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# PEST REPORT

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FIDS Pest Report 93-27

November 1993

## DOUGLAS FIR BEETLE and MOUNTAIN PINE BEETLE INFESTATIONS CHILCOTIN MILITARY BLOCK, RISKE CREEK CARIBOO FOREST REGION, 1993

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Forest Insect and Disease Survey

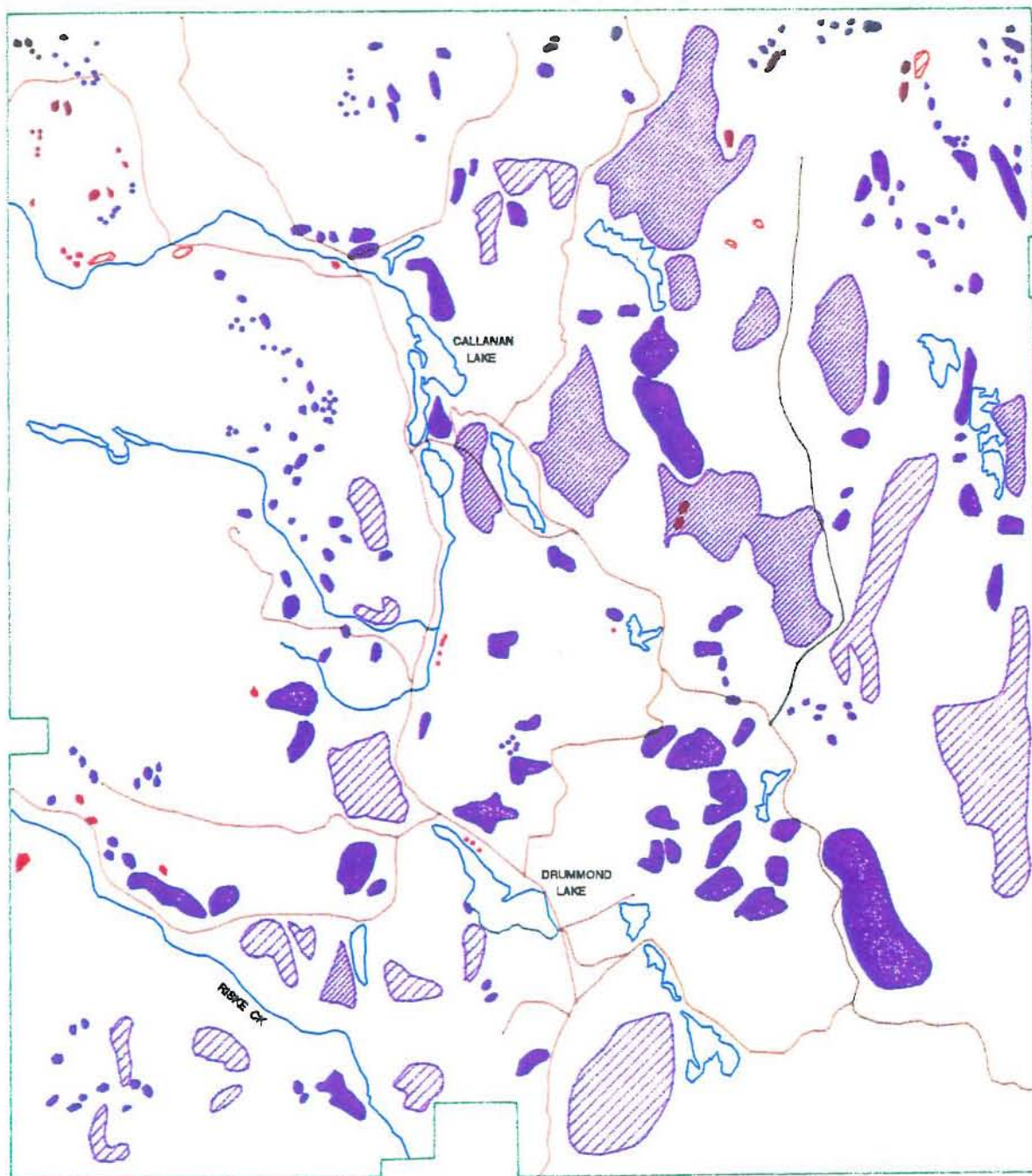
### DOUGLAS-FIR BEETLE

The area of mature Douglas-fir recently killed by Douglas-fir beetle, *Dendroctonus pseudotsugae*, in the Chilcotin Military Block at Riske Creek increased fourfold to **5320 ha** of light to severe<sup>1</sup> in 240 separate patches, up from **1350 ha** in 302 infestations last year (Map).

Patches of tree mortality ranged from 0.5-80 ha containing 5-500 recently killed mature Douglas-fir. The number of patches was down slightly from 1992 since some of the small infestations had coalesced; however, the aggregated infestations now are very large. The outbreak has produced millions of adult beetles to spread into surrounding stands. The consequences of such a large number of beetles in an area of susceptible Douglas-fir are continued depletion of the host within the block and further expansion outside the block.

Forest Insect and Disease Survey has reported annually on Douglas-fir beetle and other forest pests throughout the Cariboo Region since the early 1950's as part of the Cariboo Forest Region pest overview. These surveys and annual reports have reported increases in tree mortality since 1987 when five 1/4 ha spots were located. Special intensive surveys have been conducted in the Military Block since 1990.

1/ Light: 1-5% of Douglas-fir killed, Moderate: 6-30% of Douglas-fir killed and Severe: 30%+ of Douglas-fir killed.



# CHILCOTIN TRAINING AREA

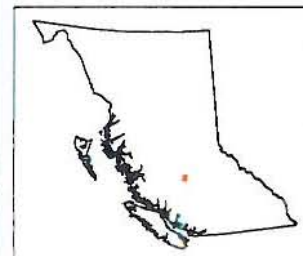


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FOREST INSECT AND DISEASE SURVEY

Map Projection : Universal Transverse Mercator

Map Produced 09 Nov 93 Scale 1: 125000

- MOUNTAIN PINE BEETLE**  
Total Area Ha 79
  - LIGHT
  - MODERATE
  - SEVERE
- DOUGLAS FIR BEETLE**  
Total Area Ha 5328
  - LIGHT
  - MODERATE
  - SEVERE
- LAKES - RIVERS
- ROADS



BRITISH COLUMBIA  
REFERENCE MAP



**Table.** Average number of mature Douglas-fir attacked by Douglas-fir beetle in the Chilcotin Military Block, near Riske Creek, Cariboo Forest Region, 1993.\*

Attack category	Percent of stems/ha				Percent change
	1993		1992		
	Average	Range	Average	Range	
Current attack	31	4-62	38	15-61	-18%
Healthy	47	31-63	48	23-69	-2%
Red	13	6-31	10	0-33	+30%
Grey	9	0-34	4	0-28	+125%

Current attack: attacked in 1993.      \* Based on 8 plots.  
 Red:    attacked in 1992.  
 Grey:    attacked prior to 1992.

The large overwintering population indicates continued expansion of the infestations in 1994 and following years until the susceptible mature Douglas-fir are depleted. The potential for spread beyond the block boundaries places nearby susceptible stands in jeopardy until populations within the block are reduced. The size of the outbreak has nearly peaked since about 20% of the **total forested area** was under attack this year. The **total forested area** also includes stands not susceptible to Douglas-fir beetle attack.

The large infestations in the Chilcotin Military Block developed from lack of management when they were small and weather and stand conditions that have been conducive to Douglas-fir beetle population increases for the past three years. Outside the block the same conditions have persisted, however, pest management techniques were employed and have reduced the number of beetles.

## MOUNTAIN PINE BEETLE

The mountain pine beetle infestations are growing and will continue to spread into nearby susceptible pure pine or pine and Douglas-fir mixed stands next year, both within and outside the block. This is in line with the increasing trend in mountain pine beetle populations and lodgepole pine tree mortality throughout the Cariboo Region.