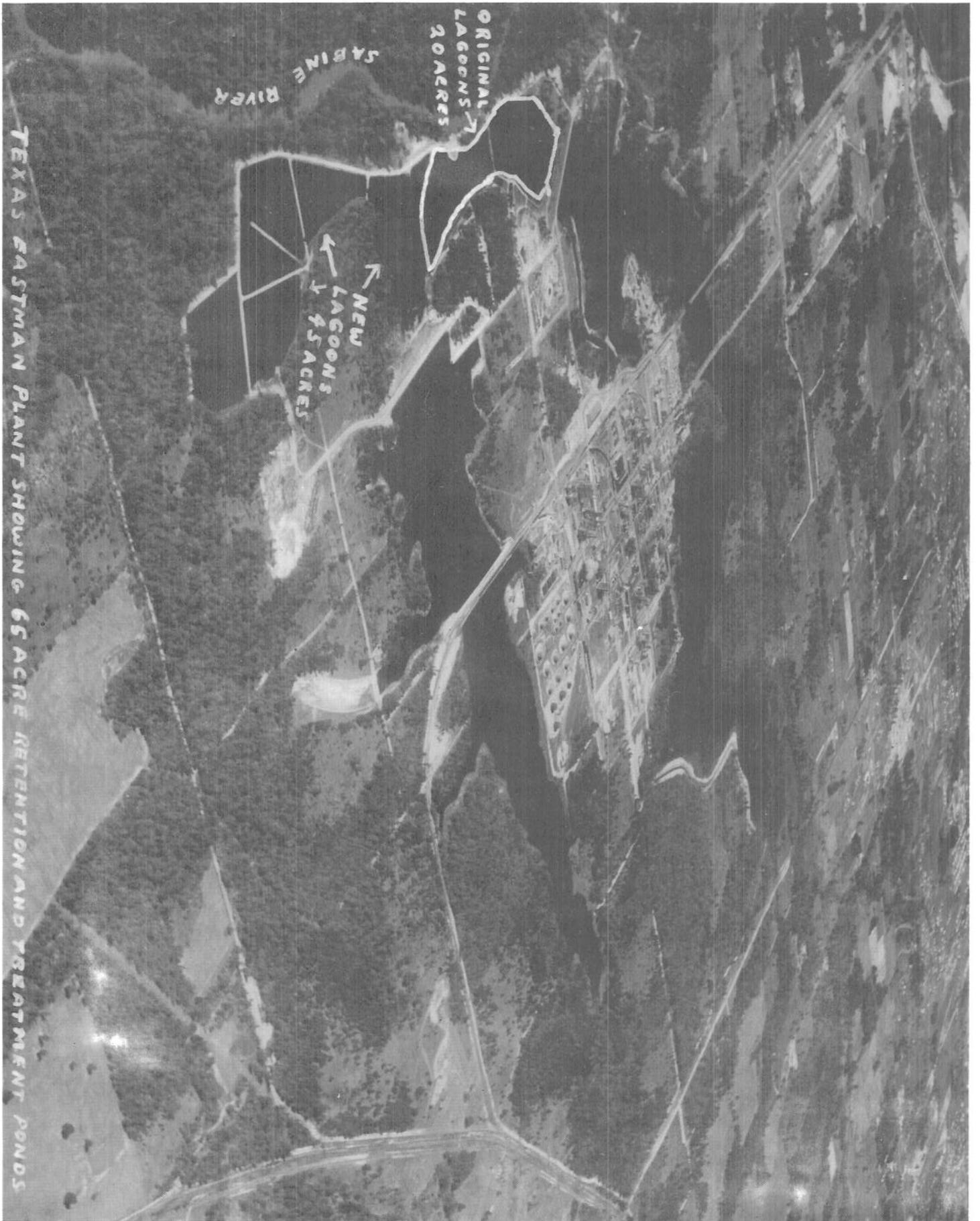
Neches River

One trip was made to the East Texas Pulp and Paper Company Plant at Evadale to present data previously collected on the Neches River concerning effluents from the East Texas Pulp and Paper Company's Plant. This information was presented to a conference of officials from the Texas Game and Fish Commission, Texas State Department of Health and East Texas Pulp and Paper Company.

Prepared by Charles E. Gray
Project Leader

Approved by Marion Toole
Director Inland Fisheries Division

Date March 15, 1960



TEXAS EASTMAN PLANT SHOWING 66 ACRE RETENTION AND TREATMENT PONDS



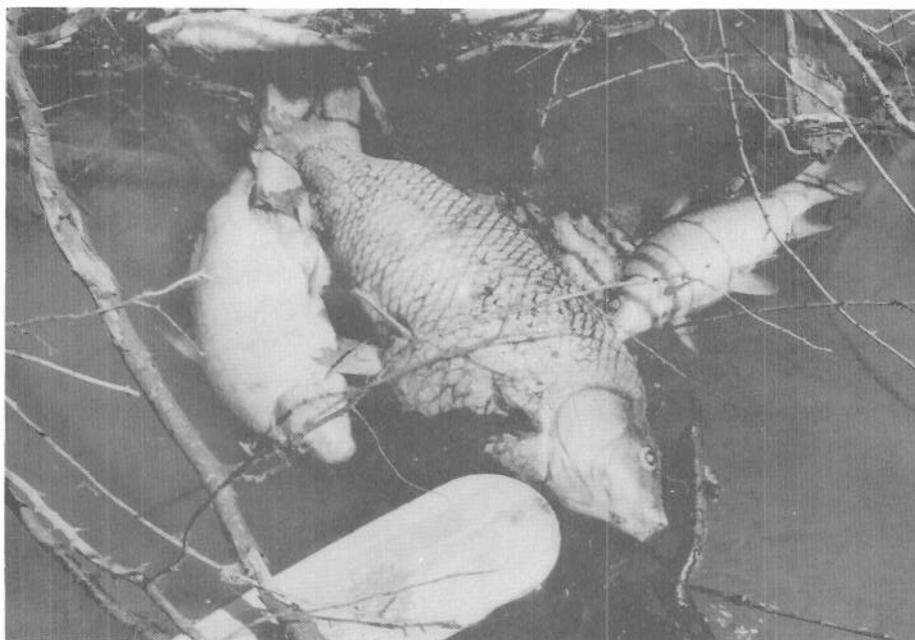
Dead Game Fish Found Below Waste Outfall at Texas Eastman Co. Plant. This was During Normal Waste Discharge and Before the Lagoon Dam Broke. Photo Taken on August 12, 1958.



Algae Growth on Branches in Sabine River Below Texas Eastman Company Outfall. Photo Taken August 6, 1958.



Dead Fish Drifted in Sabine River After Effluent Lagoon Broke at Texas Eastman Company Plant, August 25, 1958.



Dead Fish Below Texas Eastman Company Plant After Lagoon Broke, August 25, 1958. Note Size Compared With Boat Paddle Which is 6 Inches Across.

