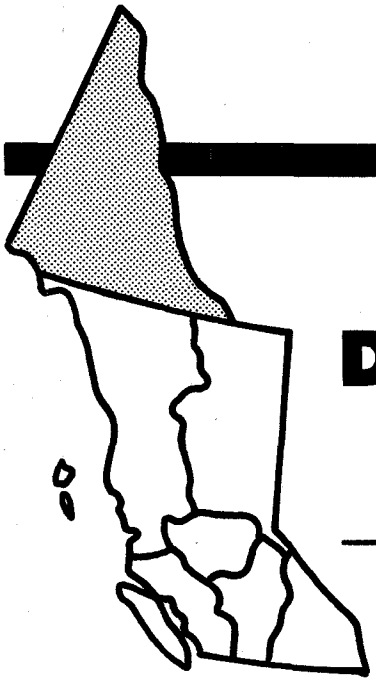
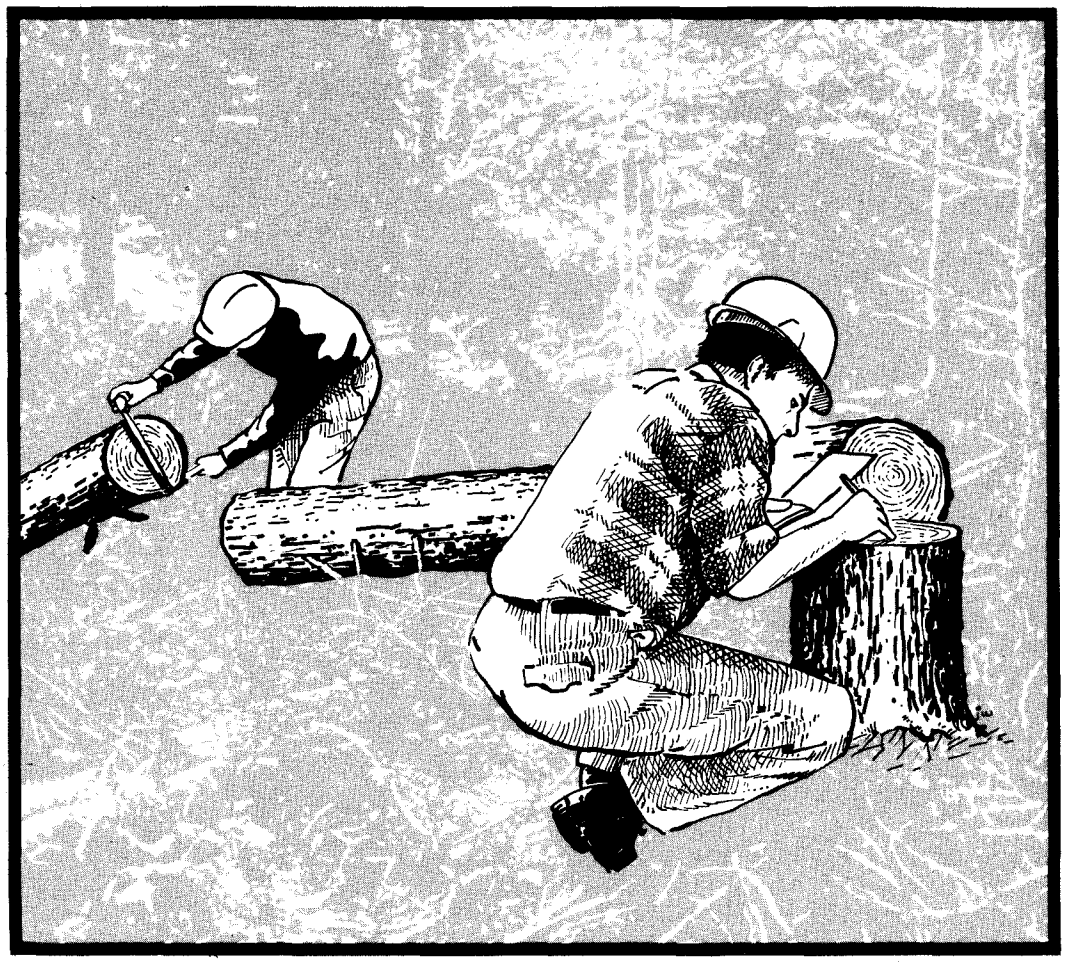


Forest Insect and Disease Conditions

Yukon Territory
1982

J. Loranger



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SUMMARY

This report outlines the status of forest insect and disease conditions in the Yukon for 1982, and emphasizes pests capable of sudden damaging outbreaks. Pests are listed by host, in order of importance.

Defoliation of trembling aspen by the large aspen tortrix declined significantly in the Teslin Lake - Aishihik River, Snag Road, Dawson City, Little Salmon and Little Atlin Lake areas. Spruce beetle-killed white spruce were common in fifteen areas where trees had been damaged by road construction and predisposed by road salt accumulation. A lodgepole pine needle cast severely discolored the 1981 foliage in stands throughout the Territory mainly along the Alaska Highway near Watson Lake.

Road salt applications resulted in the severe discoloration of white and black spruce and lodgepole pine along main highways, and near Mayo. Moderate discoloration of lodgepole pine, black and white spruce caused by winter drying was common along the Alaska Highway from Km 1702 to Km 1923.

The 1982 field survey commenced on June 22 and was completed July 3. The survey consisted of monitoring pest populations at 50 permanent sample plots (Map) and the examination of large aspen tortrix infestations.

Yukon Forest Service personnel were contacted at Watson Lake, Whitehorse, Haines Junction, Mayo and Carmacks to discuss pest problems in their respective districts.

TREMBLING ASPEN PESTS

Large aspen tortrix, Choristoneura conflictana

Light defoliation of trembling aspen stands, ranging in size from 25 to 100 ha was recorded at 10 locations, severely defoliated in 1981. Near Teslin Lake, Aishihik, Snag Road, Dawson City, Little Salmon Lake and Little Atlin Lake, populations declined dramatically from more than 50 000 ha to small pockets of between 1-50 ha where only trace and light defoliation were recorded. At Aishihik River, where defoliation had been recorded since 1979 there was no new defoliation. The decline was attributed in part to: larval parasites including a wasp (Glypta sp.) which was reared from larvae collected in the area in 1981; winter mortality; and to a lack of host material.

Trembling aspen mortality

Mortality of aspen was evident along the highway north of Whitehorse, west of Haines Junction to Beaver Creek and from Dawson City to Carmacks. Approximately 20% of the trees were affected and damage ranged from top kill to complete mortality. Possible causal agents have not yet been identified.

Aspen leaf and shoot blight, Venturia sp.

Foliage infections declined in intensity and extent from 15 - 5% of the leaves on less than 5% of the trees at a dozen 1 - 5 ha areas, for 40 km along the South Canol Highway, between Ross River and Quiet Lake.

SPRUCE PESTS

Spruce beetle, Dendroctonus rufipennis

Partial and unsuccessful attacks by spruce beetle were recorded on 150 mature standing white spruce damaged by road construction ditching and flooding at several locations from Teslin Lake to Johnson Crossing and from Carmacks to Ross River. At Frances and Hyland rivers where 1980 attacks were recorded in 1981, stands could not be examined because of road closure. Broods developing in the standing timber pose a threat to adjacent susceptible mature spruce stands.

Red ring rot, Fomes pini

An estimated 15% of the mature white and black spruce trees at Congdon Creek and Horseshoe Bay campsites in Kluane Lake Park were infected by red ring rot. This condition has resulted in the closing of Horseshoe Bay campground due to the risk of falling trees. Other causal agents suspected but not yet confirmed are brown cubical trunk rots Polyporus sulphureus and P. tomentosus.

Blackheaded budworm, Acleris gloverana

Trace defoliation of white spruce and alpine fir by the blackheaded budworm was recorded in the Watson Lake area and south along the Alaska Highway towards the Stewart-Cassiar Highway. In three tree beating samples at permanent sample stations and random locations, an average of 2 larvae were collected (per sample after collected, indicating that the population will remain endemic in 1983).

Spruce broom rust, Chrysomyxa arctostaphyli

The rust was common in white and black spruce stands throughout the Territory. Severely infected trees were common near Teslin Lake, from Haines Junction to Beaver Creek and south of Quiet Lake to Johnson's Crossing. The impact of the rust is not fully understood but probably causes a reduced increment.

Spruce cone rust, Chrysomyxa munesis, C. pirolata

Samples of 100 black spruce cones from 10 locations throughout the Territory were collected to determine the incidence of infection by rust, however, all were healthy. Rust infections of white spruce were previously recorded in 1968 and 1969, but not since.

Spruce budworms, Choristoneura spp.

Larval populations in alpine fir and white spruce stands throughout the surveyed area were low and no defoliation was recorded. Defoliation of white spruce and alpine fir stands in the Yukon have not been observed since the 207 ha infestation at Sheep Mountain from 1962 to 1964.

PINE PESTS

Lodgepole pine needle cast, Lophodermella concolor

The needle cast infected up to 100% of the 1981 needles of lodgepole pine in immature and mature stands over widespread areas throughout the Territory. The severest damage occurred throughout the southern part of the Territory in the Watson Lake area where 10% of the foliage was affected on up to 20% of the trees.

Pine terminal weevil, Pissodes terminalis

A special survey was completed to determine the impact of terminal weevil on immature lodgepole pine stands. There was no evidence of weevil activity or previous damage in the 15 stands examined near Watson Lake.

Whitehorse, Haines Junction, Beaver Creek, Dawson City and Carmacks. Over the past thirty years, annual examinations of young lodgepole pine stands throughout the Territory have recorded weevil attacked terminals in less than 2% of the stems. This does not appear to represent a major factor in silvicultural programs.

Pinewood nematode, Bursaphelenchus lignicolus

A survey was conducted for pinewood nematode to assess association with the Flatheaded woodborers or Sawyer beetles, Monochamus spp. causing damage in lodgepole pine and larch logs.

Results were negative and no damage was found in any of the sites examined in the Yukon. Cerambycids have been recorded only in very small numbers in recent past years (light damage to a trace 1%). There has been no recorded damage by the pinewood nematode since the annual surveys of the Yukon were first begun in 1952.

LARCH PESTS

Larch budmoth, Zeiraphera sp.

Budmoth populations have remained at endemic levels in the Territory since 1975-77 when 2 500 ha were defoliated along the Hyland River road. A request was made this year by Dr. P.T. Dang, Biometrics, Agriculture Canada, Ottawa, for budmoth larvae for taxonomic study. No budmoth larvae were collected in three-tree beatings throughout the Territory.

DECIDUOUS PESTS

Black army cutworm, Actebia fennica

Light defoliation of herbaceous ground cover was reported over a one hectare area on a private grazing lease 12 miles north of Whitehorse. This pest can damage conifers, newly planted on slash burned sites, however, conifer defoliation has not been reported since 1961. The site will be monitored by Yukon Forest Service personnel from Whitehorse.

Diamond willow disease, Valsa sordida (Cytospora)

A request for samples of the disease for culture and histological studies prompted the examination of willow stands at ten separate locations in the Territory. No infected trees were found. Further surveys will be conducted in 1983.

CONE AND SEED PESTS

Lodgepole pine cones collected in the Watson Lake area were pest free. There has been little evidence of cone pests seriously damaging cone crops in the Yukon in recent years.

PESTS IN YOUNG STANDS

There were few serious pest problems in three 10 to 15 year old natural lodgepole pine stands examined north of Whitehorse at Fox Lake, west of Watson Lake at Upper Liard, and at Little Salmon River. Sequoia pitch moth, Vespamima sequoiae, and Western gall rust, Endocronartium harknessii, affected 1% of the pine in the provenance trial area west of Watson Lake. A stem rust, Cronartium sp, infected 20% of the trees in one localized stand north of Whitehorse.

MULTI-HOST PESTS

Salt damage

Needle loss and terminal and branch dieback of black spruce, white spruce and lodgepole pine was common along the roadside throughout the Territory where road salt (calcium chloride) was applied to road surfaces. Severely damaged trees were particularly evident near Haines Junction; from Beaver Creek to Stewart Crossing and from Carmacks and Mayo. Damage along highways was limited to approximately 4 metres from road sides.

Animal damage

Rabbit feeding severely damaged young lodgepole pine regeneration at widespread locations along the Alaska Highway. Damage consisted of partial and complete girdling of lower boles on 15 and 5% of the trees respectively, which resulted in less than 10% tree mortality. Areas where affected stands were recorded were: north of Whitehorse along Lake Laberge; south to Carcross, and northwest of Carmacks. Also, damage to roadside aspen along Canol Road, as far as Ross River and south along Lapie River, affected 5% of the trees with 2% mortality. Native and exotic conifers and deciduous trees at the Takhini Nursery have been similarly damaged for the past several years.

Climatic damage

Winter drying severely discolored lodgepole pine and lightly discolored white spruce and black spruce from Kluane Lake (Km 1686) to Beaver Creek (Km 1923) near the Alaska border, where much of the one-year-old foliage, some older needles and 2% of the 1982 buds of lodgepole pine were affected.

Map 1

Locations where one or more forest insect or disease samples were collected, 1982

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