FOREST INSECT AND DISEASE CONDITIONS

Prince Rupert Forest District

British Columbia, 1975

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Bark beetles killed 17,000 lodgepole pines on 5,100 acres (2,040 ha) at 48 locations in the District in 1975. Conifer defoliator populations declined from 1974 levels. Porcupine feeding on lodgepole pines was common throughout the District. Damage induced by weather conditions was evident at three locations and foliage diseases were confined to trembling aspen and spruce.

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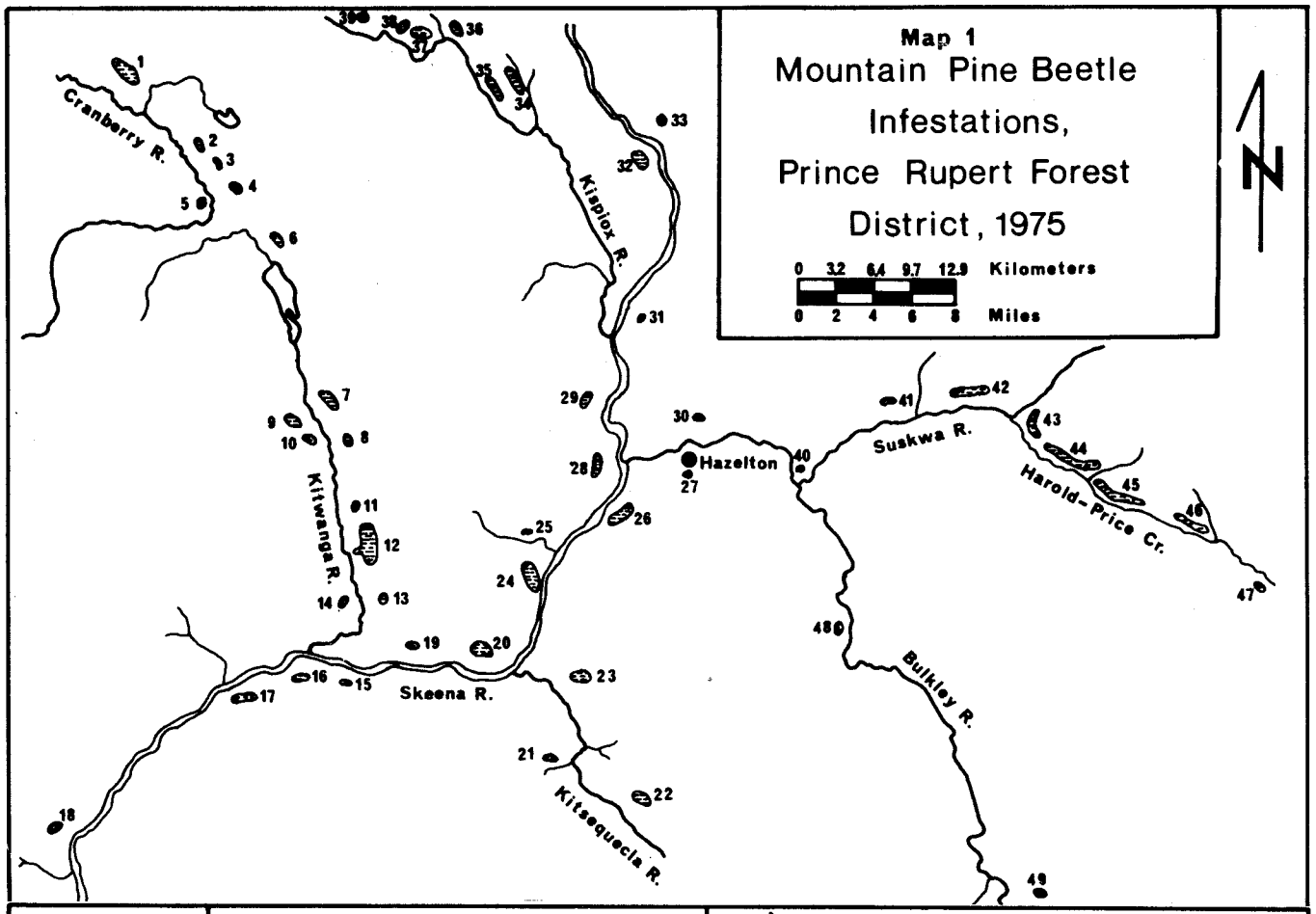
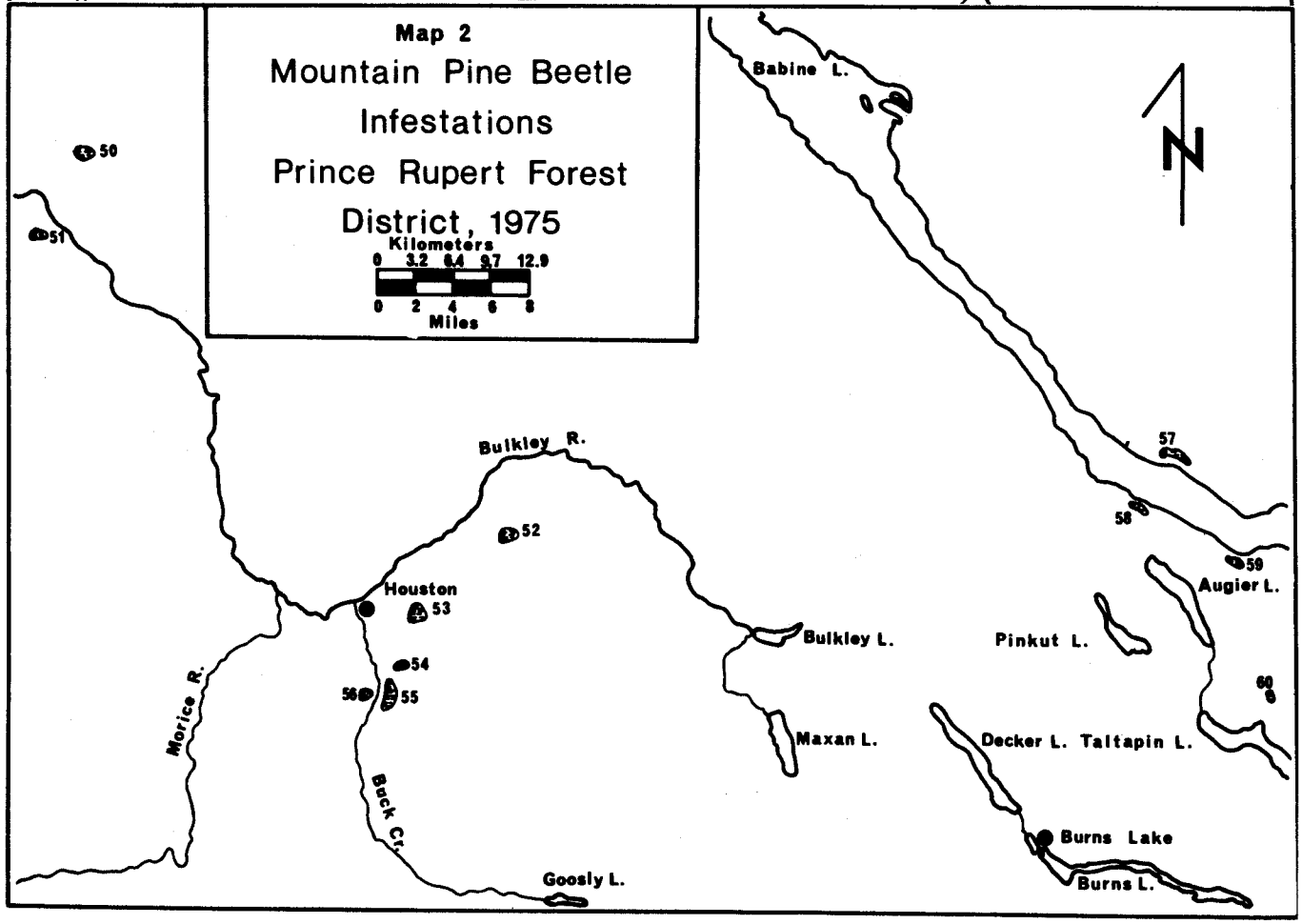

Map 1
Mountain Pine Beetle
Infestations,
Prince Rupert Forest
District, 1975
0 3.2 6.4 9.7 12.9 Kilometers
0 2 4 6 8 Miles
N
Cranberry R.
Kispiox R.
Kitwanga R.
Hazelton
Suskwa R.
Harold-Price Cr.
Skeena R.
Bulkley R.
Kitsequecla R.


Map 2
Mountain Pine Beetle
Infestations
Prince Rupert Forest
District, 1975
Kilometers
0 3.2 6.4 9.7 12.9
0 2 4 6 8
Miles
N
Babine L.
Bulkley R.
Houston
Bulkley L.
Maxan L.
Morice R.
Buck Cr.
Goosly L.
Augier L.
Pinkut L.
Decker L.
Taltapin L.
Burns Lake
Burns L.

MOUNTAIN PINE BEETLE, *Dendroctonus ponderosae,* continued to be of primary importance in the District. The current outbreak began in 1969, with 1,000 lodgepole pine killed near Weegett Creek. In 1971 this increased to 1,930 red-topped pine on 245 acres (100 ha) at two locations. In 1975 there were in excess of 17,000 lodgepole pine killed on 5,100 acres (2,040 ha) at 48 locations extending from Ritchie to Babine Lake (Table 1, Maps 1 and 2).

Table 1. Estimated acreages infested by mountain pine beetle, and lodgepole pine killed in the Prince Rupert District in 1975. (1974 figures in brackets)

Infestation number	Locality	Estimated acreage	No. of red-tops
Kitwanga			
1	Weegett Creek	505	3,035
2,3,4	N. of Kitwanga L	15	60
5	Cranberry R	10	30
6	Kitwanga L	30	95
7,8,9,10	Kitwancool	152	460
11	S. of Kitwanga L	5	40
12	Radio Tower Hill	2,000	5,000
13	5 mi. Kitwanga	15	200
14	Kitwanga	2	20
15	Shandilla L	25	70
16	opposite Kitwanga	15	25
17	opposite Woodcock	35	160
18	Cedarvale	20	50
	Subtotals	**(1870) 2,829 1130 ha**	**(8390) 9,245 3700 ha**
Hazelton			
19	Andimaul	10	45
20	Nash	10	75
21	Kitsuns Cr	2	4
22	Kitseguecla R	50	325
23	Juniper Cr	10	60
24	opposite Carnaby	200	600
25	Burdick Cr	5	10
26	Seeley L	250	850
27	Hazelton	5	35
29	Glen Vowell	20	90
30	Four Mile Mtn	10	30
31	Kispiox Valley	10	60
32	Tenas Hill	25	140
33	Sterritt Cr	2	10
34,35	Sammon L	400	230
36	First Cabin	100	200

Table 1 (Continued)

Infestation number	Locality	Estimated acreage	No. of red-tops
37,38	Kline L	200	1,070
39	Elizabeth L	15	20
40	Jct. of Suskwa & Bulkley	5	20
41	18 Mile Cr	10	35
42	Natlan Cr	250	2,000
43,47	Harold Price Cr	500	1,990
48	Moricetown	2	12
	Subtotals	**(781) 2,111 310 ha**	**(5140) 7,881 3150 ha**
Smithers			
49	Gramophone Cr	5	35
50	Canyon Cr	5	20
51	Telkwa (Hubert)	5	18
	Subtotals	**(60) 15 6 ha**	**(900) 73 30 ha**
Houston			
52	Aitken Cr - Gilmore L	5	15
53	McKilligan Cr	30	65
54	Dungate Cr	2	10
55,56	Buck Cr	50	153
	Subtotals	**(330) 87 35 ha**	**(1660) 243 97 ha**
Burns Lake			
57	Boling Pt	20	140
58	Donald Ldg.	5	65
59	Pinkut Cr	5	50
60	Taltapin L	2	4
	Subtotals	**(251) 32 13 ha**	**(1010) 259 104 ha**
Grand Total		**(2292) 5,074 2030 ha**	**(17,100) 17,701 7080 ha**

Beetle broods were assessed in June on one-half square foot bark samples at breast height on 25 trees at Kitwanga, Seeley Lake, Kline Lake, Dungate Creek and Goathorn Creek. The ratio of living progeny to successful total attacks indicated increasing populations at all locations.

During September, 13 cruise lines with prism plots at two-chain intervals were run to determine attack trends (Table 2). Stand type in most areas was lodgepole pine mixed with western hemlock, white spruce, balsam and/or trembling aspen and white birch.

Table 2. Status of lodgepole pine trees on cruise strips, Prince Rupert Forest District, 1975.

Location	Pine stems /acre	Percent			
		Healthy	Green attack	Red	Grey
Kline L	41	100	0	0	0
Kline L	151	84	9	7	0
Kline L	55	37	44	19	0
Elizabeth L	20	100	0	0	0
Elizabeth L	139	87	3	0	10
Elizabeth L	71	78	10	3	9
First Cabin	133	80	11	2	6
First Cabin	34	73	18	5	3
Weegett Cr	116	100	0	0	0
Weegett Cr	127	94	6	0	0
Mi. 25 Kitwanga	132	91	2	1	6
McKilligan Cr	222	86	7	4	3
McKilligan Cr	64	88	0	6	6

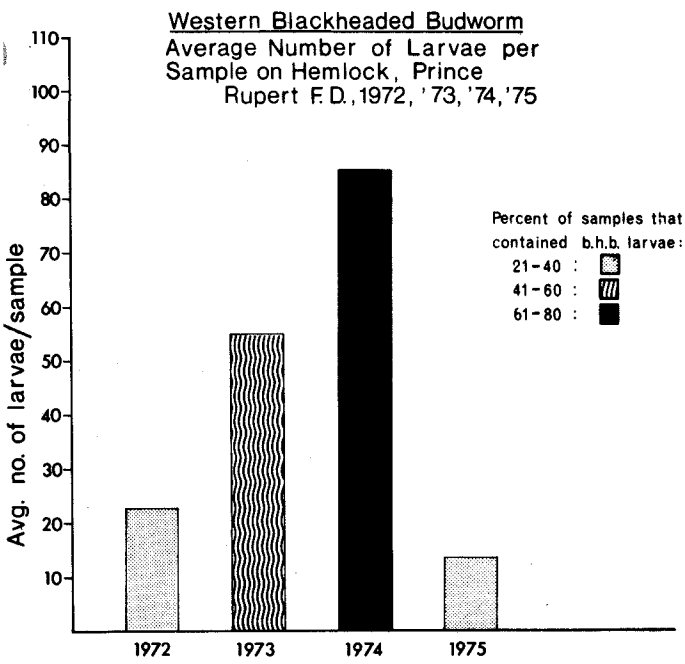
Cruises were run north and east of Elizabeth Lake to determine a possible northern extension of beetle infestations. An apparent preference by the beetle to attack susceptible pines in stands where attacks had occurred in previous years means an increasing number of red-tops will be evident in 1976 for a radius of some 15 chains around the groups of red-tops counted in 1975. To the south of these infestations, stands have a higher pine component and will be more susceptible to beetle attack than those to the north, where a gradual timber type change excludes pine.

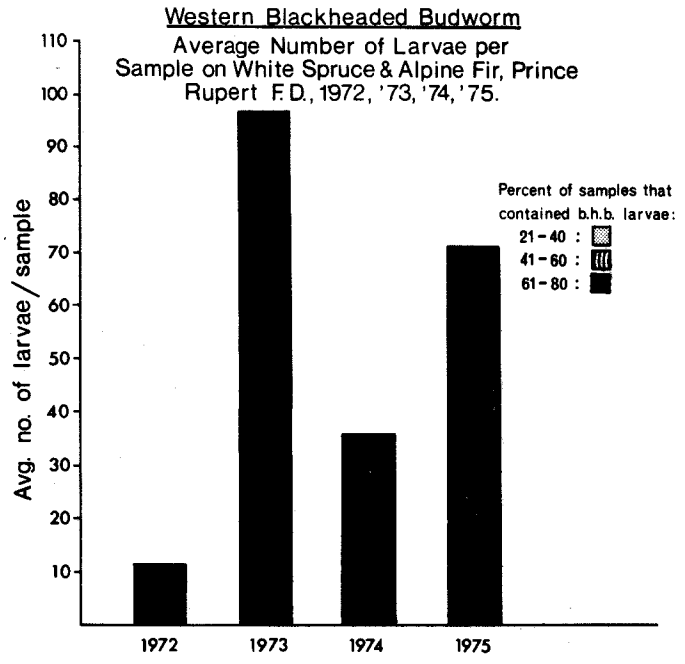
Infestations south of Elizabeth Lake in the Kispiox River drainage are expected to increase, as are those at Natlan and Harold Price creeks, along the Skeena River west of Hazelton and in the Kitwanga drainage. More red trees are expected near spot infestations north of Kitwanga Lake and north of the logged area at Weegett Creek. However, climatic change north of the main infested area at Weegett Creek and a forest type change to the east, will prevent further expansion of the infestation in these directions.

Most beetle infestations east of Hazelton, and particularly those near Smithers, Houston and Burns Lake, infested in 1974, have been reduced by timely cut-and-burn, and logging practices. Consequently the number of red trees in 1975 at Smithers, Houston and Burns Lake is reduced (Table 1). With favorable climatic conditions and suitable host material, populations will continue to increase.

A LOW POPULATION OF SPRUCE BEETLE, *Dendroctonus rufipennis,* was found in damaged roadside white spruce near Snowbank Creek. A total of 41 trees were infested along 9 miles of road. During mid-July and August, a portion of the beetles were still in the old attacked trees; no new attacked trees were observed.

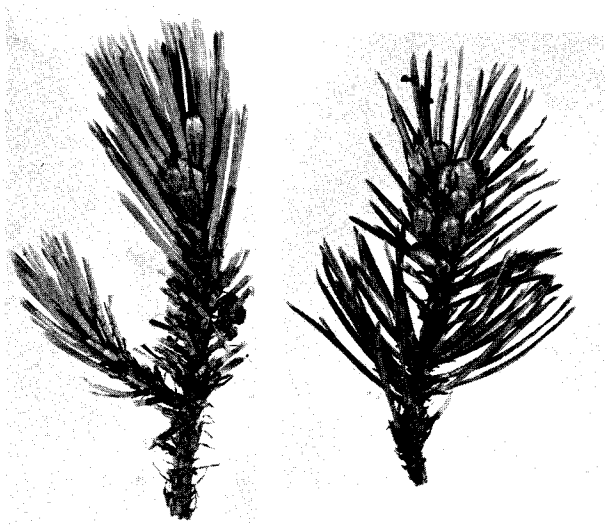
EPIDEMIC NUMBERS OF BLACKHEADED budworm, *Acleris gloverana,* were encountered in 1972 south of Ocean Falls. During 1973 and 1974, infestations spread northward in the coastal stands to Stewart and north on the Queen Charlotte Islands to Masset Inlet. In the Interior, spruce and alpine fir were infested in several areas from Babine Lake west to Hudson Bay Mountain and south to Morice River. In 1974, budworm defoliation of western hemlock, alpine fir and white spruce was mapped on more than 316,000 acres (127,000 ha). During 1975, populations declined substantially throughout the coastal zone except near Port Clements, where samples yielded up to 400 larvae per collection and light defoliation was evident. In the Interior of the District, populations remained moderate to high (see graph). Severe defoliation of new growth on alpine fir and spruce occurred near the Bell-Irving River, Telkwa River, and along the Fort Babine Road. The following graphs show a summary of collection results from 1972 to 1975.





There was no egg sampling for predicting blackheaded budworm populations for 1976, however, light to moderate populations may be expected in the interior of the District.

A PINE SAWFLY, *Neodiprion* sp., defoliated shore pine on 230,000 acres (92,000 ha) on Banks, Pitt, McCauley and Porcher islands south of Prince Rupert. Only the new foliage remained on most pines. On August 12 there were clusters of 10 to 50 cocoons on the current year's growth. A collection of 130 cocoons was sent to the insectary for rearing. Seventy-nine per cent of the adults emerged successfully. A probable recurrence of defoliation in 1976 is indicated.



SPRUCE BUDWORM, *Choristoneura* sp., in conjunction with the blackheaded budworm, caused heavy defoliation of new growth of alpine fir along the Bell-Irving River from the first crossing to the second crossing bridge. Elsewhere in the District populations remained at a low level.

Traps, baited with a pheromone sex attractant, were set out at nine locations to determine the presence of budworm in these areas. The average number of male moths collected was as follows: Oweegee Creek, 102; Glacier Creek, 65; Bell-Irving River, 118; Skunsnat Creek, 75; Smithers Landing, 74; Telkwa River, 1; Cedric Creek, 1; Morice River, 3 and near Kitimat, 1.

A PINE NEEDLE MINER, *Recurvaria* sp., caused browning of lodgepole pine foliage from Buck Creek to Parrott Lakes and south to Ootsa and Takysie lakes. About 60% of the trees 3 to 70 feet (1 to 2 metres) high were affected.

SEVERE BROWNING OF WESTERN WHITE birch by a birch-and-willow blotch miner, *Lyonetia saliciella,* was more extensive in 1975. The discoloration extended from Hazelton, southwest along the Skeena River to Legate Creek, and from Kitwanga to Kitwanga Lake.

A WOOLLY APHID, *Pineus* sp., caused browning and gall formation of the current year's tips of white spruce in plantations near Chapman and Taltzen lakes and near Cullon Creek. In two adjoining plantations of 44 and 185 acres near Cullon Creek, 15% of the 2 to 4 ft (.7 to 1 metre) seedlings had up to 95% of the tips infested.

A LEAF BEETLE, *Chrysomela* sp., skeletonized trembling aspen on several 1-to 5-acre (.4 to 2 ha patches near Wistaria. Damaged groups of trees extended eastward to the Henson Hills.

AREAS OF WINTER DAMAGE ON WESTERN hemlock, amabilis fir and lodgepole pine were found at Maroon and Douglas creeks, north of Terrace in the Kalum Block. Each area extended for approximately 4 to 5 miles on south and southwest facing slopes at 1,800 feet elevation.

PORCUPINE FEEDING IN LODGEPOLE PINE stands in the District was widespread. Top-killing occurred between Babine Lake and Smithers, where scattered groups of pines were affected over approximately 30 acres. Some porcupine feeding was observed on lodgepole pine in winter damaged stands.

HIGH WINDS DURING THE WINTER months blew down western hemlock, amabilis fir and Sitka spruce on 150 to 200 acres (60 to 80 ha) bordering on a partially logged area near Chist Creek. Boring insects were not evident in June or July when the windthrown timber was examined. Individual wind-felled trees were noted along the Bell-Irving River in an alpine fir-white spruce stand. No spruce beetle attacks were observed in the wind-felled spruce.

INFECTION OF WESTERN HEMLOCK AND Sitka spruce by *Sirrococcus strobilinus* was substantially less than in 1974. Only 1 to 10 infected shoots per tree were noted near Williams and Humphrey creeks in the Kitimat Ranger District and near Port Clements and Masset Inlet on the Queen Charlotte Islands.

POPLAR LEAF AND TWIG BLIGHT, *Venturia macularia,* caused browning of leaves on trembling aspen in patches from Hazelton to Bulkley Station and near Skunsnat Creek. By August, crowns of affected trees appeared thinned and scorched.

HEAVY INFECTION OF SITKA SPRUCE BY a spruce needle rust. *Chrysomyxa ledicola,* occurred south of Port Clements again in 1975 although on a smaller area. Ninety per cent of the current foliage on 5 to 6 foot (1.5 to 1.8 metre) trees was infected on about 10 acres (4 ha) of bogsite Sitka spruce.

A SURVEY TO DETERMINE THE EXTENT and intensity of globose gall rust, *Endocronartium harknessii,* on lodgepole pine was carried out in 1975. Occurrence of galls on the main stems was near the same in the coastal and interior stands (4 and 5%) but branch infection was higher in the Interior than the coastal stands (8 and 16%).

STATUS OF FOREST PESTS IN PACIFIC REGION 1975

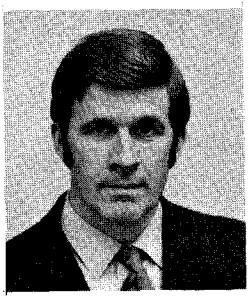
PEST	DISTRICTS						
	PRINCE RUPERT	PRINCE GEORGE	VANCOUVER	CARIBOO	KAMLOOPS	NELSON	YUKON
MOUNTAIN PINE BEETLE	epidemic Kitwanga to Burns Lake	light attacks Stuart-Takla Lakes	severe tree mortality along Klinaklini R	epidemic, Cariboo L Tyee L, Bull Mtn Bald Mtn Klinaklini R	epidemic in Okanagan Va	epidemic, Elk Cr-White R, Blackwater Ridge,	not found
SPRUCE BEETLE	low populations	low populations	not common	low populations in wind-throw	localized infestation at Birk Cr	low populations	not found
DOUGLAS-FIR BEETLE	not found	low populations	scattered light attacks	patches red-tops Williams Lake to Dog Creek along Fraser R	increase scattered light attacks	increased attacks Columbia and Kettle R Valleys	no host
SPRUCE BUDWORM ONE-YEAR-CYCLE	low populations near Bell-Irving R Trace at Kitimat	epidemic Liard R area	epidemic in Lillooet, Fraser and Sumallo R Valleys	light defoliation Becher's Prairie	epidemic Lillooet, Adams L Manning Pk	low populations	trace
SPRUCE BUDWORM TWO-YEAR-CYCLE	low populations	low populations	not found	high populations MacKay River, Bowron circle	not found	epidemic at McMurdo and Bobbie Burns Cr., Spillimacheen R	not found
DOUGLAS-FIR TUSSOCK MOTH	not found	not found	not found	adults in traps only, no larvae collected in beatings	infestations N and W of Kamloops	low populations near Cascade	no host
FALSE HEMLOCK LOOPER	not found	not found	not found	not found	decrease, due to parasitism and pesticide	infestations at Columbia and Windermere Lakes	not found
BLACK ARMY CUTWORM	low populations	not found	not found	not found	localized infestation, little seedling damage	epidemic at Beaverfoot R and Symond Cr	not found
WESTERN BLACK-HEADED BUDWORM	decreased population, Q.C.I. and mainland	decreased population	low populations	low populations	low populations	low populations Upper Arrow Lake	low populations

FOREST DISTRICT RANGER ASSIGNMENTS 1976

Canadian Forestry Service
Pacific Forest Research Centre
506 West Burnside Road
Victoria, B.C.

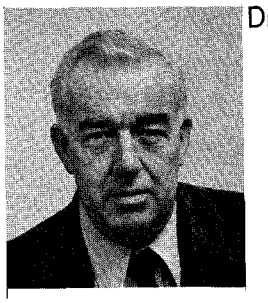
BC-X-133 January 1976

VANCOUVER



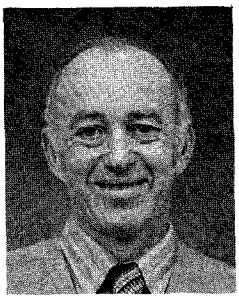
Ernie Morris

KAMLOOPS

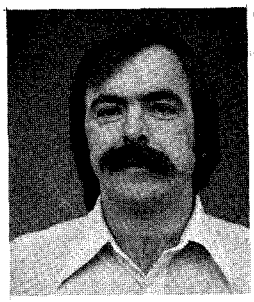


Dick Andrews

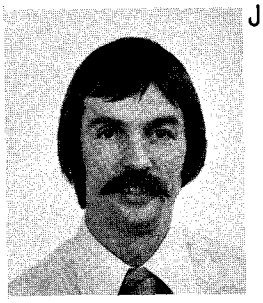
CARIBOO



Stan Allen



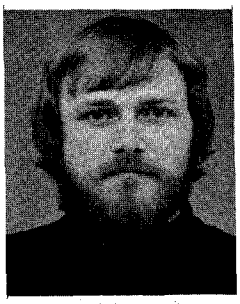
Colin Wood



Jack Monts

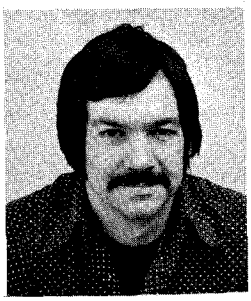
PRINCE GEORGE & YUKON TERRITORY

Roly Wood

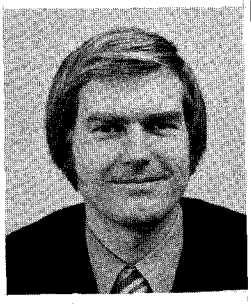


Leo Unger

PRINCE RUPERT

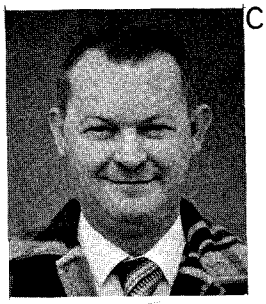


Don Doidge

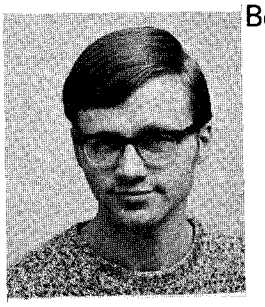


Peter Koot

NELSON



Cliff Cottrell



Bob Erickson