REPORT ON CAPE COD HEMLOCK LOOPER SPRAY PROJECT

Chapter 465/1955 enacted in May, authorized the expenditure of \$100,000 for an aerial spray program to destroy the Hemlock Looper, feeding on the pitch pine of Barnstable County.

Two group meetings had been held on the Cape in anticipation of the bill's passage, and two more were held immediately after approval was a certainty. Attendance of local representatives at the final meeting was rather discouraging, as only six out of fourteen appeared.

The Bureau personnel arrived as a group Sunday afternoon, July 17, and took up quarters for three weeks. Actual aerial application began at 5:15 A.M. on the 18th, which incidentally turned out to be the largest production day - 17,000 gallons of insecticide applied by 3 planes.

The contractor, with his pilots, planes and servicing equipment had arrived on the 16th to take an aerial view of the area shead of them, which none of them had ever seen before. Their ships were all Stearmans, nine of them assigned in groups of three each to Chatham, Orleans and Provincetown airports. This was the arrangement for the first week, and we had our first experience of witnessing 3 planes flying in tandem. As the work progressed and the toe of the Cape was completed, the planes moved to Hyannis municipal airport and still later all moved to the Marston Mills airport.

From this latter point all of the town lands surrounding the Otis Air Force Base were treated. The Cooperation of the Base was excellent, with hourly contact between the Base Operations Officer, Major Nelson and the Eureau Chief for three days, which enabled us to take advantage of every good flying hour. On two separate occasions we were spraying directly beneath the jet and radar planes on their landings and take-offs. However, the cooperative contacts worked out to perfection and not a single instance of confusion occurred.

At the close of the first week's work all Bureau personnel was in a quandry as to what we were actually accomplishing. Ground crews were locating live larvae two and three days after an area had been sprayed. With no previous experience on this insect and no reliable data from other sources as a guide we had anticipated complete kill in 48 hours at least. As a result of several field tests and lengthy discussions we determined that this insect, relatively one-fourth the size of a gypsy, required at least double the contact-time for a complete kill. Slower kill is probably aided by the fact that this insect does far less travelling than Gypsy larvae. We are in agreement that even slight variations in temperature entered the picture, but lack of time prevented our reaching anything more than an opinion.

With extremely high thermometer readings all of the first week, we found that temperature was affecting our work in another direction. Many small vegetable gardens, already drying up, were badly spotted by the oil base of our insecticide, and for all of three days our phone calls consisted 90 per cent of complaints, and all but one were from women who very emphatically informed us we had "completely ruined their garden". Vine crops such as melons, squash and cucumbers presented an admittedly sad appearance but two equally sad attempts at night showers made a great difference and a few days later even the most violent complaints were agreeing that no lasting damage had resulted. Only one male complaint caused us any difficulty - his original contact with us included a promise that the Bureau Chief would be in the County Jail by 5 P.M. but at the close of the project no sheriff had appeared with a summons. Every one of these complaints were investigated promptly by Officers Madden or LaFarr and once again we have nothing but praise for these men of the Law Enforcement Fureau. They were at least slightly acquainted in advance with every complaint and were able to approach each party on a neighborly basis, whereas our own employees would have been

greeted as "insidious murderers", which was our Cape Cod classification.

Personally as well as from the public relations viewpoint our contact with

the Law Enforcement has been valuable and greatly appreciated.

From our own division we also had on this project the assistance of several employees from Parks and Recreation. As local residents, familiar with the area, they had no difficulty in reaching any out-of-the-way spot to which they had been assigned for 4 A.M. the following day. After their first instructions no further guidance was required and our supervisors were able to concentrate on other duties.

A visit from Governor Herter unfortunately took place on the only rainy day we had during the project. He had no chance to see the planes or ground crews in action, but seemed pleased that he had time to view the master map and discuss our methods of procedure. Weather also prevented the Bureau Director from seeing the planes in operation. On both of his contacts we were grounded by high winds. During the total 18 day period of the project only one day was lost to actual rain conditions, but winds were a constant problem. On several occasions we would be spraying for half an hour and then be grounded for two hours by gusty periods, with the result that we lost 5 days out of 18. As we progressed into our final week, the Air Force spray group began spraying the Otis Base area, a 23,000 acre job. Air Force officials and the pilot called at our office on August 3rd to obtain boundary points from our master map.

Our original estimate called for the application of 130,000 gallons of insecticide but an additional 2,126 gallons was required for completion.

All of this material was formulated at our Stow plant under Mr. Marshall's supervision while Mr. O'Doherty handled the field procedure, assisted by Division Superintendents Twiss, Plair and Chase. Due to our wide range of operations the field and flight records were received at such periods that

Mr. Black could do the recording and mapping alone, so Mr. Evergerg was released for duty as a loading checker, which was of much help to us.

We must include in this report an acknowledgement of town cooperation. From past experience we anticipated that any request would be promptly taken care of, but several towns certainly outdid themselves on this occasion and we single out Town Superintendents Sears, Shields, Tucy and Hall for Their efforts to give us every assistance. In reverse, we must equally criticize one town for its complete lack of cooperation or even casual interest. Even though we required assistance of the Moth Superintendent for only one forenoon he was not allowed to report. The spraying was performed with no town cooperation or supervision. As a contrast, the Hyannis Highway Department furnished us ample office space and facilities, free of charge, for our stay of three weeks. We can certainly claim that our work brings us in contact with the extremes of human beings with the result that we are, at one and the same time, blessed to the high heavens and cussed to the lowest depths.

As a statistical resume:

Starting date ... July 18
Closing date ... August 6
Material used ... 9% DDT, oil solution
Amount used ... 132,126 gallons
Acres treated ... 203,074
Resprayed ... 280 gallons
Flight time ... 308 hours, 40 minutes
Airports used ... 5

Departmental employees engaged in the project were:

- 1 Chief Superintendent
- 2 Supervisors
- 3 Division Superintendents
- 2 Mappers
- 3 Checkers (Parks. & Recreation)
- 8 Cons. Helpers (Mixing Plant)

Several towns were represented by their Moth Supt. and one or two assistants full time, and we also had the cooperation of Messrs. Harding and Walsh of the U. S. Dept. of Agriculture.

Due to the unknown habits of this insect we are hesitant to state
that this program "eliminates" the Pine Looper in Farnstable County, and
it is doubtful if any definite proof can be offered before June of 1956 at
which time a complete survey of then existing conditions will be submitted
as an appendix to this report.