



FIDS PEST REPORT 94-13

August 1994

Mountain Pine Beetle and Western Balsam Bark Beetle in Tweedsmuir Provincial Park Prince Rupert Forest Region

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In response to increased mortality of mature lodgepole pine by mountain pine beetle, *Dendroctonus ponderosae*, in southern areas of the Lakes TSA in the Prince Rupert Region, an aerial survey was conducted in adjacent areas of Tweedsmuir Provincial Park in July. The flight originated in Burns Lake. On board were regional and district BC Ministry of Forests' personnel, and the author. The flight followed the eastern boundary of the Park, from Ootsa Lake, across Chief Louis Lake, turning west at Redfern Rapids and along the north shore of Eutsuk Lake, where large areas of mature pine were known to occur. Pine types gave way to spruce-balsam just east of Sand Cabin Bay.

Red-crowned lodgepole pine, which had been attacked by mountain pine beetle in the summer of 1993, were first seen approximately 6 km west of Redfern Rapids. Over the next 20 km, 22 polygons and 21 spot attacks were mapped over an area of 720 ha (see map 1). Tree mortality over nearly 90% of the mapped area was light (<10% of stand killed), with moderate (10-30%) over the remainder.

Ground checks of infested areas found that trees attacked in 1993 contained some pupae, but the majority of the abundant brood was in the immature adult stage of development. Few emergence holes were seen and no current attacks were found. The onset of a prolonged period of hot, dry weather immediately following the survey will have favored and accelerated development, and a strong and well synchronized flight is expected in the last week of July, into early August. The apparent health and abundance of broods, their synchronous development and the favourable weather all indicate a significant escalation of the infestation in 1994/95. Follow-up ground surveys to assess the expansion of mountain pine beetle infestations within the Park will be required to determine the ratio of current (1994) attack to red (1993) attack.

Since logging will not occur within the Park and the scale of infestations is far beyond single tree or small patch treatment, active population control is not a consideration. Prevailing westerly winds will likely cause some of the

beetles which fly above the canopy to be swept eastward into the managed forests of the Lakes TSA, to attack mature pine in the Nataalkuz and Tetachuck lakes area. This would add to an existing beetle management problem in the area, which increased dramatically in 1993 with over 1200 current attacks recorded in 17 infestations.

Woodpeckers, disease, parasites and predators alone are not expected to significantly reduce infestation levels in Tweedsmuir Provincial Park. Historically, infestations which are not subject to human intervention die out only when the supply of mature host material becomes limited or when unusually early or a prolonged period of cold weather kills overwintering broods beneath the bark.

Additionally, scattered, mostly small patches of mature alpine fir killed by western balsam bark beetle, *Dryocoetes confusus*, were mapped over more than 26 000 ha within the Park (see map 2). These were continuous with similar areas of mortality stretching to the northwest as far as Morice Lake. Most of the beetle-killed fir in the Park occurred along the north shore of Eutsuk Lake, east of Sand Cabin Bay, extending in an almost unbroken band to Whitesail Lake. Additional infestations were mapped along the south shore of the Lake from Pondosy Bay to beyond Trapp Point, and on the western shore from the Chikamen Bay portage to Chikamen Mountain. The intensity of recent attacks, however, was low, with red trees seldom comprising more than 5% of the stand. In these stands current attack levels in any single year would probably be closer to 1%, because alpine fir characteristically retain red needles for up to four years after the beetle attack.

TWEEDSMUIR PARK MOUNTAIN PINE BEETLE 1994



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Scale 1: 1000000 09 Aug 94

Projection: Lambert Conformal Conic

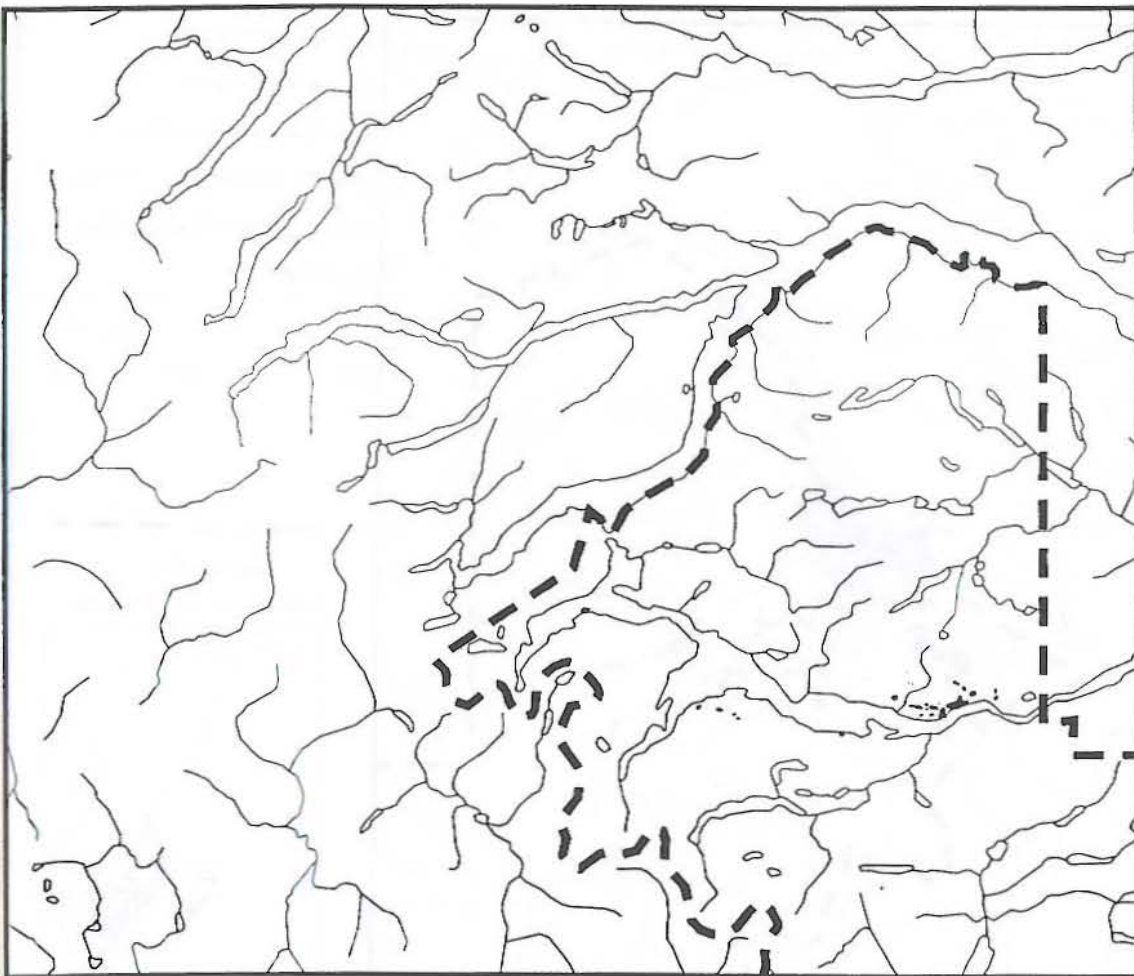
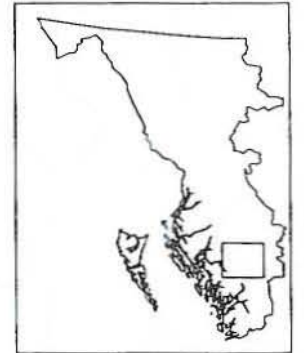
STATISTICS:

	Hic	Freq
Light:	632	18
Moderate:	82	4
Severe:	5	21

Tweedsmuir Park 

Reference Map

North Western British Columbia



TWEEDSMUIR PARK BALSAM BARK BEETLE 1994



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