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PEST REPORT

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

Pest Report 91-9

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TWO-YEAR-CYCLE SPRUCE BUDWORM IN SPRUCE FIR FORESTS IN THE PRINCE GEORGE FOREST REGION

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Defoliation of spruce and balsam stands in the Prince George Forest Region by mature **2-year-cycle budworm**, Choristoneura biennis, increased to 21 000 ha from 8600 ha in 1990. Immature "on-cycle" populations lightly defoliated stands over 260 ha near McBride.

Defoliation by mature "off-cycle" populations was mostly light over 14 000 ha, along the Omineca River between Duckling and Ominicetla Creeks and at Ankwill Creek in the Fort St. James Forest District. Budworm damage has never previously been recorded in this area before. In the Ospika River and nearby Davis River drainages, north of Mackenzie, light defoliation occurred over approximately 7 000 ha. No defoliation was noted in this area last year but defoliation over 11 000 ha was mapped for the first time here in 1989.

Complete defoliation of understory trees were noted at several locations, causing growth loss and top-kill. Continued defoliation over several years could result in tree mortality. Feeding on mature trees was mostly restricted to the top three metres of the trees, some top-kill will become apparent in the future.

Although identity of the species has not been positively confirmed, taxonomic study of adult budworms reared at the Pacific Forestry Centre from larvae collected in the Ospika Valley have shown that this is not the **eastern spruce budworm**, C.fumiferanae. This narrows the identification to two species, of which the **two-year-cycle spruce budworm**, C. biennis, is the most likely candidate. Hopefully collections made this year of budworm pupae and pheromone trapped adults will be able to confirm species identification.

Last year, an even year, is considered to be the major feeding or 'on-cycle' year of this budworm, so the majority of feeding noted this year, an odd year, was done by what is termed 'off-cycle' mature two-year-cycle budworm.

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The only 'on-cycle' or immature larval feeding noted during aerial surveys this year occurred over 260 ha along Bette Wendle in the McBride Forest District. Light bud feeding was noted in the Bowron River and Slim-Everett-Tumuch Creeks drainages during ground surveys, where the majority of defoliation was noted in 1990.

FIDS will continue to monitor two-year-cycle spruce budworm populations with aerial surveys, infested bud counts and budworm collections in historically active and newly reported areas in 1992.

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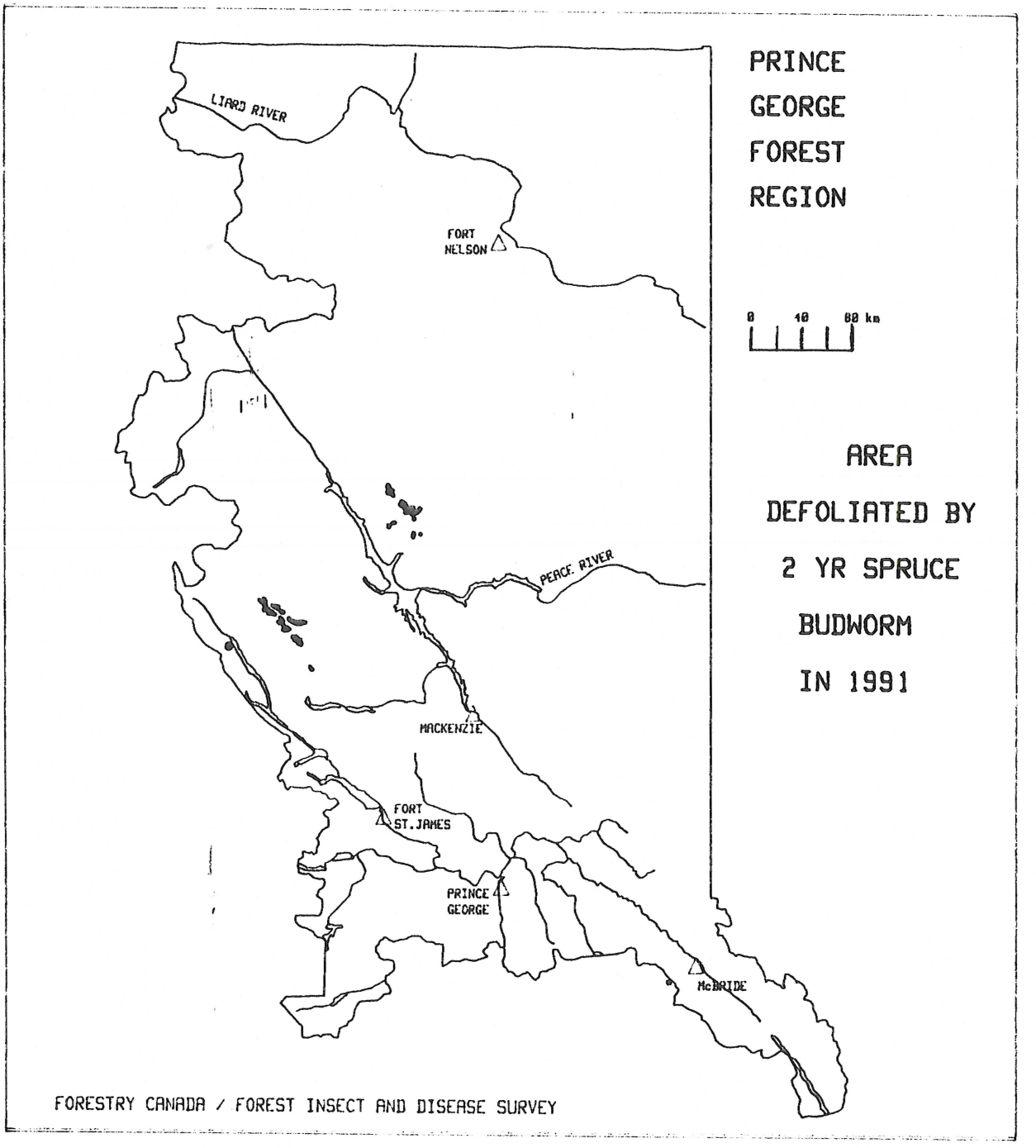
PRINCE
GEORGE
FOREST
REGION
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AREA
DEFOLIATED BY
2 YR SPRUCE
BUDWORM
IN 1991
LIARD RIVER
FORT
NELSON
PEACE RIVER
MACKENZIE
FORT
ST. JAMES
PRINCE
GEORGE
McBRIDE
FORESTRY CANADA / FOREST INSECT AND DISEASE SURVEY