

MOSQUITO CONTROL IN ILLINOIS¹

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Under the Federal Swamp Land Act of 1850, a vast transfer of lands was made—first from the Federal Government to the State of Illinois, next from the state to the counties, and later to private corporations and citizens. Proceeds from these sales were used by the state for the construction of early drainage works in order to facilitate the reclamation of these lands for agricultural purposes. By 1879, drainage had become so common that laws regulating its application were badly needed. For the benefit of all, the organization of individual drainage districts became a legal reality during this year. By 1880, several hundred tile factories were operating in Illinois trying to meet the demand for great quantities of drainage pipe. By 1889 other pressing solutions of drainage problems were required because of the rapid municipal development. Out of this necessity, the state passed another significant drainage law which permitted the creation of sanitary districts. By the end of the 19th century, drainage activity within Illinois had gained full stature and had grown to an impressive size, resulting in the reclamation of millions of acres of marshland.

Pestilential marshes gave way to prosperous agricultural land and urban development. The byproduct of this activity was the sharp downward trend in malaria and other mosquito-borne diseases. However, the increased drainage activity, and especially the lowering of the water table by drainage without regard to all phases of mosquito biology created new mosquito problems. Thus the permanent water breeder problem was replaced with the floodwater type. This new twentieth century problem was largely man-made.

Flooded situations of a temporary nature developed at a fast pace, mainly due to poor engineering practices such as construction of highways, railroads, drainage systems, and sub-divisions of urban areas without provisions for residual drainage. Likewise, polluted streams and ditches developed rapidly as the problem of economical disposal of raw sewage and industrial wastes increased.

Under these conditions the mosquito problem drew metropolitan attention. A few outstanding civic groups were organized to seek some sort of relief. In 1921, Colonel Otto McFeely, editor of *Oak Leaves*, a newspaper in Oak Park, Illinois, launched a campaign to obtain assistance. During this year he appealed to the Sanitary District of Chicago for assistance in regard to drainage and stream pollution. This plea was heard and the Sanitary District commenced a limited mosquito control program aimed primarily at the reduction of mosquito sources. This program consisted of larviciding and drainage work which was conducted along the Des Plaines River and in the northern part of Cook County where the Skokie marshes were located. As a result of court decisions, however, the work was terminated in 1924.

In 1925, at the request of the Gorgas Memorial Institute of Tropical and Preventive Medicine, Mr. Joseph A. LePrince, then dean of mosquito fighters, came to Chicago and surveyed the entire metropolitan area. His conclusions were summed up in one statement: "The prevailing problem is mostly man-made."

It was noteworthy that the communities recognized that they had created the mosquito problem and that they understood that community effort would be required for its solution. As a consequence, a few months later the Anti-Mosquito Board of Metropolitan Chicago was formed with the Gorgas Memorial Institute coordinat-

¹ A condensation of a longer paper of the same title, which was adjudged one of the two Prize Papers of the Year 1958 by the Western Society of Engineers. The original paper included maps and statistics not presented in this abridgment.

ing all mosquito-fighting organizations in the area. Initial funds were provided by the Cook County Board, and the balance was raised by grants and public subscriptions from various municipalities and individuals. The services of Mr. Edwin M. Skinner, Director of Mosquito Control, were secured and the entire metropolitan program was organized in such a manner that any city or town was granted membership in the Anti-Mosquito Board upon its own application.

Unfortunately, the prevailing mosquito problem was not simple. The solution required sustained funds and professional effort. Furthermore, the area under consideration was larger than was anticipated, and the mosquito control activities that were performed under the Anti-Mosquito Control Board were limited in nature and extent. Nevertheless, these activities had a profound effect on the future of organized mosquito control in Illinois.

By 1927 many people in the metropolitan areas of Illinois had gained through practical experience and public education, a fair knowledge of the prevailing mosquito problem and were highly in favor of combating the nuisance on a community basis with dependable funds. Thus the stage was set for mosquito abatement enabling legislation on a state-wide basis, and on July 7, 1927, the General Assembly of the State of Illinois passed a law permitting the creation of mosquito abatement districts. This law was barely more than permissive, and the procedure for forming a district was as follows:

Any contiguous territory having at least 300 inhabitants became eligible for a District, providing that 5 percent of the voters petitioned the respective county judge to submit the question of organizing the proposed District to the voters. After fixing the boundaries and holding a public hearing, the question was submitted to the legal voters of the territory involved. If the majority of the votes cast were in favor of the District, the election was conclusive and the District constituted a body corporate and politic,

of which all courts were required to take judicial notice. The affairs of the District were governed by a Board of five Trustees, who were appointed for a 4-year term by the county judge. The financing of the District's operations was obtained from a general property tax, not exceeding the rate of 0.05 percent of assessed property evaluation in the District. In general, the District was empowered to abate mosquitoes, flies and other insects within the territory, subject only to the higher authority of other municipal and public agencies. The only legal liaison that existed between the Districts and the State was the requirement of submitting an annual report of activities to the Illinois Department of Public Health.

This law was preserved in its original form until 1943 at which time the rate of taxation was changed from 0.05 percent to 0.025 percent of assessed property evaluation in the districts. At this time property evaluation was increased, and the actual amount of tax revenue remained about the same.

In 1953 an attempt was made to amend the law in order to provide procedures for withdrawal of specific areas. This law did not pass due to the adjournment of the 1953 Assembly. However, when the Assembly met in 1955, the law was amended to include these procedures.

These new provisions were applicable only to counties of less than 100,000 population, and such withdrawals were subject to the approval of the State Department of Public Health and of the Illinois State Natural History Survey.

In 1957 a bill was introduced in the State Legislature to amend the existing law so as to provide trustees of mosquito abatement districts on an electoral rather than on an appointive basis, but this was not adopted.

As of this date a total of 17 mosquito abatement districts have been organized, the majority of which are located in the northern part of the state. Although there are about 52 species of mosquito in Illinois, *Aedes vexans* appears to be the most

abundant species in all but two of the districts. Only in Dupo and Franklin counties is *A. sollicitans* the more common.

The 17 districts cover an area equivalent to 1.67 percent of the State's territory and serve directly 16.7 percent of its population. Nine of the districts have been organized during the last 10 years, and they in turn cover 77 percent of the total area served by all 17 districts.

These ratios reflect the geographical location of the districts and the growing importance of mosquito control in Illinois. It is noteworthy that the larger districts are located in the County of Cook, where they cover approximately 78 percent of the territory and serve directly only 28 percent of its population. Revenue-wise, the mosquito abatement districts in Cook County collect taxes on one-third of the total assessed property evaluation. The remaining two-thirds of assessed property evaluation, which are not taxed for mos-

quito abatement purposes, lie within the corporate limits of the City of Chicago and Leydon Township and represent 22 percent of the Cook County area and 72 percent of its population.

The bulk of the recent growth of mosquito control activities has been centered in the Chicago metropolitan area, where a great exodus of population into the suburbs has occurred and leisure time expressed in outdoor recreational activities has increased steadily. Since suburban living and outdoor recreational activities are most enjoyable during the spring, summer and fall seasons, they are dependent to a great extent upon a mosquito-free environment. To obtain such an environment, there is a clear need for additional control measures. In view of the many different sources involved outside the areas affected, changes in the abatement laws may also be required.

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