

PINE BEETLE SURVEY REPORT – UBC OKANAGAN

A pine beetle survey was carried out on UBC Okanagan Forest areas including forested eastern portion of new endowment lands. Pine trees were checked for new pine beetle attacks following last year's bark beetle flights. The survey was done January 26 - 28, 2011. This report provides survey methodology, survey results and recommendations for pine beetle control.

SURVEY METHOD

A walk through survey was done looking for any signs of foliage colour change and evidence of new attack on the boles of pine trees. Trees showing foliage colour change as well as boles of trees with insect evidence such as pitch tubes and boring frass or wood pecker activity were checked for beetles by removing some bark and checking for insect evidence such as galleries, adult beetles and larvae. Galleries and insects were observed to determine if they were western pine beetle (WPB) or mountain pine beetle (MPB) and recorded. Yellow flagging tape was placed around the boles of currently infested trees and red was placed on suspect trees. The number of attacked trees as well as diameter range and average diameter was recorded.

The number of attacked trees was noted on blue flagging tape and placed on a tree along with yellow flagging tape at each currently infested site. In many instances, the locations of the infested trees were flagged with blue tape to a road or forest edge and tie points established with blue and yellow tape.

All pine trees around buildings including trees with verbenone repellent pouches were closely examined as well.

PINE BEETLE OBSERVED

The survey indicated considerable MPB populations as well as some WPB. The beetles are probably coming from adjoining properties which have unchecked pine beetle infestations and possibly from further distances as well. The majority of new attacked trees were at two locations. Lindgren funnel trapping using WPB lures collected a large number of WPB. Trapping for MPB has not been effective and was discontinued three years ago. An increase of red turpentine beetle attacks at tree bases was also noticed. Red turpentine beetles weaken trees and make them susceptible to other pine beetle attacks.

VERBENONE REPELLENT USAGE

There were 200 verbenone repellent pouches placed on high value aesthetic trees around Campus buildings and other important areas last year. The trees with pouches and surrounding trees were closely checked during this survey. The repellents were generally very effective in most areas. However, three verbenone applied trees within the large infestation site above the top residence were attacked due to overwhelming beetle population attacking that site.

PRESENT INFESTATION

A total of 260 currently attacked trees plus 3 suspect trees at 22 sites were marked and recorded. More than half of the attacked trees were at two sites. A site at south west corner had 50 attacked trees plus 3 suspect trees and the site above the top residence had 82 attacked trees. The attack at the other 20 sites totaling 128 trees ranged from 1 to 17 trees with average being 6 trees per site. Diameters of attacked trees ranged from 8 to 41 cm with average of 17 cm. Population levels in individual trees range from light to heavy with average being upper level of moderate.

There are also 16 red foliated trees in total at 12 other sites. The red foliated trees are old attacked trees with no obvious current beetle populations. The trees were not marked and are shown on the map but not shown on the table.

Current infestations were noticed on property to the north and south of UBCO Campus.

Refer to the attached survey data table and map for infestation details and locations.

RECOMMENDATIONS

1. Control the spread of pine beetles from currently infested trees prior to April 21, 2011 by removing the trees from UBCO property and disposing of the infested portions of the trees in a manner that would destroy the insects prior to beetle flight.
2. Suggest the entire infested trees including branches and foliage be removed from the sites for fire hazard and aesthetic reasons.
3. Reduce the risk of further attack and mop up residual populations through the following initiatives:
 - a. Continue to place Lindgren funnel traps with western pine beetle lures in open areas away from pine stands similar to 2010 program.
 - b. Continue to place verbenone pine beetle repellent pouches on trees at maximum 15m x 15m spacing within highly valued areas such as forested areas around buildings, along walkways and roadway corridors.
4. Endeavor to ensure that neighboring property owners are aware of and are dealing with infestations on their properties prior to beetle flight in order to reduce risk of insect spread onto UBCO property.
5. Carry out follow up bark beetle survey checking for attacked trees after beetle flights.

Survey data table and map are attached.


Eric Haupt
Forestry Consultant

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PINE BARK BEETLE SURVEY DATA TABLE
 UBC OKANAGAN - JANUARY 2011

GENERAL LOCATION	SITE	ATTACKED TREES		TREE DIAMETERS (cm)		INSECTS		ATTACK LEVEL	COMMENTS
		G	S	RANGE	AVG.	WPB	MPB		
North West	A	12		10-29	14		X	L-H	Near trail. Two red, rest green.
	B	17		11-23	17	X	XX	M-H	Between trail and fence. Six green.
	C	1			19		X	H	Orange foliage. 15m east of trail.
	D	6		15-25	19		X	M-H	Close to road. Five green, one red.
	E	1			34		X	H	Orange foliage. Adjacent to road.
	F	1			24		X	M	Next to road.
	G	13		10-19	13		X	L-H	Easy access. One green, rest orange.
	H	3		23-41	29	X	XX	L-H	One on fence and one on each site
	I	9		8-19	14	X	XX	M-H	Close to parking lot. Mostly orange.
	J	5		14-19	16		X	M-H	Close to road. Mostly orange.
North Central	K	12		8-25	17		X	M-H	Good access. Mostly orange.
	L	1			14		X	M	Next to trail.
	M	7		13-32	22	X	XX	M-H	Near trail. Mainly green.
	N	1			22		X	H	Near trail. Orange foliage.
	O	15		12-21	16	X	XX	L-H	Scattered patches. Mostly orange.
	P	82		10-32	17	XX	X	L-H	Good access. Mostly orange or red.
	Q	3		11-21	17		X	M	Below residence. Near gas line.
East Side	R	2		11-20	15	X	XX	M-H	Below new residence. Orange foliage.
	S	13		13-23	19	X	XX	M-H	Scattered. Mostly orange.
	T	2		15-17	16		X	M	Between parking lots.
South West	U	50	3	10-30	17	XX	X	L-H	Good access. Mostly orange and red.
	V	4		15-23	20		X	M-H	Green foliage. Good access.
TOTALS		260	3						

Legend
 G - Trees with current beetle populations
 S - Suspect tree. Low attack level
 L - Light attack level
 M - Moderate attack level
 H - Heavy attack level

TREE REMOVAL RECORD - JANUARY 18, 2012

LEGEND

 5 sites with 165 trees removed
 8 sites with 40 trees felled and left
 9 sites with 55 trees still standing
260