

**FOREST INSECT AND DISEASE CONDITIONS IN MOUNT REVELSTOKE  
AND GLACIER NATIONAL PARKS, 1995**

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Some of the more important forest insects and diseases in the parks are discussed by host in this report, which also fulfills a requirement for maintaining a Parks research and collection permit. Aerial surveys were completed by late August over most of the main drainages and limited ground surveys were done intermittently from June to September. Due to cutbacks, less time was spent in the Parks than in previous years. Some of the insects and diseases were discussed with Parks personnel during the field season. Most outbreaks are continuous beyond park borders and are reported in more detail in the annual FIDS report for the Nelson Forest Region.

**Pine**

In Glacier Park, the **mountain pine beetle**, *Dendroctonus ponderosae*, killed  $\pm 3700$  white and lodgepole pine over 65 ha, up from 1375 trees over 25 ha in 1994. The main area of beetle activity near the mouth of Mountain Creek continued and spread to nearby pine stands, but the largest increase occurred farther up the drainage just below Casualty Creek. No broods were examined in the park, but those checked in the Golden Forest District indicated an increasing population. Groups of  $\pm 10$  trees continue to be killed along the Beaver River to Grizzly Creek.

An introduced disease, **white pine blister rust**, *Cronartium ribicola*, chronically causes significant branch and top dieback and tree mortality throughout the ranges of western white and whitebark pines in both parks. Although no data was collected this year, rust-caused mortality was commonly observed in white pine stands along with mountain pine beetle.

## Western hemlock

Populations of the **western hemlock looper**, *Lambdina fiscellaria lugubrosa*, collapsed after a five year outbreak throughout the B.C. Interior. In these parks, defoliation of old growth western hemlock and western red cedar peaked at 7400 ha in 1993 (light to severe intensity), then declined to 290 ha in 1994 (light) and none in 1995. Stand mortality caused by the outbreak was mapped over 1686 ha: 966 ha in Mt. Revelstoke Park and 720 ha in Glacier Park.

The impact of the outbreak is being monitored in representative stands near the parks. Post-outbreak mortality of trees with significant crown dieback can occur for several years. In Mt. Revelstoke Park, about 352 000 trees or 595 000 m<sup>3</sup> have been killed to date, up from 274 000 trees/580 000 m<sup>3</sup> in 1994. In Glacier Park, about 359 000 trees/464 000 m<sup>3</sup> were dead, compared to 264 000 trees/449 000 m<sup>3</sup> in 1994. Most of those recently killed were relatively small understory trees that couldn't survive extensive crown dieback.

Populations are expected to remain low in 1996, based on trends in larval sampling (negative in 1995) and pheromone trapping (average 92% fewer moths) at monitoring sites outside the parks.

Populations of the **western blackheaded budworm**, *Acleris gloverana*, active along with the hemlock looper in Glacier Park, collapsed as predicted from egg sampling in 1994.

No defoliation by the **hemlock sawfly**, *Neodiprion tsugae*, was seen during aerial surveys along the Beaver River, where increasing larval populations were noted in 1994.

## True fir

Scattered single tree and small patch attack by the **western balsam bark beetle**, *Dryocoetes confusus*, is chronic along the Beaver River south of Grizzly Creek and at higher elevations in Mt. Revelstoke Park.

## Engelmann spruce

Small **spruce beetle**, *Dendroctonus rufipennis*, infestations continued along Mountain Creek and new ones were mapped below Mt. Sifton and along the upper Incomappleux River. No ground checks were made, but populations have been increasing in numerous areas of the Golden District, including upper Bachelor Creek adjacent to Mountain Creek in the Park.

### **Deciduous trees**

Discoloration of birch and black cottonwood by **leafminers** continued for the fourth year in northwest areas of the Nelson Region, but at lower levels in most areas. In Glacier Park, *Lyonetia speculella* again severely discolored birch in the upper Illecillewaet River area, but in Mt. Revelstoke Park levels were low for the second year. Scattered light discoloration of black cottonwood by *Phyllocnistis populiella* continued. Repeated severe discoloration by leafminers has not caused tree mortality in the past.

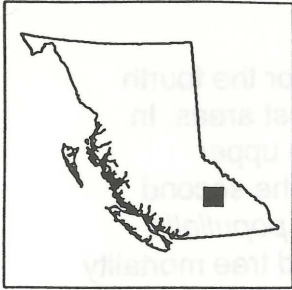
No **gypsy moth**, *Lymantria dispar*, adults were caught in pheromone-baited traps at Illecillewaet and Loop Brook campgrounds and at Mt. Revelstoke Park.

Scattered individual willow branches and stems were again killed by an introduced insect, the **poplar and willow borer**, *Cryptorhynchus lapathi*, in Mt. Revelstoke Park. Since first collected in the Nelson Region in 1949, though likely present for several years prior, attacks have become chronic through most of the host range.

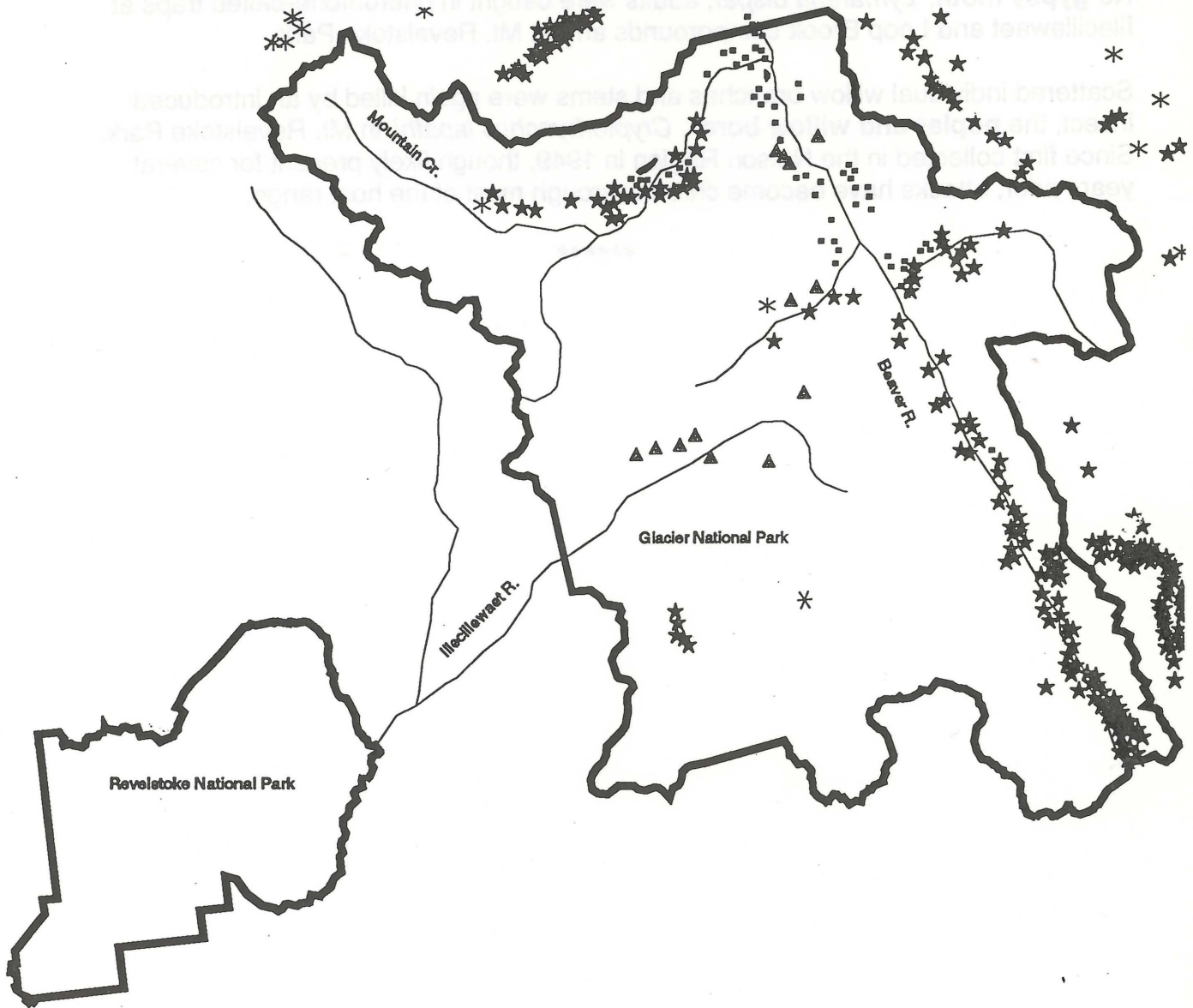
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# Areas of current insect infestations in and around Mount Revelstoke and Glacier National Parks, 1995

Reference Map



- Mountain Pine Beetle
- ★ Balsam Bark Beetle
- ▲ Birch Leaf Miner
- \* Spruce Beetle



Natural Resources Canada  
Canadian Forest Service  
Forest Insect and Disease Survey



Scale 1: 375000

Projection: Lambert Conformal Conic

Map Produced by GIS: 21 Nov 95