



# PEST REPORT

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

FIDS Report 92-18

AUGUST 1992

## WESTERN HEMLOCK LOOPER IN THE PRINCE GEORGE FOREST REGION 1992.

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Forest Insect and Disease Survey

Defoliation of mature to overmature western hemlock-western red cedar and mature Douglas-fir stands by the western hemlock looper, Lambdina fiscellaria lugubrosa, increased to over 28 000 ha in 77 infestations, up from 200 ha in 1991. The majority, 80%, of the area was severely defoliated, with the loss of most or all foliage on more than 50% of the trees. The remainder of the feeding was classified as moderate, approximately one third the crown defoliated, and light, limited mainly to upper crowns. More than 60% of the defoliation occurred in the Prince George Forest District with the remainder in the McBride Forest District (Map 1). The last recorded western hemlock looper infestation in the Prince George Region was 1954, when 48 000 ha was attacked in basically the same geographic area.

In the Prince George TSA the area of defoliation covered approximately 17 500 ha in 53 infestations in the southeastern portion of the district in the ICHF biogeoclimatic zone. Feeding was noted as far west as Purden Lake and east to the District boundary. Defoliated trees are readily visible on mainly crown land from various locations on the Prince George-McBride highway. The largest infestation occurred along the Torpy River drainage, with Dome, Slim and Ptarmigan Creek drainages also heavily infested. The northern limit of infestation was in the McGregor River drainage.

Defoliation in the McBride TSA was recorded over 11 500 ha in 24 infestations from Ptarmigan Creek at the western district boundary to the McBride-Golden district boundary in the southeast. The majority of the defoliation, 6500 ha, occurred in the ICHk biogeoclimatic subzone between Ptarmigan and Snowshoe Creeks. The 4 000 ha of mostly severe defoliation of Douglas-fir along both sides of McNaughton Lake from Grouse Creek south to the forest district boundary is unusual because Douglas-fir is not usually a preferred host of this looper. Western hemlock is the preferred host and is common along the west side of the lake yet seems to be unaffected. In 1991, the McBride Forest District had the only recorded western hemlock looper defoliation in the Prince George Forest Region, 200 ha at Hankins Creek, which doubled in size this year.

### Forecast

Forest Insect and Disease Survey's, three-tree beating samples at Dome, Ptarmigan and Hungary Creeks averaged 275 looper larvae/beating, range 250-325, indicating large populations in these areas. Mass collections of over 400 larvae and pupae are being reared at the Pacific Forestry Centre to determine levels of parasites and disease. Results from these rearings are still pending. In September collections of western hemlock looper eggs will give additional population forecasts.

### Impact

Six damage appraisal plots have been established to help determine the impact of the looper, three at Walker Creek and three at LaSalle Lake. Preliminary defoliation estimates indicate that western hemlock is the most severely affected tree species with 100% defoliation common, with western red cedar being 50-90% defoliated, and the balsam and spruce lightly defoliated. Understory trees of all conifer species are also severely defoliated in conjunction with deciduous and herbaceous growth. Salvage logging of some of the stands could be an option if tree mortality becomes significant.

Historically infestations have lasted for 2-3 years in the Interior with a rapid collapse terminating infestations. Previous infestations have caused extensive top-kill and scattered mortality. In older stands, trees that are 80% or more defoliated frequently die, or succumb later to secondary agents. Tree mortality can occur up to 3 years after defoliation ceases.

If Forestry Canada can be of any further assistance please do not hesitate to call (363-0778).

# PRINCE GEORGE - WESTERN HEMLOCK LOOPER 1992



FORESTRY CANADA

Forest Insect and Disease Survey

Scale 1:6233035 14 Aug 92

## STATISTICS:

	Ha:	Freq:
Light:	552	1
Moderate:	4525	28
Severe:	23029	48
Total:	28106	77