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**SUMMARY OF FOREST PEST CONDITIONS
IN THE PRINCE RUPERT FOREST REGION, 1992**

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This report briefly summarizes the activities of some of the important forest pests active in the Prince Rupert Forest Region in 1992. A more detailed report of these and other pests, their impacts and potential for continued damage will be available later in the year.

Mountain pine beetle caused mortality of mature lodgepole pine in the Kalum and west Kispiox TSA's over approximately 1600 ha, a decrease from 1991. Along the Nass River, areas of infestation increased in the New Aiyansh area, but decreased north of the river in the Shumal Creek area. Small spot infestations occurred in the Nass/Cranberry rivers areas to Sideslip Lake, where activity was also reduced. Infestations in the pine flats east of Meziadin Lake along the Nass River have been reduced to only a few spots due to host depletion. For the second year, little activity was noted east of Terrace along the Skeena River with light attacks noted only east of Oliver Creek as far as Kitwanga. For the third consecutive year, no recent attacks were seen in the Kispiox River Valley. In the Telkwa River Valley, a significant reduction in the size and frequency of infestations occurred for the first time in more than 10 years, with light-to-moderate attacks covering about 350 ha on the north side of the river between Cumming and Winfield creeks. Though aerial survey information for the northern Bulkley, Morice and Lakes TSA's has not yet been analyzed, preliminary information based on aerial observations and last year's current attack levels also indicates significant reductions in these areas. However, mild winter weather followed by an unusually warm summer has favored brood survival and development, and elevated current attack levels are expected this year.

Damage to young pines by lodgepole terminal weevil remained low in most areas of chronic activity in the Bulkley and Morice TSA's, but was recorded for the first time attacking up to 5% of young roadside pine in the extreme northern portion of the Cassiar TSA, near Atlin and Swift River. Warren's root collar

weevil continued to infest up to 90% of the pine in young planted and natural stands in the Kispiox TSA, but resulting tree mortality remained very low. A lodgepole needleminer lightly defoliated young pine over approximately 1000 ha in the Shelford Hills and Goosly Lake areas of the Morice TSA.

Pine needle cast infected an average of 40% of the year-old needles near Boya Lake in the Cassiar TSA, ranging as high as 100% further north near the French River crossing.

A spruce beetle infestation near Haul Lake in the Morice TSA continued, with current attacks in association with engraver beetle attacks in standing green trees adjacent to a recent clear-cut. Scattered spruce blowdown attracted moderate-to-high levels of current attack by spruce beetle along the Mitten Main in the Kispiox Valley, and beside the Haines Road near the Canada-U.S. border in the extreme northeastern corner of the region.

Infestations of spruce aphid were notable over an estimated 820 ha along the shore in the Port Edward area, varying in intensity from light to severe. Intermittent light to moderate defoliation was noted along the Mt. Hayes road as well as numerous spot infestations in Prince Rupert, causing moderate to severe needle loss. In Terrace occasional single trees were lightly attacked. Spruce weevil attacks occurred in all previously infested areas in the Kalum TSA, ranging from approximately 5% attack noted at Hanna Creek near Meziadin Lake, to 46% near Cecil Creek in the Kitimat Valley, where high levels of attack continued throughout. Current attacks from 5-10% were also noted in three areas between the Kinskuch and Kwinatahl rivers, where a clipping control program was attempted. No attack was found near Bell I in continued monitoring of the weevils northern limits of activity.

Recent mortality caused by the western balsam bark beetle continued to increase over an area in excess of 4000 ha in high elevation stands along the north side of the Telkwa River and even larger areas on south and west-facing mountain slopes in northeastern areas of the Bulkley TSA. Attacks continued in long-standing infestations on the east side of the Bulkley Valley north of Smothers, in the McKendrik Pass area, and widespread areas in the Morice River drainage and Shelford and Mosquito hills areas in the southern portion of the Morice TSA. Scattered attacks over a 1350 ha area continued near Kitwanga from Mill to Wills creeks, with patches of red trees also noted from Grease Trail Lake to Moonlit Creek above the east side of Hwy 37. Fir-fireweed rust continued to be intermittently active from south of the Meziadin Lake area to north of the Bell-Irving River in the Kalum TSA and in northern areas of the Bulkley and Morice TSA's, causing discoloration on current foliage of all age classes; generally light to moderate in lower crowns of young growth to semimature and moderate to severe in seedlings to saplings.

Forty-five separate surveys addressing pests of young stands found, as in previous years, that various forms of environmental damage were most common, followed by mammal damage and assorted foliar, stem and branch diseases. Data collections are not yet complete, and a thorough breakdown of the character and frequency of young stand pests will appear in the regional report.

In the Bulkley and Morice TSA's, light-moderate fireweed defoliation by the **black army cutworm** was seen on six of seven sites, where 1991 pheromone trap catches indicated high population potential. In the Kalum TSA, trace fireweed defoliation was noted in two of three locations where high numbers of moths were trapped. One other area where adult numbers were just below threshold levels had trace fireweed defoliation. No significant seedling damage was noted in any of the plantations. No early or mid-season seedling mortality has yet been observed due to infection by **Rhizina root disease**; however, most of the surveys will be carried out in the fall when most of the damage has historically occurred.

Northern tent caterpillar caused only trace-to-light defoliation over 1250 ha, a sharp reduction from 1991. Fall egg-mass surveys and early spring activity indicated sustained or increased defoliation levels, but a severe late frost after a month of mild weather caused very high mortality levels throughout the affected areas. The **Pacific willow leaf beetle** caused mostly moderate and some severe defoliation of willow along Highway 37 from the Kitimat River to north of Lakelse Lake, and lesser damage was noted from Kitwanga west to Cedarvale, north to Cranberry River bridge and occasionally beyond. Light defoliation was common in willow stands throughout the interior of the region. Damage to primarily willow spp. by the **poplar-and-willow borer** has increased in the last two years, and was common throughout southern parts of the Kalum TSA. Historically, the damage has been of little consequence, but with increased cottonwood nursery activity, and increasing outplantings of cottonwood, concern has been expressed that the borer may become a significant pest in the future. To date, no evidence of infestations in cottonwood have been noted.

Damage to conifers by mammal feeding was light, but widespread in the region. **Porcupines** remained active in many areas including Kalum River valley drainages and north to Nass Valley, in the Shames Creek and adjacent drainages. Minor damage was also recorded this year in the Kitimat, Zymoetz and Kitlope rivers drainages, and in the Tutesheta Creek area in young pine. **Voles** virtually disappeared in several areas where they were active in 1991. At Oweege Creek, 5% of spruce was killed and a total of 48% damaged, but all damages appeared to have occurred during the previous fall or winter. At Salvus a re-examination showed only minor remaining damage after high levels of attack in the fall of 1991. At Dragon Lake, 74% of mostly western hemlock seedlings had been partially clipped or killed, but no recent (1992) damage was noted. Reports from several other areas confirmed a dramatic population decline. Lodgepole pine cone stripping by **squirrels**, causing branch tip death, declined in the Boya Lake area affecting only 20% of the trees. Light damage was seen for the first time in middle-aged pine stands south of Granisle.

A heavy frost during the third week in May caused severe widespread damage to young lodgepole pine, hybrid spruce, western red cedar and western hemlock across the Kalum TSA and the western part of Kispiox TSA, and to young pine and spruce in southern areas of the three eastern TSAs. Over 900 ha of severe frost damage was recorded during aerial surveys in 14 plantations, the Kitimat and Nass valleys and along Highway 37 near Cranberry River. In these and numerous other areas that were moderately to severely affected, many of the pine, spruce and hemlock had lost all but the current year's needles. Some young trees which had flushed before the frost, particularly in the Interior Cedar-Hemlock biogeoclimatic zone, lost current as well as old foliage, and subsequently died. The frost also killed some shoots and leaves of willow, aspen, cottonwood and alder.

Patches of blowdown totaling over 500 ha occurred from the south side of the Nass River near Greenville to the river's mouth. Small patches were also recorded in the Kitimat, Zymoetz and Kitlope river valleys and one area near Whidbey Reach.

Other noteworthy forest pests generally at endemic levels in the region, including conifer and deciduous defoliators and foliar diseases, will be reported later in more detail.

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