



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 THE KAMLOOPS, NELSON, AND VANCOUVER FOREST REGIONS

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Summary

In 1992, defoliation of mixed-aged interior Douglas-fir in parts of three forest regions by western spruce budworm, Choristoneura occidentalis, is forecast to be generally moderate and severe, but slightly less widespread than in 1991 when stands over nearly 400 000 ha were defoliated. The most significant defoliation will be in the Okanagan TSA. in the Kamloops Forest Region, in the southwestern part of the Boundary TSA in the Nelson Forest Region, and north of Pemberton in the Vancouver Forest Region.

The forecast is based on a 14% decrease in buds infested with early instar larvae at 35 stands early in 1992 (Table). On average 31% of the buds were infested (range 7-63%). Also, there were 20% more egg masses in 1991 than in 1990. Twenty buds from each of five trees were examined at each location in late May and early June.

Severe defoliation is forecast to occur at 40% of the sites, moderate at 51%, and light at the remainder, compared to 68%, 22%, and 10% in 1991. Severe defoliation in 1991 was mapped over about 5000 ha (13%) of the total area.

Kamloops Region

Defoliation in the Kamloops Region is forecast to decline overall from the 385 600 ha mapped in 1991. The decline to mostly moderate and severe defoliation, mostly in the Okanagan TSA, is based on the reduced number of buds infested by young budworm larvae. These averaged 31% at 20 sites, down from 48% in 1991.

Severe defoliation is forecast at 8 sites in the region, down from 18 in 1991. These include sites near Paul Lake and Savona in the Kamloops TSA, and at Botanie Creek in the Lillooet TSA. In the Okanagan TSA, severe defoliation is forecast near Keremeos, Peachland, northeast of Kelowna, and near Falkland and Skimikin. Moderate defoliation is forecast to occur at 10 sites mostly in the southern Okanagan TSA near Anarchist Mountain and Glenrosa, near Darke, Yellow, and Blue lakes, and Euqesis Creek, and near Monte Creek, at Cherry Creek west of Kamloops, and Fountain Valley near Lytton. Light defoliation is forecast near Mt. Kobau in the Okanagan TSA and, for the first time since 1989, at Oregon Jack Creek south of Cache Creek.

Nelson Region

The number of Douglas-fir buds infested by western budworm in 1992 declined in 7 of 10 stands in the Boundary TSA in the southwestern part of the Nelson Region. An average of 30% (range 15-49%) were infested, a 16% decrease from 1991 when the area of Douglas-fir defoliated by the budworm totaled over 4000 ha. However, severe defoliation is still forecast to occur near Beaverdell, Phoenix Mountain, Bridesville, and Anarchist Mountain. Moderate defoliation is forecast in the Johnstone, Ingram, McKinney, and Nicholson creek drainages and along the Rock Mountain Road, and light defoliation along the Conkle Lake Road. This is similar to the defoliation forecast based on egg mass samples at the same sites in late 1991.

Vancouver Region

The number of infested buds in previously infested stands near Pemberton in the Soo TSA in 1992 increased overall to an average of 35%, up from 18% in 1991. This is expected to cause severe defoliation in the Haylmore and Eight Mile creeks drainages, at North Creek and opposite Fowl Creek in the Birkenhead River Valley, with moderate defoliation at Blackwater Creek. The forecast is similar to that based on egg mass samples in the general area in late 1991, after mostly light defoliation covered 5850 ha, up from 3825 ha in 1990.

Tree mortality, top-kill, bud mortality, increment loss, and tree deformity are likely to result from successive years of severe defoliation. Additional information will be provided following ground, aerial, and egg mass surveys and assessments of natural parasites and disease levels.

Table. Forecast of defoliation of Douglas-fir by western budworm in 1992, based on the numbers of infested buds in three forest regions in May-June 1992.

Region and Location	Percent buds infested	Increase/Decrease*	Defoliation 1/ forecast in 1992
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KAMLOOPS REGION

Kamloops TSA

Paul Lake	44	Increase	Severe
Sabiston Creek	34	"	"
Oregon Jack Creek	7	" (New)	Light
Martin Mtn.	29	Decrease	Moderate
Pemberton Hill	27	"	"
Cherry Creek	23	"	"

Lillooet TSA

Botanie Creek	63	Increase	Severe
Fountain Valley	27	"	Moderate

Region and Location	Percent buds infested	Increase/Decrease*	Defoliation 1/ forecast in 1992
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Okanagan TSA

Blind Creek	55	Increase	Severe
Skimikin	39	"	"
Falkland	35	No change	"
Postill Creek	51	Decrease	"
Peachland Main	38	"	"
Equesis Creek	30	"	Moderate
Anarchist Mtn.	28	"	"
Darke Lake	27	"	"
Glenrosa	21	"	"
Apex-Yellow Lake	19	"	"
Blue Lake	19	"	"
Mt. Kobau	14	"	Light

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NELSON REGIONBoundary TSA

Phoenix Mtn.	44	Increase	Severe
Bridessville	49	No change	"
Anarchist Mountain	42	"	"
Beaverdell	36	Decrease	"
Ingram Creek	27	"	Moderate
Johnstone Creek	26	"	"
McKinney Creek	22	"	"
Nicholson Creek	20	"	"
Rock Mountain Road	16	"	"
Conkle Lake	15	"	Light

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VANCOUVER REGIONSoo TSA

Haylmore Creek	47	Increase	Severe
Eight Mile Creek	41	"	"
North Creek	33	"	"
Birkenhead River	31	"	"
Blackwater Creek	23	"	Moderate

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* Little or no change indicated by a change of 5% or less.

1/ 1 - 15% of the buds infested = trace to light defoliation
 16 - 30% " " " " = moderate defoliation
 31% + " " " " = severe defoliation
