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November 1985

WESTERN SPRUCE BUDWORM IN BRITISH COLUMBIA: 1985

AND FORECAST FOR 1986

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Forest Insect and Disease Survey

The area of mature and immature Douglas-fir defoliated by the budworm in three Interior forest regions increased more than threefold to 210 000 ha, mainly in the Kamloops Region (Map).

The largest area of mainly light and moderate defoliation was 180 750 ha in the Kamloops Region, up from 43 000 ha in 1984. Most of the newly defoliated areas and the most severe defoliation, particularly of immature and understory Douglas-fir, occurred from north of Savona in the Deadman River Valley east to Adams Lake and in the North Thompson River drainage from Paul Lake north to near Little Fort. Widespread severe defoliation of all age classes occurred for the fourth to sixth consecutive year on both sides of the Thompson River Valley from Savona west to Cache Creek. Light and moderate defoliation following population increases in 1984, occurred in the Lillooet and Okanagan TSAs. This was the first record of defoliation since 1978 along the north shore of Anderson Lake, in the Bridge River Valley, along the south side of Carpenter Lake southwest of Oliver and east of Osoyoos.

Immature and mature Douglas-fir in the Cariboo Region were moderately or severely defoliated over about 29 500 ha, up significantly from 18 800 ha in 1984. The increase occurred north of Clinton to 61 Mile Creek and east along the Bonaparte River Valley to Mt. Grant. Surveys by FIDS and a Damage Appraisal group of three stands southeast of Clinton, defoliated by the budworm for 4 - 7 consecutive years, found mortality of understory regeneration to be highly variable (0, 8 and 95%) and 2 to 4 years of height growth have been lost on the surviving trees. Similar levels of regeneration mortality were recorded on 30 ha near Cache Creek in 1984.

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In the Nelson Region moderate defoliation of current year and older Douglas-fir foliage occurred over 100 ha near Johnston Creek Provincial Park west of Bridesville, the eighth successive year of defoliation. There is no evidence of tree mortality in this area.

Large moth flights in early to mid-July and high numbers of eggs (Table) in samples from or adjacent to currently infested stands indicate most recently defoliated stands will be moderately or severely defoliated in 1986. Of the 27 locations, 17 are expected to have severe defoliation, 9 moderate and 1 light.

Parasitism of early and late instar larvae at 3 of 18 sites in the Kamloops and Cariboo regions averaged 11% (range 7-18%), too low to effectively reduce populations in 1986. There was little evidence to date of other natural population control factors.

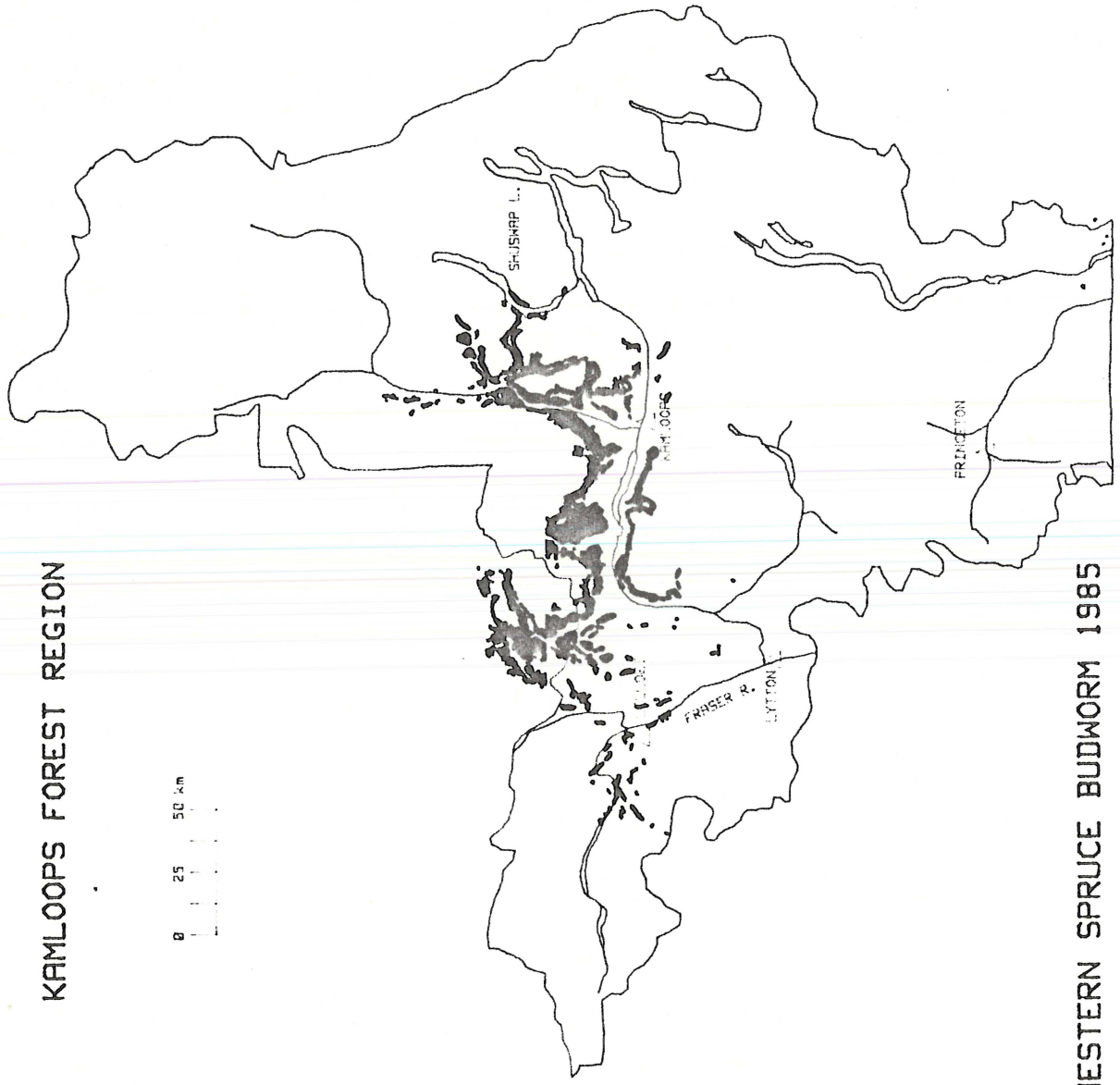
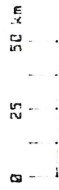
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Locations of egg samples and predicted defoliation for Kamloops and Cariboo Regions in 1986.

Region/Location	No. egg masses /10 m ² foliage	Forecast ¹ Defoliation in 1986
<u>KAMLOOPS REGION</u>		
<u>Lillooet TSA</u>		
Marshall Creek	72	Moderate
Fountain Valley	186	Severe
Mission Pass Summit	392	Severe
Watson Bar Creek	127	Moderate
<u>Kamloops TSA</u>		
Scottie Creek	890	Severe
Oregon Jack Creek	262	Severe
E. of Bonaparte IR.	536	Severe
Separating Lakes	359	Severe
Indian Gardens	890	Severe
Sabiston Creek	970	Severe
Carabine Creek	288	Severe
Red Lake	406	Severe
Orchard Lake	263	Severe
Paul Lake	186	Severe
Pimainus Ridge	96	Moderate
Heffley Lake	144	Moderate
Adams Lake	86	Moderate
West of Barriere	120	Moderate
Lemieux Lake	78	Moderate
<u>Okanagan TSA</u>		
Mt. Kobau	155	Severe
Anarchist Mtn.	182	Severe
<u>CARIBOO REGION</u>		
<u>100 Mile TSA</u>		
North Hart Ridge	311	Severe
Big Bar Lake Rd.	158	Severe
Mt. Grant (Bonaparte River)	448	Severe
Micro Tower Hill (Clinton)	149	Moderate
Tin Cup Mtn.	85	Moderate
Loon Lake	27	Light

¹Light = 1- 50 egg masses/10 m² foliage
 Moderate = 51-150 " " "
 Severe = 151+ " " "

KAMLOOPS FOREST REGION



WESTERN SPRUCE BUDWORM 1985