

HISTORY OF MOSQUITO CONTROL IN BRITISH COLUMBIA

C. L. NEILSON¹ AND L. C. CURTIS²

As early as 1856, J. K. Lord (7) collected mosquitoes in the Lower Fraser Valley of British Columbia and made pungent remarks on their abundance and habits. His determinations, however, were generally faulty. The first careful study of mosquitoes in the province was by H. G. Dyar (1) who visited the Kootenay district and Vancouver Island in 1903. In 1919² he made a journey through the northern part of the province, and collected from Prince George to Atlin (2). From 1899 to 1919 Fletcher, Trehearne and Hewitt made collections, all of which appear to have been submitted to Dyar for determination and publication.

In 1919 Hearle began a study of mosquitoes in the Fraser Valley in response to a request from the municipalities of the lower mainland for a mosquito control programme. In 1920 he published a preliminary report of his findings (4). This work concluded with a full report published by the National Research Council (5) and a published list of the mosquitoes of British Columbia (6). Within two years of the establishment by Hearle of the Livestock Insect Laboratory at Kamloops in 1928, mosquito control programmes were started at Kamloops and Kelowna. Interest in controlling mosquitoes grew over the next 15 to 20 years until by 1948 Gregson (3) reported that twenty-four communities were practising mosquito control. Since 1948 L. C. Curtis has continued mosquito investigations at Kamloops and has acted as a technical adviser. Since 1953 C. L. Neilson has collaborated with Curtis as technical adviser and

encouraged Provincial Government participation.

The number of projects varies somewhat from year to year. This is largely because adequate control has not always been achieved on account of lack of funds or loss of key personnel in the district. At present there are twenty-five cities, towns, or districts actively engaged in mosquito control.

The largest control district in the province is that of the Fraser Valley Mosquito Control Board, which consists of the Municipal Districts of Richmond, Burnaby, Maple Ridge, Pitt Meadows, Coquitlam, Surrey, Langley, Matsqui, Mission, Kent, and Chilliwack, together with the City of Mission and the Village of Harrison Hot Springs. The annual expenditure is about \$25,000.

In the Interior, the cities of Revelstoke, Kamloops, and Kelowna spend approximately \$3,000 annually, while the Penticton budget is near \$1,800. All have been engaged in mosquito control for about thirty years. Other cities doing control work include Kitimat, Prince George, Quesnel, and Grand Forks. Of the smaller centres, Merritt, Clinton, and Salmon Arm are active.

Other mosquito control work is carried out by the following organizations: Barriere and Louis Creek Mosquito Control Association, Little Fort Mosquito Control Board, Central North Thompson Board of Trade (Birch Island - Clearwater), Lower North Thompson Mosquito Control Committee, Sicamous Mosquito Control Committee, Solsqua Farmers' Institute, Malakwa Farmers' Institute, Arrowhead Chamber of Commerce, Wasa Mosquito Control Committee, Christina Lake Community Club, and Falkland-Westwold Board of Trade.

¹Provincial Entomologist, Douglas Building, Victoria, B.C.

²Entomology Laboratory, Box 210, Kamloops, B.C.

It is expected that new control organizations will operate at Spences Bridge and in the Invermere district.

Areas that conduct sporadic control include Argenta, Golden, Norgate Park in North Vancouver near the First Narrows Bridge, Oliver, and Savona.

Control measures now consist mainly of larviciding with 1 per cent DDT in oil at 2-3 gallons per acre or with DDT in gelatine capsules ("Tossits")³ or treatment of breeding areas before hatching with five per cent granular aldrin or heptachlor at 1-2 pounds per acre.

Larviciding by the use of aircraft is carried on as a regular practice in the Fraser Valley, and at Kitimat, Kamloops, the North Thompson Valley, and a few smaller areas as the occasion demands, and as money is available. Engine-equipped ground sprayers for both larviciding and adulticiding are used at Penticton, Kelowna, Kamloops, Revelstoke, Kitimat, Louis Creek-Barriere, Clinton, Sicamous, and Grand Forks. Similar equipment was used by the Fraser Valley Mosquito Control Board in 1961. Other ground work is largely done by knapsack sprayer, granular insecticides, or "Tossits." However, insecticide-treated sawdust is still used, and a few aerosol generators are operated from the exhaust of jeeps, trucks or tractors.

³ Wyco Inc., West Palm Beach, Fla., U.S.A.

Financing of the various control operations has been largely by city grants, or in smaller communities by fund-raising activities and gifts. The Fraser Valley Control Board operates on funds contributed by the various bodies on a population basis, and the Federal and Provincial governments make annual contributions. The Provincial Department of Agriculture has for the last two years made very small annual grants to ten of the widely scattered rural districts in order to encourage their efforts. The grants afford the Provincial Entomologist an excellent opportunity to work with the communities to improve their techniques.

In conclusion, it is our belief that the time has come for Provincial legislation under which control areas may operate, raise funds in an orderly manner, finance the purchase of heavy equipment, and provide continuity of employment for skilled workers. It would give workers the right to entry upon lands for the abatement of mosquito nuisance, and protect individual workers from damage claims. At the same time, it would give affected property owners and ratepayers a voice in the direction of operations.

A further desirable development would be an association of mosquito control workers to provide means for administrators and operators to discuss the many mutual problems that may arise in this difficult field.

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