

FUTURE PLANS

The earthworm counts and analysis of samples for heptachlor will be continued in 1959. Samples will be collected in one additional community that has had similar treatment for fire ants.

Bird censuses and nesting studies will be continued on the same areas to determine the 1959 breeding population and nesting success. Mammal populations will be checked on treated areas.

An attempt will be made to confine woodcock in captivity and feed them earthworms from treated fields. Woodcock and other game species from treated areas will be sent to the Patuxent Research Laboratory for heptachlor analysis. Woodcock censuses will be made in treated fields and compared with similar data obtained in previous woodcock studies.

SUMMARY

1. The initial wildlife mortality following the application of 2 pounds of active heptachlor per acre was high.
2. Nestling mortality was severe.
3. Redwinged blackbirds and meadowlarks were reduced to zero on one study area.
4. Several specimens of animals and birds found dead on the study areas and that were submitted to the Patuxent Research Laboratory, U.S.F.&W.S., contained heptachlor.
5. Earthworms which are the chief food of woodcock contained heptachlor 5 months after treatment. These worms may constitute a hazard to ground feeding birds.

A PRELIMINARY PROGRESS REPORT OF FIRE ANT ERADICATION PROGRAM CONCORDIA PARISH, LOUISIANA, JUNE, 1958

By JOHN D. NEWSOM

Louisiana Wild Life and Fisheries Commission

INTRODUCTION

This study was undertaken by the Louisiana Wild Life and Fisheries Commission because it was felt that insufficient information was available as to both the immediate and long range effects on wildlife of the widespread use of highly toxic insecticides such as the chlorinated hydrocarbons. When it was learned that such a program was to be initiated in Concordia Parish in the summer of 1958, this evaluation study was promptly devised and work begun on it immediately.

This is only a preliminary report prepared to show progress from the beginning of the study through July 10, 1958. It is impossible to supply a precise evaluation of total population changes; however, this study should supply valuable indices of trends in population numbers which should be carefully considered in assessing the sum total effects of the ant eradication program. The study was hampered by the following factors:

1. Lack of previous experience regarding the pattern and degree of direct mortality of game and non-game birds, mammals, fish, amphibians, and the vertebrate and invertebrate organisms supplying food for fish and frogs.
2. Lack of notification of time and area of proposed treatment sufficiently in advance of treatment date to allow a thorough survey and an index of populations on control areas, etc.
3. The advanced growth of vegetation on the area made finding of dead animals on the area extremely difficult. Tall vegetation also cut down the average sighting distance of animals on the night census.

4. The hot humid weather which usually prevails at this time of the year caused rapid deterioration of dead animals.

Several postponements of treatment date benefitted the study. The initial treatment was scheduled for the town of Vidalia, comprising 672 acres, but 8 farms ranging in size from 140 to 2,600 acres were added making a total acreage of 6,518. All of the area was to be sprayed with 10% granular heptachlor at a rate of 20 lbs. per acre, *but 3 farms including the 2,600 acre study area received approximately 32 lbs. per acre through error!*

METHODS OF STUDY

It was necessary to set up this study without benefit of any measurement of animal populations or hunting and fishing success in the past. The Whitehall Plantation consisting of 2,600 acres was selected as a study area partly because it had all-weather access roads and a variety of habitat including fence rows and borrow pits.

The following program was set up prior to treatment of the area:

1. To obtain as much information as possible (or an index) on song and game bird populations present, 4 routes totaling 3.0 miles were established as census strips. Along each strip all birds and animals were recorded. In addition to the 4 routes, 2 fence rows were censused for nestling doves and songbirds and for a total count of birds seen in the vicinity of the rows while walking the area. The fence rows are .8 mile and .5 mile for a total of 1.3 miles.

2. To obtain an index on animals present, night censuses were conducted along 4 routes for a total of 3.2 miles. All animals seen were recorded. Also all bullfrogs observed along borrow pits near route No. 3 were recorded.

3. Counts (day and night) were made on a 3 mile route approximately 2 miles from the treated area.

4. Nine soil samples were collected on June 20, 1958. Three in pasture, three in wooded area near Vidalia canal bank and three in Johnson grass hay pasture. Nine bottom samples were taken from borrow pits on study area. Samples are being checked for organisms.

RECORDED OBSERVATIONS AS OF JULY 10, 1958

Pre- and post-treatment observations were made on the 2,600 acre Whitehall Plantation which was treated by aerial application of 32 pounds of 10% heptachlor per acre on June 27, 28, and 29, 1958. Studies were conducted by biologists of the Louisiana Wild Life and Fisheries Commission. Although the study is incomplete, the following summary gives data collected through July 10, 1958.

Pre-treatment counts showed 53.9 birds per mile of roadside. Post-treatment counts showed 18.8 birds per mile of roadside. Six pre-treatment and 3 post-treatment counts were made.

It is believed that almost a 100% count of the bird populations was possible on the fence rows due to favorable location. Within fence row No. 1 bird numbers dropped from 84.00 (average population prior to spraying) to 27.0 birds 8 days after spraying for an estimated population decrease of 67.9 percent. Within fence row No. 2 bird populations dropped from 64 to 14 birds 8 days after spraying for a population decrease of 78.2 percent.

As of July 6 (7 days after spraying) 95 geese, 38 birds, and 2 rabbits were found dead. The dead birds included the following 10 species: red-wing blackbird, grackle, starling, mourning dove, mocking bird, cardinal, green heron, American egret, brown thrasher and meadowlark.

No evidence of damage to fish and other aquatic life within the farm ponds on the area was noted; however, there was a light fish kill in the Vidalia canal and the shallow borrow pits near the Mississippi river. Species collected included bluegill bream, bullhead catfish and minnows. No attempt was made to protect this canal or borrow pits because normally they go dry each year. The larger borrow pits (3-5 ft. deep) were not sprayed.

Studies on soil samples are incomplete at the writing of this report.

Studies on water samples are incomplete at the writing of this report.

Dead birds collected on the area were shipped to Patuxent for chemical analysis on July 9, 1958.*

Whitehall Plantation had approximately 900 geese on the area being used in conjunction with its cotton farming operation. At the time of the application, all the geese were in the fields. On the morning of June 29, some geese appeared sick and on the afternoon of the same day, 11 geese were found dead and approximately 60 geese appeared sick. Immediately the manager of the plantation removed his geese from the fields and put them in enclosures. Geese died at the rate of 2 to 29 per day until July 6 for a total kill of 95.

One nestling dove and 2 young mocking birds were found dead along the fence row on the fourth day after spraying. There has been a decrease in the total number of adult doves observed along each row.

Night censuses on Whitehall Plantation showed very few animals.

Estimated bird population for the control area, before and after spraying, show that before spraying an average of 41.9 birds per mile were observed along the 3 mile census route, while after spraying the average increased to 49.4 birds per mile. This is not considered significant as the population normally increases during the summer.

A COMMENTARY ON THE FIRE ANT PROBLEM

(Based largely on reports by Messrs. Rosene, Allen, Lay, Baker and Glasgow at the 12th Annual Conference of the Southeastern Section of the Wildlife Society and the Southeast Wildlife Conference.)

*By CLARENCE COTTAM, Director
Welder Wildlife Foundation, Sinton, Texas **

Ladies and gentlemen of the convention :

We have listened to five well prepared and thoroughly documented reports by mature and experienced wildlife research workers who have, in a relatively short period of time, attempted objectively to determine the immediate effects of the Federally directed fire ant "eradication" program upon wildlife in our Southern States. It is to be noted that in the course of their studies these workers (and their assistants) represented the Federal Fish and Wildlife Service, two great Universities (Louisiana State University and Alabama Polytechnic Institute) and two prominent State Game and Fish Commissions (Texas and Alabama). It is also significant that these men have worked largely independent of each other in different states and in varying biological habitats yet their results and conclusions show an amazing degree of similarity. Their unanimous conclusion is that very serious and widespread damage is resulting from the present program as it is being directed by our Federal Government's Plant Pest Control Division.

From my twenty-five years as an official of the Federal Wildlife Service, I am fairly well acquainted with the Gulf Coast States where this ambitious program is being applied, and I have devoted a little time to a field study of this control program as applied in East Texas. Also, I have read almost everything that I have been able to obtain pertaining to the fire ant and to the effects of the control program. Over the years I have had experience and contact with various other control programs.

* From a sample of three geese and fourteen songbirds, all except one of the songbirds showed the presence of heptachlor epoxide in sufficient quantity to attribute death to the insecticide.

* Contribution No. 26, Series A.