

THE PROGRESS OF MOSQUITO CONTROL IN NEW YORK AND NEW ENGLAND

JOSEPH F. PANNONE

R. I. Mosquito Control Supervisor, and President, Northeastern Mosquito Control Association

NEW YORK (Partial report; many areas not included).—According to a report by Mr. Leroy Kinsey of the Nassau County Mosquito Control Division, the activities in Nassau County are more or less the same from year to year. Basically the methods remain the same: the No. 1 item is still drainage, with chemical control as No. 2, and adult control as their No. 3 method.

Of course, new tools are being added from time to time. At present the "Scavel Plow" which was developed in Connecticut, is being used in cleaning the salt marsh drainage ditches. Through experience they found it necessary to purchase tractors with greater horsepower in order to cut down lost hours due to mechanical failures caused by overtaxing the smaller type machines. They have changed from the Oliver Model OC3 to Oliver OC6. After making the change, it was found that the loader mechanism used on the smaller tractor was not heavy enough to withstand the power of the new machine. Then started a search for a suitable attachment capable of withstanding the power, as well as satisfactorily handling the scavel itself. Through one of the local equipment distributors they were able to get a dozer attachment manufactured by the A. C. Anderson Company of Wildwood, N. J. which meets the requirements. At present they have two machines equipped with this attachment and find they work very satisfactorily. The scavel can be removed and a back-filler or bulldozer blade may be substituted if desired.

In their chemical control program it was found cheaper to make up their own larvicides. During the past season a stable water emulsion was used for field spraying. The larvicide was developed by one of

the employees and has proven successful and economical to use.

The adult program is used only in areas where heavy infestation has occurred. They do not fog at night, and find that psychologically the residents are pleased with the system of fogging during the day. Using this method, the traffic hazards are not as great, and more people are cognizant of the activities of the department. There are those in mosquito control work who disagree with this theory, as expounded by Mr. Kinsey, but the results obtained in the county speak for themselves.

MAINE.—Maine has no definite, organized mosquito control set-up, probably due to lack of funds. There has been a statute on the books since 1929 authorizing the State Entomologist to cooperate with the Department of Health in suppressing mosquito nuisances.

Species surveys have been conducted. Many small local projects, particularly along the coast, are financed by private contributions. The oldest project in Maine is probably the one near Popham Beach, carried on by Mr. Cushman of Portland.

Through the use of WPA funds, an extensive drainage project was carried on at Old Orchard in 1932. This area has since been filled in and now serves as a parking lot.

NEW HAMPSHIRE.—As reported by Dr. J. G. Conklin, State Entomologist, New Hampshire has no organized program or department for mosquito control. There are a few recreational and seacoast areas which carry on private programs.

On February 1 a meeting was to be held by the Seacoast Regional Development Association intended to create sufficient interest in mosquito control so that

possibly a bill may be introduced at the next legislative session to pass some sort of enabling act to make possible the creation of a mosquito abatement district.

VERMONT.—The mosquito control problem in Vermont is mostly restricted to the spring flood water types of mosquito, on occasions when heavy rains prevail and large streams and rivers overflow.

There is no early record of any work done in Vermont for mosquito control. According to Mr. John W. Scott, Director of Plant Pest Control, prior to and during World War II, one town—Brandon—and a summer resort area—Lake Dunmore—used to place sawdust-filled bags soaked with oil in the swamps and spring-flooded water holes found in the general vicinity of the town and the lake. In 1945, VJ Day to be exact, Chris Williamson and Ken Tyler flew up to the Lake Dunmore region and sprayed DDT by aircraft around the lake for mosquito relief. The state at that time was in no position to recommend a particular control measure using DDT, which was relatively new for civilian use, and no action was taken. In 1947 the Legislature provided for surveys and recommendations for interested communities and groups desiring to formulate mosquito control programs. For this reason, Mr. Scott was brought to Vermont. Surveys were made in a number of the worst mosquito annoyance areas in the state. Most of the recommendations were based on dust control because almost all of the areas suffering from mosquitoes were much too large for the population to support a more permanent type of control. In one instance a soil conservation project was developed in which a good-sized swamp was drained and mosquito relief was thereby obtained.

At the present time the mosquito control work is being conducted by space spraying using DDT. One town has a mist machine, and a resort area has a mist machine and a fogging machine. A few communities have obtained the services of tree operators using mist machines to gain control of mosquitoes in the adult stage. One village is contemplating the use of

pre-hatch treatment in flooded areas around the village, for which Mr. Scott and his crew will conduct a survey this coming spring.

MASSACHUSETTS (as reported by Robert L. Armstrong).—The hurricane rains in late August produced one of the greatest late summer broods of mosquitoes ever experienced in southern New England. *Aedes canadensis* constituted a much larger proportion of the species than is normally expected in a summer brood.

There were extensive areas sprayed by aircraft in late April and May. It had the effect of almost completely eliminating the spring brood of mosquitoes.

Two new areas are being surveyed as possible mosquito control districts—Bristol and Norfolk Counties, exclusive of the towns presently in the South Shore and East Middlesex Mosquito Control Projects.

Commercial aircraft services do mosquito control spraying in more than 100 individual towns outside of the several mosquito control districts.

South Shore Mosquito Control Project has put into operation a tractor with a "Scavel Plow," modeled after the Connecticut machine.

Bill Doane, of the Cape Cod Mosquito Control Project, reports good results with TELVAR herbicide on aquatic vegetation in a flowing stream.

The East Middlesex Mosquito Control Project has adopted a Titanium Oxide spray as an aid to observing mosquito breeding in catch basins.

CONNECTICUT (as reported by Julius Elston, Chief of Mosquito Control).—Organized mosquito control has been carried on in Connecticut since 1915. The pioneers who brought this about were Director E. H. Jenkins and State Entomologists W. E. Britton and B. H. Welden of the Connecticut Agricultural Experiment Station.

At first, all costs were borne by the towns and interested parties. As time went on, the enabling act was changed or amended as the need arose. In 1949, employees of the State Board of Mosquito Control, under the leadership of Super-

intendent R. C. Botsford, developed a ditch-cleaning machine called the "Scavell Plow" which can clean approximately 100 feet of standard size ditches per minute. This plow has been widely accepted, now being used in New York, New Jersey, Delaware, Massachusetts, and other states.

In 1951, under a state re-organization program, the State Board of Mosquito Control was abolished and all the personnel, properties, and functions were transferred to the State Department of Health, Bureau of Sanitary Engineering.

In 1955 the following was accomplished under their program:

130,000 ft. of ditches were cleaned by hand

100,000 ft. of ditches were cleaned by power

1,000 ft. of new ditches were dug by power

600 hrs. were used in carrying on a hand spraying program

200 hrs. were used in power spraying

1,500 hrs. were spent on inspection work.

The mosquito control appropriation for the current year is approximately \$45,000.

RHODE ISLAND.—Mosquito control in Rhode Island has come a long way in the past ten years or so. It was carried on in Newport and the Watch Hill section of Westerly as well as in some areas in Providence, in the early 20's, with a marked degree of success. Then came the middle 30's with ERA, WPA, SUR, and other Federal Agencies which organized and carried on large-scale programs for most of the areas in the state having mosquito problems.

This all reverted back to the state when the Federal Agencies were discontinued, and Milton H. Price was placed in charge. When he resigned in 1945, he was replaced by William V. Bartosewitz who conducted the program until his untimely death in 1952.

In 1947 the statute was amended so that each city or town could apply for reimbursement funds under a state-wide program. At that time, nine towns and

four cities were in the program and spent about \$7,000. The state spent about \$20,000 for this program and for a state crew to do the work on state-owned lands.

I was appointed in early 1953. At the present time we have 20 towns, 7 cities, and 6 private associations under our program of organized mosquito control. This past year approximately \$80,000 was spent by these groups and the state spent about \$37,000. Some outdoor theatres and other private groups do control work but no report is turned in to this department as no state funds are involved. Therefore, it is safe to say that the entire cost in Rhode Island for the past year for control work was about \$125,000.

Our work consists mainly of ditching and draining, with some mist blowing, helicopter spraying, and catch basin spraying. Under our set-up each city or town appropriates a certain sum and the state reimburses them for work completed. No town or city can be allocated more than \$3,000 in any one fiscal year or be paid more than one-half of any bill submitted. This year, each city and town was allocated 34 percent of its appropriation.

All work must be approved by the state department and carried out under its supervision and inspection. The state furnishes all technical aid, and the towns furnish labor, equipment, and materials. Close to one million dollars have been spent in the past ten years.

NORTHEASTERN MOSQUITO CONTROL ASSOCIATION.—This group was formed on February 3, 1955, at Amherst, Mass. It comprises New England and New York. On January 19-20 at Waltham, Mass. the second annual meeting was held, and all officers were re-elected to another term. Everyone who attended seemed to feel that this meeting was a successful one. Last May the Association conducted a training course at Amherst for field men and it was so popular that it is to be repeated again next month, both at Amherst and at the University of Rhode Island. Dr. Pratt, of the U.S.P.H.S., will be the instructor.