

# Pre-Operations Report

**Operation Name: Blue Potato**  
**County: Tillamook**  
**Management Basin: Wilson**

**Table 1. Operation Areas, Types and Acres**

Area	Type of Operation	Gross Acres	Net Acres <sup>1</sup>
1	Partial cut	128	120
2	Modified clearcut	53	51
3	Modified clearcut	18	18
4	Modified clearcut	119	105
5	Modified clearcut	83	70
6	Modified clearcut	98	91
7	Retention cut	45	45
Total		544	500

*1. The net acres are based on orthophotos and GIS, and exclude roads, stream buffers, reserve areas and non-required thinning areas.*

## **I. PHYSICAL DESCRIPTION OF OPERATION AREA:**

Slopes have varied aspects and range from 10% to 90%. Elevations range from 150 to 2,200 feet. The major soil types are Killam and Rye.

The landform is mostly gentle to moderate slopes below Blue Ridge mainly in the Kansas Creek drainage. The underlying rocks are mostly igneous origin. Areas 1, 2 and 3 are flows of the Tillamook Volcanics Formation. Area 4 is underlain by sedimentary origin rock of the Yamhill Formation and has a large scale landslide deposit in the center of the sale area. Areas 5, 6, and 7 are underlain by igneous intrusive origin rock.

## II. CURRENT STAND CONDITION:

**Table 2. Stand Inventory Information<sup>4</sup>**

Area	Prescription	Stand ID <sup>1</sup>	Species	Age	DBH	BA	TPA	SDI	Net Acres <sup>2</sup>
1	PC	231	SS/WH/DF/RA	60	19	279	141	56	120
		Target <sup>3</sup>	SS/WH/DF/RA		20.6	205	89	40	
2	MC	232	RA/DF/WH/SS	60	15.2	194	155	50	51
3	MC	233	RA/DF/WH/SS	60	15.2	194	155	50	18
4	MC	234	RA/DF	35	11.6	152	207	44	105
5	MC	235	RA/DF	51	13.2	154	161	42	70
6	MC	236	RA/DF	45	13.2	154	161	42	91
7	RC	237	RA/DF/SS/WH	46	16.5	210	141	52	45
		Target <sup>3</sup>	RA/DF		22.1	40	15	8	

1. The source of stand inventory information is from field reconnaissance cruise plots taken in 2005 and SLI in 2002 and 2004.

2. The net acres are based on orthophotos and GIS and exclude roads, and stream buffers, reserve areas and non-required thinning areas. Modified clear cut acres are not contiguous and do not exceed 120 acres.

3. The Target identifies expected stand characteristics (DBH, BA, TPA and SDI) after harvesting has been completed.

4. These numbers are based on plot data taken to this point and final numbers may differ significantly from the actual conditions significantly. The directive for minor and major modifications will be followed for further review.

Overall, approximately 321 acres have been inventoried using the Stand Level Inventory (SLI) procedure and the stands have been identified as UDS. The remaining acres of the sale were identified as CSC according to the district stand summary information (1999).

Area 1: This area burned in the 1933 (Tillamook) fire and portions burned again in the 1939 (Saddle Mountain) fire. The area was regenerated naturally. The mixed conifer species in this stand are dense (approximately 56% SDI) and have reached stem exclusion. This has resulted in poor live crown and/or height-diameter ratios, slowed diameter growth, and very little understory. The Douglas-fir is within the Swiss needle cast (SNC) zone and is showing moderate SNC symptoms. There are some openings and pockets of alder throughout the sale with an established understory of swordfern and huckleberry. This has contributed to short term complexity. This stand has had no prior stand management. The majority of Area 1 has been inventoried using SLI and the stand has been identified as UDS. The remaining acres of the sale were identified as CSC according to the district stand summary information (1999).

Areas 2 and 3: These areas burned in the 1933 (Tillamook) fire and were regenerated naturally. These are predominantly alder stands (approximately 70% basal area) with Douglas-fir, spruce and hemlock located primarily in clumps and on ridges. The Douglas-fir is within the SNC zone and shows symptoms of infection. This stand has had no prior stand management. Area 3

and portions of Area 2 have been inventoried using SLI and were identified as UDS. The remaining acres were identified as CSC according to the district stand summary information (1999).

Area 4: This area burned in the 1933 (Tillamook) fire and burned again in the 1939 (Saddle Mountain) fire. The area was scarified and replanted in 1970. Red alder has naturally regenerated throughout the stand. The Douglas-fir is within the SNC zone and showing severe symptoms of infection with poor live crown ratios resulting in slowed diameter and height growth. Scattered hemlock, spruce and cedar are in the stand. No other stand management has occurred. The southern half of the area has been inventoried using SLI and was identified as UDS. The remaining acres were identified as CSC according to the district stand summary information.

Areas 5 and 6: These areas burned in the 1933 (Tillamook) fire and again in the 1939 (Saddle Mountain) fire. Area 5 was planted in 1954 and Area 6 was planted in 1959 and 1960. From aerial photos, portions of Area 6 appear to have been scarified in the 1970's. Portions of the alder components of Area 6 were aerially sprayed to release planted conifer in the 1970's resulting in alder trees with short boles and many limbs. Alder in Area 5 does not appear to have been sprayed. No other stand management has occurred. Area 5 and portions of Area 6 have been inventoried using SLI and have been identified as UDS. The remaining acres were identified as CSC according to the district stand summary information.

Area 7: This area burned in the 1933 (Tillamook) fire and again in the 1939 (Saddle Mountain) fire. Area 7 was planted in 1958 and alder seeded into the stand. The stand is a conifer/alder mix with Douglas-fir with SNC symptoms, hemlock and spruce. No other stand management has occurred. This area was inventoried using SLI and has been identified as UDS.

All areas:

No other significant insect or disease problems have been discovered at this time. The brush component in all the sale areas is comprised primarily of vine maple, sword fern, and salmonberry with denser concentrations in openings and riparian areas.

Down wood consists of scattered large old logs (36"+) in Class 3 and 4 stages of decay and some windthrow in decay classes 1 and 2. SLI measurements show down wood in decay classes 1 and 2 ranging from 50-272 cubic feet per acre. Total down wood per acre on areas with SLI measurements are 1,297 to 3,459 cubic feet.

There are some large snags in various states of decay and or some hard snags created from natural processes. SLI measurements show less than one snag

per acre 15" diameter and larger in decay classes 1 and 2. Total snags per acre range from 1.7 to 16.7 per acre.

### III. DESIRED STAND CONDITION and VISION:

**Table 3. Stand Structure Information**

Area	Stand ID	Current	Post Harvest <sup>1</sup>	Desired Future	Net Acres
1	231	UDS/CSC	UDS	OFS/LYR	120
2	232	UDS/CSC	REG	OFS/LYR/GEN	51
3	233	UDS	REG	LYR/OFS	18
4	234	CSC/UDS	REG	LYR/GEN	105
5	235	UDS	REG	LYR	70
6	236	UDS/CSC	REG	LYR/GEN/OFS	91
7	237	CSC/UDS	UDS	OFS/GEN	45

*1. The stand is expected to develop into this condition in the five to ten years after this operation is completed except in REG stands which occur after harvest.*

See Section IV: Proposed Management Prescription for more information on Green Tree, Down Wood, and Snag Strategies during operation. Also refer to Landscape Design in the Summary document for more information on strategies to move the district toward Desired Future Condition goals.

**Vision:** Area 1 is DFC OFS and LYR. Management for these complex structures will begin with a partial cut, thinning the Douglas-fir, western hemlock, and Sitka spruce. Hardwoods and other conifer species are retained. This is a basal area thinning and will leave the residual trees unevenly distributed across the area. This prescription will allow for openings and gaps in the stand to allow the residual trees to grow larger in diameter and crown depth. The openings and gaps will also allow for understory reinitiation of shrubs and tree species creating horizontal and vertical diversity.

Areas 2 through 7 have predominantly complex DFC. Management will begin with a regeneration harvest designed to remove SNC infected Douglas-fir, sprayed alder, and slower growing simple alder stands in order to improve stand health. A component of larger conifer trees will be reserved and alder will be retained in stream buffers and clumps throughout the areas. The area will be reforested with a mixture of conifer species; western hemlock, SNC tolerant Douglas-fir and western red cedar. These planted seedlings along with natural seeding and the residual green trees will form a layered stand when enough of the largest trees approach 18 inches in diameter.

#### **IV. PROPOSED MANAGEMENT PRESCRIPTION and ANTICIPATED PATHWAY:**

The prescriptions described below are based on the current stand condition such as overall tree and stand growth, species mix, stand density, and stand health.

**See table 2 for prescription targets**

Area 1: Merchantable Douglas-fir, Sitka spruce, and western hemlock will be thinned to a basal area range of 160 to 180 square feet. All other species will be reserved.

The cutting prescriptions will be designed to achieve variable densities throughout the sale area. Managers will review density, stand health, and landscape goals to decide future management prescriptions

Areas 2 through 7: Merchantable Douglas-fir and alder will be removed. In Areas 4, 5, and 6 all other species will be reserved. In Areas 2, 3, and 7 a portion of the merchantable western hemlock and spruce will also be removed. A diameter limit will be used to select approximately 9-15 conifer trees per acre. These residual trees will provide future down wood and /or snags. Dependent on the amount of residual basal area, these stands are classified as either a modified clearcut or retention cut. Residual trees may be clumped or scattered individually. These areas will be planted with a mix of conifer. Understory vegetation will be enhanced by the additional growing space available.

In Area 7, the prescription is for a retention cut with average residual basal area at least 33 square feet per acre. This will separate Area 6 from a young plantation and minimize visual impact in this ridge area visible from Highway 6.

#### **Green Tree, Down Wood and Snag Strategies**

See also Section III: Desired Future Condition for long term strategies

A variety of methods will be used to achieve green tree retention requirements. These residual green trees will supplement the future stand by promoting growth of dominant/co-dominant leave trees. Small non-merchantable hardwood and conifer will also be retained where possible. These leave trees function as future source of snags and down wood recruitment across the landscape. Green trees will be left on precipitous slopes, headwalls, and those areas not reached by conventional logging methods. Stream buffers adjacent to small perennials will also contribute additional green trees. Many of these areas will be posted so they are outside of the timber sale boundary.

A snag assessment will be done in conjunction with the timber cruise in Area 1 and snag creation at time of harvest will be evaluated. SLI measurements in the general sale area show that snags are deficient especially in decay class 1 and 2. Existing snags not determined to be a safety hazard will be retained and any

felled snags will be left for down wood. Creation of snags is expected during harvest activities (rub trees, lift trees, or tail trees) and over time by natural processes.

Existing down wood will be left in the sale areas. Down wood recruitment is expected through mortality and windthrow of residual or leave trees, felled snags and tops left during harvest. Small non-merchantable hardwood and conifer will be retained where possible in harvest units with the expectation they will become short term snags and down wood. Tops resulting from ground yarding will be left in the unit.

During sale preparation different options such as snag creation, additional green tree retention, and future stand management and monitoring will be considered in order to achieve future FMP targets.

**V. ESTIMATED TIMBER AND REVENUE INFORMATION:**

**Table 4. Timber and Revenue**

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	%	<input type="checkbox"/>	x
Planned Quarter:		4	

	Conifer	Hardwood	Total
Net Volume (MBF)	3123	2077	5200
Stumpage Value (\$/MBF) *	\$167	\$244	
Estimated Gross Value	521,541	\$506,788	\$1,028,329
		Project Costs:	\$264,700
		Estimated Net Value:	\$763,629

\* *Stumpage values averaged by species, prescription and size.*

**VI. HARVESTING AND ACCESS CONSIDERATIONS:**

The sale areas are accessed via Blue Ridge Road, Burton Road, Kansas Creek Road, and Fawn Holly Road. These are currently all weather, crushed rock roads.

See maps for specific road locations and conditions.

Approximately 5.6 miles of existing surfaced road and 0.3 miles of legacy road will be improved which includes grading, rocking, widening, culvert replacement, spot rocking, sidecast pullback, and/or adding new culverts. This work will bring all roads up to standards described in *the Forest Roads Manual*.

Approximately 2.6 miles of road will be constructed in order to provide access to cable and ground yarding areas.

Following harvest, roads within the sale areas will be reviewed for closure. Ground yarding roads will be closed and water-barred following harvest. See summary document for more information on this topic.

No other project work is currently planned for this sale.

Area 1 will be 15% ground yarding and 85% cable yarding. Area 2 will be 100% cable yarding. Area 3 will be 10% ground yarding and 90% cable yarding. Area 4 and 6 will be 100% ground yarding. Area 5 will be approximately 30% ground yarding and 70% cable yarding. Area 7 will be 100% cable yarding.

**Table 5. Transportation Planning Summary (Miles)<sup>4</sup>**

Activity	Mainline	Collector	Rocked Spur <sup>1</sup>	Dirt Spur <sup>1</sup>
Construct			1.9	0.7
Improve		4.7	1.2	
Maintain <sup>2</sup>				
Close/Block <sup>3</sup>				
Vacate <sup>3</sup>				

1. *Additional roads may be built by the operator at the time of harvest and will be approved by the State through the Operations Plan. These will be short dead end spurs and closed or blocked after harvest*
2. *All roads accessing the sale area will be maintained during the life of the timber sale contract. Maintenance miles in the table are those roads not being constructed or improved.*
3. *Roads not closed/blocked or vacated at the end of the sale will be reviewed for closure after reforestation is established.*
4. *The numbers in this table reflect planned Project Work associated with the sale.*

**VII. AQUATIC RESOURCES AND WATER QUALITY:**

Oregon Department of Fish and Wildlife (ODFW) has completed the majority of stream surveys in the sale. Any additional streams surveys will be requested to be completed prior to sale layout. Streams with potential fish use will be treated as Type F until surveys are completed to verify fish use.

Kansas Creek, Blue Creek, and an unnamed tributary to the Wilson River are known medium Type F streams that are within or adjacent to the sale areas.

There are additional unnamed small perennial and seasonal Type N streams within the sale areas. These streams will be reviewed and protected appropriately during sale layout based on flow, topography, and terrain.

There is a downstream water user below Area 4 and below Area 6. No water rights are within the sale areas.

Stream buffers within or adjacent to harvest unit boundaries will be managed according to *Forest Management Plan* Riparian Strategies. The riparian areas will be reviewed during sale layout for current stand conditions and/or operational constraints for implementing FMP strategies.

ODFW fish biologist will work with ODF to identify possible stream enhancement projects.

In order to protect water quality during active operations, a variety of methods will be used to prevent sediment from entering live streams. These methods include (but are not limited to) maintaining culverts and other road drainage structures, using sediment control devices in road ditches when necessary, and monitoring logging and hauling operations. Culvert installment and replacement in live streams will be conducted between July 1 and September 15. Operations outside of this period will be reviewed with ODFW.

#### **VIII. T&E SPECIES CONSIDERATIONS:**

T & E wildlife species: The sale areas have been reviewed with the ODF Northwest Oregon Area Biologist

It was determined that there is potential marbled murrelet habitat within or adjacent to the sale boundaries of Areas 1, 2, 3, 4, and 5. Surveys are being conducted during the 2005 and 2006 survey seasons for marbled murrelets. All surveys for marbled murrelet were and will be conducted in accordance with Pacific Seabird Group (PSG) protocol.

It was determined that in areas west of Kansas Creek (Areas 1, 2, 3 and 4) there is potential northern spotted owl habitat within or adjacent to the sale boundary. Spotted owl surveys are not required for Areas 5, 6 and 7 as these areas are within the Tillamook Burn (see November 2002 ODF Policy Guidance: *Northern Spotted Owl Surveying on State Forest Lands*).

Surveys are being conducted during the 2005 and 2006 survey season for northern spotted owl. All northern spotted owl surveys were and will be conducted in accordance with USFWS endorsed protocol.

Seasonal restrictions will apply to some activities in the sale area.

T & E Fish species: See Sections VII, and IX for listed fish protection measures.

T & E Plant species: The sale areas were checked against the Oregon Natural Heritage Program (ONHP) database of known threatened or endangered listed plant locations as well as local records in the Land Management Classification

System (LMCS). No listed plants were identified within or adjacent to the sale areas.

**IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:**

There are bands of steep slopes in Area 3, 7 and the northwest portion of Areas 1 and 2. The initial hazard and risk assessment from the geotechnical specialist is low for Areas 4, 5, and 6. Areas 1, 2, 3, and 7 are moderate and the geotechnical specialist will be consulted during field work to determine if a field visit is needed.

**X. RECREATION RESOURCES:**

The sale areas are designated 59% Non-Motorized and 41% Motorized in the *Tillamook State Forest Comprehensive Recreation Plan (1993)*. The sale areas west of Kansas Creek are in the Non-Motorized Zone. This sale has been reviewed by the District Recreation Coordinator.

No designated OHV trails are within or adjacent to the sale areas. Several unofficial OHV trails and a hiking trail were identified. The District Recreation coordinator will be consulted during sale layout and administration to facilitate closure or vehicle access restrictions to these unofficial trails.

Recreational use common to this area includes hunting, OHV use and hiking.

**XI. CULTURAL RESOURCES:**

The *Tillamook State Cultural Assessment* does not list cultural sites within or adjacent to the proposed sale boundary. The district will consult the Public Use Coordinator for appropriate protection and tracking if any sites are identified.

**XII. SCENIC RESOURCES:**

Portions of the sale areas have a visual classification of Level 1, high sensitivity because they can be seen from Highway 6. The remainder have a visual classification of Level 2, moderate sensitivity because of their visibility from high use forest roads. The sale will be reviewed by the Public Use Coordinator to determine methods to minimize visual impact.

Visual impact will be minimized due to the riparian buffers and the amount of residual trees being left in the most visible portions. There will be visual impact until green up occurs.

**XIII. OTHER RESOURCE CONSIDERATIONS:**

A permanent inventory plot is within Area 6. Additional reference points are adjacent to Areas 2 and 6. Permanent plot markings will be protected according to guidelines.

**XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

The sale areas contain Focused and Special Stewardship, Aquatic and Riparian Habitat. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

The sale areas also contain Focused Stewardship, Visual. See Section XII, Scenic Resources.

LMCS boundary lines depicted on Attachment C are approximate; exact locations and site specific management activities will be determined during the sale preparation process.