

**SENECA ENTERPRISES LTD.**

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**SPRUCE BARK BEETLE REPORT
FH17DPG218**POLYGON: **2016-HDL-0006** HECTARES: **34.8**WALKTHROUGH DISTANCE: **3500**ESTIMATED INFESTED PIXELS FROM
WALKTHROUGH (Code 1-4) **8 22.9%****SUMMARY OF CURRENT INFESTATION**

Walkthrough found 3 code 1&2 attack, and 5 Code 3 attacked trees. Light attack but more concentrated in the center of the polygon. Most of the attack is Code 3 where beetle will fly in 2017. Poor access as hiked 2+km to edge of polygon from ATV. No larval densities as samples on Code 3 trees, MODERATE density for Callow Adults. Site HDL-0005 has older attack as well, and further to the east the Tony area has been hit hard.

LIGHT ATTACK, MORE MODERATE CONCENTRATED ATTACK IN CENTER OF POLYGON

ACCESS

From mainline, ATV by 900 meters to edge of cutblock road. From there walk 2.1km @ 240 degrees to site

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

Polygon was a 2km hike from ATV access, it is along the lake. Heavy blowdown, flat, gentle slopes throughout. Polygon is an open stand with heavy Aspen throughout.

SIZE, BOUNDARY and PATTERN OF INFESTATION

35 hectare polygon with 8 infested pixels. Most of the attack is in the center of the polygon with isolated attacks to the east.

INCIDENCE AND SEVERITY OF ATTACK

Moderate attack from 3 probe lines has no attack density or larval density recorded as attacked trees were Code 3's and have parent adults in them. Beetle will fly in 2017,

RISK OF BEETLE SPREAD

Very sparse stand with Aspen, attack will continue to spread at a moderate rate. Trees infected have MODERATE density of callow adults.

ACCESS, OPERABILITY and INTEGRATED RESOURCE MANAGEMENT ISSUES

Poor access by road > 2km to start of polygon. Polygon Boundaries Lake.

RECOMMENDATIONS**OPTION 1****TRAP TREES/ FALL AND BURN**

Site has moderate sanitation rating but has concentrated attack in the middle section of polygon. Several trap tree trails could be setup in the middle of the polygon but access is poor and this is not practical. Better treatment with beetles set to fly in 2017 is to establish a Fall and Burn treatment for this Polygon, more intense probe required along center of polygon to flag infected trees. (With more snow maybe can sled in or access from lake)

OPTION 2**MONITOR**

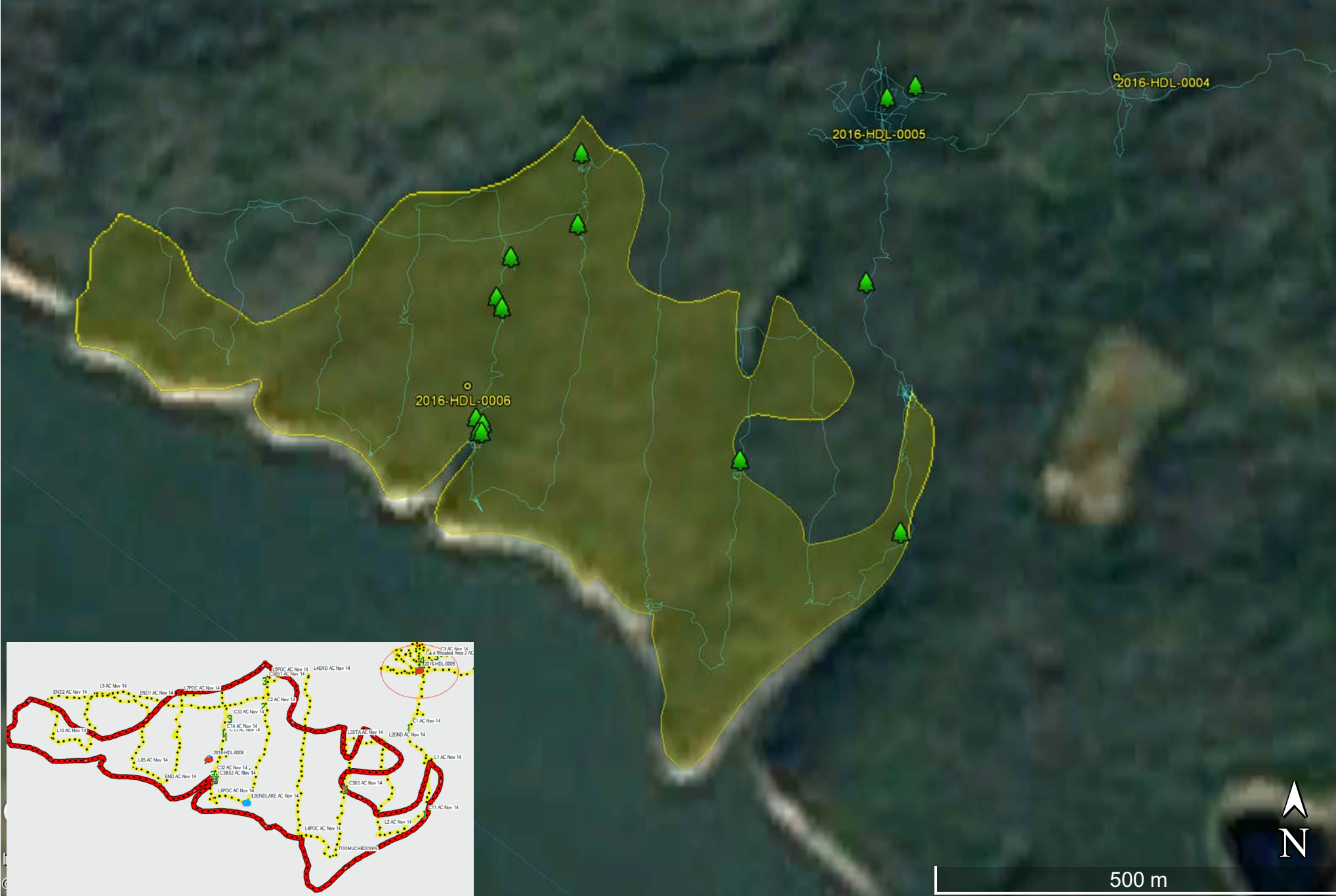
Most of the attack is Code 3 attack, sparse stand with lots of aspen. Beetles have advanced through area already and likely won't get all of them as the Tony area has been hit hard as well. The attacks between the lake and the Tony area seem to mainly be attack from 2015. Monitor again in 2017

2016-HDL-0006

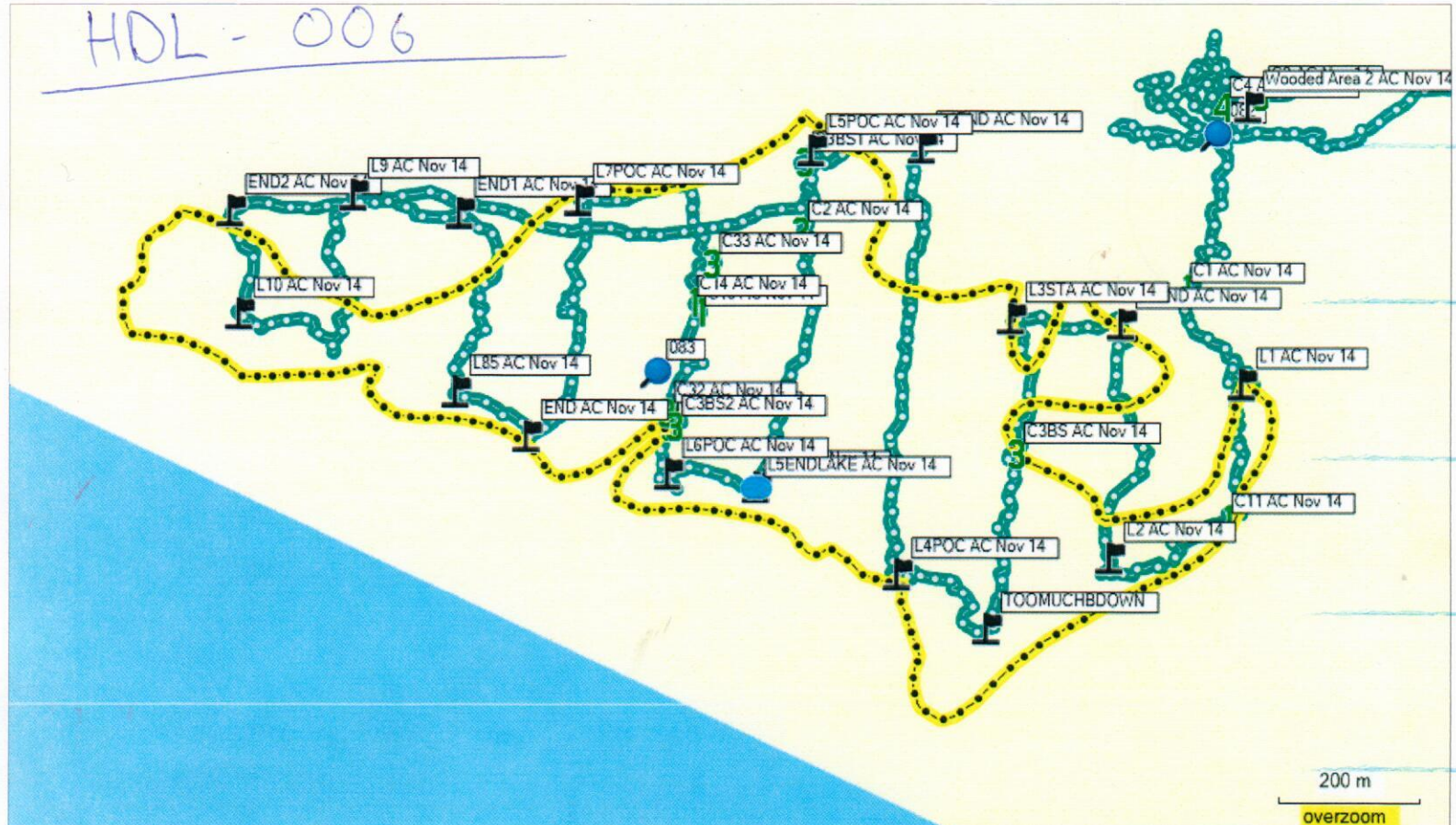
34.8 Hectares

Legend

-  New Attack (Codes 1-4)
-  Probe Tracks



HDL - 006



Nov 14 - AC

Attack - C1=2 C2=1
C3=5
~~11/14/14~~

Access - From quad, walk 2.1 km @ 240°

Features - Heavy blowdown
- Flat gentle slopes
- Open stand
- Heavy aspen.


**SPRUCE BEETLE
PROBE CARD**

LOCATION <i>Probe 3</i> <i>Hd1-006</i>		1000482659 6147343		PAGE OF 703m elev					
BEARING 180°		DISTANCE 811m-911m		STRIP WIDTH 10m					
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	
17.5 - 25.0	3.3	••							B1
25.1 - 30.0	5.3	••							
30.1 - 35.0	7.1	••							
35.1 - 40.0	9.4	••							
40.1 - 45.0	11.6	••							
45.1 - 50.0	13.8								
50.1 - 55.0	16.2								
55.1 - 60.0	18.7								
60.1 +	25.3								
TOTALS		19		1					3
BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN			
						Attacked	Unattacked		
North									
South									
COMMENTS O-Bark Sample									
CREW NAMES Aaron Colebank					DATE 2006/11/14				


**SPRUCE BEETLE
PROBE CARD**

LOCATION <i>HSL-0006</i> <i>Probe 50</i>		1000482325 6147382		PAGE OF elev 701m					
BEARING 0°		DISTANCE 2166-2266m		STRIP WIDTH 10m					
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	
17.5 - 25.0	3.3	••							
25.1 - 30.0	5.3	••							
30.1 - 35.0	7.1	••							
35.1 - 40.0	9.4	••							
40.1 - 45.0	11.6	••							
45.1 - 50.0	13.8								
50.1 - 55.0	16.2								
55.1 - 60.0	18.7								
60.1 +	25.3								
TOTALS		15		4					3
BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN			
						Attacked	Unattacked		
North									
South									
COMMENTS O-Bark Sample									
CREW NAMES Aaron Colebank					DATE 2006/11/14				



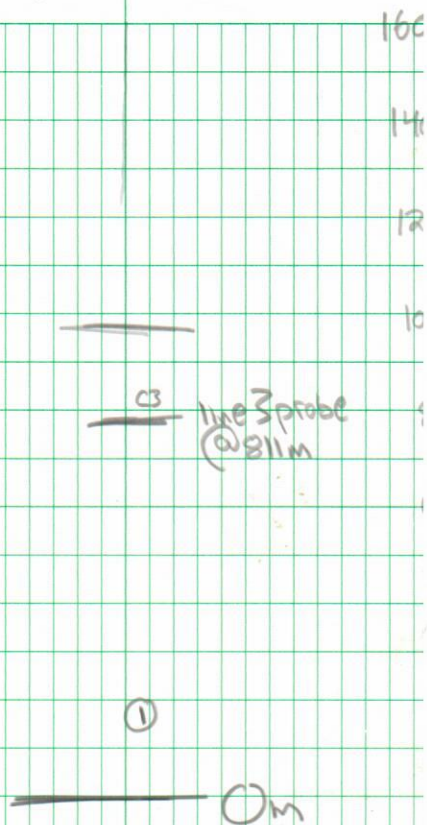
BRITISH
COLUMBIA



SPRUCE BEETLE
PROBE CARD

LOCATION <i>Line 5</i>		1000482453 <i>6147751</i>		PAGE OF <i>elev: 700m</i>					
BEARING <i>180°</i>		DISTANCE <i>1620m-1720m</i>		STRIP WIDTH <i>10m</i>					
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	
17.5 - 25.0	3.3	<i>•••</i>							<i>•</i>
25.1 - 30.0	5.3	<i>•••</i>							<i>•••</i>
30.1 - 35.0	7.1	<i>•••</i>			<i>•</i>				<i>•••</i>
35.1 - 40.0	9.4	<i>•••</i>							
40.1 - 45.0	11.6								
45.1 - 50.0	13.8								
50.1 - 55.0	16.2								
55.1 - 60.0	18.7								
60.1 +	25.3								
TOTALS		<i>16</i>		<i>1</i>	<i>1</i>				<i>5</i>
BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN			
						Attacked	Unattacked		
<i>North</i>					<i>•</i>				
<i>South</i>					<i>••</i>				
COMMENTS <i>① Bark Sample</i>									
CREW NAMES <i>Aaron Colbank</i>						DATE Y M D <i>2016 11 24</i>			

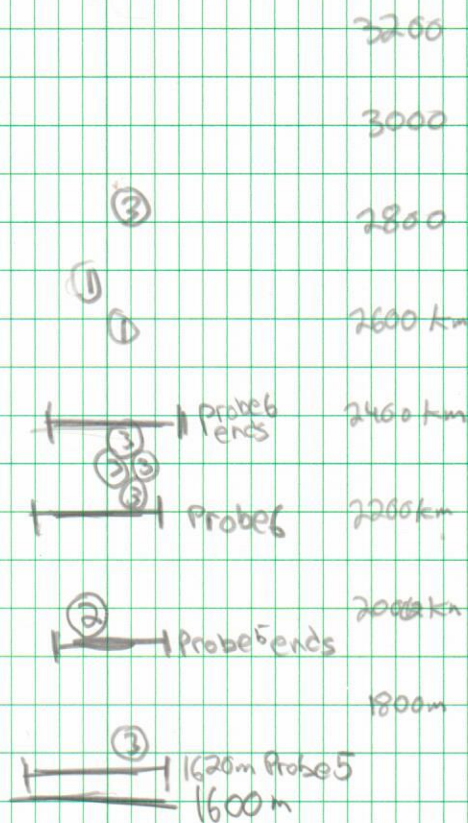
HDL-006

Aaron Colebank Nov 14th, 2016

⊗ flat, gentle slopes

⊗ not to scale

HDL-006

Aaron Colebank Nov 14th, 2016

⊗ not to scale

HDL-006

R.D. PENHALL LTD. MADE IN VANCOUVER, CANADA
DUKSBAL WATERPROOF

end 3500 m

3200

Aaron Colebant

Nov 14th, 2016

* Heavy Blowdown along lake