



# PEST REPORT

Pacific Forestry Centre • 506 West Burnside Road • Victoria, B.C. • V8Z 1M5

FIDS Pest Report 93-24

September 1993

## SUMMARY OF FOREST PEST CONDITIONS IN THE YUKON TERRITORY, 1993

R. Garbutt  
Forest Insect and Disease Survey

This report briefly describes the activities of some of the more important forest pests active in the Yukon Territory in 1993. A more detailed report of these and other pests, including their impacts and potential for continued damage, will be available later in the year.

Populations of *eastern spruce budworm* in the La Biche River drainage in the extreme southeast corner of the Territory, are inaccessible for monitoring purposes. Historically they behave in a similar manner to populations in the adjacent Liard River drainage near the B.C.- Northwest Territories border, which have increased significantly this year, causing mostly moderate defoliation of white spruce. Almost continuous defoliation of white spruce was seen within the Liard River corridor from this area to just south of the B.C.- Yukon Territory border at Irons Creek. Few budworm larvae, however, were found in standard beating samples in the Watson Lake area, or elsewhere in the Territory.

Discoloration of year-old lodgepole pine foliage by *pine needle cast* was again widespread in the southeast, but not as severe as in 1992. Up to 80% of the 1992 needles were discolored in scattered pockets of mostly young roadside pine in the Watson Lake area, and in stands as far north as Km 200 along the Robert Campbell Highway. Similar patch infections were seen south of Km 141 of the South Canol Road.

*Lodgepole terminal weevil* populations declined to near endemic levels in most areas of the southern Yukon, following a dramatic increase in both frequency and distribution in 1992. One notable exception was an infestation at Km 34 of the Atlin Road (just north of the Yukon - B.C. border), where 20% of the lodgepole pine terminals were killed by the weevil. This was the highest level of infestation yet recorded in the Yukon. In all other areas infested last year, mainly in susceptible stands between Whitehorse and Watson Lake, only trace levels of infestation could be found.

Populations of *larch sawfly* decreased below the already low levels recorded in 1992, as only isolated telltale oviposition sites could be found on recently flushed needles in late June, in susceptible stands north and south of Watson Lake.

Pest conditions within a six year-old *co-operative Canada-Sweden lodgepole pine trial* were evaluated by FIDS again in 1993. Two years after the collapse of snowshoe hare populations and the severe winter of 1990-91, which caused severe damage within the plantation, surviving lodgepole pine and Siberian larch within the trial continued to recover. Survival in the lodgepole pine and Siberian larch replicates averaged 94% and 80% respectively, similar to 1992. However, for the first time, cankers caused by *Commandra blister rust* occurred on a total of 12 lodgepole pine in four of the replicates. Only one tree had died from the disease but further mortality is expected in subsequent years. In addition single branch and stem galls caused by *western gall rust* were seen on pine in two separate plots. This fungus may also cause significant future mortality.

A year following establishment of a permanent *Biomonitoring* plot in the Takhini Forest Reserve as part of the *Acid Rain National Early Warning System (ARNEWS)*, soil pits were established and soil analysis is in progress. In addition, an annual detailed assessment of the health and vigor of individual plot trees, along with a baseline foliar chemistry study, was undertaken. This Biomonitoring plot is one of 12 established in 1992 to supplement the existing 15 ARNEWS plots established in the mid 1980's, to monitor the affects of airborne pollutants on forest health. The scope of the program has since been broadened to include aspects of biodiversity and general forest condition beyond than those related to the effects of acid rain.

This year various types of *environmental damage* were seen in Yukon forests. The most serious has not yet been characterized as to cause, but the effect, progressive dieback in mainly white spruce, has been documented over many years. Significant white spruce mortality has occurred in stands between Burwash Landing and Beaver Creek, along the Klondike Highway between Stewart Crossing and Carmacks and again in the Spirit Lake area south of Whitehorse, and along Little Atlin Lake. Reports from Parks Canada and The Yukon Forest Service in Haines Junction describe similar damage affecting up to 80% of the white spruce in large patches in both the Alsek and Donjek river drainages within Kluane National Park. Some of this damage can be attributed to the repeated occurrence of *cold desiccating outflow winds* during the long Yukon winter but much of the damage occurs out of the path of such winds. Other suggested causes for damage limited to transportation corridors include the lingering effects of *calcium chloride*, a salt used to inhibit dust before the highways were paved, and the toxic effects of dust from the "B-trains" which hauled ore concentrate for years between Faro and Skagway.

More immediate damage was caused by cold winter winds blowing through the pass at the Continental Divide, just west of Rancheria. All mature lodgepole pine were discolored over an area of about 200 ha above km 1164 of the Alcan Highway, in a south-facing 100 meter-wide band near 1400 meters. At km 1138, young roadside pine over 2 ha were similarly discolored, losing all but the current foliage.

*Large aspen tortrix* populations were again high within the south-central parts of the Territory but infestation patterns were very different from last year. Scattered and sometimes single, large infestations were recorded in three widely separated areas (see Table).

Table 1. Location and character of infestations of large aspen tortrix in the Yukon Territory, 1993.

---

<i>Location</i>	<i># of infestations</i>	<i>Total area (approximate ha)</i>
Jakes Corner - Teslin Lake	7	1300
Stewart Crossing - Mayo	3	1250
Braeburn	1	400
	<i>Total</i>	<i>2950</i>

---

Ninety percent of all infested area was severely defoliated, with light and moderate defoliation occurring only at the infestation fringes. Mass collections of tortrix larvae collected from infestations near Teslin Lake are currently in rearing to determine levels of parasitism. Insects at the two other areas were already in the adult stage when visited in late June.

Trembling aspen between Dawson City and Minto Landing were infested by the *aspen serpentine leafminer*, for the second consecutive year. Levels of infestation were more severe this year, with as much as 80% of the aspen foliage infested between McQuesten and Mayo.

An infestation of an as yet unidentified *willow leafminer* discoloured willow leaves in the Little Atlin Lake area. This infestation was the northern fringe of an infestation centered near Atlin. The tiny green larvae, hanging in great numbers from the trees on threads of silk, attracted notice and caused some discomfort to hikers. Samples of larvae were reared to adulthood at the Pacific Forestry Centre Insectary. When they failed to match any existing leafminers in the extensive Insectary collection, samples were sent to the Biosystematics Research Laboratory in Ottawa for identification.

A more detailed report of the above pests and including other noteworthy pests collected at low levels of incidence will be forthcoming later in the year.