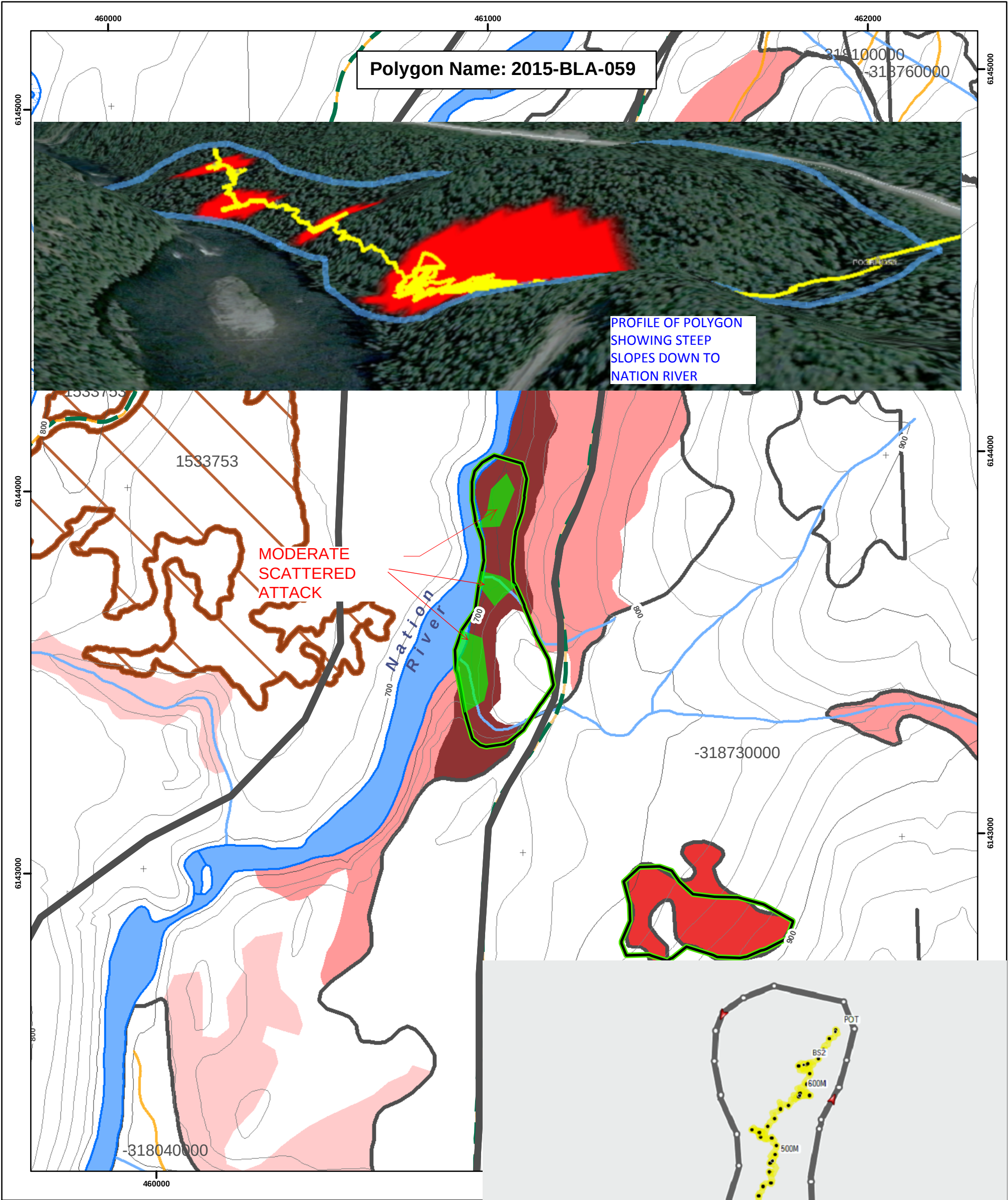






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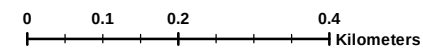
Spruce Bark Beetle Field Map

Polygon Name: 2015-BLA-059

Landscape Unit/BMU: Blackwater
Region: Omineca
District: Mackenzie
Mapsheet: 093005
Hectares: 11.26
Scale: 1:10,000
When plotted on 11x17
Coordinate System: PCS Albers
Datum: North American 1983
Date Drawn: 03/06/2015
Drawn By: msnively

Map Features

- Susceptible Spruce Bark Beetle Polygon
- 2013 SB Hazard Rating (20% increments)
- Hazard Classes
 - Low/Med (21-40)
 - Med (41-60)
 - High (61-80)
 - Very High (81-100)
- Cutting Permit
- RESULTS Opening
- Landscape Unit
- Road Permit Active
- Road Permit Pending
- Km_Marker_Points
- Communities



Disclaimer

The accuracy and completeness of the information on this map is not guaranteed.



**SENECA ENTERPRISES LTD.**

PO BOX 1902, PRINCE GEORGE, BC, V2L 5E3

Phone: (250) 561-0890, Fax: (250) 564-3275

**SPRUCE BARK BEETLE REPORT
FH16DMK010**

POLYGON: 2015-BLA-059

HECTARES:

11.26

WALKTHROUGH DISTANCE:

700

ESTIMATED INFESTED PIXELS FROM

WALKTHROUGH (Code 1-4)

6

85.7%

SUMMARY OF CURRENT INFESTATION

Small polygon where pretty consistent attack along west side of polygon along Nation River. Code 1's and 3's showing attack progressing and mainly attacked trees are the larger DBH Spruce within the area. With attack showing high attack and mean larval densities, infestation will continue to develop. 85% of pixels infested from walkthrough of highest risk areas.

MODERATE/ HIGH SCATTERED ATTACK

ACCESS

Access is right off of Manson FSR

POLYGON FEATURES (Topography, Terrain, Timber Types, Age)

Steady slopes throughout except in drainages that run to Nation River and have steeper pitches (30-60%) Polygon mix of Spruce/Balsam/Birch/Aspen, Many of the healthy spruce smaller DBH 25-30, all larger DBH spruce centers of attack

SIZE, BOUNDARY and PATTERN OF INFESTATION

Small polygon where pretty consistent attack along west side of polygon along Nation River. Code 1's and 3's showing attack progressing and mainly attacked trees are the larger DBH Spruce within the area.

INCIDENCE AND SEVERITY OF ATTACK

One probe line shows a severe attack density and High Mean Larval density.

RISK OF BEETLE SPREAD

Polygon has smaller spruce within remainder of polygon but has such a high attack and larval densities that it is at a high rate of spread. Boundary to the west is Nation River.

ACCESS, OPERABILITY and INTEGRATED RESOURCE MANAGEMENT ISSUES

Good access off of Manson Mainline. Much of the polygon has steeper pitches and drainages that run into Nation River. Some small Slopes 30-60% within drainages.

RECOMMENDATIONS**OPTION 1****PROBE/ TRAP TREES**

As access fairly good off of Mainline Manson, could lay down trap tree trails on top of slope to hold infestation as harvesting may be difficult given the slopes. Could schedule a probe to determine severity and better define area of attack as small polygon with good walk in access.

OPTION 2**CRUISE/ HARVEST**

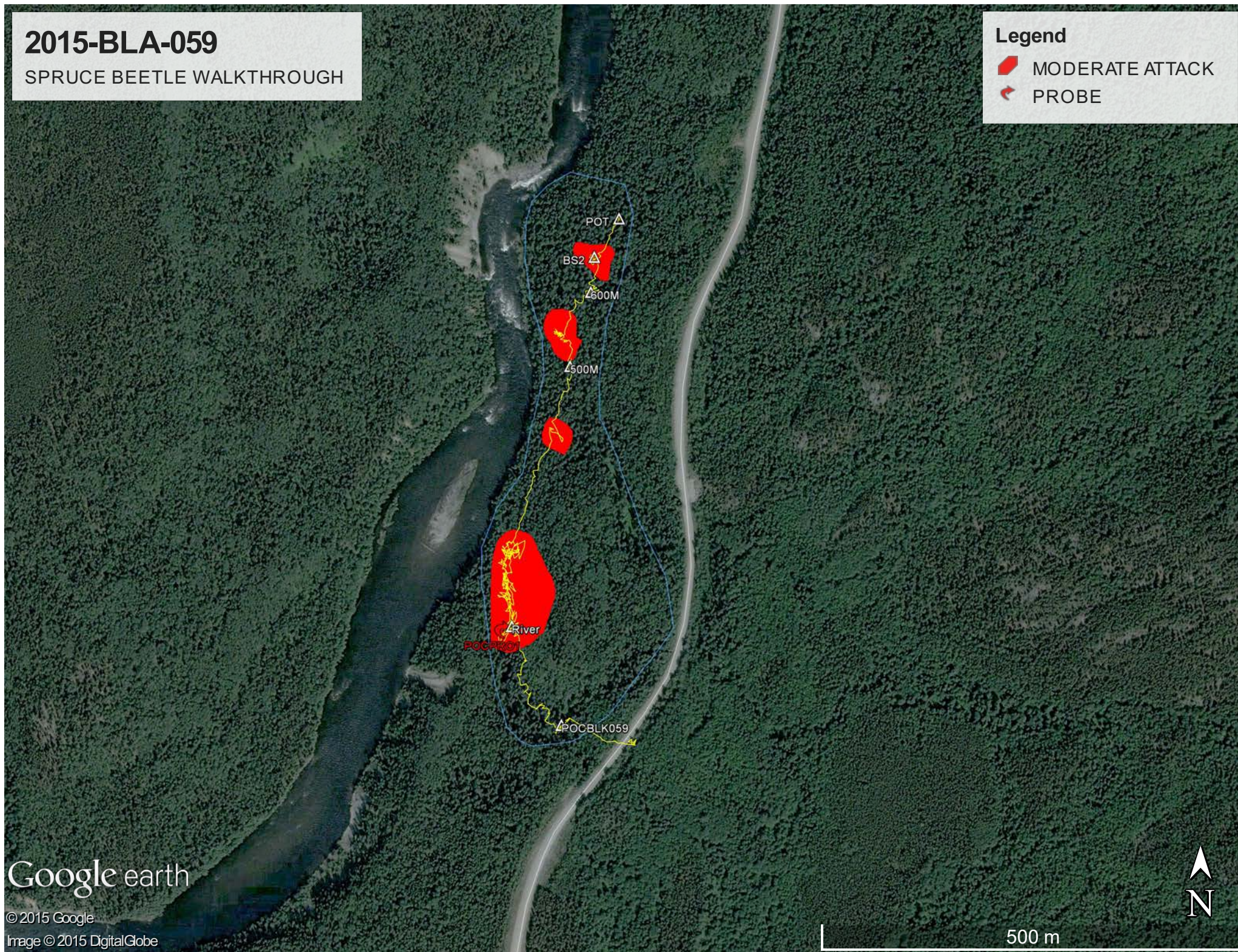
Sanitation and salvage rating Heavy from one probe line. This line established in area of heavy attack but representative of other attack areas where code 3 attack noticed in walkthrough. There is a Severe attack density and High mean larval density from the one bark sample taken. The larger DBH Spruce trees are the ones attacked. Slopes may prove challenging for harvesting on face of Nation river.

2015-BLA-059

SPRUCE BEETLE WALKTHROUGH

Legend

-  MODERATE ATTACK
-  PROBE



Google earth

© 2015 Google
Image © 2015 DigitalGlobe

Summary						
2015-BLA-059	HEC	11.26	METERS WALKED	700	% TRAVERSED	6.2%
PIXELS COVERED BY WALKTHROUGH		7	INFESTED PIXELS		6	ESTIMATED % OF BLOCK INFESTED (From Walk through)
						85.7%

TABLE 5- Spruce Beetle Infestation Summary Sheet

OF NOTE- Results taken from a 100m Probe Line established at 1 per 50 hectares to represent

DIAMETER CLASS	SURFACE AREA FACTOR	NUMBER OF HEALTHY HOSTS	BARK BEETLE CODE BY YEAR OF ATTACK						OTHER TREE SPECIES
			2015		2014		2013		
			1	2	3	4	5	6	
17.5-25.0	3.3	23.1	0.0	0.0	0.0	0.0	0.0	0.0	19.8
25.1-30.0	5.3	53	0.0	0.0	0.0	0.0	0.0	0.0	10.6
30.1-35.0	7.1	63.9	0.0	0.0	14.2	0.0	0.0	0.0	14.2
35.1-40.0	9.4	37.6	0.0	0.0	0.0	0.0	0.0	0.0	0
40.1-45.0	11.6	23.2	11.6	0.0	0.0	0.0	0.0	0.0	0
45.1-50.0	13.8	0	13.8	0.0	0.0	0.0	0.0	0.0	0
50.1-55.0	16.2	0	0.0	0.0	0.0	0.0	0.0	0.0	0
55.1-60.0	18.7	0	0.0	0.0	0.0	0.0	0.0	0.0	0
60.1 +	25.3	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0
TOTALS	265.7	226.1	25.4	0	14.2	0.0	0.0	0	44.6

TABLE 4- Spruce Beetle Attack Density and Larval Density Rating

MEAN NO. OF ENTRANCE HOLES PER 225 cm2 PHLOEM SAMPLE	< 1 LOW Attack Density	MEAN NO. OF LIVING LARVAE PER 225 cm2 PHLOEM SAMPLE	< 4.9 LOW Mean Larval Density
	1.0- 1.9 MOD Attack Density		5.0 - 14.9 MOD Mean Larval Density
	2.0 - 3.9 HIGH Attack Density		15-24.9 HIGH Mean Larval Density
6.00	< 3.9 SEVERE Attack Density	22.00	>24.9 EXTREME Mean Larval Density

TABLE 2- Spruce Beetle Management Options after Walkthrough

% 2015 ATTACK	9.6%	9.6	SANITATION AND SALVAGE HARVEST PRIORITY RATING			
% 2014 ATTACK	5.3%	##	LIGHT	0-599	LEAVE (Monitor, Trap Trees, Baits, etc)	1123.6
% 2013 ATTACK	0.0%	##	MODERATE	600-999	PROBE (To Obtain Further Info)	
% HOST IN STAND	85.6%	##	HEAVY	1000+	RECOMMEND CRUISING/ LOGGING	

Date from 1 probe line and additionall bark sample

SUMMARY OF ALL CARDS FS1111							NUMBER OF CARDS		2	
ACCESS -		Access is right off of Manson FSR								
POLYGON FEATURES -		Steady slopes throughout except in drainages that run to Nation River and have steeper pitches (30-60%) Polygon mix of Spruce/Balsam/Birch/Aspen, Many of the healthy spruce smaller DBH 25-30, all larger DBH spruce centers of attack								
DIAMETER CLASS	SURFACE AREA FACTOR	NUMBER OF HEALTHY HOSTS	BARK BEETLE CODE BY YEAR OF ATTACK						OTHER TREE SPECIES	
			2015		2014		2013			
			1	2	3	4	5	6	BL	AT
17.5-25.0	3.3	7	0	0	0	0	0	0	1	5
25.1-30.0	5.3	10	0	0	0	0	0	0	0	2
30.1-35.0	7.1	9	0	0	2	0	0	0	1	1
35.1-40.0	9.4	4	0	0	0	0	0	0	0	0
40.1-45.0	11.6	2	1	0	0	0	0	0	0	0
45.1-50.0	13.8	0	1	0	0	0	0	0	0	0
50.1-55.0	16.2	0	0	0	0	0	0	0	0	0
55.1-60.0	18.7	0	0	0	0	0	0	0	0	0
60.1 +	25.3	1	0	0	0	0	0	0	0	0
TOTALS		33	2	0	2	0	0	0	2	8
BARK SAMPLES 15 cm x 15 cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE ADULTS	NO. CALLOW	FRESH (GREEN) BLOWDOWN				
						Attacked Yr	Yr	Unattacked		
2	12	0	44	0	4	0		0		0
SIZE, BOUNDARY AND PATTERN OF THE INFESTATION										
Small polygon where pretty consistent attack along west side of polygon along Nation River. Code 1's and 3's showing attack progressing and mainly attacked trees are the larger DBH Spruce within the area.										
INCIDENCE AND SEVERITY OF THE INFESTATION										
One probe line shows a severe attack density and High Mean Larval density.										
RISK OF BEETLE SPREAD										
Polygon has smaller spruce within remainder of polygon but has such a high attack and larval densities that it is at a high rate of spread. Boundary to the west is Nation River.										
ACCESS, OPERABILITY AND INTEGRATED RESOURCE MANAGEMENT ISSUES										
Good access off of Manson Mainline. Much of the polygon has steeper pitches and drainages that run into Nation River. Some small Slopes 30-60% within drainages.										

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BEETLE PROBE CARD

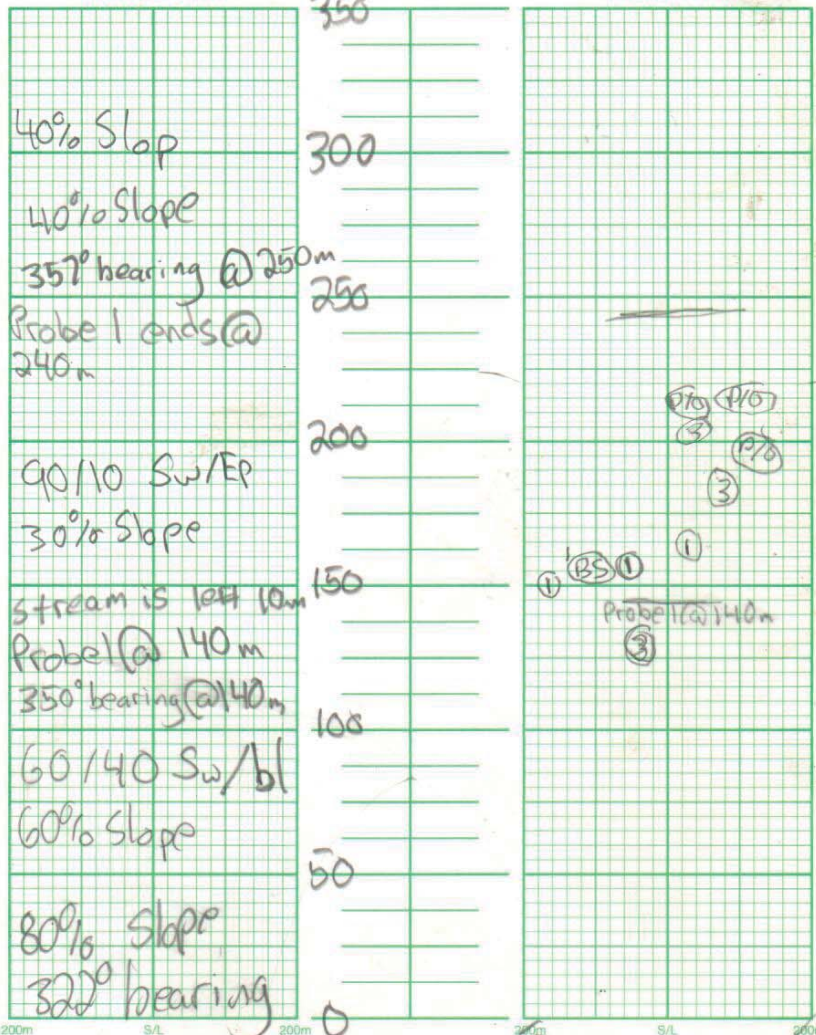
LOCATION 10 u BLA-059 0460885 6143435		ELEVATION		LATITUDE		PAGE OF				
BEARING 350°	STRIP LINE NO Probe 1	STRIP WIDTH 10 m	DISTANCE 100m	BEETLE SPECIES ☒ SB ☐ MPB ☐ DFB						
DIAMETER CLASS	SURFACE AREA FACTOR	NUMBER OF HEALTHY HOSTS	BARK BEETLE CODE BY YEAR OF ATTACK						OTHER TREE SPECIES	
			1	2	3	4	5	6	MAIN	OTHER
12.5 - 17.4	2.0	N/A							BL	EP/AT
17.5 - 25.0	3.3	100							N/A	N/A
25.1 - 30.0	5.3	100								
30.1 - 35.0	7.1									
35.1 - 40.0	9.4									
40.1 - 45.0	11.6	135								
45.1 - 50.0	13.8									
50.1 - 55.0	16.2									
55.1 - 60.0	18.7									
60.1 -	25.3									
TOTALS		34	4	2				2	8	
BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN				
						Attacked	Unattacked			
North	...	25	0	...						
South	...	0	19	0	...					
COMMENTS (B3) = Bark Sample										
CREW NAMES Aaron Colebank						DATE Y M D 2015 10 23				

TOPOGRAPHY

STRIP No.

BLA-059

TIMBER TYPE



STRIP NO.: BLA-059 DIRECTION: 322°
 START STRIP: 10 u 0460952 6143308
 JOB NO.: BLA-059 DATE: Oct 23rd, 2015
 CREW: Aaron Colebank

REMARKS:



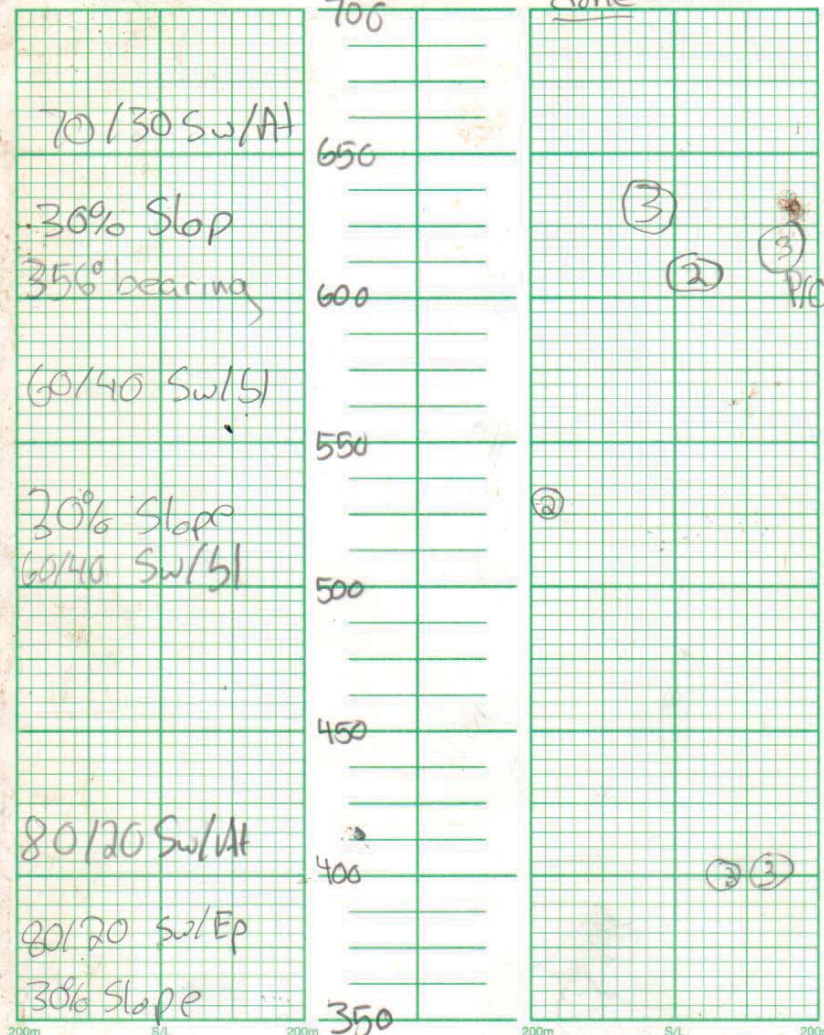
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TOPOGRAPHY

STRIP No.

BLA-059

TIMBER TYPE



STRIP NO.: DIRECTION:
 START STRIP:
 JOB NO.: DATE:
 CREW:
 REMARKS:



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