Journal of the Tennessee Academy of Science
Volume 55, Number 4, October, 1980

ARMADILLO FOUND IN RHEA COUNTY, TENNESSEE

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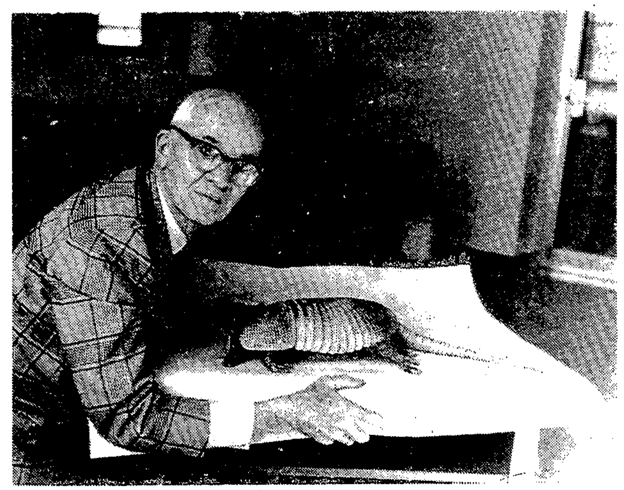
Abstract

A nine-banded armadillo was found in Rhea County, Tennessee, about three and one-half miles west of Dayton on February 3, 1980. Whether it had migrated or been transported to this location is unclear.

Introduction

A nine-banded armadillo was found in Rhea County, Tennessee about three and one-half miles west of Dayton on February 3, 1980. It apparently had been run over by an automobile as one side of its shell was badly broken. Someone tossed it off of the main road into an old driveway, which prevented further damage. It was found by a local man and reported to Willard L. Henning, Curator of the Bryan College Museum.



Description and Discussion

The armadillo was a full grown specimen but not a large one. It weighed 8 pounds and 2 ounces, the head and body length was 15 inches, and the tail length was 13 inches. It was a female having three embryos about two and one-half inches in length. Presumably there was a fourth embryo which probably was mashed by the impact of the car injury. The specimen is being prepared for mounting for the Bryan College Museum collection.

Armadillo populations are reported from Texas to southern Kansas, and in Florida. A recent report indicates that they may occur in southern Georgia as far north as Columbia, Macon and Augusta. It is believed that this specimen was brought up from Florida and turned loose locally. Its activity during the middle of winter can be understood from reports that they do not hibernate, and the weeks prior to finding this specimen were weeks of mild weather of light freezes, generally. This specimen could have scratched for its food in the wooded area.

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CHARACTERISTICS AND DETERMINANTS OF THE FISHERIES RESOURCES OF THREE COLD TAILWATERS IN TENNESSEE

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Abstract

Comparison of biological, water quality, and physical characteristics of Apalachia, Norris, and Chilhowee tailwaters indicates that the differences between these regulated streams and comparable but unregulated streams are due to a host of interrelated factors. Aquatic insect diversity is most strongly influenced by seasonal oxygen deficits. Fish species composition has been changed by altered temperature regimes and seasonal oxygen deficits. Standing crops of fish and aquatic insects are directly related to water mineral quality, substrate composition, and minimum instantaneous flows. Relatively infertile streams with adequate minimum flows can be as productive as more fertile streams with inadequate minimum flows.

Introduction

In the Tennessee Valley, there are 33 storage impoundments with hypolimnal discharges and sufficient storage volume to cause the stream below the dam (reservoir tailwater) to differ significantly from both preimpoundment conditions in the same area and from

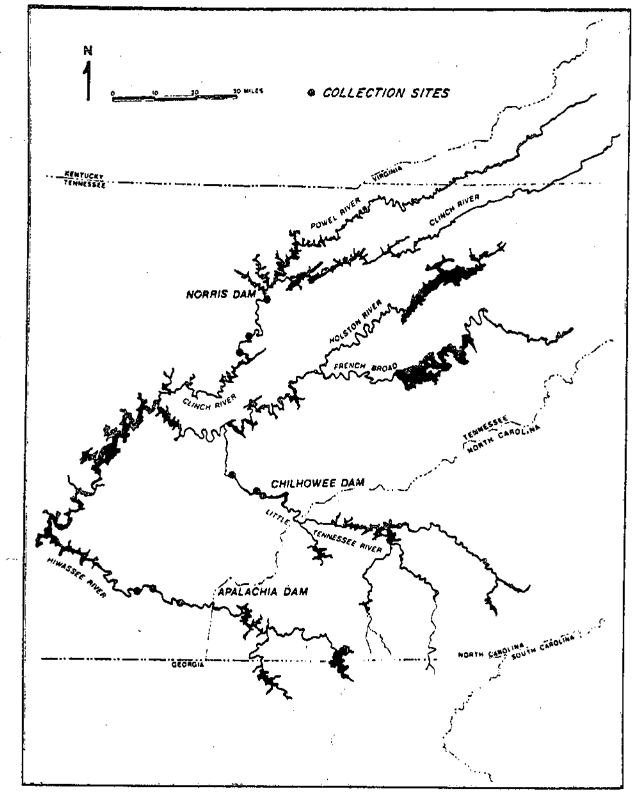

FIG. 1: *Map Showing the Collection Sites on Norris, Chilhowee, and Apalachia Tailwaters*

comparable reaches above the reservoir. Defined as that portion of a stream extending from the dam of its origin to the headwaters of a downstream reservoir or to its junction with a larger stream, these regulated and consequently unique Tennessee Valley streams have a total length of more than 300 miles and constitute an important component of the "Valley" fisheries resource.

Effects of reservoirs on downstream characteristics have been discussed by Armitage (1977), Brown et al. (1967), Churchill (1958), Crisp et al. (1973), Lehmkuhl (1972), Little (1970), Neel (1963), Pfitzer (1954), Spence and Hynes (1971), Tarzwell (1938), and others. Typical responses of streams to the storage and regulated discharge of water which largely governs their flow include altered temperature regimes, extreme flow fluctuations, reduced turbidity, a general dampening of chemical fluctuations (e.g., alkalinity, pH, and nutrient concentrations), and in some cases seasonal dissolved oxygen deficits and/or high concentrations of certain heavy metals. Biological responses attributable to these environmental changes typically include changes in the structure of fish and benthic macroinvertebrate communities and increased growth of benthic algae. The degree of difference between these tailwater communities and those found in unregulated streams is directly determined by the abiotic changes listed above and is greatest in the cold tailwaters. Although these altered streams often present unique fish management opportunities (e.g., large-river trout fisheries in the Southeast), one or more of the associated factors which create an opportunity may also be the principal limiting factor for the same tailwater fishery. For example, a high ratio of reservoir storage volume to discharge volume will result in cold downstream temperatures suitable for trout management, but may also cause a serious oxygen depletion problem.

TVA initiated a series of tailwater investigations in 1972 with the objective of characterizing major reservoir tailwaters with respect to important ecosystem components. Once characterized, recommendations for the management and improvement of tailwater fisheries could be made. This report is the first in a series of tailwater evaluations and presents the results of surveys in Norris, Chilhowee, and Apalachia tailwaters. Information in this and subsequent reports should be helpful to fishery managers and others interested in improving this valuable and largely underutilized resource.

Materials and Methods

Description of the Areas

The locations of Norris, Chilhowee, and Apalachia tailwaters are shown in Figure 1. This report deals only with the upper 10-15 miles or "trout managed" sections of the tailwaters. Although all three are cold tailwaters, their characteristics and the operation of the reservoirs from which they originate differ considerably.

Norris is a 13,759.6 hectare meter (34,200-acre) reservoir with a full pool volume of 318,308 hectare meters (2,567,000-acre feet) whereas Apalachia and Chilhowee reservoirs have surface acreages of 262.2 hectares (648) and 707 hectares (1,747) and full pool volumes of 7,250.9 hectare meters (58,700-acre feet) and 843.8 hectare, meters (6,805-acre feet), respectively. While discharges from Norris and Chilhowee dams create cold water reaches immediately below the dams, water from Apalachia Reservoir is bypassed around the original river channel downstream for approximately 7 miles, where it passes through the Apalachia powerhouse and is discharged to the original channel. This, in effect, results in a warm water tributary created by inflows from streams between the dam and powerhouse, finally merging with cold water immediately below the powerhouse.

Although all three tailwaters are subject to radical changes

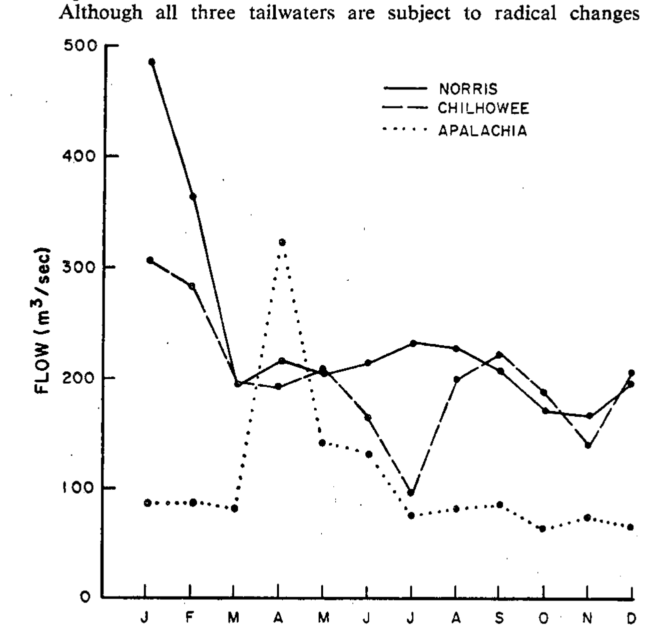

FIG. 2: *Mean Monthly Flows; Norris, Chilhowee, and Apalachia Tailwaters, 1974*