



FIDS PEST REPORT 94-15

August, 1994

WESTERN HEMLOCK LOOPER IN THE PRINCE GEORGE FOREST REGION - 1994

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Successive years of severe defoliation by western hemlock looper, *Lambdina fiscellaria lugubrosa*, killed about 40%, (range 10-90%), of mainly old growth western hemlock and western red cedar over 35 000 ha. Current defoliation, mostly moderate, was mapped over 5000 ha. Trace levels of defoliation not visible from the air were noted in some of the stands with heavy mortality. Sixty-percent of the damage occurred in the Prince George Forest District with the remainder in the McBride Forest District (Map). The last recorded hemlock looper infestation in the Prince George Forest Region was in 1983 when over 800 ha of feeding was noted in the McBride Forest District.

In the Prince George TSA, tree mortality occurred over 22 000 ha with current defoliation mapped over 3700 ha. Dead trees were recorded in generally the same areas as defoliation occurred in 1993; from Purden Lake in the west to Walker Creek in the east, mainly in the ICHvk2 biogeoclimatic subzone. The largest areas of mortality were in the Torpy River and Walker Creek drainages. Current defoliation was mostly in white spruce and alpine fir stands adjacent to the previously defoliated hemlock and cedar stands.

In the McBride TSA tree mortality and defoliation were recorded over approximately 14 000 ha, up slightly from 12 000 ha in 1993. New areas of defoliation occurred in the Ptarmigan Creek and LaSalle Lakes area. The largest concentrations of tree mortality were mapped between Ptarmigan and Catfish creeks and around LaSalle Lakes. No current defoliation was noted along McNaughton Lake or Hankins Creek. In 1991, the McBride Forest District had the only recorded western hemlock looper defoliation in the Prince George Forest Region, with 200 ha at Hankins Creek, just south of McBride.

Forecast

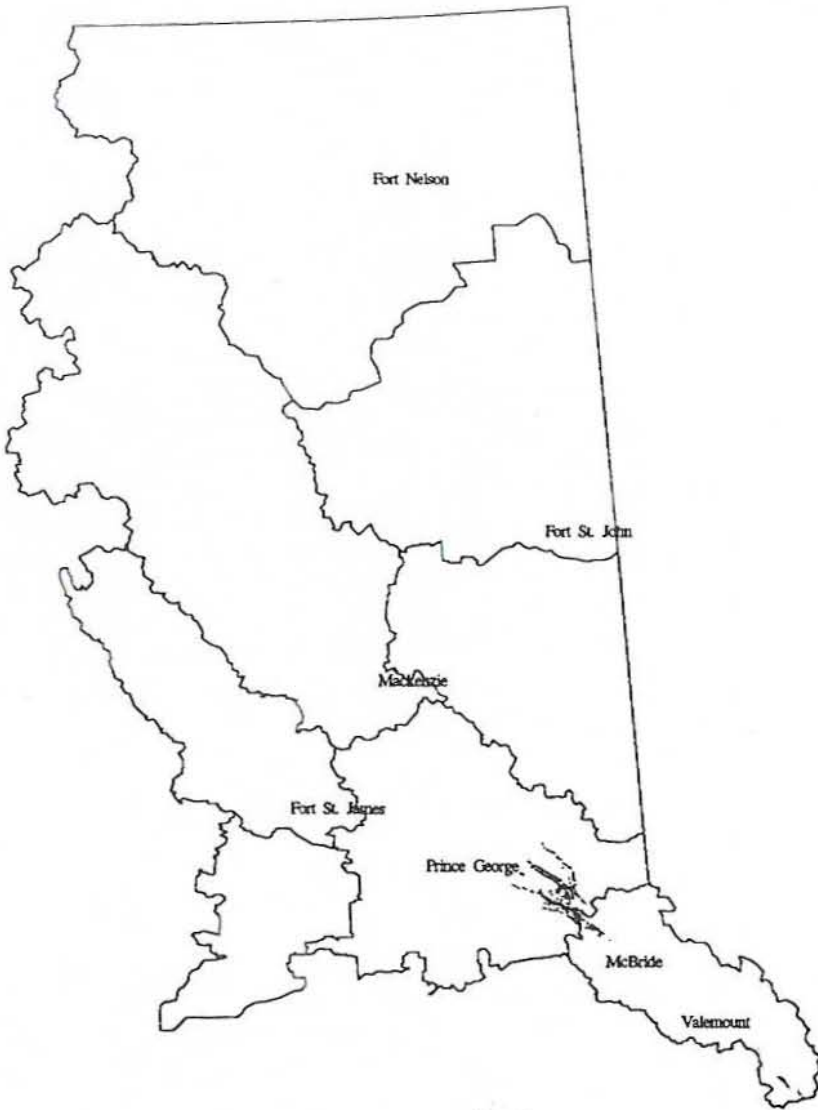
Sampling by FIDS in the fall of 1993 predicted a decrease in area and intensity of defoliation in 1994. Standard FIDS, three tree-beating samples at five locations within the infested stands averaged 35 larvae/beating, significantly lower from more than 300 looper larvae in 1993. Mass collections of approximately 500 larvae are being reared at the Pacific Forestry Centre to determine levels of parasites and disease in the population. Sampling will again be undertaken this fall to forecast population trends for 1995.

Impact

The nine damage appraisal plots established by FIDS in 1992 were assessed in August to determine the tree mortality for the third year of the infestation. Tree mortality averaged 60% for all tree species; over 80% of the western hemlock and 35% of the western red cedar had died. Top-kill, up to 5m, was noted on 10% of the hemlock and 35% of the cedar. These plots were in some of the most severely defoliated stands within the looper infestation. Intermediate trees were best able to withstand the looper feeding. Ambrosia beetles infested 25% of the dead western hemlock at LaSalle Lakes. Assessments of these plots will continue, as mortality can occur up to 3 years after defoliation ceases.

If any further assistance or information is required about this or any other pest problem, please call Natural Resources Canada at (363-0600).

PG WHL 1994



Natural Resources Canada
Canadian Forest Service
Forest Insect and Disease Survey

STATISTICS:

	ha:	Freq:
Light:	387	2
Moderate:	3982	14
Severe:	569	3
Grey:	35285	95
Total:	40223	114

Scale 1:600000
