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# PEST REPORT

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## Douglas-fir Tussock Moth in the Kamloops and Vancouver Forest Regions

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Forest Insect And Disease Survey

Increased numbers of Douglas-fir tussock moth, *Orgyia pseudotsugata*, larvae, adults, and egg masses in the Thompson, Okanagan, and Fraser valleys indicate a potential for severe defoliation of susceptible Douglas-fir stands in 1991. Most susceptible are forests near Kamloops, Vernon, Winfield, Penticton, Hedley, and near Abbotsford, Clearbrook, and Chilliwack.

In the Kamloops Region, defoliation of ornamental spruce and Douglas-fir occurred for the third consecutive year in the City of Kamloops, and for the second consecutive year in Penticton. Single Douglas-fir trees were severely defoliated at scattered sites along Beaton Road and at Six Mile Point, west of Kamloops. Larvae were common in standard FIDS samples (range 1 to 40), for the second year in forest stands between Chase and Savona, and for the first time since 1983 near Hedley and Keremeos, but there was no defoliation.

A new outbreak in the Vancouver Region in the Fraser Valley defoliated mature and immature Douglas-fir in scattered pockets along Highway 1 from Abbotsford to near Chilliwack, and in residential areas at Clearbrook. Tree mortality and top-kill occurred during previous outbreaks in the area in 1971-72 and 1982-83.

The number of male moths captured in pheromone-baited sticky traps at 18 locations in the Kamloops Region increased for the fifth consecutive year to an average of 25 per site, up from 18 in 1989 (Table). The average catch in an additional 56 traps, placed singly 1 to 2 kilometres apart in five areas in the Okanagan and Thompson valleys between Penticton and Cache Creek, increased to 47 moths per trap, up from 30 in 1989.

Egg surveys at 20 sites in the Thompson and Okanagan valleys indicates defoliation of Douglas-fir in 1991 at 8 sites: severe at Winters Creek near Hedley, and west of Kamloops near Savona, Pat Lake and Beaton Lake; moderate at Six Mile Ranch near Savona, and trace at Dominic Lake Road, and at Shoemaker and Bradshaw creeks, south of Hedley. Surveys in the Fraser Valley at Vedder Canal and Clearbrook indicate severe defoliation of Douglas-fir in both areas in 1991.

Sampling was based on the potential for visible defoliation occurring within two years where moth catches exceeded 25. Additional surveys are scheduled in the Kamloops Region to further define the extent of defoliation expected in 1991, and to determine the need for possible control action.

Table. Number of male Douglas-fir tussock moths in pheromone-baited sticky traps monitored by FIDS, Kamloops Forest Region, 1990

| TSA and Location          | Average number of moths per trap* |      |      |      |      |
|---------------------------|-----------------------------------|------|------|------|------|
|                           | 1990                              | 1989 | 1988 | 1987 | 1986 |
| <b>Kamloops TSA</b>       |                                   |      |      |      |      |
| Carquile                  | 6                                 | <1   | <1   | 0    | 0    |
| Battle Cr.                | 50                                | 7    | 2    | <1   | 0    |
| Barnes L.                 | 14                                | <1   | 0    | <1   | 3    |
| Six Mile Ranch            | 87                                | 66   | 47   | -    | -    |
| Cherry Creek              | 76                                | 58   | 64   | 24   | 0    |
| Stump L.                  | 2                                 | <1   | 0    | 0    | 0    |
| Heffley Cr.               | 25                                | 6    | <1   | 0    | <1   |
| Monte L.                  | 21                                | 17   | 4    | 0    | 0    |
| Chase                     | 14                                | 4    | 0    | 0    | 0    |
| Kaneta (Whispering Pines) | <1                                | 1    | -    | 0    | 0    |
| <b>Okanagan TSA</b>       |                                   |      |      |      |      |
| Winfield                  | 21                                | 56   | 40   | 23   | 5    |
| Summerland                | 1                                 | 0    | 2    | 0    | 0    |
| Kaleden                   | 41                                | 22   | 20   | 5    | 2    |
| Blue L.                   | 45                                | 28   | 19   | 2    | <1   |
| Vernon                    | 27                                | 52   | 18   | 5    | 0    |
| Armstrong                 | <1                                | 1    | 0    | <1   | 0    |
| <b>Merritt TSA</b>        |                                   |      |      |      |      |
| Stemwinder Prov. Park     | 13                                | 16   | 2    | <1   | <1   |
| <b>Lillooet TSA</b>       |                                   |      |      |      |      |
| Pavilion                  | <1                                | 0    | <1   | 0    | 0    |
| Average                   | 25                                | 18   | 14   | 4    | <1   |

\* six traps per site - monitoring

Average number of male adults per trap (one trap per site at 56 sites for distribution):

|                     |                                     |                       |
|---------------------|-------------------------------------|-----------------------|
| <b>Kamloops TSA</b> | - Duck Range to Pritchard           | 23 up from 22 in 1989 |
|                     | - Beaton Road to Six Mile Ranch     | 80 up from 43 in 1989 |
|                     | - Deadman River to Pat Lake         | 73 up from 26 in 1989 |
| <b>Okanagan TSA</b> | - Okanagan Mtn Park to O.K. Mission | 25                    |
|                     | - Kelowna to Winfield               | 43                    |