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Status of Insects in the Pembroke  
District

Trieselmann, R.A.

Information Report                      O-X-65  
(Forest Research Laboratory, Ontario Region)

1967

| Information<br>Report No. | Subject   | Author                                     |
|---------------------------|---|--|
| 0-X-57                    | Forest Insect & Disease Surveys<br>--Lindsay District | M. J. Thomson                              |
| 0-X-58                    | --Tweed District                                      | F. Livesey                                 |
| 0-X-59                    | --Kemptville District                                 | M. J. Applejohn                            |
| 0-X-60                    | --Lake Simcoe District                                | R. L. Bowser                               |
| 0-X-61                    | --Lake Erie District                                  | G. T. Atkinson                             |
| 0-X-62                    | --Lake Huron District                                 | V. Jansons                                 |
| 0-X-63                    | --North Bay District                                  | L. S. MacLeod                              |
| 0-X-64                    | --Parry Sound District                                | C. A. Barnes                               |
| 0-X-65                    | --Pembroke District                                   | R. A. Trieselmann                          |
| 0-X-66                    | --Sault Ste. Marie District                           | H. J. Weir                                 |
| 0-X-67                    | --Sudbury District                                    | G. W. Cameron                              |
| 0-X-68                    | --Chapleau District                                   | D. Ropke                                   |
| 0-X-69                    | --Cogama District                                     | W. Ingram                                  |
| 0-X-70                    | --Cochrane District                                   | H. R. Foster                               |
| 0-X-71                    | --Kapuskasing District                                | F. F. Foreman                              |
| 0-X-72                    | --Swastika District                                   | H. R. Foster<br>L. S. MacLeod<br>W. Ingram |
| 0-X-73                    | --Port Arthur District                                | K. C. Hall                                 |
| 0-X-74                    | --Geraldton District                                  | K. C. Hall<br>D. C. Constable              |
| 0-X-75                    | --White River District                                | D. C. Constable                            |
| 0-X-76                    | --Sioux Lookout District                              | P. E. Buchan                               |
| 0-X-77                    | --Kenora District                                     | P. E. Buchan<br>J. Hook                    |
| 0-X-78                    | --Fort Francis District                               | J. Hook                                    |

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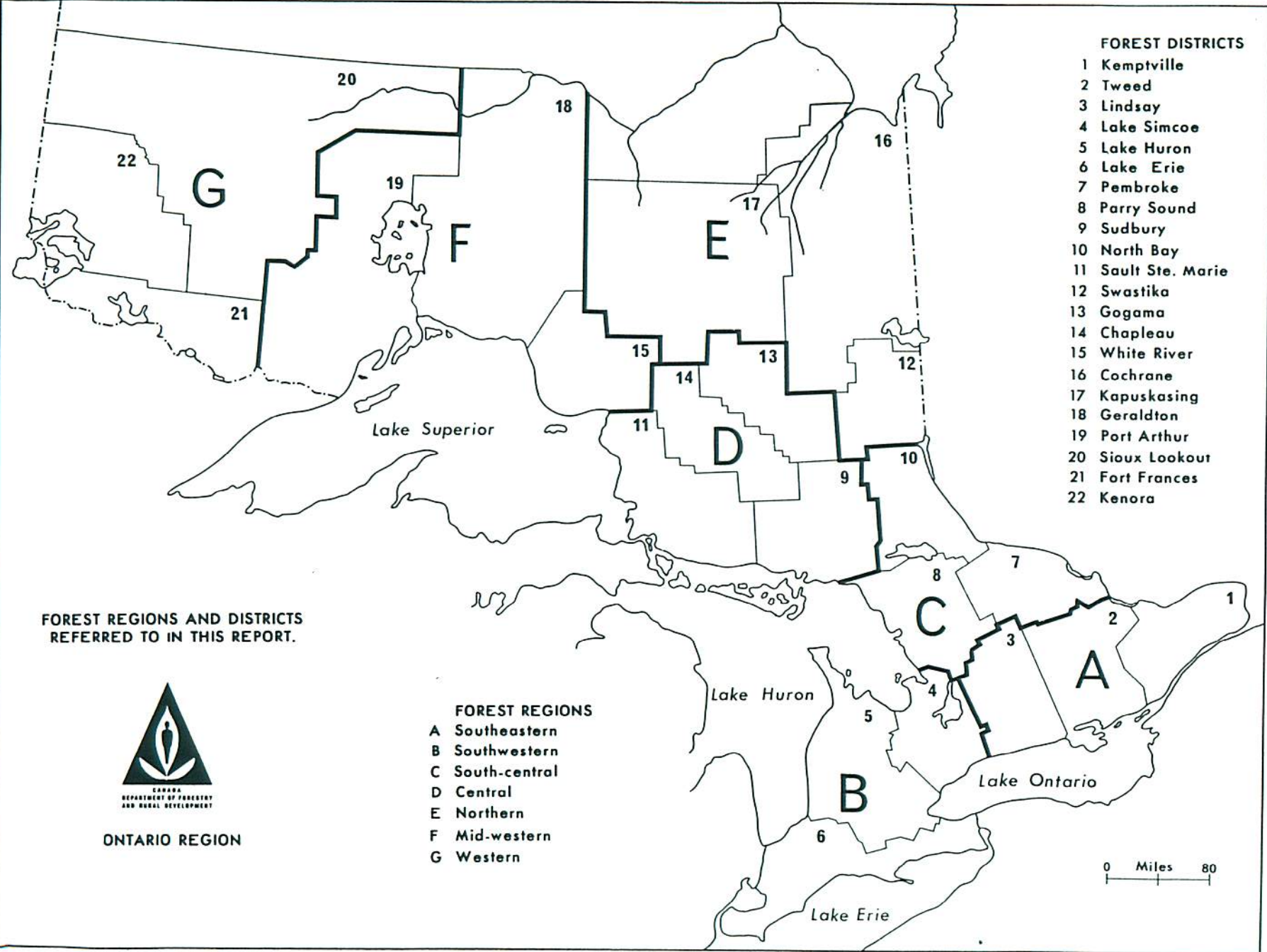
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Photographs

Regional Supervisors \*





**FOREST DISTRICTS**

- 1 Kemptville
- 2 Tweed
- 3 Lindsay
- 4 Lake Simcoe
- 5 Lake Huron
- 6 Lake Erie
- 7 Pembroke
- 8 Parry Sound
- 9 Sudbury
- 10 North Bay
- 11 Sault Ste. Marie
- 12 Swastika
- 13 Gogama
- 14 Chapleau
- 15 White River
- 16 Cochrane
- 17 Kapuskasing
- 18 Geraldton
- 19 Port Arthur
- 20 Sioux Lookout
- 21 Fort Frances
- 22 Kenora

**FOREST REGIONS AND DISTRICTS  
REFERRED TO IN THIS REPORT.**



**ONTARIO REGION**

**FOREST REGIONS**

- A Southeastern
- B Southwestern
- C South-central
- D Central
- E Northern
- F Mid-western
- G Western



## FOREWORD

Population levels of the spruce budworm increased sharply in widely-separated parts of Ontario in 1967. Heavy infestations occurred in the Burchell Lake area in Port Arthur District and in woodlots in parts of Pembroke, Tweed and Kemptville districts. A light infestation persisted east of Chapleau in the Central Forest Region. The Burchell Lake infestation is of particular concern because of the nature of the forest in that area. Stands currently infested, as well as those to the north as far as Lac Des Mille Lacs, contain considerable mature balsam fir and white spruce which are highly susceptible to attack by the spruce budworm.

For the second consecutive year, weather conditions during May had a pronounced effect on infestations of the forest tent caterpillar. Mortality of eggs and newly-emerged larvae greatly reduced population levels of this pest. The only major areas of infestation remaining in the Province were in the eastern part of Fort Frances District and the southern part of Sault Ste. Marie District.

Two species of sawflies were of major importance in pine plantations. The European pine sawfly continued to extend its range in southeastern Ontario and two new centers of infestation were found on Manitoulin Island. The red-headed pine sawfly caused severe defoliation in red pine shelterbelts and plantations at numerous locations in the central and southern parts of the Province.

Intensive surveys were continued to determine the distribution and incidence of Dutch elm disease and Scleroderris-canker of pine. The discovery of Ceratocystis ulmi (Buism.) C. Moreau in Sault Ste. Marie constituted a marked westward extension of the range of the disease caused by this pathogen. Scleroderris-canker of pine continued to cause severe losses of young red pine and, to a lesser extent, jack pine in numerous plantations in central and northern Ontario. By comparison, damage in southern Ontario was negligible.

Diseases of spruce were caused by Cytospora kunzei Sacc. and Polyporus tomentosus Fr. at widely-separated points in southern Ontario and pockets of infection of Fomes annosus (Fr.) Cke. root-rot persisted in several red pine plantations in Lindsay, Lake Simcoe and Lake Erie districts. Details on the distribution and damage caused by these and other forest diseases and insects are contained in the regional and district sections of this report.

J. E. MacDonald



STATUS OF INSECTS IN THE PEMBROKE DISTRICT

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R. A. Trieselmann



Pine Spittlebug, Aphrophora parallela Say

Low population levels of this insect occurred at many points in the district. Three pockets of light infestation were observed in Buchanan and Petawawa townships (Table 4).

TABLE 4

Summary of Pine Spittlebug Nymphal Counts in  
Pembroke District in 1967

| Location<br>(township) | Host | Av. d.b.h. of<br>sample trees<br>in inches | Total no. of nymphs on<br>4 - 16" branch tips |
|------------------------|------|--|---|
| Buchanan               | rP   | 3  | 4   |
| Buchanan               | rP   | 4  | 9   |
| Petawawa               | wP   | 10   | 14  |

Ugly-nest Caterpillar, Archips cerasivoranus Fitch

Small increases in population levels occurred at several sample points. In Alice Township, extensive use of herbicides along roadsides resulted in the collapse of a three-year old heavy infestation. In Bromley and Stafford townships, 24 and 9 nests respectively were counted per mile of roadside at locations where herbicide spraying had resulted in negative counts in 1966 (Table 5).

TABLE 5

Summary of Ugly-nest Caterpillar Colony Counts in the  
Pembroke District from 1965 to 1967

| Location<br>(township) | Host | No. of nests observed per one<br>mile of roadside |      |      |
|------------------------|------|---|------|------|
|                        |      | 1965  | 1966 | 1967 |
| Alice                  | cCh  | 673   | 547  | 0*   |
| Bromley                | cCh  | 19  | 0*   | 24   |
| Murchison              | cCh  | 27  | 26   | 31   |
| Nightingale            | cCh  | 2   | 0    | 3    |
| Ross                   | cCh  | 8   | 0*   | 0*   |
| Sherwood               | cCh  | 3   | 2    | 3    |
| Stafford               | cCh  | 39  | 0*   | 9    |
| Wilberforce            | cCh  | 28  | 5    | 7    |

\* Roadsides sprayed with herbicide

Birch Sawfly, Arge pectoralis (Leach)

Light to severe defoliation of white birch was caused by this sawfly at numerous locations in the southeastern part of Division 82. Infestations were confined to open-growing clumps of trees, windbreaks, and small groups of white birch in woodlots (Table 6 and map).

TABLE 6

Summary of Birch Sawfly Colony Counts in the  
Pembroke District in 1967

| Location<br>(township) | Av. d.b.h. of<br>sample trees<br>in inches | No. of trees<br>sampled | Av. no. of<br>colonies<br>per tree | Defoliation |
|------------------------|--|-------------------------|------------------------------------|-------------|
| Alice                  | 3  | 10                      | 2.7                                | light       |
| Bromley                | 8  | 10                      | 20+                                | severe      |
| Ross                   | 5  | 10                      | 15+                                | severe      |
| Westmeath              | 8  | 10                      | 4.1                                | light       |
| Wilberforce            | 5  | 10                      | 7.1                                | medium      |

## A Cecidomyid Midge in Red Pine Needles

Infestations of this insect occurred at many locations in the central and northern parts of the district. Injury to the current year's foliage was severe in Head, Maria, Stratton and Wylie townships, with upwards of 50 per cent of the needles being destroyed. Elsewhere in the district damage was light to medium (see map). The larvae feed in the fascicles of the new needles, causing them to turn progressively white from the tip to the base in September. The infested needles eventually turn brown and drop to the ground.

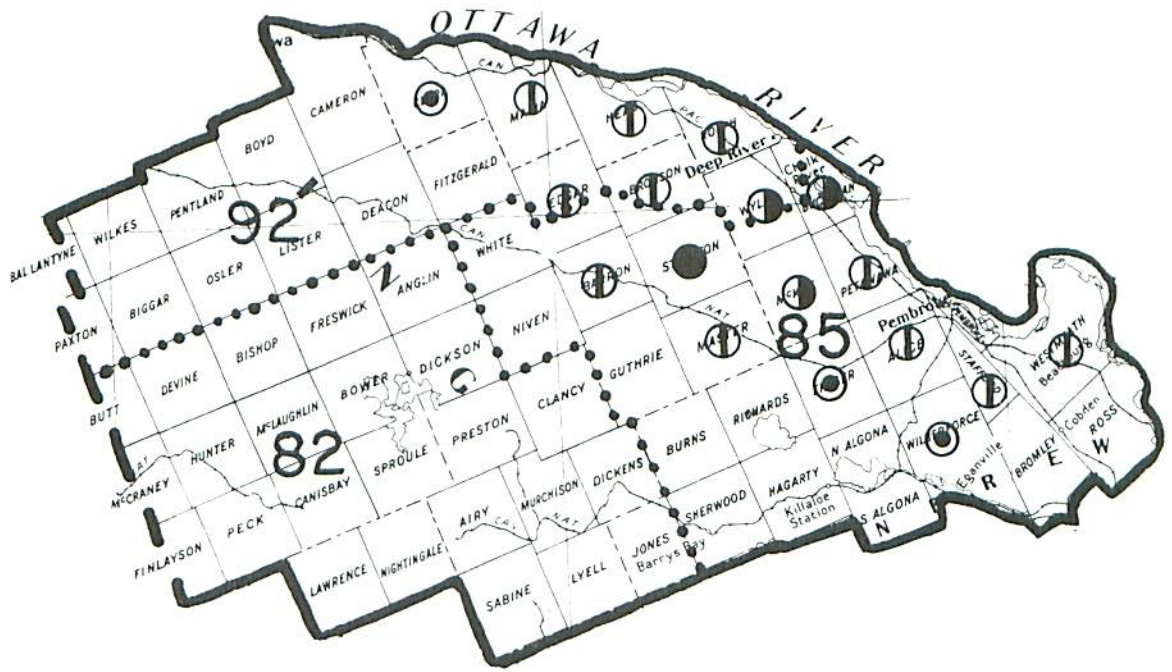
Spruce Budworm, Choristoneura fumiferana Clem.

Infestations occurred on white spruce and balsam fir in numerous woodlots in the southeastern tip of the district. Damage to new foliage was light at most locations, but six pockets of heavy defoliation occurred in Bromley, Ross and Westmeath townships (see map photograph). Mass rearings of larvae revealed a low incidence of parasitism. Predation by Coccinellids (mainly Anatis quindecimpunctata), ambush bugs and ants was commonly observed.

A defoliation and egg mass survey was carried out in early October. Foliage collections were made at eleven locations in the infested area and the severity of defoliation was established by examination of the current shoots. The prognosis for 1968, based on egg mass counts, was arrived at by sequential sampling (Table 7).



# PEMBROKE DISTRICT



20 MILES

## A CECIDOMYID MIDGE IN RED PINE NEEDLES

Locations where infestations were observed  
in 1967

### Legend

- Trace ..... ○
- Light infestation ..... ◐
- Medium infestation ..... ◑
- Heavy infestation ..... ●

TABLE 7

Summary of Spruce Budworm Defoliation Survey and Egg Mass Counts  
in the Pembroke District in 1967

| Location<br>(township) | Host | Per cent<br>defoliation | Egg mass<br>total | Cumulative no.<br>of egg masses<br>per 100 sq.ft. | Forecast<br>for 1968 |
|------------------------|------|-------------------------|-------------------|---|----------------------|
| Bromley                | bF   | 14.2                    | 17                | 322.0   | medium               |
| Bromley                | wS   | 59.0                    | 8                 | 131.0   | light                |
| Bromley                | bF   | 31.7                    | 26                | 349.5   | medium               |
| Bromley                | wS   | 28.6                    | 24                | 600.0   | medium - heavy       |
| Ross                   | bF   | 4.3                     | 12                | 290.0   | medium               |
| Ross                   | wS   | 15.6                    | 33                | 942.0   | medium - heavy       |
| Ross                   | bF   | 12.7                    | 9                 | 129.0   | light                |
| Ross                   | wS   | 29.9                    | 18                | 306.0   | medium               |
| Ross                   | bF   | 3.8                     | 0                 | 0.0   | nil                  |
| Westmeath              | bF   | 25.4                    | 50                | 872.0   | medium - heavy       |
| Westmeath              | wS   | 55.3                    | 36                | 1156.0  | heavy                |

Jack-pine Budworm, Choristoneura pinus pinus Free.

Numerous jack pine stands in the eastern half of the district were infested by the jack-pine budworm (see photograph). Injury was generally light, but pockets of medium and heavy defoliation were observed at several locations. An area of medium infestation occurred in Petawawa Township (see map). Predation by ambush bugs, ants, and Coccinellids was commonly observed.

An attempt to assess the severity of infestation was made at several locations by taking random samples of 100 shoots (Table 8).

TABLE 8

Summary of Damage by the Jack-pine Budworm  
in the Pembroke District in 1967

| Location<br>(township) | Av. d.b.h. of<br>sample trees<br>in inches | Per cent shoots<br>infested | Infestation<br>rating |
|------------------------|--|-----------------------------|-----------------------|
| Alice                  | 10   | 19                          | medium                |
| Bronson                | 14   | 4                           | light                 |
| Buchanan               | 8  | 17                          | medium                |
| Hagarty                | 5  | 5                           | light                 |
| Head                   | 11   | 3                           | light                 |
| Petawawa               | 12   | 94                          | heavy                 |
| Richards               | 6  | 14                          | light                 |
| Rolph                  | 7  | 1                           | light                 |
| White                  | 12   | 81                          | heavy                 |
| Wylie                  | 9  | 16                          | medium                |



Larch Casebearer, Coleophora laricella Hbn.

Low population levels persisted in most tamarack stands in the district. Larval counts at sample points fluctuated slightly compared with 1966 (Table 9).

TABLE 9

Summary of Larch Casebearer Counts in the  
Pembroke District from 1965 to 1967

Note: Counts were based on the examination of four 18-inch branch tips from each of four tamarack trees at each point.

| Location<br>(township) | Av. d.b.h. of<br>sample trees<br>in inches | Av. no. of larvae per 18-inch branch tip |      |      |
|------------------------|--|--|------|------|
|                        |  | 1965                                     | 1966 | 1967 |
| Airy                   | 3  | 0.9                                      | 2.9  | 2.1  |
| Bromley                | 5  | 0.0                                      | 1.0  | 1.2  |
| Buchanan               | 6  | 1.6                                      | 2.3  | 2.0  |
| Cameron                | 6  | 0.9                                      | 0.8  | 1.6  |
| N. Algona              | 4  | 0.9                                      | 1.0  | 0.9  |
| Rolph                  | 4  | 2.0                                      | 2.7  | 2.7  |
| Sproule                | 8  | 3.3                                      | 4.4  | 3.6  |
| Westmeath              | 6  | 0.3                                      | 0.6  | 1.1  |

European Spruce Sawfly, Diprion hercyniae (Htg.)

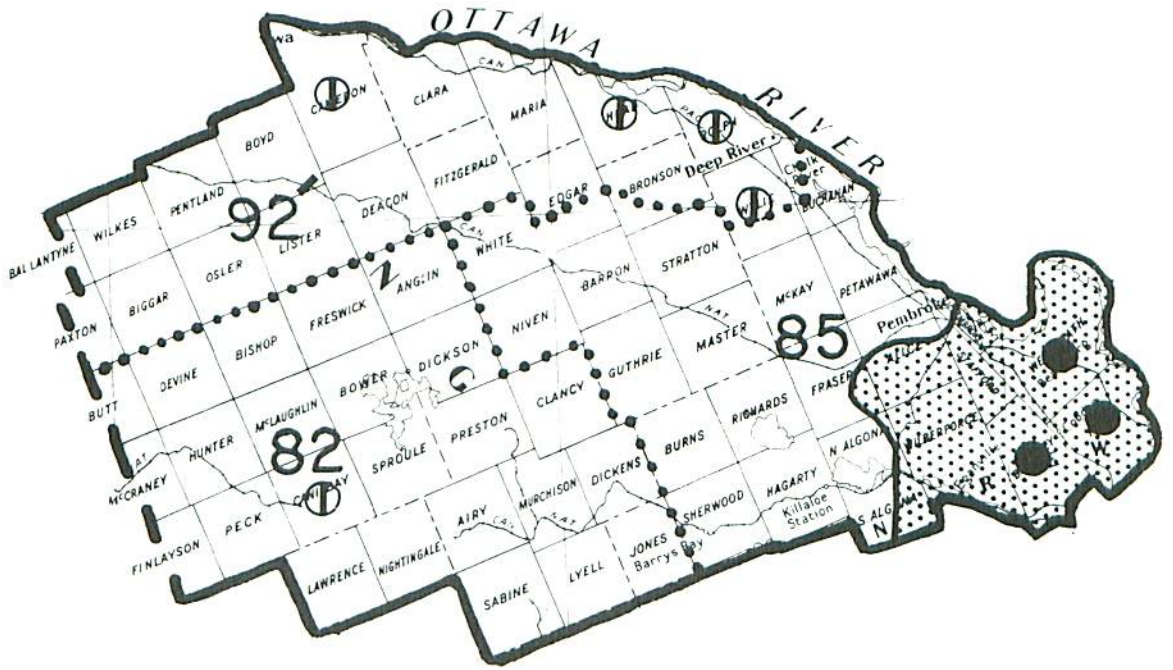
A slight increase in population levels occurred in 1967 (Table 10). Small numbers of larvae were collected in beating samples at many points in the district. Defoliation was insignificant and confined to the lower crowns of open-growing black and white spruce.

TABLE 10

Summary of European Spruce Sawfly Larval Counts in the  
Pembroke District from 1966 to 1967

| Location<br>(township) | Host | Av. d.b.h. of<br>sample trees<br>in inches | Total no. of larvae per 15-tray sample |      |
|------------------------|------|--|--|------|
|                        |      |  | 1966                                   | 1967 |
| Buchanan               | wS   | 7  | 15                                     | 16   |
| Canisbay               | wS   | 5  | 12                                     | 28   |
| Lyell                  | wS   | 6  | 8                                      | 9    |
| Nightingale            | bS   | 6  | 8                                      | 19   |
| S. Algona              | wS   | 9  | 21                                     | 22   |
| Wylie                  | wS   | 5  | 11                                     | 19   |

# PEMBROKE DISTRICT






20 MILES

## SPRUCE BUDWORM

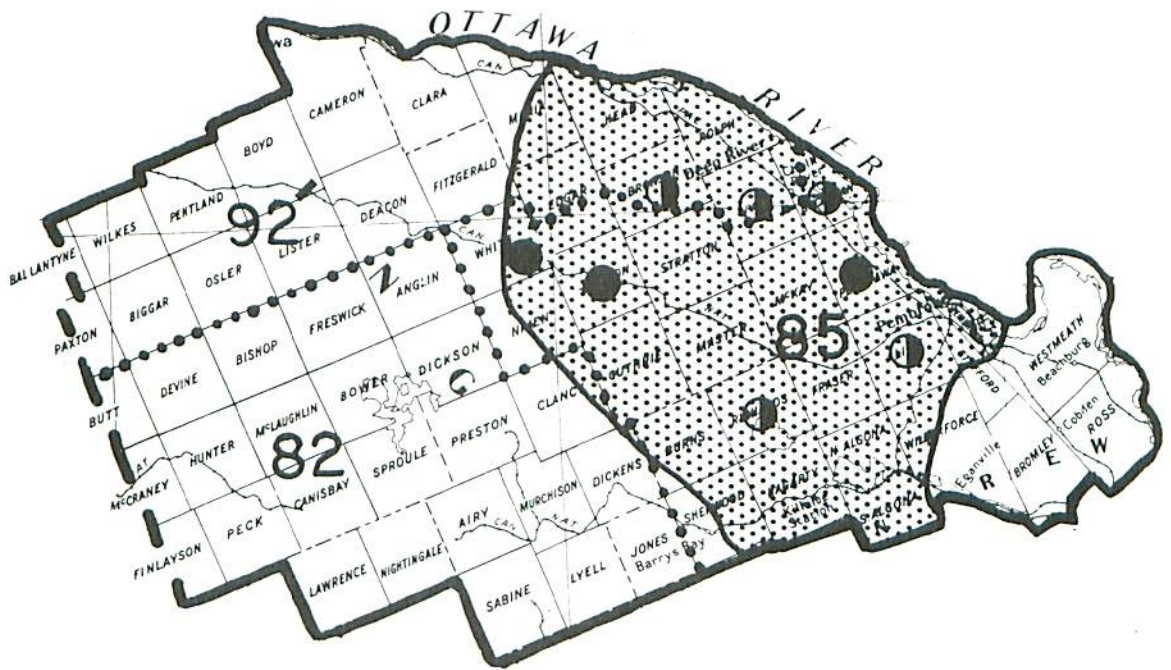
Area and locations where infestations were observed in 1967

### Legend

- Light infestation .....  or 
- Heavy infestation ..... 



# PEMBROKE DISTRICT






20 MILES

## JACK-PINE BUDWORM

Area and locations where infestations were observed in 1967

### Legend

- Light infestation ..... 
- Medium infestation ..... 
- Heavy infestation ..... 

Birch Leaf Miner, Fenusa pusilla (Lep.)

High population levels persisted at many locations in the district in 1967. Damage at sample points was generally more severe than in 1966. Several years of almost complete defoliation and drought in 1966 may have contributed to the mortality of small groups of white birch at several points. Ornamental trees such as European white birch, wire birch and cut-leaf varieties were more heavily infested than native trees (Table 11).

TABLE 11

Summary of Damage by the Birch Leaf Miner in the  
Pembroke District from 1965 to 1967

| Location<br>(township) | Host | Av. d.b.h. of<br>sample trees<br>in inches | Per cent of leaves<br>mined |      |      | Per cent of leaf<br>surface mined |      |      |
|------------------------|------|--|-----------------------------|------|------|-----------------------------------|------|------|
|                        |      |  | 1965                        | 1966 | 1967 | 1965                              | 1966 | 1967 |
| Buchanan               | wiB  | 1  | -                           | 47   | 69   | -                                 | 60   | 70   |
| Cameron                | wB   | 1  | -                           | 19   | 81   | -                                 | 30   | 50   |
| McKay                  | wB   | 1  | -                           | 12   | 15   | -                                 | 60   | 60   |
| Hagarty                | wB   | 1  | -                           | 29   | 59   | -                                 | 50   | 70   |
| Rolph                  | wB   | 3  | 21                          | 25   | 31   | 25                                | 35   | 50   |
| Ross                   | wB   | 4  | -                           | 98   | 97   | -                                 | 85   | 90   |
| S. Algona              | wB   | 1  | -                           | 32   | 48   | -                                 | 50   | 60   |
| Sproule                | wB   | 3  | 15                          | 32   | 37   | 10                                | 40   | 40   |
| Westmeath              | wB   | 3  | 29                          | 38   | 46   | 50                                | 60   | 60   |

Eastern Tent Caterpillar, Malacosoma americanum (F.)

Heavy infestations recurred in Alice, Fraser and Stafford townships, and light to medium infestations were observed at many locations (see map). Population levels fluctuated considerably at sample points (Table 12 and map).

TABLE 12

Summary of Eastern Tent Caterpillar Colony Counts in the  
Pembroke District from 1964 to 1967

| Location<br>(township) | Host | No. of tents counted per mile of roadside |      |      |      |
|------------------------|------|---|------|------|------|
|                        |      | 1964                                      | 1965 | 1965 | 1967 |
| Alice                  | cCh  | 107                                       | 860  | 418  | 232  |
| Buchanan               | pCh  | 2   | 39   | 4    | 8    |
| Fraser                 | cCh  | 149                                       | 423  | 634  | 476  |
| Hagarty                | cCh  | 176                                       | 305  | 103  | 31   |
| Lyell                  | cCh  | 76  | 35   | 47   | 29   |
| Petawawa               | cCh  | 1   | 195  | 23   | 149  |
| Stafford               | cCh  | 69  | 352  | 153  | 209  |
| Westmeath              | cCh  | 89  | 115  | 98   | 27   |
| Wilberforce            | cCh  | 167                                       | 206  | 138  | 27   |



Forest Tent Caterpillar, Malacosoma disstria Hbn.

Infestations of the forest tent caterpillar virtually collapsed in 1967. This decline was probably induced by the severe night frosts which occurred while the larval hatch was in progress. Heavy defoliation was observed at two points in Fraser and Wilberforce townships, and five large pockets of medium infestation occurred at scattered locations. Throughout the remainder of the infested area, defoliation was very light and confined to individual and small groups of trees (see map). Egg sampling results were negative except in Fraser and Westmeath townships (Table 13).

TABLE 13

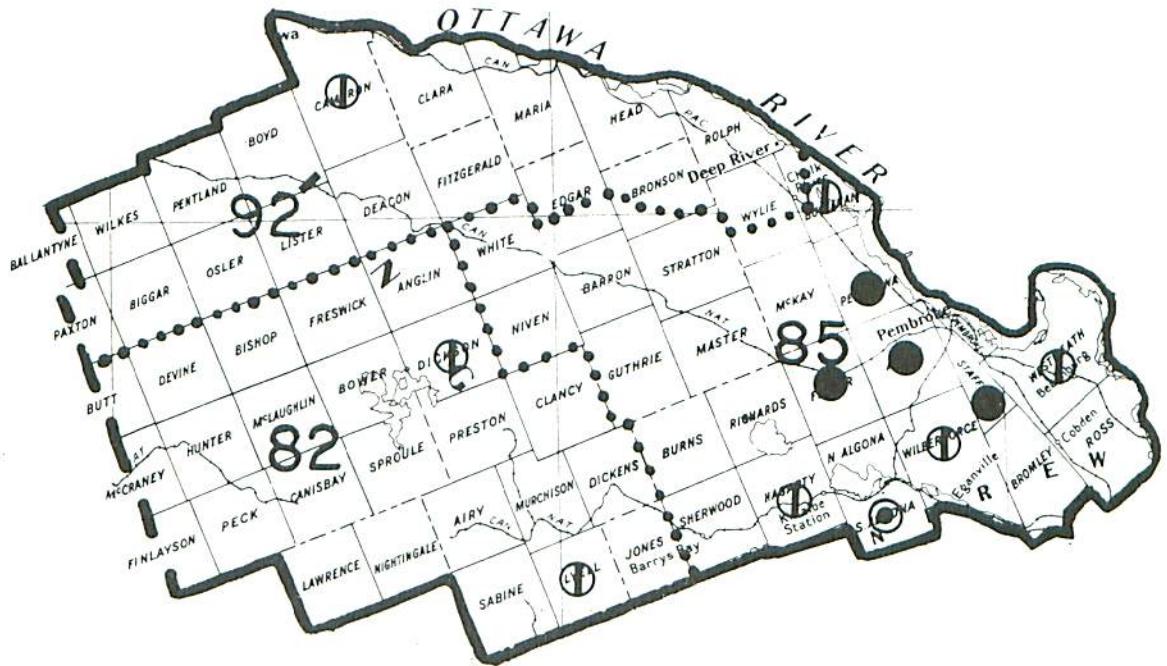
Summary of Forest Tent Caterpillar Egg Band Counts in the  
Pembroke District from 1964 to 1967

| Location<br>(township) | Av. d.b.h. of<br>sample trees<br>in inches | Av. no. of egg bands<br>per tree |      |      |      | Defoliation<br>forecast<br>for 1968 |
|------------------------|--|----------------------------------|------|------|------|-------------------------------------|
|                        |  | 1964                             | 1965 | 1966 | 1967 |                                     |
| Anglin                 | 5  | 0                                | 0    | 0    | 0    | nil                                 |
| Buchanan               | 10   | 35.6                             | 3.3  | 6.3  | 0    | nil                                 |
| Burns                  | 7  | 54.6                             | 1.6  | 0.7  | 0    | nil                                 |
| Dickens                | 6  | 2.6                              | 0.6  | 0    | 0    | nil                                 |
| Fraser                 | 7  | 50.3                             | 19.0 | 22.7 | 0.7  | light                               |
| Head                   | 4  | 4.3                              | 0    | 0    | 0    | nil                                 |
| Master                 | 3  | 5.0                              | 3.0  | 0.3  | 0    | nil                                 |
| Richards               | 8  | 29.6                             | 4.3  | 0    | 0    | nil                                 |
| Stratton               | 4  | 0                                | 0    | 0.3  | 0    | nil                                 |
| Westmeath              | 5  | 10.6                             | 3.0  | 11.0 | 0.3  | light                               |

Balsam Fir Sawfly, Neodiprion abietis complex

Population levels of this sawfly increased considerably in 1967, and numerous clumps of trees were infested throughout a large part of the district (see map). Defoliation was light to moderate, with the upper crowns of pole-size trees most commonly infested. Most of the injury occurred on balsam fir. Only small numbers of white spruce were lightly defoliated.

# PEMBROKE DISTRICT



20 MILES



## EASTERN TENT CATERPILLAR

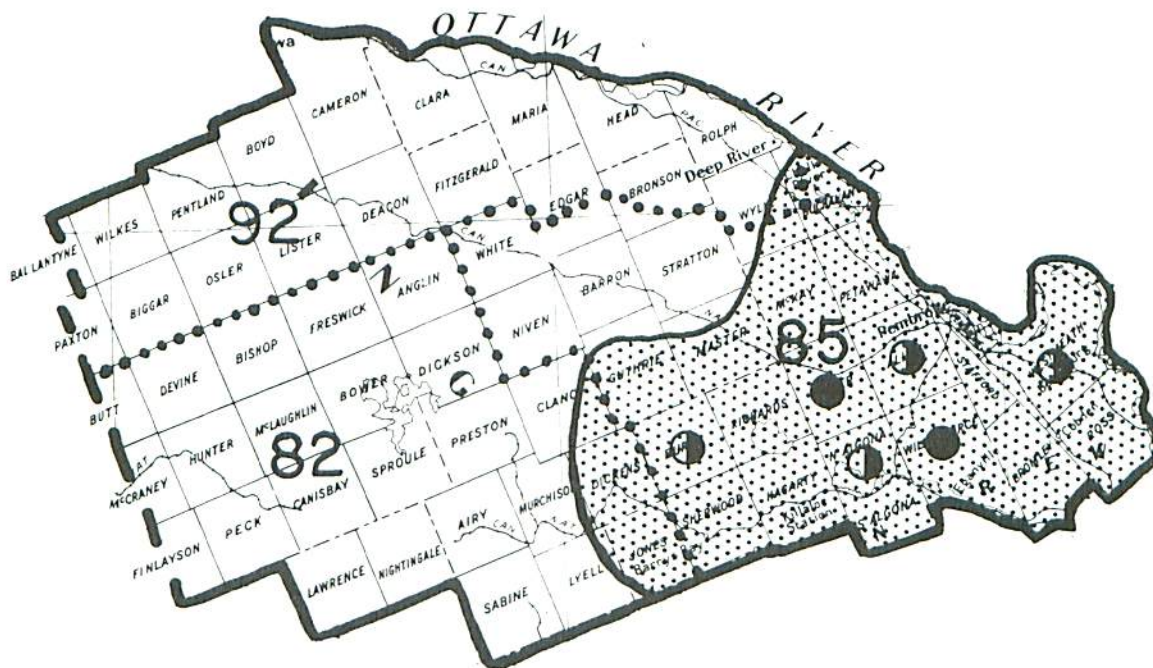
Locations where infestations were observed  
in 1967

### Legend

- Trace ..... ○
- Light infestation ..... ◐
- Medium infestation ..... ◑
- Heavy infestation ..... ●



# PEMBROKE DISTRICT






20 MILES

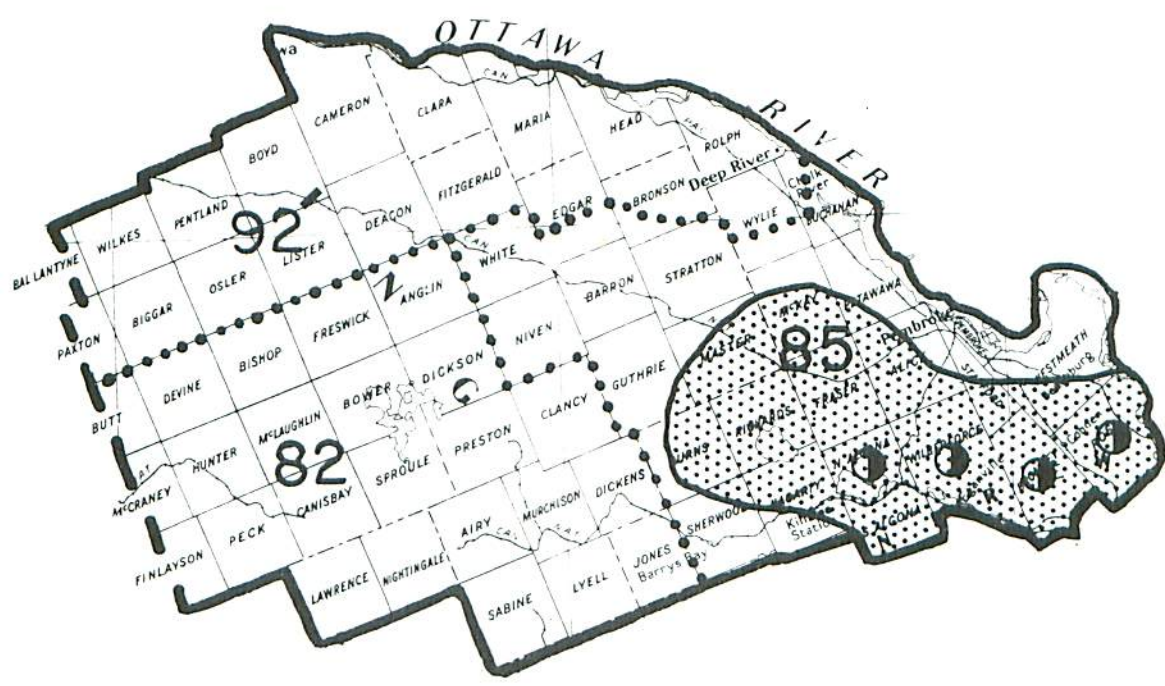
## FOREST TENT CATERPILLAR

Area and locations where defoliation occurred in 1967

### Legend

- Light defoliation ..... 
- Medium defoliation ..... 
- Heavy defoliation ..... 

# PEMBROKE DISTRICT






20 MILES

## BALSAM FIR SAWFLIES

Area and location where defoliation occurred in 1967

### Legend

- Light defoliation ..... 
- Moderate defoliation ..... 
- Severe defoliation ..... 



Red-headed Pine Sawfly, Neodiprion lecontei (Fitch)

Population levels fluctuated slightly at sample points (Table 14). Light to medium infestations occurred on small red pine trees in plantations and natural stands at many points in the district (see map). Several plantations in Buchanan Township were infested and small numbers of trees were completely defoliated. Small patches of red pine regeneration along the Hydro service road in Rolph Township were severely defoliated, and clumps of red pine were heavily infested in plantations in Wilberforce Township. Single infested jack pine and white pine trees were observed in Rolph Township.

TABLE 14

Summary of Red-headed Pine Sawfly Colony Counts on Red Pine Trees in the Pembroke District from 1965 to 1967

| Location<br>(township) | No. of trees<br>examined | Average height of<br>trees in feet | Av. no. of colonies<br>per tree |      |      |
|------------------------|--------------------------|------------------------------------|---------------------------------|------|------|
|                        |                          |                                    | 1965                            | 1966 | 1967 |
| Alice                  | 100                      | 4                                  | 1.5                             | 0.1  | 0.0  |
| Bronson                | 10                       | 11                                 | -                               | 1.2  | 0.9  |
| Buchanan               | 100                      | 4                                  | -                               | 0.3  | 0.9  |
| Cameron                | 100                      | 7                                  | 1.3                             | 1.2  | 0.4  |
| Clara                  | 100                      | 7                                  | 1.1                             | 1.3  | 0.9  |
| Maria                  | 10                       | 7                                  | 1.0                             | 1.2  | 1.2  |
| N. Algona              | 200                      | 5                                  | -                               | 0.2  | 0.4  |
| S. Algona              | 100                      | 4                                  | -                               | 0.2  | 0.0  |
| Wilberforce            | 50                       | 7                                  | 1.0                             | 1.2  | 1.4  |
| Wylie                  | 100                      | 7                                  | -                               | 1.1  | 1.3  |

Red Pine Sawfly, Neodiprion nanulus nanulus Schedl.

A considerable increase in population levels occurred in 1967. Severely defoliated jack pine and red pine were observed in plantations in Petawawa, Ross and Westmeath townships. Light to medium defoliation occurred at many points in the district (Table 15 and photograph). At several locations this sawfly was associated with the jack-pine sawfly, Neodiprion pratti paradoxicus.

TABLE 15

Summary of Red Pine Sawfly Colony Counts in the  
Pembroke District from 1965 to 1967

| Location<br>(township) | Host | Av. d.b.h. of<br>sample trees<br>in inches | Av. no. of colonies<br>on each of 10 trees |      |      |
|------------------------|------|--|--|------|------|
|                        |      |  | 1965                                       | 1966 | 1967 |
| Cameron                | rP   | 6  | 0.9  | 1.2  | 3.7  |
| Fraser                 | jP   | 6  | 1.6  | 1.8  | 6.1  |
| Hagarty                | rP   | 1  | -  | 3.7  | 0.1* |
| Petawawa               | jP   | 3  | 2.5  | 9.4  | 12.6 |
| Ross                   | rP   | 4  | 11.0                                       | 12.1 | 50+  |
| Sherwood               | rP   | 2  | -  | 3.2  | 6.4  |
| Westmeath              | rP   | 4  | 6.5  | 18.9 | 37.5 |
| Westmeath              | jP   | 3  | 2.2  | 1.4  | 6.9  |

\* after insecticide application

Jack-pine Sawfly, Neodiprion pratti paradoxicus Ross

An increase in population levels occurred on jack pine at numerous locations. Infestations were light to medium (Table 16 and photograph). This sawfly was associated with the red pine sawfly, Neodiprion nanulus nanulus at several points in Alice, Bronson, Buchanan, Cameron, Ross, Westmeath, and Wilberforce townships.

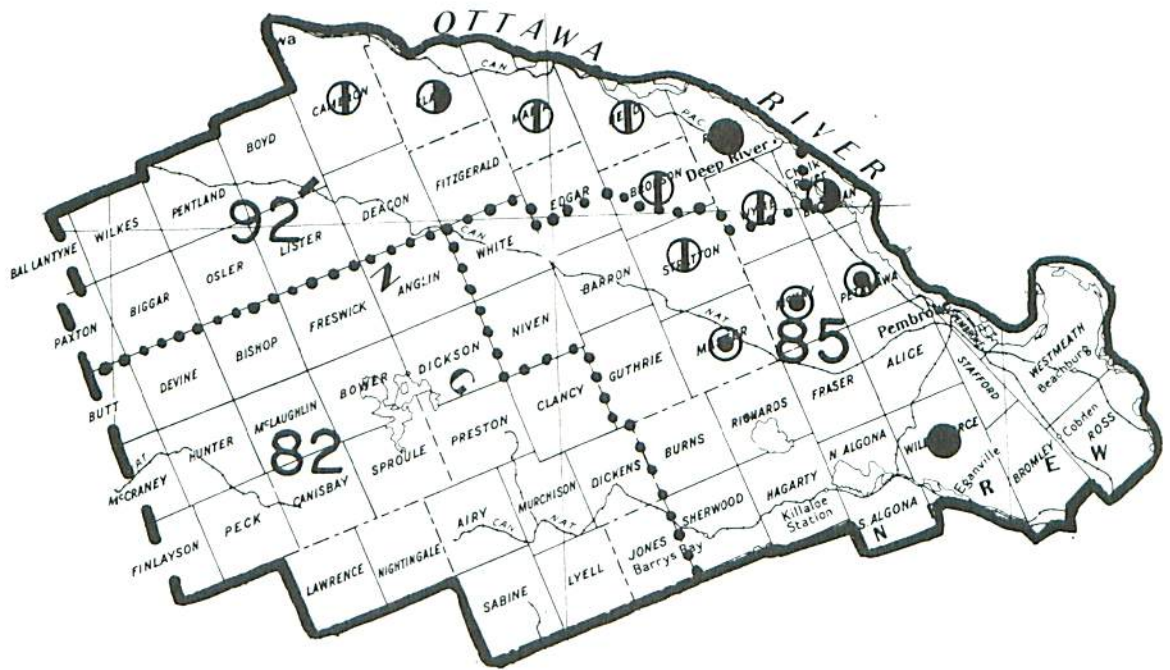
TABLE 16

Summary of Jack-pine Sawfly Colony Counts in the  
Pembroke District from 1964 to 1967

| Location<br>(township) | Av. d.b.h. of<br>sample trees<br>in inches | Av. no. of colonies on each of 10 trees |      |      |      |
|------------------------|--|---|------|------|------|
|                        |  | 1964                                    | 1965 | 1966 | 1967 |
| Bronson                | 6  | 3.0                                     | 0.0  | 0.0  | 0.1  |
| Buchanan               | 6  | 1.0                                     | 3.0  | 0.0  | 3.2  |
| Maria                  | 6  | 0.0                                     | 0.0  | 1.6  | 4.1  |
| N. Algona              | 10   | 15.0                                    | 25.0 | 2.9  | 8.1  |
| Petawawa               | 4  | 1.0                                     | 10.0 | 1.4  | 4.1  |
| Richards               | 6  | 0.0                                     | 1.0  | 0.0  | 3.1  |
| Westmeath              | 6  | 21.0                                    | 26.0 | 2.9  | 7.3  |



# PEMBROKE DISTRICT



20 MILES

## RED-HEADED PINE SAWFLIES

Locations where infestations were observed  
in 1967

### Legend

- Trace ..... ○
- Light infestation ..... ◐
- Medium infestation ..... ◑
- Heavy infestation ..... ●

Red-headed Jack-pine Sawfly, Neodiprion virginianus complex

Light to medium infestations were observed at numerous locations in the district. An extensive stand of generally unthrifty, semi-mature jack pine on the Duke Plains in the Petawawa area was lightly infested. Elsewhere, small groups and pockets of jack pine were lightly to moderately infested (see photograph).

TABLE 17

Summary of Red-headed Jack-pine Sawfly Colony Counts  
in the Pembroke District in 1967

| Location<br>(township) | Av. d.b.h. of<br>sample trees<br>in inches | Av. no. of colonies on<br>each of 10 jack pine |
|------------------------|--|--|
| Clara                  | 2  | 2.1  |
| Maria                  | 8  | 1.9  |
| Master                 | 5  | 1.9  |
| McKay                  | 4  | 2.1  |
| Rolph                  | 4  | 2.2  |
| Stratton               | 3  | 4.9  |
| Wylie                  | 4  | 2.3  |

Yellow-headed Spruce Sawfly, Pikonema alaskensis (Roh.)

An increase in population levels of this sawfly occurred in 1967. Two heavy infestations were observed in white spruce plantations in Buchanan and Lyell townships. Approximately 65 per cent defoliation of 5-foot trees occurred in Buchanan Township and 8-foot trees in Lyell Township suffered about 55 per cent defoliation. Small numbers of larvae were collected in beating samples at numerous locations.



White-pine Weevil, Pissodes strobi (Peck)

This insect occurs throughout the district in plantations and natural stands of pine and spruce of susceptible height classes. Population levels fluctuate from year to year. A moderate increase in numbers in 1967 was reflected in higher counts at sample stations (Table 18). Counts made in McKay Township, in adjacent white pine, mugho pine, Norway spruce and white spruce plantations revealed that eleven, seven, four, and five per cent respectively of the leaders were infested.

TABLE 18

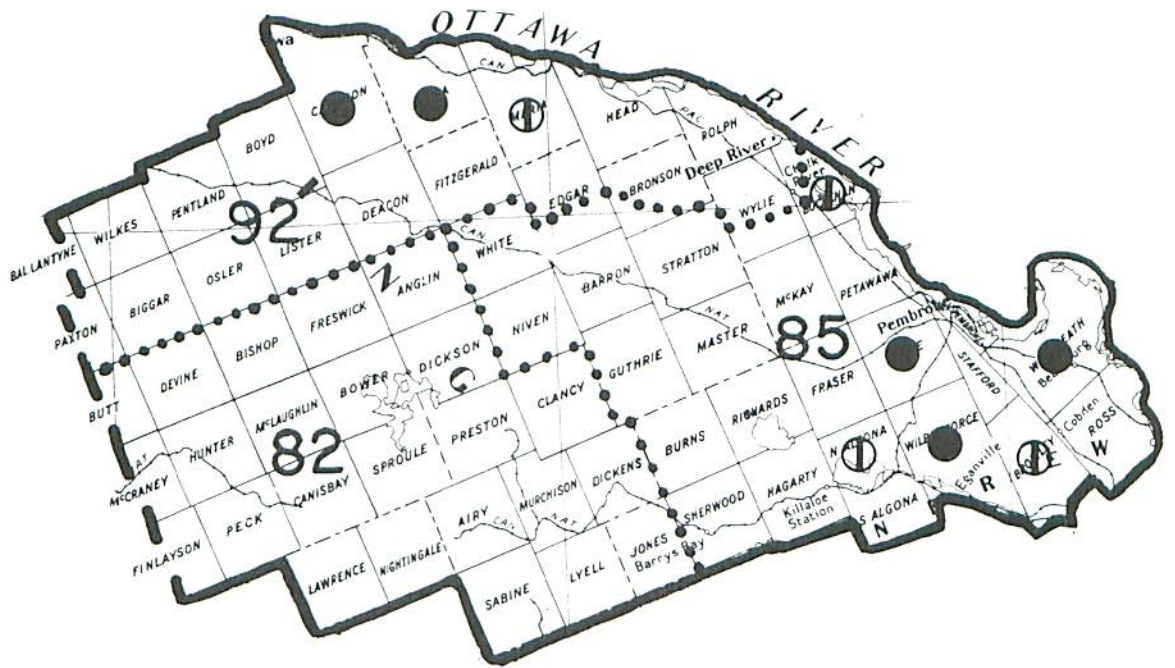
Summary of White Pine Shoot Damage by the White-pine Weevil  
in the Pembroke District from 1965 to 1967

| Location<br>(township) | Av. height of<br>sample trees<br>in feet | No. of trees<br>examined | Per cent of trees weevilled |      |      |
|------------------------|--|--------------------------|-----------------------------|------|------|
|                        |  |                          | 1965                        | 1966 | 1967 |
| Alice                  | 11                                       | 100                      | -                           | 29   | 5    |
| Buchanan               | 7  | 100                      | 28                          | 26   | 28   |
| Bronson                | 11                                       | 100                      | -                           | 16   | 14   |
| Cameron                | 12                                       | 100                      | 31                          | 29   | 33   |
| Preston                | 20                                       | 100                      | 3                           | 1    | 2    |
| Petawawa               | 16                                       | 100                      | -                           | 9    | 12   |
| Sproule                | 15                                       | 100                      | -                           | 16   | 19   |
| White                  | 10                                       | 100                      | -                           | 9    | 10   |
| Wylie                  | 8  | 100                      | -                           | 2    | 4    |

Larch Sawfly, Pristiphora erichsonii (Htg.)

This insect caused heavy defoliation of tamarack in Alice, Cameron, Clara, and Wilberforce townships. A stand of tamarack saplings in Westmeath Township was stripped of foliage. Light to medium infestations occurred at several locations in the district. Scattered colonies of larvae were observed at numerous points (see map and photograph).

# PEMBROKE DISTRICT



20 MILES

## LARCH SAWFLIES

Locations where infestations were observed  
in 1967

### Legend

- Light infestation ..... ○
- Medium infestation ..... ◐
- Heavy infestation ..... ●



TABLE 14

## Summary of Miscellaneous Insects Collected in Pembroke District in 1967

| Insect                                    | Host(s)       | Remarks  |
|---|---------------|--|
| <i>Accleris variana</i> Fern.             | wS            | Small numbers of larvae in beating samples at many points in the district      |
| <i>Acmaeops proteus</i> Kby.              | bS            | In trap logs in Buchanan Township  |
| <i>Acrobasis betulella</i> Hltst.         | wB            | Small numbers of larvae in Cameron Township                                    |
| <i>Alsophila pometaria</i> Harr.          | bCh           | Occasional lightly infested shrubs in Westmeath Township                       |
| <i>Anacampsis innocuella</i> Zell.        | 1A,tA         | Lightly infested trees in Cameron, Ross and Westmeath townships                |
| <i>Anatis quindecimpunctata</i> Oliv.     | entomophagous | A common predator in spruce budworm and jack-pine budworm infestations         |
| <i>Anchylopera burgessiana</i> Zell.      | bO,rO         | Lightly infested trees in McKay and Westmeath townships                        |
| <i>Anomoea laticlavata</i> Forst.         | W             | Occasional severely defoliated trees in Ross Township                          |
| <i>Caripeta angustiorata</i> Wlk.         | wP            | Small number of larvae in beating sample in Buchanan Township                  |
| <i>Caripeta divisata</i> Wlk.             | eH,wP,wS      | In beating samples at various points in the district                           |
| <i>Cenopsis pettitana</i> Rob.            | Ba            | Clumps of lightly infested trees in Bromley, Buchanan, and Westmeath townships |
| <i>Cephalcia marginata</i> Haw.           | rP            | Pocket of light infestation in Buchanan Township                               |
| <i>Chauliognathus pennsylvanicus</i> DeG. | Solidago      | Large numbers of adult beetles feeding in Bromley Township                     |
| <i>Choristoneura rosaceana</i> Harr.      | wB,bCh        | Occasional larvae in beating samples at various points in the district         |
| <i>Chrysomela</i> sp.                     | bPo           | Pockets of medium infestation in Bromley Township                              |

TABLE 19 (continued)

| Insect                                     | Host(s)            | Remarks   |
|--|--------------------|---|
| <i>Compsolechia niveopulvella</i><br>Cham. | tA                 | Occasional larvae in Fraser Township  |
| <i>Conophthorus resinosae</i> Hopk.        | rP                 | A few trees in Buchanan Township lightly infested   |
| <i>Corythucha elegans</i> Drake            | W                  | Caused severe browning of foliage in Barron, Maria, Head, and Rolph townships               |
| <i>Datana ministra</i> Dru.                | Amelanchier        | Occasional shrubs in McKay Township lightly infested  |
| <i>Dendroctonus valens</i> Lec.            | rP                 | Small groups of trees killed in Westmeath Township  |
| <i>Depressaria groteella</i> Rob.          | Hazel              | Severely infested patches of hazel in Boyd Township   |
| <i>Dioryctria reniculella</i> (Grt.)       | wS                 | Lightly infested trees at various points in the district                                    |
| <i>Ectropis crepuscularia</i><br>(Schiff.) | eH                 | Small numbers of larvae in beating samples  |
| <i>Eitelius gregarius</i> (Marl.)          | W                  | Occasional clumps of willow in Boyd Township severely infested                              |
| <i>Epicauta pennsylvanica</i> DeG.         | Caragana           | Large numbers of adults in Rolph Township   |
| <i>Epinotia solandriana</i> Linn.          | wB                 | Lightly to moderately infested clumps of white birch in Cameron, Clara, and Rolph townships |
| <i>Epinotia timidella</i> Clem.            | rO                 | Small number of larvae in McKay Township  |
| <i>Erannis tiliaria</i> (Harr.)            | rO                 | Occasional larvae in Wilberforce Township   |
| <i>Eucordylea blastovora</i><br>McLeod     | wS                 | Common on white spruce in an experimental area in Buchanan Township                         |
| <i>Eucosma gloriola</i> Heinr.             | jP, rP, wP,<br>scP | Lightly infested plantations in S. Algona and Westmeath townships                           |
| <i>Eufidonia notataria</i> Wlk.            | eH                 | In beating sample in Petawawa Township  |



TABLE 19 (continued)

| Insect                                 | Host(s) | Remarks   |
|--|---------|---|
| <i>Eupithecia gibsonata</i> Tayl.      | eC      | In beating samples in Westmeath Township  |
| <i>Eupithecia palpata</i> Pack.        | rP,wP   | Occasional larvae in beating samples at various points in the district          |
| <i>Eupithecia transcanadata</i> MacK.  | bS      | In beating sample in Fitzgerald Township  |
| <i>Feralia jocosa</i> Gn.              | eH      | Occasional larvae in beating samples in Pentland and Petawawa townships         |
| <i>Galerucella decora</i> Say          | W       | Pockets of severe infestation in Fitzgerald Township                            |
| <i>Gonioctena americana</i> Schaeef.   | tA      | Pockets of light to medium infestation in various parts of the district.        |
| <i>Gracillaria invariabilis</i> Braun. | pCh     | Pocket of light infestation in Wilkes Township                                  |
| <i>Griselda radicana</i> Wlshn.        | wS      | Common on new shoots in Canisbay and Wilberforce townships                      |
| <i>Holcocera immaculella</i> McD.      | rP      | Occasional larvae in red pine shoots in Buchanan Township                       |
| <i>Hydria prunivorata</i> Ferg.        | bCh     | Lightly infested trees in Buchanan and Wylie townships                          |
| <i>Hydriomena divisaria</i> Wlk.       | bS,eH   | Small numbers of larvae in beating samples at various locations in the district |
| <i>Hylobius radicis</i> Buch.          | scP     | Two severely infested scots pine plantations in Westmeath Township              |
| <i>Hyperaspis binotata</i> Say         | Ba      | In association with <i>Cenopsis pettitana</i> in Westmeath Township.            |
| <i>Hyphantria cunea</i> Dru.           | pCh     | Occasional nests in Deacon Township   |
| <i>Ichthyura inclusa</i> Hbn.          | bPo     | Lightly infested trees in Bromley Township                                      |

TABLE 19 (continued)

| Insect  | Host(s)     | Remarks  |
|---|-------------|--|
| <i>Ipimorpha pleonectusa</i> Grt.                       | 1A          | Small numbers of larvae in Cameron and Head townships                                |
| <i>Lambdina fiscellaria</i><br><i>fiscellaria</i> (Gn.) | eC,eH,rP,wS | Small numbers of larvae in beating samples at numerous points in the district        |
| <i>Lapara bombycoides</i> Wlk.                          | wP          | Occasional larvae in beating samples in Buchanan and Cameron townships               |
| <i>Lecanium</i> sp.                                     | rO          | Occasional understory trees in I.B.P. area in Buchanan Township severely infested    |
| <i>Limenitis archippus</i> Cram.                        | tA          | In association with other poplar insects in Fraser Township                          |
| <i>Lithocolletis salicidoliella</i><br>Cham.            | tA          | Pockets of lightly infested regeneration in Fitzgerald and Maria townships           |
| <i>Lithocolletis ostryarella</i><br>Cham.               | Ironwood    | Pockets of light infestation in Westmeath Township                                   |
| <i>Lithocolletis</i> sp.                                | bO,rO       | Pockets of light infestation in McKay and Westmeath townships                        |
| <i>Lithocolletis</i> sp.                                | wB          | Low population levels in I.B.P. area in Buchanan Township                            |
| <i>Melanophila acuminata</i> DeG.                       | rP          | Large numbers of adult beetles in a pole storage area in Stafford Township           |
| <i>Monochamus scutellatus</i> (Say)                     | bS          | Common in trap logs in Buchanan Township   |
| <i>Monoctenus fulvus</i> Nort.                          | eC          | Moderate numbers of larvae in beating samples in Westmeath and Wilberforce townships |
| <i>Monoctenus suffusus</i> (Cress.)                     | J           | Commonly found in beating samples  |
| <i>Nadata gibbosa</i> J. E. Smith                       | rO          | Occasional larvae in Cameron Township  |
| <i>Neacanthocinus spectabilis</i><br>Lec.               | bS          | In trap logs in Buchanan Township  |



TABLE 19 (continued)

| Insect                                | Host(s)              | Remarks  |
|---------------------------------------|----------------------|--|
| <i>Nematus limbatus</i> Cress.        | W                    | Lightly infested clumps of willow in Hunter Township   |
| <i>Neodiprion abotii</i> (Leach)      | rP                   | In beating sample in Buchanan Township   |
| <i>Nepytia canosaria</i> Wlk.         | eC,eH,wS             | Occasional larvae in beating samples at various locations  |
| <i>Neurotoma fasciata</i> Nort        | lA                   | In association with <i>Hyphantria cunea</i> in Airy Township   |
| <i>Neurotoma inconspicua</i> (Nort.)  | pCh                  | Lightly infested clumps of pin cherry in Maria Township  |
| <i>Orthosia hibisci</i> Gn.           | wS                   | In beating sample in Canisbay Township   |
| <i>Operophtera bruceata</i> Hlst.     | sM,Be                | The infestations in Finlayson and Peck townships collapsed. No larvae were observed during the 1967 field season |
| <i>Papilio glaucus</i> Linn.          | pCh                  | Occasional larvae observed at various locations  |
| <i>Phenacaspis pinifoliae</i> (Fitch) | jP,rP,<br>mugho pine | Suppressed trees and shaded branches in Anglin, McKay, and Rolph townships moderately infested                   |
| <i>Phyllocolpa populi</i> (Marl.)     | lA                   | Lightly infested regeneration at many points in the district   |
| <i>Pikonema dimmockii</i> (Cress.)    | wS                   | Small numbers of larvae in beating samples at various points   |
| <i>Pineus floccus</i> (Patch)         | bS                   | Pocket of severe infestation of saplings in Stratton Township  |
| <i>Pineus strobi</i> (Hartig)         | wP                   | Pocket of medium infestation on seedling-size, plantation-grown trees in Buchanan Township                       |
| <i>Pleroneura borealis</i> Felt       | bF                   | Lightly infested balsam fir occurred at many points in the district  |
| <i>Pristiphora geniculata</i> (Htg.)  | mAs                  | Light to severe defoliation at many points in the northern part of the district                                  |

TABLE 19 (continued)

| Insect   | Host(s)  | Remarks   |
|--|----------|---|
| <i>Pristiphora lena</i> Kinc.                    | wS       | Occasional larvae in beating samples at scattered locations   |
| <i>Prochoerodes transversata</i> Dru.            | J        | Occasional larvae in Ross Township  |
| <i>Profenusa thomsoni</i> (Konow)                | wB       | Pocket of heavy infestation in Wylie Township   |
| <i>Protoboarmia porcelaria indicataria</i> Wlk.  | eC,rP,wS | Small numbers of larvae in beating samples at scattered locations   |
| <i>Pseudexentera cressoniana</i> Clem.           | rO       | Small pockets of light infestation in Alice and Wilberforce townships                                     |
| <i>Pseudexentera improbana oregonana</i> (Wlsh.) | tA       | Small numbers of larvae at scattered points. The light and medium infestations reported in 1966 collapsed |
| <i>Psilocorsis quercicella</i> Clem.             | rO       | Clumps of lightly infested trees in McKay Township  |
| <i>Rhagium inquisitor</i> (Linn.)                | bS       | In trap logs in Buchanan Township   |
| <i>Salebriaria engeli</i> Dyar                   | rO       | Occasional larvae in McKay Township   |
| <i>Sciaphila duplex</i> Wlsh.                    | tA       | Occasional larvae in Fraser Township  |
| <i>Semiothisa bisignata</i> Wlk.                 | wP       | Small numbers of larvae in beating samples at various locations   |
| <i>Semiothisa dispuncta</i> Wlk.                 | bS,wS    | Small numbers of larvae in beating samples at various locations   |
| <i>Semiothisa fissinotata</i> Wlk.               | eH       | Small numbers of larvae in beating samples at various locations   |
| <i>Semiothisa minorata</i> Pack.                 | wP       | Occasional larvae in beating samples in Cameron Township  |
| <i>Semiothisa orillata</i> Wlk.                  | wP       | Occasional larvae in beating samples in Cameron Township  |



TABLE 19 (concluded)

| Insect                                    | Host(s)       | Remarks   |
|---|---------------|---|
| <i>Sparganothis directana</i> Wlk.        | bCh, cCh      | Clumps of severely defoliated cherry shrubs in Buchanan and Bromley townships   |
| <i>Sparganothis flavibasana</i> Fern.     | Lonicera      | Occasional shrubs in Alice Township severely defoliated   |
| <i>Tetracis cachexiata</i> Gn.            | wS            | Low population levels in Wylie Township   |
| <i>Tetralopha aplastella</i> Hlst.        | tA            | Common on trembling aspen in Stratton Township  |
| <i>Tetralopha expandens</i> Wlk.          | rO            | Small numbers of larvae in McKay Township   |
| <i>Tetralopha robustella</i> Zell.        | jP            | Clump of lightly infested trees in N. Algona Township   |
| <i>Tolyte laricis</i> Fitch               | eH            | Small number of larvae in beating sample in Pentland Township   |
| <i>Toumeyella numismaticum</i> (P. & M.)  | jP, rP, scP   | Occasional lightly infested clumps of pines at scattered locations  |
| <i>Trirhabda virgata</i> Lec.             | Solidago      | Common in Buchanan Township   |
| <i>Xylomyges dolosa</i> Grt.              | lA            | Occasional larvae in Head Township  |
| <i>Zeiraphera canadensis</i> Mut. & Free. | wS            | Lightly to moderately infested trees in Cameron, Buchanan, Wilberforce and Wylie townships, occasional larvae at numerous locations |
| <i>Zelus</i> sp.                          | entomophagous | Commonly observed as predators of sawflies in McKay Township  |