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PEST REPORT

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October 1983

STATUS OF DOUGLAS-FIR TUSSOCK MOTH IN BRITISH COLUMBIA

R.D. Erickson and C. Wood
Forest Insect and Disease Survey

The tussock moth defoliated about 23 350 ha of mature and immature Douglas-fir forests in the province in 1983, nearly double the area affected in 1982. In this, the third consecutive year of the outbreak, light to severe defoliation occurred mainly in the Kamloops (Map) and Cariboo regions with localized pockets in the Nelson and Vancouver regions. Previously defoliated areas in the Kamloops Region which appeared grey due to a significent amount of tree mortality, totalled 4 725 ha.

The major expansion in area occurred around the 2- and 3-year old outbreaks in the Kamloops Region and new infestations occurred between Spences Bridge and Ashcroft, near Pavilion, in the north Thompson River Valley, near Westwold, and between Vernon and Lumby.

A major decline is forecast in 1984 as egg masses were found only in 10 of 39 stands sampled, and numbers were significantly lower than in 1982. Even the highest count of 1.5 masses per tree, at Cherry Creek in the Kamloops Region, indicates at most moderate defoliation. Earlier in the season, pheromone baited traps averaged 15 moths in the Okanagan-Similkameen compared to 68 in the Thompson River area and 19 at Rock Creek. These surveys indicate that the outbreak has peaked and should decline with only scattered pockets of light feeding occurring in 1984.

The decline is attributed to naturally occurring biological control factors. Microscopic examinations at PFRC of 388 larval preparations submitted by B.C. Ministry of Forests from 42 locations in the Thompson-Okanagan area indicated that 58% were affected by a nuclear polyhedrosis virus. In addition, parasitic flies occurred in 58% of the cocoons from 8 locations between Spences Bridge and Cache Creek.

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Tree recovery is expected to occur in most moderately defoliated stands, however tree mortality or dieback could occur where trees have been severely defoliated for two years or more. Larger diameter trees (20 cm dbh and larger) in severely defoliated stands are particularly susceptible to attack by Douglas-fir beetle, Dendroctonus pseudotsugae. About 40% of the mature trees (range 30 to 80%) were recently attacked in localized areas, including Oregon Jack Creek, Bonaparte Indian Reserve, Deadman Creek, Campbell Creek, and in the Pritchard and Falkland areas.

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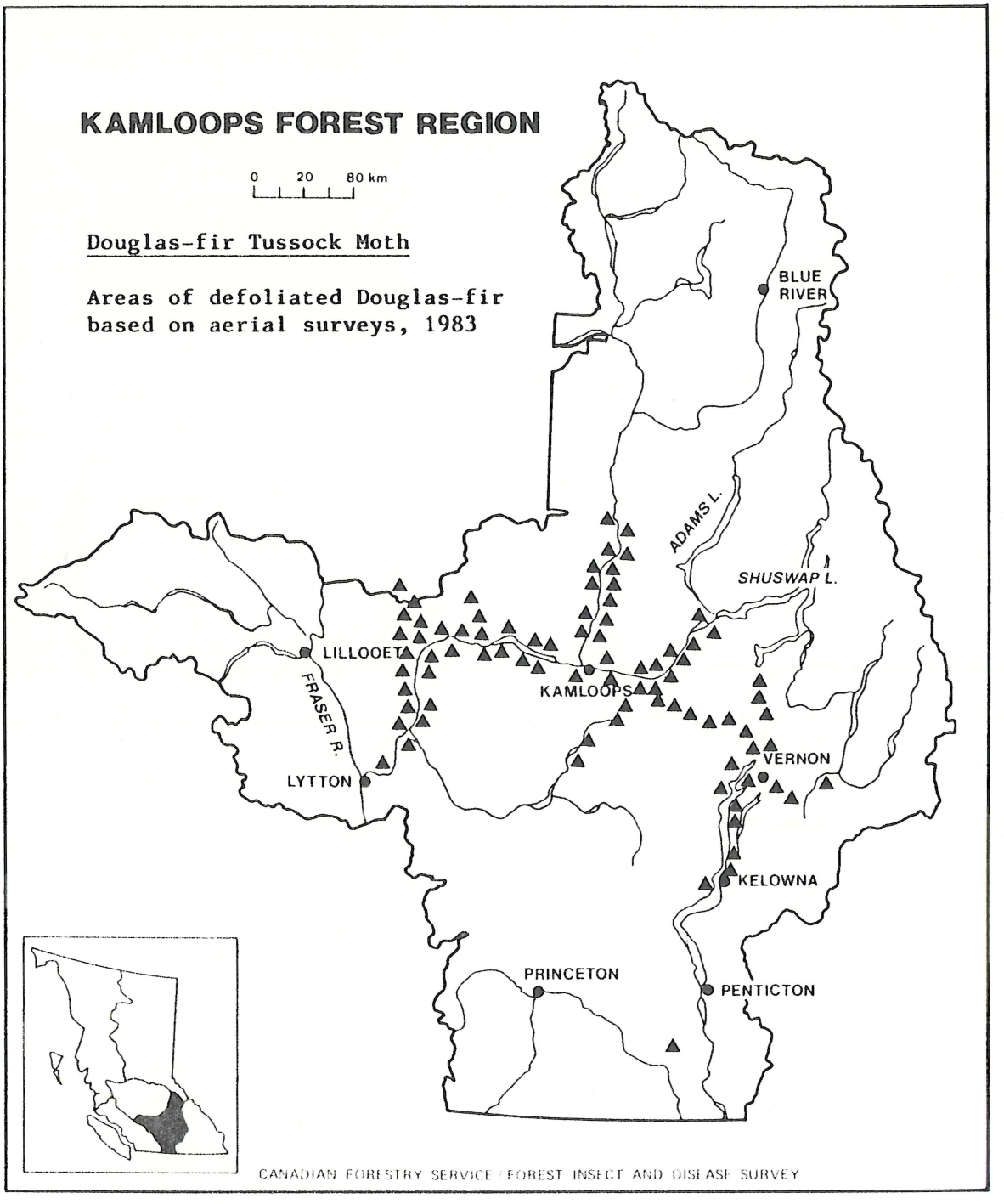
KAMLOOPS FOREST REGION
0 20 80 km
Douglas-fir Tussock Moth
Areas of defoliated Douglas-fir based on aerial surveys, 1983
BLUE RIVER
ADAMS L.
SHUSWAP L.
LILLOOET
FRASER R.
KAMLOOPS
VERNON
LYTTON
KELOWNA
PRINCETON
PENTICTON
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