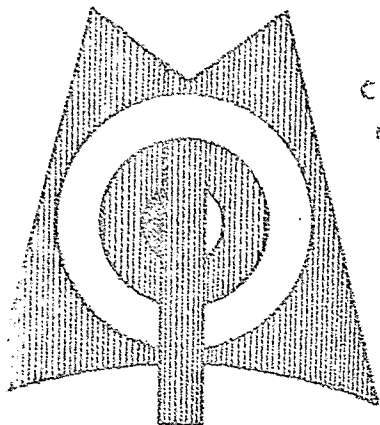




CITY OF NEW ORLEANS - DEPARTMENT OF HEALTH
NEW ORLEANS, LOUISIANA 70126
DIVISION OF

Mosquito Control

GEORGE T. CARMICHAEL, ADMINISTRATIVE DIRECTOR
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This is a report to the Mayor and the City Council on the highlights of the Orleans Parish Mosquito Control Program during the first five (5) years of operation.

Mayor's Advisory Committee on Mosquito Control

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Representative, House District 27

George T. Carmichael

George T. Carmichael
Mosquito Control Administrator



RODNEY C. JUNG, M.D., PH.D.
DIRECTOR OF HEALTH

FIVE-YEAR REPORT

Five years ago the City of New Orleans started a Mosquito Control Program. Much had been written and said as to the "pro's" and "con's" of such an endeavor, with many people openly voicing the opinion that "nothing could be done about the mosquito." This action, by the City, was brought about by invasions of mosquitoes that had virtually paralyzed the entire area. Three years in succession the City had endured hordes of the pests that made the summer months unbearable.

There were promises made by the Mosquito Control Advisory Committee that an effective control program could be developed; that a noticeable reduction in mosquitoes would be felt in three to five years; and that this could be accomplished at a cost of from 50 to 75 cents per person per year. This would be a great saving over the amount spent by individuals in their futile attempt to protect themselves from the invaders.

Today the Mosquito Control Program is five years old, and we are happy to report that all promises have been fulfilled. The Orleans Parish Mosquito Control Program today is recognized throughout the United States as a model type program and our accomplishments are many. Invasions by our main enemy, the salt marsh mosquito, Aedes sollicitans, have not been a significant problem in the densely populated parts of our City during the existence of our program. The outlying areas where mosquitoes have moved in, have been back "under control" in less than 7 days, their normal life span shortened by 5 to 7 weeks. The people of the Parish are constantly telling us how successful the control

efforts are in their area. The veterinarians have also reported a noticeable decrease in heart worms in dogs since the formation of the Program.

The most successful accomplishment has been the mosquito control staff, for without them there would be no program. We have a dedicated staff of 24 permanent employees and 8 part-time, who have devoted not only their working hours but their total time to making the control program of Orleans Parish an organization of which they can be proud.

The contributions to the program by the Orleans Levee Board have greatly assisted our operation. The monetary contribution in the first two years enabled us to get an early start in the purchase of equipment, and the site on the Lakefront Airport has proven to be the ideal location for a program utilizing aerial techniques.

There are 25 "co-operators" who operate mosquito light traps for the City and 60 who operate rain gages.. The help we have received from these 85 people has been of tremendous assistance to us. The rain gages help us locate the isolated showers that initiate the breeding cycle, enabling us to start treatments immediately.

It would be impossible to include all the City Departments, corporations, and individuals who have given assistance to the Program in its formative years, and continue to do so. However, special mention should be made of the Louisiana Surplus Property Agency, which obtained for us the C-47 aircraft and many other

pieces of equipment and vehicles. This has allowed our budget dollars to go much further than they would have gone if spent on new equipment.

One outstanding highlight of our 5 years occurred when the American Mosquito Control Association selected New Orleans as the site for its 1968 annual convention. Approximately 1,000 mosquito control workers and scientists from all over the world were in attendance, and the Convention was termed one of the most outstanding in the history of the Association.

It is encouraging, also, to note that there are now 4 other mosquito control programs in the Greater New Orleans Area. Successful programs are in operation in Plaquemines, Jefferson, and St. Bernard Parishes and a program has just been started in St. Tammany Parish in the Slidell area.

ADULT DENSITY SURVEY

In order to control mosquitoes effectively, it is necessary to know not only the number of mosquitoes, but also what kind are present, and where they are located. We have 25 light traps which have been operating twice a week for the past 5 years, and have a total of 10,323 collections to date. We have collected and identified 1,220,851 mosquitoes during this time. This information has kept us informed at all times as to the seriousness of our problem and its location. It has allowed us to get to the mosquitoes before the mosquitoes get to the people.

Another method used to determine the location and density of mosquitoes is by landing rate counts. Specific sites are designated where the inspectors allow the mosquitoes to land on them and count them for one minute. Over 100,000 of these counts have been made in the first five years of mosquito control.

ADULTICIDING

The most popular program with the public is our adulticiding program, or "fogging" as it is commonly known. We have 7 fogging trucks which are used for this purpose. The Parish is divided into 26 area, and each area can be covered in one night's operation of 6 to 7 hours. We can double-shift our trucks and cover every area in Orleans Parish every other night if the need is great enough. Only insecticides which are safe for both humans and wildlife are used in this program. There is no residual, and the method is considered best from the standpoint of not building resistance into the mosquitoes. In the five years of operation, we have fogged for 7,664 hours and covered over 2,300,000 acres. We have dispersed 327,564 gallons of mixed insecticide at a total cost of \$131,073. The number of adult mosquitoes killed by this method, if known, would be astronomical.

AERIAL CONTROL

The Mosquito Control Program obtained its first airplane in June 1965. The plane is used mainly to kill the mosquito larvae before they can develop into adults. The plane proved

so valuable in our control operations that it was replaced in 1968 with a plane of more than double the capacity.

One instance, in July 1965, a large brood of salt marsh mosquitoes was located. There were over 1,000 acres with an average of 50 larvae per dip. This could mean several billion adult mosquitoes if all developed. A treatment of the area with Paris green pellets resulted in a 95% reduction of the larvae, and no adults reached the populated areas of the City.

We received an Air Force surplus C-47 aircraft in 1966 and designed a spray system which allows us to utilize ultra low volume (ULV) by atomizing concentrate material at the rate of one ounce per acre. This aircraft is utilized during the early morning hours before sun up, when the wind conditions are low and the mosquitoes are most active. The aircraft is flown at an altitude of 500 to 1,000 feet. This system allows us to cover a large area in a short period of time. Complete trouble spots of several thousand acres can be treated in a matter of hours. The plane is always ready to go whenever an emergency arises.

The smaller aircraft (Grumman Super Ag-Cat) is the real backbone of control operations. It allows us to reduce the size of the broods before they have a chance to develop. This requires liaison between the inspectors and the pilot and full utilization of every hour, since the larvae are vulnerable to treatment for only a short time, usually 3 to 4 days.

We have flown 1,520 hours during the last 5 years and dispersed 142,611 gallons of 4% Malathion; 306,768 pounds of Paris

green pellets; 532 gallons of technical Dibrom; 15,245 gallons of Flit MLO; 43,499 gallons of diesel oil with surfactants; and 737 gallons of technical Malathion. This operation has been responsible for the mosquitoes being "under control" many times in the past and is a very valuable weapon to have in our arsenal of the future.

DOMESTIC MOSQUITO CONTROL

In addition to the salt marsh mosquitoes of Orleans Parish, there are 52 other species that have been found here. Ten of these can be found in sufficient numbers to be pestiferous. Some species breed in and around the home, in anything that will hold water, and are termed "domestic" mosquitoes. Their control is difficult, since it is impossible to have a house-to-house inspection each month. The main sources of these mosquitoes have been located and are treated on a routine basis. A total of 3,885 inspections on these sources of domestic mosquitoes have been conducted to date. Since these mosquitoes are capable of disease transmission, a great deal of importance has been attached to this phase of our program.

ENCEPHALITIS SURVEILLANCE

We have established, in cooperation with the Louisiana State Board of Health, a surveillance program for Orleans Parish which we feel can eliminate, or at least minimize, epidemics of encephalitis. This virus is brought into the area by birds and

is transmitted to other birds and to man by mosquitoes. The surveillance program allows for detection and location early enough to combat the species of mosquitoes capable of transmitting it to man, and thus avert a disaster. We trap wild birds, band and release them unharmed after a blood sample is taken. This tells us when the virus has moved into our area. Our staff has trapped 6,582 wild birds to date. We maintain sentinel flocks of chickens at various locations, which we bleed twice each month to tell us where a virus may be located. We also trap live mosquitoes (469 pools to date) for viral isolations to tell us what kind of virus we may have. This early warning system, coupled with our capacity for quick control coverage of the City, gives New Orleans one of the best surveillance programs in existence. The Louisiana State Board of Health gave credit to this program when we had a near miss in 1966. We had less than a dozen cases in the area at a time when Dallas and other areas were having epidemics.

PERMANENT CONTROL

The real measure of success for a mosquito control program is the number of acres of prime mosquito breeding eliminated. This is done by our permanent control program, where we utilize heavy equipment to drain an area or to keep water on it. Intermittent flooding of an area is the chief cause of mosquito breeding.

We received an amphibious dragline in 1967 and have completed several projects where mosquito breeding was found and continual treatment was needed. This machine has constructed

55,262 linear feet of ditch and has eliminated breeding in 1,244 acres.

This program has been set back for the past two years when the financial "freeze" did not allow us to obtain additional equipment on schedule.

Cooperation with developers has resulted in several hundred acres being controlled.

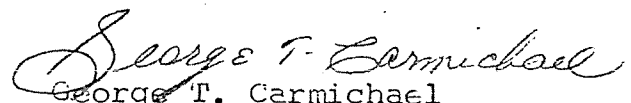
FINANCIAL

In a survey of 1963 it was estimated that a sum of \$376,000 would be necessary to finance adequately a program of mosquito control for Orleans Parish, followed by approximately \$400,000 each year thereafter. Based on an estimated population of 673,000 people in the Parish, this would be 56 to 60 cents per person per year. In 1965 the program cost was 24 cents per person; in 1966 - 32 cents per person; in 1967 - 41 cents; and in 1968 - 50 cents per person. This is an average cost of 37 cents per person per year over the 5 year period. Each year we have endeavored to provide more and better mosquito control for the money provided to us for this purpose.

There have been many outstanding accomplishments during the first five years of the program, too numerous to mention, but we hope the highlights as pointed out in this report will remind you of the progress made to date on a problem that only five years ago was considered by many to be impossible. We do not claim that mosquitoes in Orleans Parish have been eliminated - we know this is

not possible. We do think we have a program that does control the mosquitoes to the point where they no longer seriously affect the economy of our City. We can continue to eliminate the breeding areas, reduce the size of each brood that develops, and cut down the life span of each brood, so that the contact time between mosquitoes and citizens is minimized.

Respectfully submitted,


George T. Carmichael
Mosquito Control Administrator