

contracted with an airspray operator to larvicide 650 acres of swampland and drainage ditches with 6 percent DDT at the rate of 1 gallon per acre. This was preceded by a dipping survey undertaken by the pilot himself, to determine species present. The larvae obtained were identified in the State Entomologist's office. They included: *Aedes stimulans*, *A. siccius*, *A. fitchii*, *A. intrudens*, *A. communis*, *A. riparius* and *A. impiger*. Later, *Aedes excrucians* adults were collected.

No scientific evaluation of the control was made. All that can be said was that after the spraying no larvae could be found at most of the sites from which the pre-spray collections had been made, and that the community appeared to be satisfied with the results.

Residual applications of DDT by mist blower were made around state campsites as a routine procedure, and many summer hotels and private summer camps had fogging and mist-blowing contracts with local pest control operators.

It is probable that the gypsy moth control programs, which consisted of airplane spraying with DDT in early spring at the rate of $\frac{1}{2}$ to 1 pound per acre, were responsible for a considerable abatement of the biting fly nuisance, especially in the counties of Delaware, Sullivan and Dutchess, and to a lesser extent in other eastern counties.—D. L. COLLINS, State Entomologist.

NEW ENGLAND

If mosquito control efforts in New England in 1957 were to be characterized in one word, that word would be "expanding."

In Massachusetts two new county projects, Plymouth and Dukes, were formed and two others, Bristol and Essex, came under consideration.

In Rhode Island a 60 percent increase in state matching funds is to be noted. Also in that state three new private groups in towns not organized joined the state program. Here might well be the begin-

nings of the realization in these towns of the benefits to be gained from organized mosquito control.

Another area of expansion is that of the development and use of mechanical devices for salt-marsh ditching. For many years the State of Connecticut has worked on this problem. The "scavel" plow is a concrete example of achievement. Several years ago a power backhoe was built at the mosquito control headquarters in Madison. Recently a clamshell bucket has been adapted to the same boom and dipper stick. Change-over from one to the other takes approximately two hours. More recently, another such machine has been designed, based on an Oliver OC-4-68 tractor. This machine will be fully hydraulic with a boom turning radius of 200°. Turning will be accomplished by a chain and sprocket arrangement with operator and cab turning with the boom, thus allowing the operator to face his work at all times. Mounting will be so that no outriggers will be necessary. Cost estimates for this machine total \$6,500 exclusive of labor which will be done in the off season by the mosquito control personnel.

In Massachusetts the South Shore Project has been using a "scavel" for three years. This past year a hydraulic trencher mounted on a crawler tractor was added. The success of the South Shore "scavel" interested the Cape Cod Project, which resulted in their adding a unit to their equipment. These operations are being watched by other projects with the idea of adapting such machines to their area.

Although the interrelationship of the activities of mosquito control operations and those of wildlife conservation groups has been recognized in New England for as long as the writer has been active there, no concerted effort of the two groups to get together on an area-wide basis was made until this past year. The Northeastern Mosquito Control Association last winter had a speaker from the U. S. Fish and Wildlife Service at its 3rd Annual Meeting. Last summer a group

made up of both interests toured southern New England and at its 4th Annual Meeting in January the Northeastern Association heard from state wildlife representatives. One example of cooperation worthy of note, since it occurred in 1957, is a 125-acre plot at Galilee in Narragansett, R. I. This area is being worked by the state mosquito control and wildlife groups. The aim is to eliminate a prolific salt marsh mosquito source and improve an area recently made a sanctuary. Such contact is bound to minimize the effects of each operation on the other and if properly presented to the public, the former appearance of two groups pulling against each other will be corrected.

Encephalitis was in the minds of all workers the past summer; however the drought did not break and disease did not appear as in the previous year. The investigations of the U.S.P.H.S. Encephalitis Field Station at Taunton, Mass. will form a firmer basis for control operations in any future outbreak.

In the field of training and information, the Northeastern Mosquito Control Association continued into its fourth year. It will, in March, cosponsor a training course for local mosquito workers. Also, in this field, an informal organization of the Massachusetts project superintendents has been formed. Its monthly meetings will deal with common problems and serve as a clearing house for mutual aid activities.

Mosquito control efforts in Maine, New Hampshire and Vermont presently are limited to adulticiding. Some interest has been shown in Maine concerning salt marsh ditching methods. State departments provide advice to such control efforts regarding materials, equipment and methods.

I'm sure that all in New England will agree that progress has been made. Our Association and its members stand ready to help others in our area with their problems along mosquito control lines.—LEWIS F. WELLS, JR., South Shore Mosquito Control Project, Quincy, Massachusetts.

ILLINOIS

The 1957 season was one of exceptionally abundant floodwater mosquito production in Illinois, following three periods of extremely heavy rainfall over the entire state. In the Chicago area, where eleven of the State's seventeen abatement districts are located, 3.51 inches of rain fell in a 5-day period in April, 4.58 inches in two short periods in June, and 6.24 inches on July 12-13 broke the all-time record and produced a serious flood. *Aedes vexans* is the major problem of fifteen districts in the State, and all reported record numbers of this species following emergence of at least three major broods. Of added significance is the fact that pre-hatch treatments applied to normal areas of inundation were rendered practically ineffective by this series of floods.

It will probably come as a surprise to some to learn that the so-called salt-marsh mosquito, *Aedes sollicitans* (Walk.), has for many years been the major mosquito problem in certain coal-producing areas of south-central Illinois. In fact, two districts in the state were organized to combat this pest, the Dupo district being formed as early as 1940, and the Franklin district in 1952. Horsfall¹ in 1956 reported that all of the known oviposition sites for *A. sollicitans* found in Illinois in the vicinity of coal mines and oil wells have sulfur in some form in the soil, and also that sodium, or other chlorides, are either absent or of a low order in the winter. Laboratory tests of soil and water from two *A. sollicitans* larval production sites in the South Cook District have also indicated the presence of relatively high sulfate contents.

The significance of getting more complete mosquito distribution data by employing thorough surveys is exemplified in two of the districts in the Chicago area where it has been found that several species have extended their previously

¹ HORSFALL, WILLIAM R. 1956. *Aedes sollicitans* in Illinois. J. Ec. Ent. 49(3):416.

recognized ranges. Since the publication of Ross's² handbook, six species have had their known northern ranges extended to northern Illinois. These species are *Psorophora varipes* (Coq.), *P. discolor* (Coq.), *P. cyanescens* (Coq.), *Aedes dupreei* (Coq.), *A. spencerii* (Theo.), and *Anopheles crucians* Wied. A southern record has been established for *Culiseta morsitans* (Theo.). A western species, *Aedes dorsalis* (Meig.), formerly known only from a few industrially contaminated sites in the state, is now known to occur in annoying numbers in parts of the Chicago area.

Within the past two years two bills have come up in the state legislature that would have had an adverse effect upon organized mosquito control in Illinois. The first bill, which would have had the effect of reducing the size of a district by chipping away at the boundaries, passed in modified form after suitable safeguards had been incorporated in it. The second bill, which would have made the office of trustee of the larger districts elective, rather than appointive as at present, died in House committee, but only after a favorable vote in the Senate, and after last-minute efforts on the part of some districts and our state association.

Following the severe outbreak of *A. sollicitans* in 1956, a bill was introduced in the state legislature in 1957 to provide for control of the *sollicitans* problem in the coal mining area of southern Illinois, specifically Saline and Williamson Counties. This bill, which originally provided for an appropriation of \$25,000.00, was reduced to \$10,000.00, and ultimately failed to pass.

The Illinois Mosquito Control Association is divided for purposes of local function into a Northern Section, made up of twelve districts, and a Southern Section composed of five districts. In June, 1957, the Southern Section held a successful meeting in Carbondale at which the public health aspects of mosquito control were

discussed. Particular emphasis was placed upon the relationships existing between mosquitoes and arthropod-borne encephalitis, since there have been three outbreaks of this disease in and adjoining southern Illinois since 1932, the last one involving eight cases in West Salem in 1955. A Northern Section meeting was held at Lyons in December, 1957. This was primarily an exploratory meeting concerning policy matters affecting districts, such as legislative trends and needs, state aid for research and operations, and means for disseminating information. The group recognized the need for the development of a legislative program by the state association, and it was resolved that this matter should be brought before the next business session of the association.

The Fourth Annual Meeting of the I.M.C.A. was held at the University of Illinois on February 6-7, 1958, with an attendance of 70 persons, a considerable increase over the number attending last year's meeting. One of the more notable actions taken at the business session was the passage of a motion for the association to request the State Department of Public Health to employ necessary personnel to perform liaison work with mosquito abatement districts and other such interested groups, and to undertake other advisory and consultative work that might be required. Increased interest in the association is reflected in the present membership of 13 of the state's 17 districts, 105 active and associate members, and 23 sustaining members.

At the present time in Illinois there are nearly 1,000 square miles contained in organized mosquito abatement projects. The total annual budgets for abatement districts amount to more than \$800,000.00, and over one and one-half million people are protected. Inquiries are frequently received from other communities, thus making it safe to assume that additional mosquito abatement districts will be formed in Illinois in the not too distant future.

OSCAR V. LOPP, Secretary-Treasurer, Illinois Mosquito Control Association.

² Ross, H. H. 1947. Bull. Ill. nat. Hist. Surv. 24 (Art. 1): 96 pp.