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PEST REPORT

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June 1985

Status of Mountain Pine Beetle Populations, British Columbia, June 1985

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Forest Insect and Disease Survey

The 1985 flight and subsequent number of new attacks by the mountain pine beetle, Dendroctonus ponderosae, are expected to be greatly reduced throughout much of the Cariboo Region, the interior of the Prince Rupert Region and adjacent areas of the Prince George Region (see Table). Unusually cold temperatures in late October 1984 caused high mortality of overwintering broods, mainly early instar larvae. However, despite the high brood mortality, in many areas sufficient numbers of progeny survived in the thick barked lower butts so that substantial attacks in green standing trees will persist this year, but down significantly from 1984 levels.

In the Kamloops and Nelson regions, the eastern part of the Prince George Region and parts of the Vancouver Region, broods were less affected (see Table) and infestations are expected to persist at levels similar to 1984.

Brood assessments and population trends ('R' factor)¹ were based on the ratio of surviving overwintering progeny to parent beetles, from two 225 cm² bark samples at breast height, from up to 20 trees per site.

In the Cariboo Region, 'R' factors were mostly zero but light populations persisted in the lower bole in most areas. Populations remain static at Mons Lake and Little River (2.7) and Gaspard (3.6) but increasing on the Honolulu Road (4.9).

In the Prince Rupert Region, populations are declining generally, but remain static in some areas. Up to 99% of the adults which had not finished egg laying in 1984 attacked trees and 99% of the newly hatched larvae were killed. Based on the brood mortality and current weather conditions, surviving 1983 and 1984 broods should fly this year.

¹ 'R' factors: 2.5 or less indicate decreasing populations.
2.6 to 4.0 indicate static populations.
4.1 or greater indicate increasing populations.

Assessments in the Mud River and Bralorne areas of the Kamloops Region indicate increasing populations, but populations are static in the Brexton and Tyaughton Creek areas. At McNulty Creek, south of Trout Creek, Belgo Creek east of Kelowna and Bull Creek west of Summerland, populations are declining or static.

In the Nelson Region populations are generally static in the East Kootenay but increasing in some areas. Brood mortality averaged 40% from Steamboat Mountain south to Gold Creek and incomplete galleries were common. In the West Kootenay populations are increasing at Trapping Creek and Ferroux in the West Kettle River drainage and at Rathmullen Creek east of Eholt.

Populations in scattered single trees in the southern part of the Prince George Region north of major outbreaks in the Cariboo Region were not very successful. Most galleries produced by late flying adults were short and did not produce broods in most areas. However, very small numbers of adults were found in trees at five sites west of Tsacha Lake.

Healthy populations are present in Manning Provincial Park in the Vancouver Region and brood condition is currently being assessed. Small numbers of infested trees occur at North Bend and near Birkenhead Lake.

Predator larvae equalled the number of live pine beetle larvae in 40% of the trees at Guess Creek in the Prince Rupert Region. Generally, however, there has been little evidence of significant levels of parasitism or predation in most areas and where healthy larvae occur their development is generally normal. The main beetle flight should be normal throughout the Province starting in June and extending into August in some areas.

* * * * *

Table. Status of mountain pine beetle broods, British Columbia, June 1985.

Region & Location	'R' value	Population Status	Brood Mortality (% @ bh)	Comments
<u>CARIBOO</u>				
Honolulu Rd. Km 45	4.9	increasing	-	-
Gaspard Creek	3.6	static	-	-
Mons Lake	2.7	"	80	-
Little River	2.7	"	-	-
Palmer Lk. Rd. Km 45	0	decreasing	100	2-7 healthy mature larvae per 170 cm ² sample at butt level.
Spain Lake	0	"	"	
Alexis Lake	0	"	"	
Taseko Lk. Rd. Km 15	0	"	"	
Honolulu Rd. 12	0	"	100	low to moderate populations of mature larvae at butt.
Baizeko Lk. Rd.	0	"	99	
<u>PRINCE RUPERT</u>				
Morrison Lake	2.9	static	-	1983 broods maturing in 1985 with 1984 broods
Cedarvale	3.9	static	-	Up to 99% of adults and eggs and 70 to 90% of newly hatched larvae killed
Telkwa	2.6	"	-	
Harold Price Cr.	1.5	decreasing	-	
Kispiox River	0.7	"	-	
Walcott	1.6	"	-	
Guess Creek	0-1.0+	decline	-	60% mortality of young larvae predation common
Kitwanga 83 Km N	2.9	static	-	
Kitwanga 95 Km N	1.8	decline	-	
Kitwancool Lake	0.6	"	-	
Cedarvale 5 Km W	1.0	"	-	
Cedarvale 13 Km W	0	"	-	
Cedarvale 18 Km W	0	"	-	
<u>KAMLOOPS</u>				
Mud River	4.1	increasing	-	healthy mature larvae
Bralorne	4.2	"	-	" " " & pupae
Tyaughton Cr.	2.5	static	-	" " "
Brexton	2.5	"	-	immature small larvae
Bull Cr. (Summerland)	2.5	"	-	
Belgo Cr.	2.8	"	-	healthy broods
McNulty Cr. (Osprey L.)	0.5	declining	-	

Region & Location	'R' value	Population Status	Brood Mortality (% @ bh)	Comments
<u>NELSON</u>				
Whiteswan	6.4	increasing	40	mature larvae & pupae
Steamboat Mtn.	3.8	static	46	
Palliser River	3.6	"	42	
Purcell-Gold creeks	2.1	declining	32	
Nancy Greene Lk.	-	"	50+	active 1984 adults & small-medium size larvae,
Trapping Creek	6.9	increasing	20+	larvae present - ambrosia
Rathmullen Creek	11.8	"	-	beetles in some trees
Ferroux-Weird creeks	6.8	"	-	numerous live 1984 adults & larvae.
<u>PRINCE GEORGE</u>				
Kluskus access road	-	static		small numbers of adults in stumps of 1984 attacked cut and burned trees
Tsacha Lake (west)	-	static		small number of adults (avg. 3/tree) in 1984 attacked trees but no larvae; short parent galleries from later 1984 flight.
Fort St. James (Tachie R. Valley)	-	declining		small numbers of adults (2/sample) in 1984 attacked trees; 1-10 larvae.