Forestry Canada Forets Canada

SYDNEY

AHXN
AHXS

Library
4-3769
4055x

Canada PFRC Pest rept. 1990 Sept. [3]

LIBRARY
NOV 7 1990
FORESTRY CANADA
PACIFIC & YUKON REGION
506 W. BURNSIDE RD.
VICTORIA, B.C. V8Z 1M5 CANADA

PEST REPORT

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

September 1990

Western Blackheaded Budworm in Western Hemlock Forests near Holberg, on Northern Vancouver Island

D.H.L. Clarke
Forest Insect and Disease Survey

Defoliation by western blackheaded budworm of western hemlock near Holberg on northern Vancouver Island declined significantly to 630 ha (Map) from 7400 ha in 1989. The decline was general and widespread and due in part to the reduced numbers of eggs in 1989 (avg. 15/sample, down from 55 in 1988), and an egg-larval parasitoid, Ascogaster sp. There was no defoliation south of Quatsino Sound.

Aerial surveys, in cooperation with Western Forest Products Ltd., mapped light defoliation in 11 separate patches: four areas totaling 340 ha from Holberg, east to Clesklagh Creek and north of Holberg Inlet to the Goodspeed River; one of 130 ha near Pegattem Creek; and six patches totaling 70 ha in the Macjack River Valley and southeast to Moore Lake.

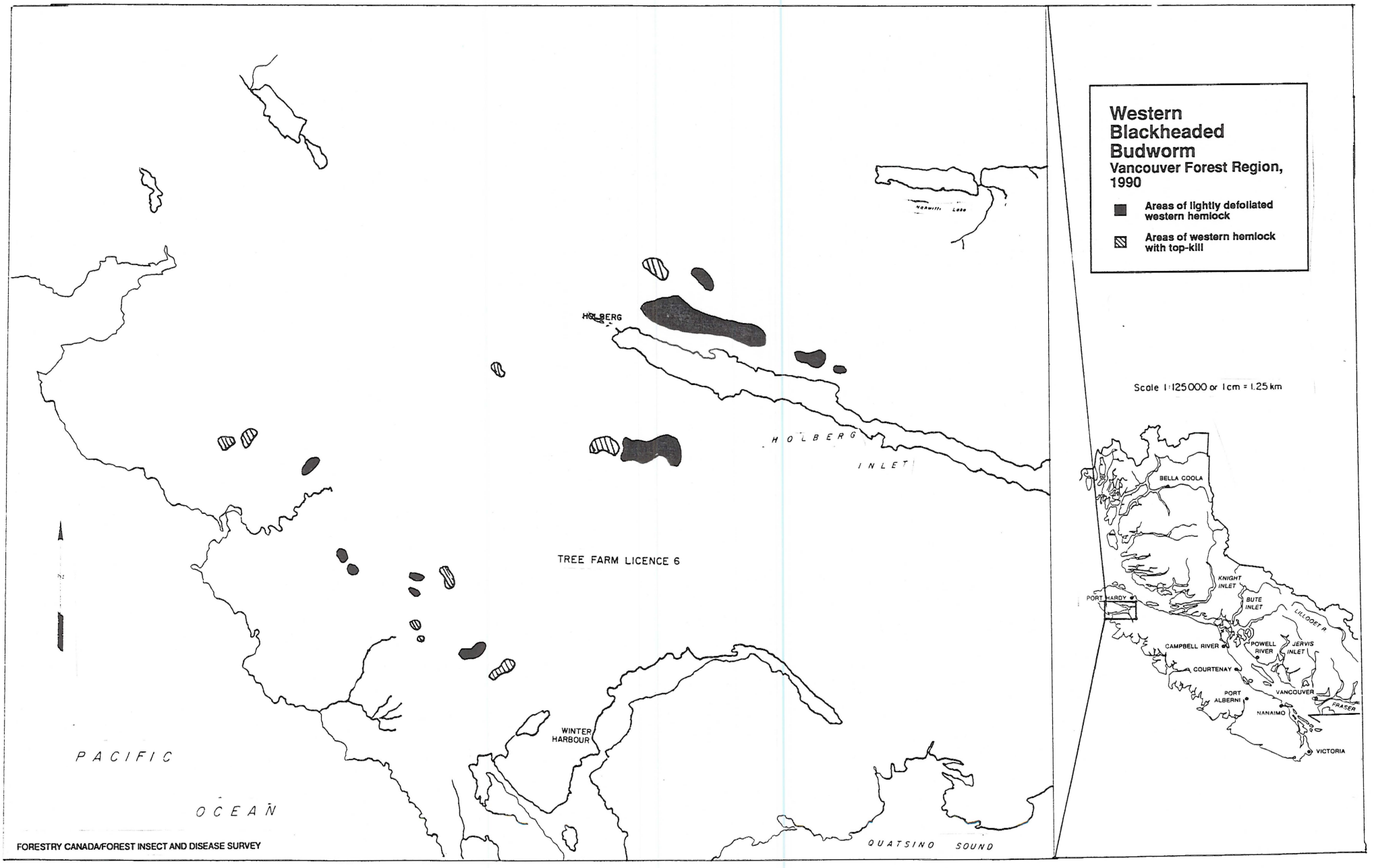
Top-kill of mature and immature western hemlock was mapped at 9 widely scattered locations: one patch over 35 ha just north of Holberg; patches of 19 ha and 60 ha in the San Josef River drainage; two patches of 13 ha and 35 ha near Moore Lake; and two of 20 ha and 23 ha in the Ronning Creek drainage. Mortality of immature spaced and pruned hemlock is expected to occur in a 13-ha site near Moore Lake, totally defoliated in 1988 and 1989. Tree mortality and top-kill are expected to continue for several years following the collapse of the infestation, as occurred recently on the Queen Charlotte Islands.

Egg sampling to forecast population trends in 1991 will continue in conjunction with growth and mortality loss estimates.

Commercial formulations of Bacillus thuringiensis (B.t.) were applied aerially in nine blocks, totaling about 300 ha near Holberg. This was the second consecutive year of field trials of a cooperative study with Western Forest Products Ltd., the B.C. Ministry of Forests, and Forestry Canada. Products from three different manufacturers were tested. Two water-based and one oil-based formulation were applied on each of three plots; results will be available later. Initial results of the 1989 tests found that an average of 52% of budworm larvae that fed for 6 days on the sprayed foliage were killed.

A cooperative study with Simon Fraser University and Forestry Canada to test chemicals to attract male adult blackheaded budworm was initiated at three sites near Holberg; testing will continue in 1991.

* * * * * *



FORESTRY CANADA/FOREST INSECT AND DISEASE SURVEY