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PEST REPORT

Pacific and Yukon Region • Pacific Forestry Centre • 506 West Burnside Road • Victoria, B.C. • V8Z 1M5

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WESTERN SPRUCE BUDWORM IN BRITISH COLUMBIA 1990 UPDATE AND FORECAST FOR 1991

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SUMMARY

The area of Douglas-fir forests defoliated by western spruce budworm, Choristoneura occidentalis increased in British Columbia in 1990, following two successive years of decline. Aerial surveys mapped 193 000 ha of defoliation over the Kamloops, Vancouver and Nelson regions, consisting of 500 separate infestations. This marks an increase of 27 200 ha and 40 infestations, with 97% occurring in the Kamloops Region.

Defoliation, as forecast by bud sampling this spring, increased by 45 150 ha in the Kamloops Region with expansions occurring in the Okanagan Valley the Shuswap, Adams and Stein river drainages and in the Lillooet area. For the first time in five years populations decreased (22%) in the Vancouver Region with 3825 ha of mostly light defoliation. Following two successive years of increase defoliation declined to 1160 ha from 17 600 ha, in the southwest corner of the Nelson Region.

Larvae were collected and reared from 9 sites in the Kamloops and Nelson regions to determine parasitism levels and their effect on populations. Parasitism ranged from 4-23%, similar to 1989 figures of 1-22%; these levels are still too low to effectively reduce budworm populations. Based on the above statement it would appear that the virtual collapse of populations in the Nelson Region may have been attributed to unfavorable climatic conditions in early spring.

FORECAST

The average number of egg masses in the Kamloops Region increased more than twofold over 1989. Increases occurred at 18 of 20 sites in the Okanagan TSA, 4 of 8 sites in the Kamloops TSA, and 4 of 6 sites in the Lillooet TSA. Defoliation is predicted to be severe in at least 50% of stands sampled, moderate in 35% and light in 9%. In the Nelson Region egg mass counts increased at 6 of 11 sites in the Boundary TSA. Defoliation severity and area is expected to increase substantially, with severe defoliation predicted at 9 sites and light at 2. Similar defoliation levels as those experienced in 1990, with possibilities of expansion are expected in the Vancouver Region. Further sampling in the spring of 1991 will help identify areas where overwinter mortality and/or adverse climatic conditions may alter the predicted defoliation.

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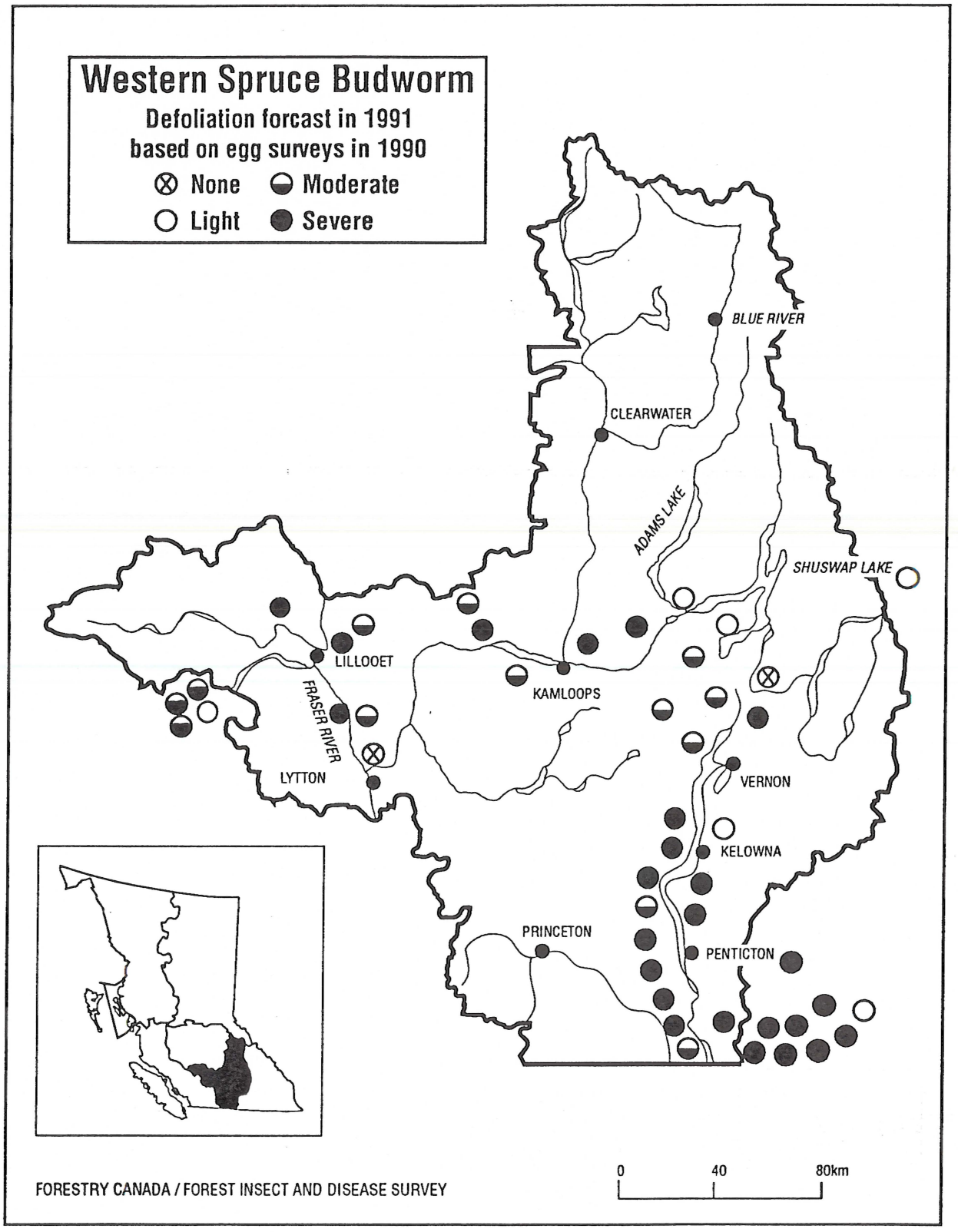
Western Spruce Budworm
Defoliation forcast in 1991
based on egg surveys in 1990
None
Moderate
Light
Severe
BLUE RIVER
CLEARWATER
ADAMS LAKE
SHUSWAP LAKE
LILLOOET
FRASER RIVER
LYTTON
KAMLOOPS
VERNON
KELOWNA
PRINCETON
PENTICTON
0
40
80km
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