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PEST REPORT

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PEST REPORT 95-14

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SPRUCE BEETLE IN THE YUKON 1995

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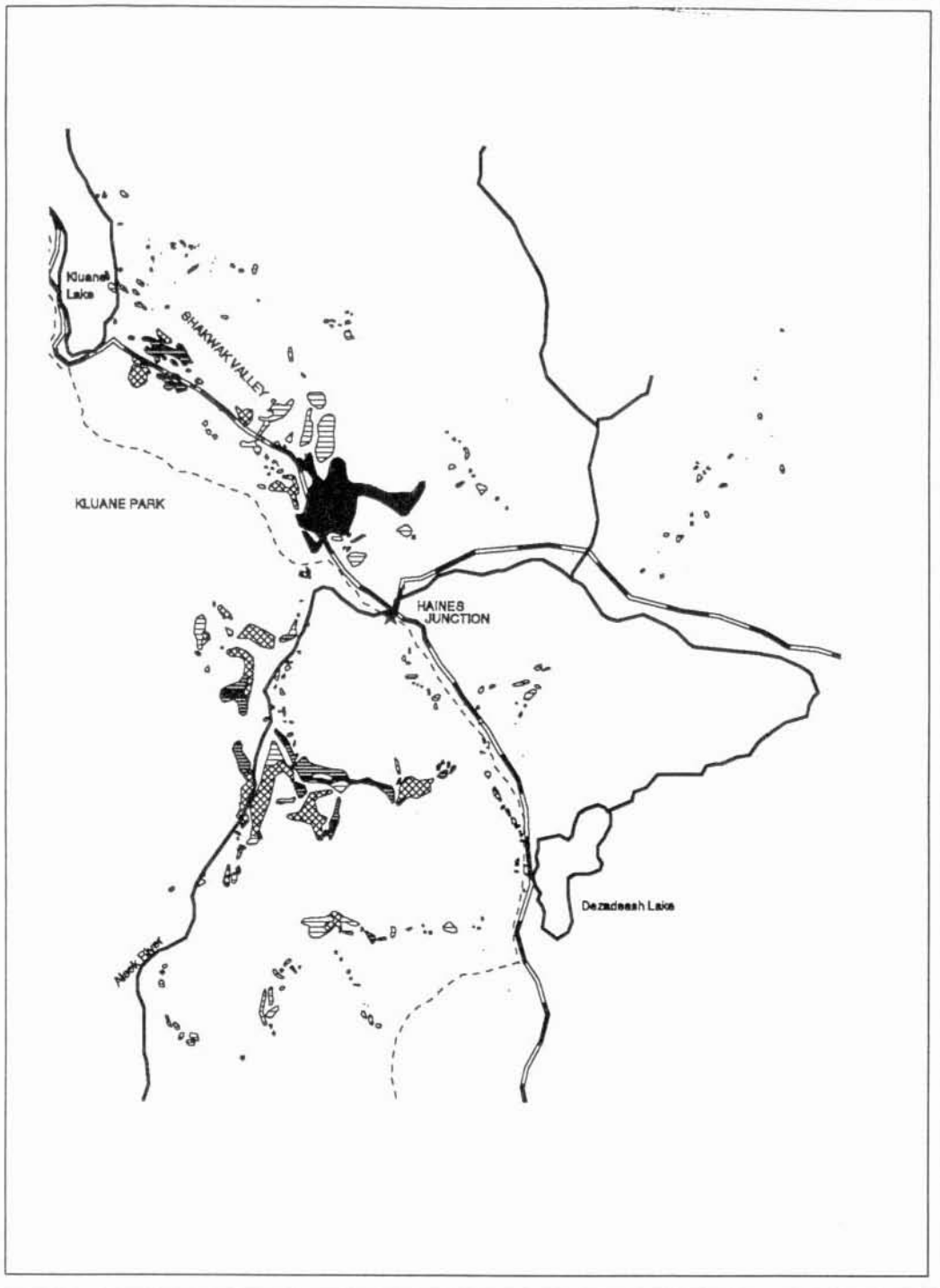
Forest Insect and Disease Survey

A major spruce beetle, *Dendroctonus rufipennis*, epidemic, first reported in 1994, expanded by nearly 50% this year to cover 47 000 ha (see map). The infestations lie primarily within the Shakwak Valley, north and south of Haines Junction, and within the Alsek River Valley in Kluane National Park. Like last year, nearly half of the infested area was located within the Park.

In Kluane National Park, increases were comprised mainly of expansions of existing infestations, most notably in the Mush Lake area. The one exception was a significant area of new infestation along the north shore of the lower Kaskawulsh River.

In the Shakwak Valley, most of the increases were also due to local expansion of existing infestations. A large continuous infestation spanning the Valley north of Haines Junction more than doubled this year, with most of the damage recorded as severe. This high concentration of mortality was foreseen due to the high levels of current attack recorded in the area in 1994. Most of the expansion was to the east as far as Garnet Creek, along the east-facing slopes of the Valley, north and south of Kathleen Lakes, and to the north along the southeast shore of Kluane Lake.

Four ground assessments were made to assess the health and stage of development of beetle populations within infested trees, and to determine current attack levels (Table).



SPRUCE BEETLE 1995

YUKON TERRITORY

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Scale 1: 1000000

Map Projection : Lambert

Map Produced 09 Aug 95

YUKON TERRITORY

Reference Map

Legend:

- Lakes & Rivers
- Roads
- National Park Boundary

Tree Mortality	Number of Infestations	Area (ha)
Light	223	16993
Moderate	29	12319
Severe	103	17769
Total	355	47081

Definitions:

LIGHT	10 % or less of stand recently killed
MODERATE	11 - 29 % of stand recently killed
SEVERE	30 % + of stand recently killed

Table: Status of mature white spruce in spruce beetle-attacked stands examined in July, 1995.

	Percentage of trees			
Location	**Healthy[1]**	**Current**	**Red**	**Grey**
Christmas Creek	0	43	25	32
20 km. -N- of Haines Junction	12	52	21	15
Mush Lake (Kluane Park)	38	36	17	9
Trout Lake (Kluane Park)	22	28	27	23
Average	18	40	22	20

No evidence of overwintering mortality of beetle populations was seen in any of the stands. Most of the recent attacks had occurred in mid-June, a little later than last year. This may reduce the amount of one-year cycling, which was prevalent again this year (estimated as high as 30% of the population in some stands; averaging 20%). All the remaining progeny in trees attacked last year had reached the adult stage by July, but will remain in the trees until the next June flight period. An estimated 30% of the trees attacked last year were still green when the aerial survey was done, so actual damage may be even more severe than recorded.

The high levels of current attack in the probed stands indicate an even greater intensification within existing infestations. In addition, probes done outside areas of previous significant attack, found many currently attacked trees with few or no associated reds or greys. These areas of expansion include the Pine Lake campground east of Haines Junction, the eastern shore of Kathleen Lake, and various stands just north of Haines Junction, but south of the main body of infestation. Increased mortality will likely be mapped in the Dezadeash River Valley and Kathleen Creek areas in 1996.

Significant expansions may also be expected within Kluane Park, especially in the Bates and Mush lakes area, and in Fraser Creek, where large areas of mature spruce have remained largely unattacked.

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[1]Healthy - unattacked
Current - attacked in 1995
Red - attacked in 1994
Grey - attacked prior to 1994