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SPRUCE BEETLE IN THE UPPER BEAVER-DUNCAN RIVERS AREA, IN AND BORDERING GLACIER NATIONAL PARK

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At the request of Parks Canada, spruce beetle hazard associated with recently felled and also fire damaged Engelmann spruce was assessed in the upper Beaver and Duncan rivers in Glacier National Park (GNP) and adjoining provincial crown land.

Examination of the area consisted of a helicopter survey and a limited ground check on October 3, 1985 with Parks Canada personnel. The primary concern centered on the potential for spruce beetle populations to expand from GNP to provincial crown land, where considerable pest management activities have already been undertaken to control spruce beetle infestations. A recently slashed boundary line within the Park, running the width of the valley, is the major concern. About 100 spruce felled in July-August were considered a potential source for spruce beetle population buildup.

The helicopter survey of the general area revealed only occasional recently attacked spruce trees within GNP, mostly beyond 1 km of the Park boundary. This is a substantial reduction from 1984 when nearly 250 ha of infestation were recorded inside GNP within 10 km of the boundary (see Pest Report, October 1984).

On provincial crown land immediately adjacent to the Park boundary, much of the susceptible and infested spruce has been harvested and the areas were slash burned in August, 1985. The slash burn, however, escaped on the east side of the valley and burned up to the tree line. This also resulted in spot fires along with fringe burn and some small escapes along the cut block boundary into GNP. In addition, recent winds have caused some spruce windthrow along the Park side of the burned cutblock.

Limited ground surveys, mostly in the vicinity of the Park boundary and including the felled boundary line, revealed very little spruce beetle activity. No current (1985) attack was observed in standing timber. However, light populations of adults were noted in a small number of 1984 attacked trees and two lethal trap trees contained some apparently healthy

mature larvae. No felled spruce were infested along the boundary line, which was felled between mid-July and mid-August, after the 1985 beetle flight. Most of the larger diameter spruce in the boundary area of the Park had been previously attacked (now mostly grey), but sufficient host material still remains to continue the infestation if populations rebuild. This is less of a factor on adjacent provincial crown land where much of the area has been harvested and/or burned.

The present conditions which may increase spruce beetle hazard in the Beaver-Duncan rivers area include:

1. a slashed line of approximately 100 felled spruce along the GNP boundary.
2. scattered fire damaged spruce in stands adjacent to the Park and along the cutblock/Park boundary represent a hazard at least equal to felled trees.
3. a few fringe blowdown along the cutblock/Park boundary and likely to increase over the next several years.

Realizing that no susceptible timber is presently infested, it is premature to make pest management recommendations, apart from the examination of the hazard areas, probably during late June 1986, after beetle flight. It is proposed therefore, that the felled, fire scorched and wind-thrown trees be left as trap trees, providing of course that there is provision for removal or disposal of infested material. After the 1986 beetle flight the Canadian Forestry Service would participate in an inspection of susceptible brood material and assess the impact and potential of spruce beetle for the future.