

## Job Progress Report

State of Texas

Project No. F-2-15

Name: Region 2-B Fisheries Studies

Job No. E-9

Title: Evaluation of Catchable Rainbow Trout Fishery

Period Covered: February 1, 1967 to January 31, 1968

### Background:

Rainbow trout, Salmo gairdneri, have been purchased by a private concern and stocked, with the assistance of Department personnel in the tailrace waters below Canyon Dam, Comal County, Texas. This action was instigated by the private concern after they learned that the Canyon Reservoir Project Report (February 1960, prepared by the Branch of River Basin Studies) indicated the possibility of the trout fishery in the cold tailrace waters below the dam. A 3-year stocking program including approximately 30,000 catchable trout which have been donated by the private concern, is nearing its midpoint. Over summer survival of trout from an April 1966 stocking of 10,000 was verified by Texas Parks and Wildlife Department fishery personnel in October 1966. Water quality studies including temperature, dissolved oxygen, carbon dioxide, and alkalinity over the past year indicate suitable trout habitat. Evaluation, through creel census, of this trout fishery was made to determine if the economic and recreational aspects of this program warranted future maintenance.

The Guadalupe River has its origin on the Edwards Plateau in South Central Texas and flows southeastward through steep hills and limestone bluffs that characterize the region. This study was accomplished on a section of the Guadalupe River 12 miles northwest of New Braunfels, Comal County, Texas. The study area begins at the stilling basin of Canyon Reservoir and continues for 10.33 river miles downstream. The stream has a gradient of 2.5 feet per mile, and an average width of about 100 feet, and an average depth of approximately 4 feet. The last 3 figures will vary with the releases from Canyon Reservoir. The stream is clear to slightly murky, and is composed of approximately 50 per cent riffles and 50 per cent pools. The stream bed is predominately gravel and limestone. Some silt deposits are found in the upper reach of the study area and in natural pools and in 5 pools created by low water dams located at various points on the stream section.

Aquatic vegetation was sparse in this section of the river because of floods, but since completion of Canyon Dam conditions have become more favorable for growth of vegetation. Both pre-emergent and emergent species are found with green algae (Chlorophyceae) and bushy pondweed (Najas guadalupensis) the most abundant. Other aquatic plants found in the reach are sago pondweed (Potamogeton pectinatus), parrot-feather (Myriophyllum heterophyllum), cattail (Typha latifolia), yellow water lily (Nuphar sp.), watercress (Nasturtium sp.), southern wild rice (Zizaniopsis miliacea), water primrose (Jussiaea sp.), and muskgrass (Chara vulgaris).