

FOREST INSECT RANGER REPORT
FOR BANFF NATIONAL PARK,
KOOTENAY NATIONAL PARK, YOHO
NATIONAL PARK, GLACIER NATION-
AL PARK, REVELSTOKE NATIONAL
PARK - 1950

E. F. THORNTON

INTRODUCTION

Forest Insect Survey sampling and investigations were carried out in Banff, Kootenay, Yoho, Glacier and Revelstoke National Parks from June 13, to September 2.

The most important insects encountered were the lodge pole pine needle miner, spruce budworm, mountain pine, bark beetle, white spruce, weevil, yellow-headed spruce sawfly and spruce gall aphids.

ITINERARY

Banff National Park	-	June 13 to June 21.
Kootenay National Park	-	June 22 to June 25.
Yoho National Park	-	June 26 to June 30.
Banff National Park	-	July 1 to July 24.
Glacier National Park	-	July 26 to July 27.
Revelstoke National Park	-	July 28 to July 29.
Kootenay National Park	-	July 31 to Aug. 7.
Yoho National Park	-	Aug. 8 to Aug. 12.
Banff National Park	-	Aug. 15 to Sept. 2.

PERMANENT SAMPLE PLOTS

On May 23 a sample plot was established at Rundle Mt. embracing four tree species - Douglas fir - white spruce, lodgepole pine and trembling aspen. Eight trees of each species were tagged and diameters were taken. On August 30th, increments were taken on all tagged trees.

May 25th established white spruce sample plot at Massive, tagged 10 trees and took diameters. On August 29th, increments were taken.

May 26th, established lodgepole pine sample plot at mile 17 west of Banff, tagged 10 trees and took diameters. On August 28th, increments were taken.

May 29th, established white spruce sample plot on Tunnel Mt. Tagged 10 trees and took diameters. On August 29th, increments were taken.

May 31st, established Douglas fir sample plot on Tunnel Mt., tagged 10 trees and took diameters. On August 29th increments were taken.

Owing to a shortage of abney levels the heights of trees could not be measured.

INSECT CONDITIONS

Lodgepole Pine Needle Miner-*Recurvaria milleri*

The distribution of this insect were found to be much different from 1949, due to the severe winter of 1949-50. The whole of the Bow River valley bottom had a very heavy needle miner mortality, whereas at elevations between 500 to 1000 ft. above valley bottom the mortality was much lighter.

The needle miner was found at White Man's Pass to the east of Banff National Park, and as far north as the Dormer River, near the east boundary of the park. It was found at the north fork of the North Saskatchewan River on the north west side of Banff Park. It was encountered again at Vermilion Crossing in Kootenay Park in an endemic state.

In Yoho Park the needle miner suffered a very light winter mortality in the vicinity of the Kicking Horse Tea Room. It was evident at the bridge over the Kicking Horse river in the Yoho Valley.

Spruce Budworm - *Choristoneura fuliferana*

In Banff Park the spruce budworm was found twelve miles up the Spray River in infestation proportions. It was also found about 6 miles north of Bank Head on the Cascade Trail. The budworm was found again at Healey Creek. A few larvae were found at Sunshine Ski Lodge.

To the north west of Banff Park the budworm appeared in an epidemic state on the Howse and Mistaya rivers.

In the spruce-balsam timber west of Lake Louise Junction, the spruce budworm occurred in infestation proportions. About 2 miles west the stand is broken and lodgepole pine occurs, sometimes pure and at others mixed with spruce, from this point to the Banff Yoho park boundary the spruce budworm population is much lighter.

To the south of the park from Vermilion Pass the budworm population increases to the Kootenay park boundary.

In Kootenay park the spruce budworm appeared in an epidemic state from the Banff-Kootenay boundary to the Simpson river monument. A few larvae were found 1 mile south of Simpson river adjacent to the highway.

In Yoho Park the spruce budworm was found in fairly high numbers at the Great Divide, Wapta Lake, Kicking Horse Tea Room, and up the Yoho Valley to Tackakaw Falls. To the south of the park it was found to be most heavily infested in the Emerald Lake region where up to 59 larvae were taken from one spruce tree. The last trace of the insect in the Kicking Horse Valley was at a creek 1 mile south of the Uttertail river, adjacent to the highway.

Spruce budworm were found in infestation numbers on young balsam fir and spruce in the Ice River valley at the eastern boundary of the park.

Mountain Pine Bark Beetle - *Dendroctonus monticolae*

In the Ice River area of Yoho National Park the number of red tops has decreased since 1949. A number of new strikes were spotted but in every case the beetles had been drowned out by a heavy flow of sap. Owing to the vinorous condition of the trees it is thought that the beetle population will suffer a sharp decline and the red tops showing in 1951 will be far below 1950. The only location on the trees where live *Dendroctonus monticolae* adults were found, was at the base of "red tops". The insect activity appeared to be confined to the north side of the tree where there was still moisture under the bark.

'Red tops' were observed on the mountain side above the tourist camp 1 mile south of Field. In the few fresh strikes found, all beetles had been drowned out.

A Spruce Weevil - Pissodes sp.

This insect was found in infestation proportions in the Kootenay National Park. The range extended throughout the entire Kootenay River valley, as it occurs in the afore mentioned park.

An infestation report was sent in to the Field Station at Seebe on August 7 regarding this condition. On August 21 Insect Ranger Thornton & R.W. Reid from the Field Station at Seebe made an inspection tour of the area.

A field count of previous years damage showed the weevils had become active in this area in 1944. It appeared that the weevil damage did not date back as far at the eastern side of the district as at the western side, indicating that the infestation had developed in the west and has worked toward the east.

Heavily stunted trees appeared to be confined mainly to the exposed open locations. As might be expected therefore, the heaviest populations were found on the valley bottom. Inspected stems showed a high parasite and predator ratio.

It is difficult to forecast the trend in the infestation from the brief inspection that was carried out. It is suspected however, that the population showed some signs of diminishing as compared to previous years. This might be attributed to the parasite and predator population which have been in the process of building up.

Green Headed Spruce Sawfly - Pikoneme dimmokii

This insect appears to be increasing in numbers in Banff National Park, particularly in the Bow River valley from the town of Banff west to Massive. It also occurs on the south side of the Bow river as far west as Healy Creek.

Spruce Gall Aphid - Adelges cooleyi

In almost every area in Banff Park where there is spruce, these insects have left their mark.

OTHER INVESTIGATIONS

July 26 and 27 were spent in Glacier National Park, 6 collections were made.

A trip by power-wagon was taken with P.W. Gardiner from Glacier station to Flat Creek. The western white pine in nearly every instance is suffering from white pine blister rust. No damage caused by insects was seen.

The 27th of July was spent on a horse trip with Paul W. McDonald up the Beaver River valley, from Stoney Creek to Grissely Creek. The only serious damage noted was the blister rust on the white pine.

The forests in Glacier Park are over mature and much of the timber is infected with rot. At Glacier station near the Park Warden's headquarters, Hemlock three feet in diameter have only a few inches of sound wood, the center being punk. Spruce cut at the same site and of the same size were sound.

July 28 was spent in Revelstoke Park, 1 sample was taken. The only noticeable damage observed in the park was caused by the blister rust in the white pine.

OTHER INVESTIGATIONS

On June 19 Insect Rangers Stanley and Thornton visited the Spray Lakes region in an effort to determine the lodgepole pine needle miner boundary. Owing to heavy snowfall during the winter and heavy spring rains, it was not possible to travel beyond the dam at the north west end of the lake.

Needle miner proved quite plentiful here with the needles about half mined. Trees were examined at intervals of about one half mile adjacent to the Calgary Power construction road. At the summit of White Man's Pass no live needle miners were found, though trees were examined at regular intervals down the hill to Canmore.

On June 20 a trip was made south of Seebe on the new East Slope highway as far as the divide between Pocatererra and Storm Creek. It was not possible to go further due to snow several feet deep across the road.

Lodgepole pine trees were examined at regular intervals along this route.

One dead needle miner larva was the only evidence found of this insect. It was found in the vicinity of the bridge north of Pocatererra Creek.

Due to road conditions it was not possible to visit Ananaskis Lakes.

DISTRICT CONDITIONS

The winter of 1949-50 was extreme, with below average temperatures and above average snow fall. Miles of white spruce, lodgepole pine and Douglas fir in the Bow river valley turned red during the early spring. In almost every instance the trees affected were on a mountain side with a southerly or westerly exposure. The trees affected formed a uniform belt about $\frac{1}{4}$ mile wide on the mountain side at from 500 to 1000 feet above valley bottom. By mid-summer most of these trees showed sign of recovery.

The mortality of the lodgepole pine needle miner in the Bow river valley was nearly 100% due to prolonged below zero weather. At 500 to 1000 feet above valley bottom mortality was much less, indicating higher temperatures above valley bottom. On June 1 spruce buds at the foot of Mt. Norquay were beginning to open and trembling aspen 7 miles east of Banff were bursting their buds and beginning to show a greenish tint. Polen was flying on lodgepole pine in the vicinity of Canmore and White Man's pass on June 19.

In Revelstoke park mosquitoes were extremely bad, spraying was necessary on the road to enable road crews to work. Logging camps were forced to close down north of Golden.

Very few insects were found at the higher elevations, such as Sunshine Ski Lodge with an elevation of 7000 ft.

COMMERCIAL TIMBER BERTHS IN YOHO NATIONAL PARK

In the eighteen hundreds before Yoho National Park came into being, the Berfaw Lumber Co. of the U.S.A. acquired timber berths in B.C. in that area which is now Yoho National Park. They have 3 berths in all with a total area of 9.1 square miles. There is no time limit on these berths, however when a berth has been logged off it reverts to the park.

All money for stumpage etc. is paid to the park, who in turn send it to the Receiver General, Ottawa. The stumpage is \$4.00 per thousand on the right of way into the berths and \$1.00 per thousand on the berth.

At the present time the Yoho Lumber Development Co. have a subcontract with the Berpaw Lumber Co. and Mr. Elliott is operating a small portable mill for them.

The whole operation is completely controlled by the park, including cruising slash control etc.

At present the mill is trucking their lumber to market, the park people are endeavouring to stop this procedure as it is contrary to park regulations to haul freight through a national park. The only exception to this law applies to trucks supplying resorts, hotels, and gas stations within the park. The mill people claim that loads originating within the park can be hauled by truck on the park highway; legislation is in progress to try and determine what will be done in this regard in future.

The feeling of the parks people regarding commercial lumbering in the parks is that it is a big headache as far as they are concerned and they will be happy when it comes to an end.

FOREST INSECT RANGER ANNUAL REPORT

FOR

BRAZEAU ATHABASCA DISTRICT

1950

J. K. ROBINS

INTRODUCTION

Forest Insect Survey and Sampling was carried out in the Brazeau-Athabasca Ranger District from June 8 to Sept. 5. No special investigations were carried out and no insects were found in epidemic proportions. Three sample plots were established in the coal branch area.

ITINERARY

April 19	- June 8	Work on Ranger Cabin Entrance
June 9	- June 17	Entrance - Edson
June 19	- June 21	Edson - Entwhistle
June 22	- June 24	North of Marlboro
June 26		Oil road North of Entrance
June 27		McLeod River
June 28		Brule
June 30		Entrance - Park gates
July 3	- July 10	Coal Branch
July 11	- July 21	Entrance - Edson
July 24		Coal Branch

July	26	-	Aug.	5	Oil Road, Rock Lake
Aug.	8	-	Aug.	10	Coal Branch
Aug.	16	-	Aug.	19	Edson - Drayton Valley
Aug.	21	-	Aug.	27	Coal Branch
Aug.	28	-	Sept.	5	Entrance Area
Sept.	6	-	Sept.	28	Work on Ranger Cabin - Entrance.

PERMANENT SAMPLE PLOTS

On July 11 Sample plot #1 was visited, increments which were missed last year were taken and temporary corner posts replaced with permanent posts.

On August 23 a sample plot was set up at Robb in a pure stand of open grown lodgepole pine which was surrounded by dense stand of lodgepole pine. All necessary data was taken. Temporary stakes were used for corner posts.

On August 25 a sample plot was laid out in an uneven aged stand of lodgepole pine between Mercoal and Cadomin all data was taken, temporary corner posts were used.

On August 26 another lodgepole pine plot was set up near Coal Valley all information was taken and temporary corner posts used.

INSECT CONDITIONS

Due to the shortage of time and the apparent sharp decline in population noted in 1949 the area of weevil damage (*Pissodes* sp.) in LP Pine near Mercoal was not inspected during 1950.

No evidence of damage to living trees by bark beetles was noted although considerable activity was observed in decked logs, both by bark beetles and wood borers. Although a careful lookout was kept for Lodgepole pine needle miner (*Recurvaria millerii*) no evidence of its presence was seen.

Only two samples of Spruce Budworm (*Choristoneura fumiferana* Clem.) were taken, one from Cadomin and one from Entrance.

No tent caterpillars, (*Malacosoma pluviale*) or ugly nest caterpillar (*Archips cerasivorana*) were encountered.

Large numbers of (*Semiothisa*) *sexmaculata* and *Anaplonyz laricis* were in evidence on larch throughout the district.

Chafing beetles (*Dichelonyz backii*) were found in near epidemic proportions feeding on willow, rose and aspen in the vicinity of Entrance.

Generally speaking insect activity seemed slightly greater than in 1949 especially on lodgepole pine and aspen.

INSECT AND DISTRICT CONDITIONS IN JASPER
NATIONAL PARK - 1950

Insect Ranger A. E. Anderson was present in Jasper National Park from June 8th until July 15th.

During his stay there he travelled throughout the Park as much as road conditions would permit.

June 8th and 9th were spent right around Jasper townsite.

12-14 he travelled to the Icefields and returned to Jasper.

15 and 16th He was present at Maligne and Medicine Lakes.

17-20 was spent in the Rocky River and Pacohontas areas.

21-24 a re-visit to the Icefields was undertaken.

25-27 He was again present at Rocky River and Pocahantas.

28-30 was spent at Maligne Lake and Jasper.

July 1st-3rd was spent in Jasper.

4-5th at Pacahontas and Rocky River.

6th at Medicine Lake.

7th and 8th He travelled south on the Banff-Jasper highway and Edith Cavell Road.

During the last week spent in Jasper weather conditions were very unfavourable as it rained continually.

While he was in Jasper he also made side trips to Pyramid and Patricia Lakes to the north and as far west as to Geikie.

INSECT CONDITIONS

Black Headed Budworm *Acleris variana* Fern.

This spruce feeding insect was present throughout a very large portion of the Park. The area in which it was encountered extends from the eastern boundary of the Park to a point nine miles south of Jasper on the Banff-Jasper highway. I was also found along the Geikie, Medicine Lake, Mietle Hat Springs and the Mount Edith Cavell Roads.

At no time was it encountered in numerous enough numbers to warrant an infestation classification.

Lodgepole Pine Needle Miner - *Recuvaria millerii*

The infestation of the needle miner had not enlarged over the 1949 infested area at the time this inspection was undertaken.

At the time of the inspection the needle miners were found in there pupal stage.

It is deemed possible that the mortality will be quite high in this area due to the same factors that were present in Banff Park during the winter of 1949-50.

Spruce Budworm - *Choristonura fumiferana*.

With 1950 being the second year of the budworm life cycle it made the larvae very easy to detect.

With the exception of the area around Geikie there never were more than one larvae taken per collection.

In the Geikie area 6 larvae were taken from one tree and 2 larvae from a second tree. Many other trees were inspected in that area with all providing negative results in as far as the budworm were concerned.

The larvae of the budworm was also encountered in two other localities, these being mile two on the Mietle Hat Springs road, and mile 14 on the Mount Edith Cavell road.

BROWN PINE LOOPER

Paripeta angustiorata

These pine feeding loopers, whose infestation was first noted in 1949, are believed to be still present, at the time of the inspection of the infested area the few loopers which were encountered were in one of their first instars and it was therefore impossible to make a true identity. The loopers should be much larger during August and it is then hoped that a definite identification may be made. As well as the extent to which the infestation may have increased.

Yellow headed and green headed spruce sawflies.
Pikonema dimmackii (Gress) and alaskensis. (Rah)

The two above mentioned spruce sawflies were encountered throughout much the same area as that of black headed budworm, acleris variana, but they were encountered in such insignificant numbers that it is believed there are no more than just the normal population.

Fir sawfly

Neodiprion abietis (Harr)

The balsam fir sawfly was found in such insignificant numbers that it is also believed there are no more than just their normal population as well.

The area throughout which it was encountered is pretty much the same as that of the Yellow and Green headed sawflies and that of the black headed budworm.

DISTRICT CONDITIONS:

With the exception of the needle miner and the caripeta angustiorata infestations the area traversed in Jasper National Park was found free from other insects in epidemic proportions.

There was noted a very large area of browned trees at the 5000 foot elevation but this was believed due to climatic factors. When these trees were inspected it was noted that the trees had commenced to recover and put on new growth.

Another large number of trees were noticed to be turning brown - this was believed due to the Calcium Chloride which is spread upon the roads. A point of interest here is that the Douglas fir trees seemed much more susceptible than either the pine or the spruce.

The roads in most cases were passable but very rough. This was due to the late spring and the sudden spring run off.

During the course of the spring run off many of the streams had overflowed their banks and in their wake had carried with them a number of bridges and culverts.

FOREST INSECT RANGER REPORT FOR
NORTHERN ALBERTA EXCEPT THE
BRAZEAU ATHABASCA -

PAUL LARUE

INTRODUCTION

The 1950 field season commenced on May 20th and continued until August 20th throughout Northern Alberta. Special work was conducted from Aug. 21st until Sept. 16th in Jasper National Park on the brown pine looper (*Caripeta angustrorata*) and the lodgepole pine needle miner (*Recurvia milleri*).

During the field season, special investigations and routine sampling of insect conditions were carried out.

The more important insects encountered were the lodgepole pine needle miner, the bronze birch borer, European larch sawfly, the brown pine looper, Aspen leaf eating beetle, western tent caterpillar and the ugly nest caterpillar.

ITINERARY

May 22nd May 31st - Cold Lake area
June 1st June 7th - Barrhead, Westlock and Athabasca
June 8th June 14th Whitecourt and Ft. Assiniboine.
June 15th June 22nd - Athabasca, Smith, Flatbush
and Fawcett lake areas.
June 23rd July 1st - Slave Lake, Kinuso, High Prairie
July 2nd July 9th - Lac La Biche, Wandering River and
Gourin districts.
July 10th July 25th - St. Paul, Bonnyville and Cold Lake
July 28th July 27 - Investigating report from McNeil
of the Saskatchewan forestry.
July 28th Aug. 9th - Grouard, High Prairie and Grande
Prairie
Aug. 10 Aug. 19th - Peace River, Gunishaw and Regg River
Aug. 20 Sept. 6th - *Caripeta* and needle miner inves-
tigation at Jasper National Park.

DISTRICT CONDITIONS

Normal insect populations were encountered throughout the Northern Alberta Forest District in Jasper National Park, the lodgepole pine needle miner and the brown pine looper occurred in infestation proportions.

Due to heavy rains in the Peace River district, it was impossible to get into the heavier timber where numerous jack pine sawflies were encountered the previous year. Rain also impeded work in the Grande Prairie and sections of the Whitecourt areas. Six hundred and ninety-four collections were taken in the areas mentioned in the itinerary.

There are many areas in this district which could not be investigated due to their inaccessible locations. These areas contain good stands of commercial timber, but require horse or boat transportation. In future years it is hoped these regions will be investigated.

INSECT CONDITIONS

Larch sawfly - *Pristiphora erichsonni*

The larch sawfly has extended its range slightly over last year, but is still confined mainly to the Cold Lake area. This insect even though at present occurring in small numbers, constitutes a serious potential threat to the larch stands of Northern Alberta.

The true range of the sawfly could not be accurately determined due to the inaccessible nature of the country involved, but a marked increase was noted from last year.

Bronze birch borer - *Agrilus anxius*

Numerous mature birch trees were found with borer damage in the Cold Lake and Lac La Biche districts. No increase in the number of injured and dying trees was noted from the 1949 survey in these regions except for one stand of mature trees three miles south of Cold Lake that was not noticed the previous year.

Western tent caterpillar - Malacosoma pluviale

A light infestation, covering approximately ten square miles, occurred one mile east of Smith townsite and found on all deciduous foliage. This infestation carried south as far as Athabasca and North to Slave Lake but in lighter numbers.

Ugly nest caterpillar - Archips cerasivorana.

A number of these nests were found south of French Bay and around Grande Centre in the Cold Lake area, feeding on chokecherry, aspen and willow. They were also found south east of Slave town in light numbers, feeding exclusively on chokecherry.

Aspen leaf-eating beetle: Phytodecta americana.

A small area of infested aspen was found east of Smith. Even though the area was small, the trees were very heavily infested and could possibly develop into a major threat to the aspen in this district.

Lodgepole pine needle miner - Recurvia milleri (see report)

The most serious of the insects encountered this summer was the lodgepole pine needle miner which was definitely in the infestation category. This infestation commenced in the vicinity of Tangle Creek in Jasper National Park and continued throughout the valleys of the Athabasca and Sunwapta northwest to the junction of the Whirlpool and Athabasca rivers and further north in lighter numbers to the Miette Hot Springs turn off.

The most heavily infested region began at Fobokton Creek, and extended to the Athabasca Falls. The Mt. Edith Cavell road was also very heavily infested.

Brown pine looper - Caripeta angustiorata (see report)

Large numbers of these larvae were found in Jasper National Park, particularly at lower altitudes along the Miette, Athabasca and Whirlpool rivers.

This infestation does not seem to have increased in numbers, but has spread over a larger area. Considering the numbers found in other localities, this insect population is above normal and may develop into an infestation. Defoliation was just visible on some trees.

OTHER INVESTIGATIONS

On May 24th, Insect Ranger LaRue accompanied by Mr. W. McNeil and Mr. E. Shannon of the Saskatchewan Forest Service, a trip was taken from Cold Lake 170 miles south to Tulliby Lake, where numerous infested larch trees were reported.

These trees showed evidence of curled tips from the previous year, caused by the larch sawfly (*Pristiphora erichsoni*). Numerous cocoons were dug from the moss and duff. This was found to be the furthest south the sawfly had been reported in Alberta.

Again on July 28th, acting on a report from W. McNeil of the Saskatchewan Forest Service regarding damaged aspen foliage 19 miles east of Edmonton, a trip was taken into the above mentioned area.

These trees were found to be free of any insects capable of doing damage, but the leaves were greatly suppressed and the bark had a yellowish tinge. Upon investigating, there was no sign of bark beetle, or borer damage. The only logical cause for the discolouration of the bark was that the trees involved were beside the railway track and possibly the smoke from the locomotives discoloured the bark.

Forest Ranger LaFoy at Kegg River reported numerous small insects beneath the bark of mature living spruce. Due to heavy rains, it was impossible to get to this stand of timber. He has been requested to send in samples of this insect and give roughly the range of this possible infestation.

From Aug. 22nd until Sept. 6th special work was carried out in Jasper National Park at the request of G. R. Hopping and W.C. McGuffin of the Calgary laboratory on the brown pine looper (*Caripeta angustiorata*) and the lodge pole pine needle miner (*Recurvia milleri*). (See report)

At the request of Mr. Tempster Park, superintendent of Jasper National Park a trip was taken up the Miette Hot Springs road where lodgepole pine trees were reported injured and dying.

Samples of these trees were sent to Mr. Hopping at the Calgary Laboratory, who believed these trees were suffering from a disease. He forwarded them to the Forest Pathological Laboratory at Saskatoon, for identification.

FOREST INSECT RANGER REPORT
FOR CLEARWATER FOREST RESERVE

1950

E. J. McNEIL

INTRODUCTION

Forest Insect survey sampling and investigations were conducted throughout the Clearwater Forest Reserve and district from July 14 to August 31. Permanent sample plots were layed out during September in the following areas: Nordegg (2); Saunders (2); Clearwater (2); Red Deer (2); James River (1).

DISTRICT CONDITIONS

Weather in the 1950 season was quite different from that of previous years.

Normally June is a month of rain, however there was no rain this season until August, retarding growth in general throughout the area until late in the year.

Collecting was good in the latter part of the season throughout the area.

From July 14 to August 31 investigations were conducted in the Clearwater Forest Reserve and district. There were no insects of infestation proportions in the area. 641 survey collections were taken during this period.

Lodgepole Pine needle miner - Recurvaria milleri Busck. From June 15 to June 20 a survey was made of the lodgepole pine needle miner in the Red Deer Ranger district. This insect was quite numerous in 1949, but very few live larvae were found in the 24 samples taken in 1950 during the above mentioned period.

Samples were taken as follows:

First sample are 5 miles west of Yaha tinda Ranch
8 samples
Second " " 1 1/2 " " " " " 8

Third sample area 8 miles east of Yaha tinda Ranch 4 samples
Fourth sample area 14 miles east of Yaha tinda Ranch 4 samples

Each sample consisted of a branch tip with 5 to 8 years needles. In the area west of the Ranch one tree in ten had needle miner present with an average of one new mine to three old mines per tip. All miners were found dead except in new mines. Temperatures at the Yaha Tinda ranch were 50°F. below zero on several occasions during January.

In the area 8 miles east of the Ranch there is about one acre of lodgepole pine in an extensive spruce stand. Three needle miners were found on the 25 trees examined.

In the area 14 miles east of the Ranch white spruce gives way to almost a pure stand of lodgepole pine.

Examination of 25 y trees revealed only 2 needle miner larvae. From this point, 40 miles eastward to Sundre, no needle miners were found.

Examinations were made every 3 or 4 miles wherever pine was encountered.

A detailed map which is on file at the office in Calgary was drawn of the infected areas.

American poplar leaf eating beetle - Phytodeda Americana
There were scattered areas of defoliation throughout the area east of the Reserve boundary.

The heaviest defoliation was in the Clearwater Ranger district.

GREEN LARCH SAWFLY

ANOPLONX LARICES

There were quite a number of these larvae present on larch although not in epidemic stages.

Green larch looper - Semiothisa Sexmaculata. These loopers were found in large numbers on the larch, although no noticeable defoliation was present.

OTHER INVESTIGATIONS

On July 14 a letter from Timba Inspector Smith

of Bowden was received by W.C. McGuffin concerning a bark beetle infestation at Red Lodge Provincial Park. Insect Ranger E.J. McNeil investigated on July 20. No bark beetles were found in dead or living spruce. There was evidence, however, of bark beetle in the dead trees from previous year's.

It was determined about 10% of the spruce in the area had been killed.

In the park there are a great many foot paths and roads in among the trees thereby exposing the roots, which have been barked, also some of the trees have been stripped of bark as high as four feet, which could easily be the cause of dying trees.

On September 4 another inspection of this area provided no further information.

On September 1 at the request of Forest Superintendent T. Keets of Rocky Mt. House Insect Ranger E.W. McNeil investigated a reported infestation in a timber berth located in township 41 Section 36 Range 7, some 17 miles north of Rocky Mt. House.

The condition of forest stands in this area are very good and there was no sign of insect damage.

The only insects present in any quantity were May flies presumably from nearby streams.

On August 16 a trip was made to the Ghost River area for Survey sampling.

The collecting south of Sundre was very poor as the only trees are a few aspen with a lot of willow and Dwarf Birch. Collecting north, from the Morley turnoff to the end of the road at the Ghost Diversion project is good for the 24 miles of road.

The timber for the most part is lodgepole pine with scattered spruce, aspen and alder, willow.

SEPT. 4 to SEPT. 18.

The Forest Insect survey collecting season was closed on September 1. Permanent sample plots, as indicated in the introduction, were established during the period of September 4 to September 18.

FOREST INSECT RANGER REPORT
WATERTON LAKEST NAT. PARK,
CYPRESS HILLS & CROWSNEST-
BOW RIVER FOREST RESERVES.

R. R. STANLEY

INTRODUCTION

Forest Insect Survey sampling, and investigations were conducted from May 12 to Sept. 3 throughout the Crowsnest, Bow River, Cypress Hills Forest Reserves and Waterton Lakes Nat. Park.

Work commenced on May 12 in the Crowsnest Forest Reserve, but due to the exceptionally late spring it was impossible to take insect samples. The time between May 12 and June 2 was spent contacting Forestry Personnel and setting up permanent sample plots in the following areas; Crowsnest Forest Reserve, 4 plots; Cypress Hills Forest Reserve, 2 plots; Waterton Lakes National Park, 2 plots.

Survey sampling was initiated June 3rd and continued to Sept. 3. During this period, special investigations and extension work were also carried out.

DISTRICT CONDITIONS

Waterton Lakes National Park.

Investigations were conducted in this area from May 25 to June 2, July 15 to July 22, Aug. 8 to Aug. 10. Seventy-eight survey collections were made. No serious infestations were observed. American Leaf-eating Beetle, Phytodecta americana.

There was scattered defoliation in the aspen stands along the west side of Belly River. There were very few of these insects taken in collections but it is thought that they were responsible for the damage.

Tent Caterpillar, Malacosoma sp.

Malacosoma pluviale was present in all areas traversed by Insect Rangers in the Park, but at no time was it found in large enough numbers to warrant in infestation classification. Defoliation was quite noticeable on rose, saskatoon, and other small shrubs.

Malacosoma disstria was not encountered and only a few specimens have been collected in this area in previous years.

Spruce Weevil, Pissodes sp.

A small number of Pissodes infested white spruce, on the east slope of Sofa Mt. approximately 5 miles southwest of the Belly River Warden cabin, were encountered during the early part of August. At this particular time a very short itinerary was being maintained, and it was impossible to carry out a thorough investigation. A later visit was planned, but with the survey season called to a close on the first of September, it was found the second visit had to be cancelled.

Sawflies, Neodiprion abietis and Tenthredinid sp. Were commonly collected in all areas of the Park, but only in normal quantities and defoliation was not noticeable.

CROWSNEST - Bow River Forest Reserve.

This reserve was covered from June 3 to July 15, July 23 to August 7. August 14 to September 3. A few species capable of causing damage were taken but noticeable defoliation was rarely encountered. A total of 428 collections were taken.

American Leaf-eating Beetle - Phytodecta americana. Small patches of aspen in the Highwood, Big Horn and Willow Creek districts were practically stripped of foliage by these insects during the latter part of June. At this time the larvae were still feeding and the smaller trees appeared to be suffering the heaviest attack, but in all cases the area infested was not more than one or two acres in extent.

Spruce Budworm, Choristoneura fumiferana. This insect was found to be well distributed in this reserve, but nowhere was it taken in appreciable numbers, nor was there evidence in the district covered that it had reached outbreak proportions in recent years. Larvae were collected in all areas except in the Porcupine Hills.

A Spruce Weevil, Pissodes sp. Present in nearly all districts in numbers representing normal population.

Malacosoma pluviale, was commonly collected throughout this area. While most numerous in the Crowsnest Pass, it was also present in the Porcupine Hills and Willow creek districts in numbers representing a fairly high population. Wild rose was the preferred host, but many other shrubs were attacked.

Malacosoma disstria, was taken only in the Buron Creek area, south of Coleman.

Balsam Fir Sawfly, Neodiprion abietis, was found in nearly all districts visited by Insect Rangers, but nowhere was it taken in appreciable numbers.

Yellow Headed Sawfly, Pikonema alaskensis, was encountered quite frequently, but in normal quantities.

Semiothisa granitata, Caripeta sp. and Eupithecia sp. were taken in all areas, normal populations being represented.

CYPRESS HILLS FOREST RESERVE

This reserve was visited twice by Insect Rangers during the past season. From May 21 to May 24, Aug. 11 to Aug. 13. Due to wet weather and poor road conditions, very few collections were taken. No outbreak of insects were found and the only insects collected of economic importance were - Sawflies: Tenthredinid sp. and Pikonema sp. were collected in numbers representing nothing more than a normal population. The ugly nest caterpillar - Archips cerasivorana, were taken near the Elkwater Townsite, but defoliation was very light. Twenty-two collections were made in this reserve.

OTHER INVESTIGATIONS

On Aug. 17, at the request of Forest Ranger J. Butler, an investigation was conducted in a stand of white spruce approximately ten miles north-east of the Big Horn range station, to determine the cause of the trees dying in this area. On taking several samples and examining the trees in question, it was decided the damage was due to flooding as this particular patch was exceptionally wet. There was no evidence of bark beetle or other harmful insects.