

# Significant Tree Inventory Report Edward Rose Millennial Development The Rose Property Poulsbo, WA

March 18, 2019

Prepared by:

American Forest Management, Inc.

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# **Supporting Information**

Ortho-photo Inventory Plot Map

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### 1. Introduction

American Forest Management Inc. was contacted by Mark Perkoski with Edward Rose and Sons and asked to conduct a partial inventory of significant trees on the Rose Property in Poulsbo, WA.

Our assignment is to perform a sample inventory of significant trees within the ownership and to report on the density and general condition of the subject trees found therein.

The purpose of the report is to estimate the number of significant trees within the various forest types found on the property.

Dates of Field Examination: November 9<sup>th</sup>, 16<sup>th</sup>, 26<sup>th</sup> and 27<sup>th</sup>, 2018

### 2. Description

The study area encompasses approximately 55 acres. The area includes Kitsap County parcels 112601-3-006-2000 (19.45 acres), 112601-3-021-2001 (17.40 acres), 112601-3-008-2008 (11.94 acres) 112601-4-022-2009 (6.67 acres). The tree cover on parcels 112601-4-028-2003 (5.54 acres) and 112601-3-003-2003 (0.32 acres) located directly to the northwest was also inventoried and assessed.

A sample inventory was conducted to quantify the number of significant trees on the property. Fifty-nine 1/10<sup>th</sup> acre fixed plots were randomly sampled across the site. A map showing the plot locations can be found at the end of this report. The 1/10<sup>th</sup> acre fixed plots have a plot radius of 37.2'. In total, roughly 10% of the area was inventoried and the data extrapolated to estimate the number of significant trees per acre across the site. In addition, information on tree species, size and general condition was collected.

For the purposes of this report, a significant tree is considered any tree greater than 10" DBH (diameter at breast height, 4 ½ above ground).

Plot centers were located using the geo-referenced plot map that we created and the Avenza pdf maps application. These were marked in the field with a sturdy stake and marked with fluorescent pink flagging.

### 3. Observations

The forest cover on the subject property is comprised of mixed native deciduous and coniferous species. The forest is very diverse and it was difficult to accurately identify different forest types. Much of the ownership was selectively logged roughly 15 to 20 years ago. That harvest involved mostly the removal of Douglas fir trees. The project area was generally delineated into forest types primarily based on species composition. These types are described as follows:

Type 1 is an upland type, primarily comprised of coniferous tree cover of Douglas fir and Western red cedar. These species were found to be in fairly good condition. Several cedar trees are under stress from past summer drought conditions. This is evident by sparse or thinning foliage in the upper crowns. There is also a moderate component of Western hemlock in the type. These were generally found to be in fair to poor condition. The hemlock on a fairly large percentage of the type is being adversely affected by root disease, believed to be Annosus root rot. Several hemlock trees have succumb to root disease and have been wind thrown (blown over) in the past. It is also infested with dwarf mistletoe. There is a very minor component of Western white pine within the type. These range in condition from good to poor. Some are being adversely impacted by White pine blister rust.

There is a minor to moderate component of native hardwood or deciduous trees within Type 1. These are primarily bigleaf maple and red alder. The maple is in relatively good condition. The condition of the alder varies. Much of the alder is mature and in varying stages of natural decline. There is also a minor component of Scouler's willow and cascara present.

Type 2 is also an upland type. This type appears to have been more heavily logged in the past, given the degree of stands of younger red alder present. The type is basically comprised of an even mix of coniferous and

deciduous trees. The dominant coniferous species is Western red cedar. These are found in small groupings from a ¼ acre to a ½ acre in size, surrounded by stands of younger red alder. There are minor components of Douglas fir and Western hemlock within these cedar groupings or groves. The majority of the cedar is in good condition, however; several trees are under stress from past summer drought conditions. There are also minor components of mature red alder and semi-mature bigleaf maple within these groves.

Type 3 is a lowland or wetland type. The topography is relatively flat and does not coincide with the contour lines shown on the attached topography map. Hydric soils were found throughout the type. Plot data was not collected in the south half of the type. This portion of the type is very wet and comprised of dense undergrowth or brush species. Tree species composition is predominantly Western red cedar. Most are healthy and of good vigor, however; several trees are under stress from past summer drought conditions. There is a minor component of Douglas fir present. These are mostly found on the type perimeter on higher ground. There is also a moderate component of deciduous tree cover comprised of a mix of red alder, big leaf maple and bitter cherry.

Type 4 encompasses parcel 112601-4-022-2009. The south portion of this parcel is non-forested, comprised of primarily Himalayan blackberry. The remainder is forested and comprised of a mix of native tree species. A stream meanders through the west side of the parcel.

Type 5 encompasses parcels 112601-4-028-2003 and 112601-3-003-2003. The southwest portion of this area is developed or non-forested. The remainder is forested and comprised of a mix of native tree species.

### 4. Significant Tree Inventory

In order to estimate the average number of trees per acre across the site, a sample inventory was conducted. Fifty-nine  $1/10^{th}$  acre fixed plots were sampled on roughly 59 acres. A map showing the plot locations can be found at the end of this report. Plots were randomly spaced on a 200' by 200' square grid within the study area. The  $1/10^{th}$  acre fixed plots have a plot radius of 37.2'. The attached Plot – Tree Summary Tables provide the species, size or DBH (diameter at  $4\frac{1}{2}$ ' above grade) and the general condition of inventoried significant trees. Condition is ranked as Good, Fair or Poor. These condition categories are described as follows.

Good – free of significant structural defects, no disease concerns, minor pest issues, no significant root issues, good structure/form with uniform crown or canopy, foliage of normal color and density, average or normal vigor, will be wind firm if isolated or left as part of a grouping or grove of trees.

Fair – minor to moderate structural defects not expected to contribute to a failure in the near future, no disease concerns, moderate pest issues, no significant root issues, asymmetric or unbalanced crown or canopy, average or normal vigor, foliage of normal color, moderate foliage density, will be wind firm if left as part of a grouping or grove of trees.

Poor – major structural defects expected to cause fail in the near future, disease or significant pest concerns, decline due to old age, significant root issues, asymmetric or unbalanced crown or canopy, sparse or abnormally small foliage and/or poor vigor.

The plot data is summarized in the tables below by forest type. Tree Species are coded as follows:

DF = Douglas fir WH = Western hemlock WRC = Western red cedar WWP = Western white pine

GF = grand fir

RA = red alder

CW = black cottonwood

WI = Scouler's willow

PY = Pacific yew

BLM = bigleaf maple

CH = bitter cherry

CA = cascara

PM = Pacific madrone

**TYPE 1 - 23.2 Acres** 

Plot #	DF	WH	WRC	WWP	GF	PY	RA	BLM	CW	СН	WI	CA	Total
3	13	1											14
9	1	4	2				4						11
13	8	1	5	1									15
14	9		1										10
15	6		1				1	1			1		10
20	6		10										16
21	5	1	3				1				1		11
22	3	6	5										14
27	5	3	1				2						11
28		6					1						7
29	2	1	4										7
30	2		6				1						9
33	3		21				1						25
34	4	9	4	1									18
35	1		7				2						10
36	1		1				1	4					7
40			3				6	1					10
41	4	1	9				1						15
42	1		11	1	1		1						15
48	2		12					2					16
49	1							9					10
55	7												7
56	3		13										16
Totals	87	33	119	3	1	0	22	17	0	0	2	0	284

The plot data estimates an average of 12.3 trees per plot or 123 significant trees per acre; for a total of approximately 2,854 significant trees within Type 1.

Of the 284 sampled trees, 20 or roughly 7% were found to be in poor condition.

**TYPE 2 - 22.6 Acres** 

Plot #	DF	WH	WRC	WWP	GF	PY	RA	BLM	CW	СН	WI	PM	Total
4	6	1											7
5			8				1	2					11
10	1		7				4						12
11			9										9
16	1		3					3	1				8
17	1	1	8				1	1					12
18			15		1		2	1					19
23	2		4				1						7
24			4				4						8
25			13				2						15
31		1	4				1	4					10
37	3		9				1	1					14
43			5				8	1			1		15
44	1		4				6	2					13
50	1		1				2	4		1			9
51	3		8				2	2					15
52			2				10						12
53	2		3				1	5					11
54	3		10					3					16
57	1		8				1	5					15
58			3				12	1					16
59	1		2				6	1					10
60	6							3				1	10
Totals	32	3	130	0	1	0	65	39	1	1	1	1	274

The plot data estimates an average of 11.9 trees per plot or 119 significant trees per acre; for a total of 2,689 significant trees within Type 2.

Of the 274 sampled trees, 18 or roughly 6.6% were found to be in poor condition.

**TYPE 3 - 9.2 Acres** 

Plot #	DF	WH	WRC	WWP	PY	RA	BLM	CW	СН	WI	Total
61			6			2					8
62			8			4					12
63	1		13			6					20
64	3		5			2	1				11
Totals	4	0	32	0	0	14	1	0	0	0	51

The plot data estimates an average of 12.75 trees per plot or 128 significant trees per acre; for a total of 1,178 significant trees within Type 3.

Of the 51 sampled trees, 11 or roughly 21.5% were found to be in poor condition.

**TYPE 4 – 5.3 Acres** 

Plot #	DF	WH	WRC	WWP	PY	RA	BLM	CW	СН	WI	Total
19							5				5
26						9					9
32	1					7			1		9
38	8		5			2	1				16
39	4	1	10								15
47	6					1	1				8
Totals	19	1	15	0	0	19	7	0	1	0	62

The plot data estimates an average of 10.3 trees per plot or 103 significant trees per acre; for a total of 546 significant trees within Type 4.

Of the 62 sampled trees, 4 or roughly 6.4% were found to be in poor condition.

**TYPE 5 – 3.3 Acres** 

Plot #	DF	WH	WRC	WWP	PY	RA	BLM	CW	СН	WI	Total
1	5		5								10
2	2		9								11
8		1						1	1		3
Totals	7	1	14	0	0	0	0	1	1	0	24

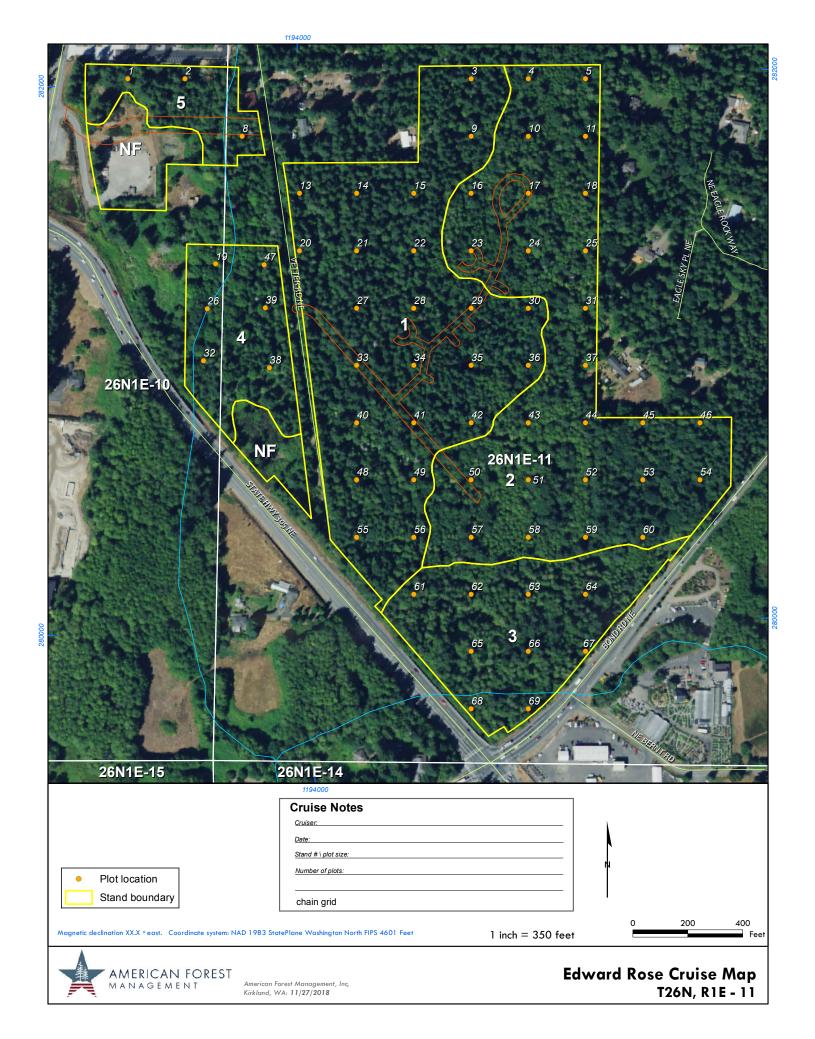
The plot data estimates an average of 8 trees per plot or 80 significant trees per acre; for a total of 264 significant trees within Type 5.

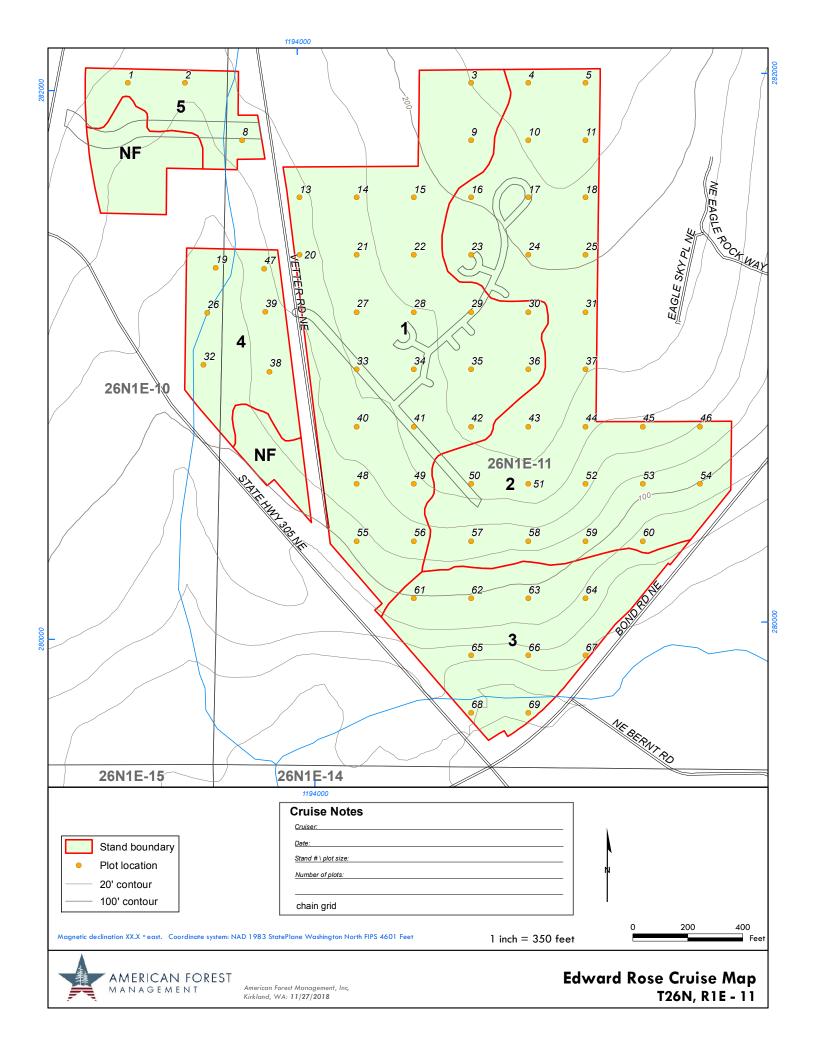
Of the 24 sampled trees, none were found to be in poor condition.

## 5. Summary

Types 1 and 2 comprise the area where future development is planned. Significant tree density is fairly uniform in the proposed development area, ranging between 119 trees per acre and 123 trees per acre. Approximately 30% of the trees sampled in this area are less than 10 inches in diameter. Type 2 has a higher percentage of smaller trees due to past logging activity and the natural regeneration of a younger age class of red alder and other hardwood species.

Of the trees sampled in Types 1 and 2, roughly 7% were found to be in poor condition. These trees are not expected to survive for more than a few years or fail in the near future.





Edwar	d Rose F	Poulsbo			
Plot ra	dius=37	.2′			
Plot #	Tree #	Species	DBH	Condition	Comments
1					
	1	Douglas fir	17	Fair	Interior
	2	Douglas fir	14	Fair	Thin
	3	Douglas fir	22	Good	Forked
	4	Douglas fir	17	Good	
	5	Douglas fir	13	Fair	
	6	Western Red Cedar	15	Good	
	7	Western Red Cedar	15	Good	
	8	Western Red Cedar	19	Good	
	9	Western Red Cedar	20	Good	
	10	Western Red Cedar	33	Good	
2					
	1	Douglas Fir	14	good	
	2	Western Red Cedar	16	good	
	3	Western Red Cedar	12	good	
	4	Western Red Cedar	10	fair	
	5	Western Red Cedar	11	good	
	6	Western Red Cedar	11	fair	
	7	Western Red Cedar	25	good	
	8	Douglas Fir	22	good	
	9	Western Red Cedar	14	fair	
	10	Western Red Cedar	22	good	
	11	Western Red Cedar	15	good	
3					
	1	Douglas fir	12	Good	Sweeps e
	2	Douglas fir	10	Fair	

	3	Douglas fir	10	Fair	Ok as group
	4	Douglas fir	17	Fair	
	5	Douglas fir	11	Fair	
	6	Douglas fir	19	Good	
	7	Douglas fir	17	Good	
	8	Douglas fir	19	Fair	Thin
	9	Douglas fir	15	Fair	Thin
	10	Hemlock	16	Fair	Broken top new leaders
	11	Douglas fir	17	Good	
	12	Douglas fir	17	Poor	
	13	Douglas fir	18	Fair	
	14	Douglas fir	14	Fair	
4					
	1	Douglas Fir	19	good	
	2	Douglas Fir	10	fair	decay column
	3	Douglas Fir	12	fair	heavy lean
	4	Douglas Fir	19	good	
	5	Douglas Fir	16	fair	sparse foliage
	6	Douglas Fir	16	fair	same
	7	Hemlock	11	fair	
5					
	1	Red Alder	10	poor	broken
	2	Big Leaf Maple	16	good	
	3	Big Leaf Maple	17	good	
	4	Western Red Cedar	15	good	
	5	Western Red Cedar	16	good	
	6	Western Red Cedar	29	good	
	7	Western Red Cedar	26	good	

	8	Western Red Cedar	14	good	
	9	Western Red Cedar	10	poor	rot, broken top
	10	Western Red Cedar	29	good	
	11	Western Red Cedar	34	good	forked, codom stems
6	·	·	·		
	Non-Fo	prested			
7					
	Non-Fo	prested			
8					
	1	Hemlock	18	Good	
	2	Cherry	10	Good	Open
	3	BL Cottonwood	16	Good	
9					
	1	Alder	16	Good	
	2	Hemlock	20	Fair	Thinw
	3	Hemlock	30	Good	Lg buttress roots
	4	Alder	15	Good	
	5	Alder	13	Fair	Leans
	6	Western Red Cedar	12	Fair	
	7	Alder	13	Fair	
	8	Douglas fir	13	Poor	
	9	Western Red Cedar	17	Good	
	10	Hemlock	33	Good	Good flare, taper
	11	Hemlock	27	Good	Leans n
10					
	1	Red Alder	14	fair	
	2	Red Alder	12	poor	trunk decay
	3	Western Red Cedar	37	good	
		•	-		•

	4	Red Alder	12	fair	heavy lean
	5	Red Alder	16	fair	l l l l l l l l l l l l l l l l l l l
	6	Douglas Fir	10	poor	major decline
	7	Western Red Cedar	35	fair	decay, forked top
	8	Western Red Cedar	10	fair	major sweep
	9	Western Red Cedar	23	good	inajor sweep
	10	Western Red Cedar	36	good	
	11	Western Red Cedar	41	good	
	12	Western Red Cedar	30	good	
	1	Trestern new Jean.		8000	
11					
	1	Western Red Cedar	21	good	
	2	Western Red Cedar	17	fair	
	3	Western Red Cedar	21	fair	
	4	Western Red Cedar	30	good	
	5	Western Red Cedar	25	good	
	6	Western Red Cedar	32	poor	trunk decay, broken
	7	Western Red Cedar	34	good	
	8	Western Red Cedar	11	good	
	9	Western Red Cedar	27	fair	forked top
					·
12	•	•	,		
	Non-Fores	sted			
13					
	1	Douglas fir	12	Good	
	2	Western Red Cedar	22	Good	
	3	Western Red Cedar	10	Good	
	4	WH Pine	17	Good	
	5	Douglas fir	11	Good	
	6	Douglas fir	14	Fair	
	7	Western Red Cedar	15	Good	

	8	Douglas fir	15	Fair	
	9	Douglas fir	14	Good	
	10		16	Good	
		Douglas fir			
	11	Hemlock	12	Fair	
	12	Douglas fir	18	Fair	
	13	Douglas fir	14	Fair	
	14	Western Red Cedar	14	Good	
	15	Western Red Cedar	10	Fair	
14					
	1	Western Red Cedar	15	Good	
	2	Douglas fir	20	Good	
	3	Douglas fir	18	Fair	
	4	Douglas fir	19	Good	
	5	Douglas fir	23	Good	
	6	Douglas fir	11	Fair	
	7	Douglas fir	15	Good	
	8	Douglas fir	27	Good	
	9	Douglas fir	22	Good	
	10	Douglas fir	13	Good	
15					
	1	Douglas fir	12	Fair	
	2	Western Red Cedar	11	Fair	
	3	Douglas fir	18	Good	
	4	Big Leaf Maple	10	Good	A
	5	Douglas fir	14	Fair	
	6	Scoulers willow	10	Fair	
	7	Alder	11	Fair	
	8	Douglas fir	15	Fair	
	9	Douglas fir	22	Good	
	10	Douglas fir	12	Fair	

16						
	1	Big Leaf Maple	11	Good		
	2	Western Red Cedar	11	Good		
	3	Douglas fir	12	Poor	Thin	
	4	Western Red Cedar	12	Fair	Thin	
	5	Western Red Cedar	14	Poor	Forked	
	6	BLk Cottonwood	26	Good	Vigor	
	7	Big Leaf Maple	12	Fair	Big sweep	
	8	Big Leaf Maple	18	Good		
17						
	1	Big Leaf Maple	40	fair	trunk cavity	
	2	Western Red Cedar	18	fair	lean	
	3	Western Red Cedar	38	good		
	4	Western Red Cedar	24	good		
	5	Hemlock	18	good	on nurse stump	
	6	Western Red Cedar	29	fair	trunk rot	
	7	Douglas Fir	29	good		
	8	Western Red Cedar	11	good		
	9	Red Alder	14	fair		
	10	Western Red Cedar	10	good		
	11	Western Red Cedar	30	fair	thin top	
	12	Western Red Cedar	11	fair		
18						
	1	Western Red Cedar	22	good	minor trunk sweep	
	2	Western Red Cedar	10	fair	major sweep	
	3	Western Red Cedar	12	fair	forked top	
	4	Red Alder	11	fair		
	5	Big Leaf Maple	12	good		

	6	Western Red Cedar	20	good	
	7	Grand Fir	20	good	
	8	Red Alder	13	fair	
	9	Western Red Cedar	29	good	
	10	Western Red Cedar	28	good	
	11	Western Red Cedar	24	good	
	12	Western Red Cedar	19	fair	old broken top
	13	Western Red Cedar	11	fair	
	14	Western Red Cedar	21	fair	
	15	Western Red Cedar	26	good	
	16	Western Red Cedar	18	fair	
	17	Western Red Cedar	23	fair	forked top
	18	Western Red Cedar	24	fair	
	19	Western Red Cedar	29	good	
19					
	1	Big Leaf Maple	21	Good	Near plot center
	2	Big Leaf Maple	16	Good	Room to grow
	3	Big Leaf Maple	12	Good	
	4	Big Leaf Maple	25	Good	
	5	Big Leaf Maple	28	Fair	Decay, overmature
20					
	1	Western Red Cedar	15	Fair	
	2	Douglas fir	16	Good	
	3	Western Red Cedar	10	Good	
	4	Douglas fir	19	Good	
	5	Western Red Cedar	20	Good	
	6	Western Red Cedar	18	Good	
	7	Western Red Cedar	35	Good	

	T	1		Ţ	
	8	Western Red Cedar	19	Fair	
	9	Western Red Cedar	23	Fair	
	10	Western Red Cedar	21	Fair	
	11	Western Red Cedar	18	Fair	
	12	Douglas fir	20	Good	
	13	Douglas fir	16	Good	
	14	Douglas fir	13	Fair	
	15	Western Red Cedar	13	Fair	
	16	Douglas fir	21	Good	
21					
	1	Hemlock	14	Poor	
	2	Alder	10	Fair	
	3	Scoulers Willow	10	Poor	
	4	Western Red Cedar	11	Fair	
	5	Douglas fir	16	Good	
	6	Western Red Cedar	17	Good	
	7	Western Red Cedar	11	Good	
	8	Douglas fir	12	Fair	
	9	Douglas fir	24	Good	
	10	Douglas fir	21	Good	
	11	Douglas fir	20	Good	
22					
	1	Western Red Cedar	42	Good	
	2	Hemlock	17	Poor	Mistletoe
	3	Western Red Cedar	13	Fair	Sweeping trunk
	4	Hemlock	13	Fair	Mistletoe
	5	Douglas fir	12	Fair	
	6	Hemlock	11	Fair	
	7	Hemlock	17	Fair	

	8	Douglas fir	13	Fair	
	9	Western Red Cedar	15	Fair	
	10	Hemlock	11	Poor	
	11	Douglas fir	21	Good	
	12	Hemlock	11	Poor	
	13	Western Red Cedar	37	Good	
	14	Western Red Cedar	19	Good	
23		- 1- 1			
	1	Western Red Cedar	23	Fair	Thin
	2	Douglas fir	22	Fair	Thin
	3	Western Red Cedar	20	Fair	Thin
	4	Western Red Cedar	26	Fair	
	5	Western Red Cedar	14	Poor	
	6	Douglas fir	19	Good	
	7	Alder	12	Fair	
24					
	1	Western Red Cedar	32	good	
	2	Western Red Cedar	26	good	
	3	Western Red Cedar	34	good	
	4	Red Alder	10	fair	
	5	Red Alder	11	fair	
	6	Red Alder	11	fair	
	7	Western Red Cedar	36	good	
	8	Red Alder	13	poor	broken
25					
	1	Western Red Cedar	45	fair	thin top
	2	Western Red Cedar	26	fair	

	3	Western Red Cedar	39	fair	
	4	Western Red Cedar	10	good	
	5	Western Red Cedar	24	good	
	6	Western Red Cedar	32	good	
	7	Western Red Cedar	12	fair	
	8	Western Red Cedar	14	fair	forked
	9	Western Red Cedar	19	good	
	10	Western Red Cedar	20	fair	
	11	Red Alder	14	fair	
	12	Red Alder	22	fair	
	13	Western Red Cedar	15	fair	
	14	Western Red Cedar	22	good	
	15	Western Red Cedar	17	fair	thin top
26					
	1	Alder	14	Fair	Leans south
	2	Alder	14	Fair	Leans south
	3	Alder	11	Fair	
	4	Alder	10	Good	
	5	Alder	10	Good	
	6	Alder	10	Good	
	7	Alder	13	Fair	Cankers at base
	8	Alder	10	Good	
	9	Alder	10	Good	
	1			1	
27					
	1	Douglas fir	19	Good	
	2	Douglas fir	16	Fair	
	2	Douglas fir Alder	16 11	Fair Fair	
	2	Douglas fir	16	Fair	

	6	Western Red Cedar	34	Good	
	7	Douglas fir	12	Fair	
	8	Douglas fir	12	Fair	
	9	Hemlock	15	Good	
	10	Hemlock	21	Poor	Root disease around this area
	11	Alder	13	Poor	
28					
	1	Hemlock	14	Poor	Mistletoe others dead nearby
	2	Hemlock	10	Poor	
	3	Hemlock	21	Fair	
	4	Hemlock	25	Fair	
	5	Alder	13	Fair	
	6	Hemlock	12	Fair	
	7	Hemlock	14	Fair	
29					
	1	Western Red Cedar	19	Fair	
	2	Douglas fir	14	Good	
	3	Western Red Cedar	19	Fair	
	4	Hemlock	11	Good	On stump
	5	Western Red Cedar	19	Fair	
	6	Western Red Cedar	11	Fair	
	7	Douglas fir	16	Fair	Thin
30					
	1	Western Red Cedar	16	good	
	2	Western Red Cedar	19	good	
	3	Red Alder	12	fair	
	4	Western Red Cedar	10	good	
	5	Douglas fir	25	fair	broken top

	6	Western Red Cedar	23	good	
	7	Western Red Cedar	21	good	
	8	Western Red Cedar	18	good	
	9	Douglas fir	27	good	old trunk wound
		Douglas III	27	good	old trulik would
31					
	1	Western Red Cedar	23	good	
	2	Western Red Cedar	30	good	
	3	Red Alder	14	fair	
	4	Western Red Cedar	13	good	
	5	Big Leaf Maple	12	fair	
	6	Big Leaf Maple	14	fair	
	7	Big Leaf Maple	29	good	
	8	Hemlock	22	poor	root diseased
	9	Western Red Cedar	10	fair	
	10	Big Leaf Maple	14	fair	
32					
	1	Alder	10	Fair	Near center of plot
	2	Alder	13	Good	
	3	Alder	10	Good	Room to grow
	4	Alder	10	Good	
	5	Douglas fir	14	Good	
	6	Cherry	14	Good	Twins. Room to grow
	7	Alder	16	Fair	Over mature
	8	Alder	12	Poor	
	9	Alder	16	Poor	Over mature
33					
	1	Western Red Cedar	15	Good	
	2	Western Red Cedar	13	Good	

	3	Western Red Cedar	13	Good	
	4	Western Red Cedar	20	Good	
	5	Western Red Cedar	12	Good	
	6	Western Red Cedar	10	Good	
	7	Western Red Cedar	16	Good	
	8	Western Red Cedar	16	Good	
	9	Western Red Cedar	13	Good	
	10	Alder	22	Good	
	11	Western Red Cedar	17	Good	
	12	Western Red Cedar	21	Good	
	13	Western Red Cedar	13	Fair	
	14	Western Red Cedar	12	Fair	
	15	Western Red Cedar	14	Good	
	16	Western Red Cedar	21	Good	
	17	Western Red Cedar	25	Good	
	18	Douglas fir	11	Fair	
	19	Western Red Cedar	15	Good	
	20	Western Red Cedar	11	Fair	
	21	Western Red Cedar	11	Fair	
	22	Douglas fir	27	Good	
	23	Western Red Cedar	10	Fair	
	24	Western Red Cedar	16	Good	
	25	Douglas fir	19	Good	
34					
	1	Hemlock	20	Fair	
	2	WH Pine	17	Good	
	3	Hemlock	14	Fair	
	4	Hemlock	10	Fair	
	5	Douglas fir	13	Fair	
	6	Hemlock	16	Poor	Root rot?

	7	Hemlock	13	Poor	Root rot?
	8	Douglas fir	10	Fair	
	9	Hemlock	11	Poor	
	10	Hemlock	16	Fair	
	11	Western Red Cedar	11	Good	
	12	Douglas fir	21	Good	
	13	Hemlock	11	Poor	
	14	Western Red Cedar	23	Fair	
	15	Douglas fir	10	Fair	
	16	Western Red Cedar	18	Good	
	17	Hemlock	19	Fair	
	18	Western Red Cedar	21	Fair	
35					
	1	Western Red Cedar	12	Fair	
	2	Western Red Cedar	11	Fair	
	3	Western Red Cedar	19	Good	
	4	Alder	18	Poor	Over mature
	5	Western Red Cedar	11	Good	
	6	Douglas fir	20	Fair	Big sweep
	7	Western Red Cedar	26	Fair	Thin
	8	Western Red Cedar	24	Fair	
	9	Western Red Cedar	10	Fair	
	10	Alder	12	Fair	
36					
	1	Big Leaf Maple	10	good	
	2	Western Red Cedar	44	good	
	3	Douglas fir	31	good	
	4	Big Leaf Maple	17	good	
	5	Big Leaf Maple	20	good	
	6	Big Leaf Maple	12	good	

	7	Red Alder	10	fair	
37					
	1	Western Red Cedar	11	good	
	2	Big Leaf Maple	11	poor	broken at 25'
	3	Douglas Fir	29	good	
	4	Douglas Fir	13	good	
	5	Douglas Fir	21	good	
	6	Western Red Cedar	10	good	
	7	Western Red Cedar	20	good	
	8	Western Red Cedar	18	good	
	9	Western Red Cedar	12	good	
	10	Western Red Cedar	25	fair	sparse foliage
	11	Red Alder	13	fair	
	12	Western Red Cedar	12	poor	major decline
	13	Western Red Cedar	12	poor	very sparse crown
	14	Western Red Cedar	14	poor	very sparse crown
38					
	1	Douglas fir	15	Fair	
	2	Douglas fir	14	Fair	
	3	Big Leaf Maple	20	Fair	
	4	Douglas fir	13	Good	Edge of trail and plot
	5	Douglas fir	11	Good	
	6	Western Red Cedar	11	Good	
	7	Douglas fir	11	Good	Leans w into clearing
	8	Western Red Cedar	14	Good	
	9	Western Red Cedar	11	Good	
	10	Western Red Cedar	16	Good	
	11	Alder	12	Fair	
	12	Alder	10	Fair	
	13	Western Red Cedar	18	Good	

	14	Douglas fir	10	Fair	
-	15			Fair	
		Douglas fir	14		
	16	Douglas fir	13	Good	
39					
	1	Douglas fir	16	Good	
	2	Western Red Cedar	11	Fair	
	3	Western Red Cedar	15	Good	
	4	Western Red Cedar	11	Poor	Top broken by fallen Alder
	5	Western Red Cedar	15	Fair	Thin
	6	Western Red Cedar	12	Fair	Thin twins
	7	Western Red Cedar	14	Fair	
	8	Hemlock	13	Good	
	9	Western Red Cedar	14	Good	
	10	Western Red Cedar	11	Good	
	11	Douglas fir	10	Fair	
	12	Douglas fir	14	Good	
	13	Western Red Cedar	14	Good	
	14	Douglas fir	14	Good	
	15	Western Red Cedar	14	Fair	Thin
40					
-10	1	Western Red Cedar	15	Good	
	2	Alder	11	Good	
	3	Alder	10	Fair	
	4	Big Leaf Maple	17	Good	
	5	Western Red Cedar	20	Good	
	6	Western Red Cedar	10	Fair	
	7	Alder	10	Fair	
	8	Alder	12	Good	
	9	Alder	10	Fair	
	10	Alder	11	Fair	

41					
	1	Hemlock	13	Poor	
	2	Douglas fir	13	Poor	
	3	Douglas fir	13	Good	
	4	Western Red Cedar	10	Good	
	5	Western Red Cedar	12	Good	
	6	Western Red Cedar	15	Good	
	7	Western Red Cedar	14	Good	
	8	Alder	10	Fair	
	9	Western Red Cedar	11	Fair	
	10	Western Red Cedar	13	Good	
	11	Western Red Cedar	10	Fair	
	12	Western Red Cedar	12	Good	
	13	Douglas fir	13	Good	
	14	Western Red Cedar	21	Good	
	15	Douglas fir	21	Good	
42					
	1	Grand fir	30	Good	
	2	White pine	24	Good	
	3	Western Red Cedar	13	Fair	
	4	Western Red Cedar	22	Fair	Thin
	5	Western Red Cedar	12	Fair	
	6	Western Red Cedar	10	Fair	
	7	Western Red Cedar	17	Fair	
	8	Alder	10	Poor	Leans s
	9	Western Red Cedar	13	Good	
	10	Western Red Cedar	13	Fair	
	11	Western Red Cedar	20	Good	
	12	Western Red Cedar	13	Fair	
	13	Western Red Cedar	33	Good	

	14	Douglas fir	23	Good	
	15	Western Red Cedar	24	Good	
43					
	1	Red Alder	17	fair	
	2	Red Alder	19	poor	broken, 90% dead
	3	Red Alder	12	fair	
	4	Red Alder	11	fair	
	5	Western Red Cedar	12	good	
	6	Red Alder	14	fair	
	7	Scoulers Willow	13	fair	
	8	Big Leaf Maple	19	fair	
	9	Western Red Cedar	14	good	
	10	Red Alder	10	fair	
	11	Western Red Cedar	14	good	
	12	Western Red Cedar	15	good	
	13	Western Red Cedar	21	good	
	14	Red Alder	10	fair	
	15	Red Alder	11	fair	
44					
	1	Red Alder	12	fair	
	2	Red Alder	13	fair	
	3	Douglas Fir	21	good	
	4	Western Red Cedar	19	good	
	5	Western Red Cedar	24	good	
	6	Big Leaf Maple	17	good	
	7	Red Alder	11	fair	
	8	Red Alder	12	fair	
	9	Red Alder	12	fair	
	10	Red Alder	14	fair	
	11	Big Leaf Maple	11	fair	forked top

	12	Western Red Cedar	25	good							
	13	Western Red Cedar	32	good							
45											
	Wet Area										
46											
•	Wet Area										
47											
	1	Douglas fir	13	Fair	Thin						
	2	Douglas fir	16	Fair							
	3	Douglas fir	10	Poor	Thin						
	4	Douglas fir	17	Fair							
	5	Big Leaf Maple	17	Fair	Thin codominant						
	6	Douglas fir	13	Good	Anthill, sweeps west						
	7	Douglas fir	10	Fair	Thin						
	8	Alder	12	Fair							
48											
	1	Western Red Cedar	20	Good							
	2	Western Red Cedar	27	Fair							
	3	Western Red Cedar	23	Fair							
	4	Western Red Cedar	20	Fair							
	5	Western Red Cedar	17	Good							
	6	Western Red Cedar	15	Fair							
	7	Western Red Cedar	20	Good							
	8	Western Red Cedar	18	Fair							
	9	Western Red Cedar	27	Good							
	10	Western Red Cedar	31	Good							
	11	Western Red Cedar	10	Good							
	12	Western Red Cedar	40	Fair							
	13	Douglas fir	19	Fair							
	14	Big Leaf Maple	14	Good							

	15	Big Leaf Maple	17	Good	
	16	Douglas fir	21	Good	
49					
	1	Big Leaf Maple	29	Good	
	2	Big Leaf Maple	15	Good	
	3	Douglas fir	15	Good	
	4	Big Leaf Maple	12	Fair	
	5	Big Leaf Maple	24	Good	
	6	Big Leaf Maple	21	Good	
	7	Big Leaf Maple	37	Good	
	8	Big Leaf Maple	10	Fair	
	9	Big Leaf Maple	14	Good	
	10	Big Leaf Maple	14	Fair	
50					
	1	Douglas fir	20	Good	
	2	Cherry	11	Fair	
	3	Western Red Cedar	34	Good	
	4	Alder	11	Fair	Leans
	5	Alder	10	Fair	
	6	Big Leaf Maple	20	Good	
	7	Big Leaf Maple	11	Poor	
	8	Big Leaf Maple	10	Fair	
	9	Big Leaf Maple	20	Good	
51					
	1	Western Red Cedar	19	fair	
	2	Douglas fir	15	good	trunk sweep
	3	Western Red Cedar	44	good	
	4	Western Red Cedar	10	good	
	5	Big Leaf Maple	12	fair	

	6	Big Leaf Maple	33	fair	trunk cavity
	7	Western Red Cedar	25	good	
	8	Western Red Cedar	27	good	
	9	Western Red Cedar	22	fair	
	10	Douglas fir	38	good	
	11	Red Alder	13	poor	90% dead
	12	Western Red Cedar	17	good	
	13	Western Red Cedar	11	good	
	14	Douglas fir	16	poor	heavily suppressed
	15	Red Alder	13	fair	
52					
	1	Red Alder	10	fair	
	2	Red Alder	11	fair	
	3	Red Alder	13	fair	
	4	Red Alder	14	fair	
	5	Western Red Cedar	16	good	trunk sweep
	6	Red Alder	11	fair	
	7	Red Alder	11	fair	lean
	8	Red Alder	13	fair	
	9	Red Alder	14	fair	
	10	Red Alder	10	fair	
	11	Western Red Cedar	38	good	
	12	Red Alder	15	fair	
53					
	1	Big Leaf Maple	10	good	
	2	Big Leaf Maple	10	good	
	3	Big Leaf Maple	11	good	
	4	Big Leaf Maple	14	good	
	5	Big Leaf Maple	20	good	
	6	Douglas Fir	12	fair	corrected lean

	7	Western Red Cedar	19	good	
	8	Western Red Cedar	35	good	
	9	Red Alder	12	fair	
	10	Western Red Cedar	29	fair	thin top
	11	Douglas Fir	25	good	
				<u> </u>	
54					
	1	Douglas Fir	19	fair	self corrected lean
	2	Western Red Cedar	11	good	
	3	Western Red Cedar	18	good	
	4	Big Leaf Maple	11	fair	
	5	Western Red Cedar	15	good	
	6	Western Red Cedar	10	good	
	7	Western Red Cedar	11	fair	forked top
	8	Western Red Cedar	24	good	
	9	Western Red Cedar	12	fair	forked top
	10	Douglas Fir	16	fair	
	11	Big Leaf Maple	17	fair	
	12	Douglas Fir	21	good	
	13	Big Leaf Maple	22	good	
	14	Western Red Cedar	20	good	
	15	Western Red Cedar	22	good	
	16	Western Red Cedar	14	fair	suppressed
55					
	1	Douglas fir	21	Good	
	2	Douglas fir	13	Good	
	3	Douglas fir	10	Good	
	4	Douglas fir	17	Good	
	5	Douglas fir	14	Fair	
	6	Douglas fir	19	Fair	
	7	Douglas fir	15	Fair	

56					
	1	Western Red Cedar	10	Good	
	2	Western Red Cedar	13	Good	
	3	Western Red Cedar	15	Good	
	4	Western Red Cedar	12	Poor	
	5	Douglas fir	21	Good	
	6	Douglas fir	29	Good	
	7	Western Red Cedar	14	Good	
	8	Western Red Cedar	23	Good	
	9	Western Red Cedar	20	Good	
	10	Western Red Cedar	15	Fair	
	11	Western Red Cedar	23	Good	
	12	Western Red Cedar	17	Good	
	13	Western Red Cedar	21	Fair	
	14	Western Red Cedar	19	Fair	
	15	Douglas fir	23	Good	
	16	Western Red Cedar	13	Fair	
57					
	1	Alder	11	Good	
	2	Western Red Cedar	22	Good	
	3	Western Red Cedar	16	Good	
	4	Western Red Cedar	25	Good	
	5	Big Leaf Maple	15	Fair	
	6	Big Leaf Maple	22	Good	
	7	Douglas fir	33	Fair	Heavy sap flow
	8	Western Red Cedar	10	Fair	
	9	Big Leaf Maple	13	Good	
	10	Western Red Cedar	15	Fair	
	11	Big Leaf Maple	23	Fair	Canopy half dead
	12	Western Red Cedar	24	Fair	

	13	Big Leaf Maple	11	Poor	Sparse
	14	Western Red Cedar	11	Fair	Thin
	15	Western Red Cedar	26	Good	
58					
	1	Big Leaf Maple	10	fair	
	2	Red Alder	10	fair	
	3	Red Alder	11	fair	
	4	Red Alder	10	fair	
	5	Red Alder	11	fair	
	6	Red Alder	10	fair	
	7	Western Red Cedar	19	good	
	8	Red Alder	10	fair	
	9	Red Alder	14	fair	
	10	Red Alder	11	fair	
	11	Red Alder	12	fair	
	12	Red Alder	10	fair	
	13	Western Red Cedar	15	fair	thin top
	14	Red Alder	10	fair	
	15	Western Red Cedar	20	good	
	16	Red Alder	12	fair	
59					
	1	Douglas fir	30	good	
	2	Big Leaf Maple	22	fair	
	3	Western Red Cedar	39	fair	thin crown
	4	Red Alder	15	fair	
	5	Red Alder	13	fair	
	6	Red Alder	10	poor	90% dead
	7	Red Alder	12	fair	
	8	Red Alder	10	fair	
	9	Red Alder	11	fair	

	10	Western Red Cedar	12	good	
60					
	1	Big Leaf Maple	15	good	
	2	Big Leaf Maple	13	good	
	3	Douglas Fir	26	good	
	4	Douglas Fir	17	good	
	5	Big Leaf Maple	19	good	
	6	Douglas Fir	21	good	minor crook
	7	Douglas Fir	23	good	minor crook
	8	Pacific madrone	18,10	fair	lean, typical
	9	Douglas Fir	12	fair	
	10	Douglas Fir	16	good	
61					
	1	Alder	18	Poor	Over mature
	2	Western Red Cedar	22	Poor	Partially uprooted
	3	Western Red Cedar	24	Poor	и
	4	Western Red Cedar	19	Good	Ok
	5	Western Red Cedar	11	Poor	u .
	6	Alder	18	Fair	Mature
	7	Western Red Cedar	11	Fair	
	8	Western Red Cedar	31	Good	
62					
	1	Alder	13	Fair	
	2	Western Red Cedar	29	Good	lvy
	3	Western Red Cedar	30	Good	
	4	Western Red Cedar	20	Good	
	5	Alder	15	Poor	Dead top
	6	Alder	16	Poor	Dead top heavy lean
	7	Western Red Cedar	26	Fair	Thin

	8	Alder	19	Fair	Over mature
	9	Western Red Cedar	20	Fair	
	10	Western Red Cedar	11	Fair	
	11	Western Red Cedar	16	Fair	
	12	Western Red Cedar	10	Fair	
63					
	1	Western Red Cedar	25	poor	sparse crown
	2	Western Red Cedar	13	poor	same
	3	Western Red Cedar	21	fair	thinning crown
	4	Western Red Cedar	18	fair	same
	5	Red Alder	14	poor	dead top, mature
	6	Western Red Cedar	13	good	
	7	Douglas Fir	15	fair	small crown
	8	Red Alder	14	fair	
	9	Red Alder	13	fair	lean, broken top
	10	Red Alder	14	poor	90% dead
	11	Western Red Cedar	25	good	
	12	Western Red Cedar	21	fair	
	13	Red Alder	13	fair	
	14	Western Red Cedar	13	fair	
	15	Western Red Cedar	12	fair	
	16	Western Red Cedar	24	fair	thin crown
	17	Red Alder	13	fair	mature, some decline
	18	Western Red Cedar	14	fair	thin crown
	19	Western Red Cedar	12	fair	same
	20	Western Red Cedar	22	fair	same
64					
	1	Western Red Cedar	34	good	
	2	Western Red Cedar	10	good	
	3	Douglas Fir	28	fair	schwienitizii fruiting body near root crown

	4	Douglas Fir	27	fair	
	5	Douglas Fir	16	fair	small crown
	6	Western Red Cedar	19	fair	
	7	Red Alder	16	fair	
	8	Western Red Cedar	15	good	
	9	Red Alder	14	fair	heavy lean
	10	Western Red Cedar	18	good	
	11	Big Leaf Maple	16	poor	extensive trunk rot
65					
66					
67		Wet Area			
68					
69					
		695 total trees in surve	У		