

Pre-Operations Report

Operation Name: Lost Buck

**Legal: Portions of Sections 26, 27, 28, 34 and 35, T3N, R8W,
W.M., Tillamook County, Oregon**

Management Basin: Lower Nehalem

SAH Status: 277 net acres in Cook Creek sub-basin

FDF: 100% CSL: 0%

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres ¹
1	Partial Cut - Moderate	182	167
2	Partial Cut - Moderate	247	148
3	Partial Cut - Moderate	171	125
4	Modified Clearcut	79	76
5	Modified Clearcut	118	113
6	Modified Clearcut	98	58
7	Partial Cut - Moderate	93	91
Total		988	778

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

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

Slopes in the sale areas range from 5% to over 90%. Area 1 and Area 4 have a northern aspect. Area 2 has a southern aspect. The aspect in Area 3 is varied. Area 5 and Area 7 have a western aspect and Area 6 has an eastern aspect. Elevations range from 600 to 3120 feet. The major soil types are Killam, Osweg, Rye, and Jewell.

II. CURRENT STAND CONDITION:

Table 2. Stand Inventory Information⁴

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Net Acres ²
1	PC	507	RA,DF,WH, SS	55	14.6	200	169	57	167
1	PC	Target ³	RA,DF,WH, SS	55	18.1	120	67	29	167
2	PC	508	DF, RA	40	13.5	168	169	45	148
2	PC	Target ³	DF, RA	40	16.7	114	91	30	148
3	PC	509	DF, RA	40	14.2	198	181	53	125
3	PC	Target ³	DF, RA	40	17.3	108	66	26	125
4	MC	510	RA,DF,WH, SS	55	14.5	196	171	52	76
5	MC	511	RA,DF,WH, SS	55	14.2	174	159	46	113
6	MC	512	RA,DF,WH, SS	55	14.9	175	144	46	58
7	PC	513	DF, RA, WH	50	14.7	200	169	52	91
7	PC	Target ³	DF, RA, WH	50	18.8	98	51	23	91

1. The source of stand inventory information is from cruise plots..

2. The net acres are based on orthophotos and GIS and exclude roads, and stream buffers, 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. The directive for minor and major modifications will be followed for further review.

Area 1: This area burned in the 1945 Wilson River/Salmonberry Fire. The eastern half of this area was seeded in 1960 with Douglas-fir and the western portion naturally regenerated with a mix of alder, Douglas-Fir, hemlock, and spruce. The conifer in this stand is becoming dense (approx. 55% SDI) and is showing signs of stem exclusion resulting in poor live crown ratios, slowed diameter growth, and very little understory. There are some small pockets (1 to 2 acres) of alder throughout the area with an established understory of sword fern, salmonberry, and some hemlock and spruce that are contributing to the short term stand complexity. The alder in this stand is high quality with straight boles but due to the stand age, the height and diameter growth is beginning to slow. This stand has had no prior stand management.

Area 2: All of the sale area was burned in the 1945 Wilson River/Salmonberry Fire. The south western portion of Area 2 was seeded with Douglas-fir in 1960 and the northwest portion of Area 2 was planted with Douglas-fir in 1960. The eastern half of Area 2 was planted in 1963 with Douglas-fir. This area also has stringers and small pockets of alder (less than 1 acre). None of this area has had prior stand management. Due to lower stocking (approx. 48% SDI) this stand has maintain good crown ratios (approx. 40%) but is starting to show signs of stem exclusion and receding live crown ratios, resulting in smaller diameters, slowed diameter growth, and lower levels of understory. The alder was aerially

sprayed in the 1970's to release the planted conifer, resulting in alder trees with short boles and many tops

Area 3: All of the sale area was burned in the 1945 Wilson River/Salmonberry Fire. The northern half of Area 3 was planted in 1960 with Douglas-fir and replanted in 1972 with Douglas-fir. The southern half of Area 3 was seeded with Douglas-fir in 1960. This stand also has stringers and small (less than 1 acre) pockets of alder. The alder was aerially sprayed in the 1970's to release the planted conifer, resulting in alder trees with short boles and many tops. This area has not had prior stand management. Due to lower stocking (approx. 50% SDI) this stand has maintain good crown ratios (approx. 40%) but is starting to show signs of stem exclusion and receding live crown ratios, resulting in smaller diameters, slowed diameter growth, and lower levels of understory.

Area 4: This area also burned in the 1945 Wilson River/Salmonberry Fire and naturally regenerated with a mix of alder, Douglas-fir, hemlock, and spruce. The conifer in this stand is becoming dense (approx. 55% SDI) and is showing signs of stem exclusion resulting in poor live crown ratios, slowed diameter growth, and very little understory. There are some several large pockets (greater than 10 acres) of alder throughout the area with an established understory of sword fern, salmonberry, and some hemlock and spruce that are contributing to the short term stand complexity. Due to the stand age, the alder in this stand has poor height and diameter growth. This stand has had no prior stand management.

Area 5 and 6: Both of these areas burned in the 1933 Tillamook Fire and 1945 Wilson River/Salmonberry Fire and naturally regenerated with predominately alder but there are also large pockets of hemlock, Douglas-fir, and scattered spruce throughout the area. The pockets of conifer are dense and are showing signs of stem exclusion and slowed growth. The alder in these stands is high quality with straight boles but due to the stand age, the height and diameter growth is beginning to slow. This stand has had no prior stand management. The understory is dense and mainly comprised of sword fern and salmonberry.

Area 7: All of this area was burned in the 1933 Tillamook Fire and 1945 Wilson River/Salmonberry Fire and naturally regenerated with predominately Douglas-fir and scattered hemlock and spruce. This stand also has stringers and small pockets of alder(less than 1 acre). Due to the site quality and stand age the alder has poor height and diameter growth. This area has not had prior stand management. Due to lower stocking (approx. 50% SDI) this stand has maintain good conifer crown ratios (approx. 40%) but is starting to show signs of stem exclusion and receding live crown ratios, resulting in smaller diameters, slowed diameter growth, and lower levels of understory.

Stand Level Inventory (SLI) has not been completed on the sale areas but it is classified as 100% Closed Single Canopy (CSC) according to the district stand summary information (1999).

See Table 2 for specific stand data.

There are some large snags in various states of decay and/or some hard snags created from (wind, snow, and/or bear damage). 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. There is no SLI information for snags and down wood available at this time.

III. DESIRED STAND CONDITION and VISION:

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Net Acres
1	507	CSC	UDS	GEN	16
				LYR	151
2	508	CSC	UDS	GEN	2
				LYR	146
3	509	CSC	UDS	GEN	65
				OFS	60
4	510	CSC	REG	GEN	1
				LYR	75
5	511	CSC	REG	GEN	113
6	512	CSC	REG	GEN	6
				LYR	52
7	513	CSC	UDS	GEN	19
				LYR	72

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 (DFC) goals.

Lost Creek and Upper Cook Creek Landscape View:

This operation, in combination with other operations in the Lost Creek and Upper Cook Creek basins, will create openings (5-120 acres) and stands of differing residual densities where partial cuts and retention cuts have taken place. Due to the difficult terrain and alder dominated stands, regeneration harvest will occur in other areas of the basins. The Cook Creek Basin is a SAH basin and is close to reaching the harvest limit. These basins are dominated by ODF ownership and the Tillamook Burn entirely encompassed the two basins.

Area 1, Area 2, Area 3, and Area 7 - The DFC for Area 1, Area 2, and Area 7 is Layered (LYR) and General (GEN). The DFC for Area 3 is Older Forest Structure (OFS) and GEN.

Short Term Vision: These partial cuts will reduce the conifer and alder stocking which will maintain the conifer crown ratios, stand vigor, and develop healthier and larger hemlock and Douglas-fir in the residual stand and maintain a component of alder scattered throughout the stand. The conifer SDI will be approximately 25% to 30%. There will be several small alder clearcuts (less than 1 acre each) within some of these areas. These stands are on a pathway that maintains productivity and that provides for complex structure and will be managed for stand density by providing more growing space while capturing anticipated tree mortality in order to allow for individual tree growth as well as developing understory diversity.

Long Term Vision: The vision for these areas is to have mixed species stands of Douglas-fir, western hemlock and alder. The stands will be composed of a mixture of species, size classes, and densities. A new cohort of western hemlock, alder, spruce, and cedar in the small (less than 1 acre) alder clearcut areas and larger gaps will provide both horizontal and vertical diversity. After thinning in approximately 15 to 20 years, these stands will have a mixture of sizes, species and densities and likely be in a Layered condition. In Area 3, periodic thinnings will produce a multilayered stand with some of the larger tree trees approaching 32 inches in diameter. In about 60 years there is a high probability that this stand will meet the requirements of OFS.

Area 4 and 6 - The DFC for these areas are Layered (LYR) and General (GEN).

Short Term Vision: These are hardwood dominated stands. Due to the current stand conditions (See Section II. Current Stand Condition) the present stands are not good candidates for establishing a pathway that maintains productivity and reaches a complex structure. The regeneration harvest will remove the slow-growing alder and Douglas-fir, and hemlock with high height-to-diameter ratios. After the regeneration harvest these stands will be composed of legacy structures retained from the present stand and have a new cohort of planted western hemlock and cedar. Alder, spruce, and cedar are anticipated to seed into the new stand and will provide both horizontal and vertical diversity.

Long Term Vision: After thinning in approximately 30 to 40 years the stand will have a mixture of sizes, species and densities. In approximately 60 years and after another thinning the combination of residual trees, multiple species and trees size will provide a Layered stand.

Area 5 - Area 5 is designated as GEN.

Short Term Vision: The regeneration harvest will remove the slow-growing alder, Douglas-fir, small diameter hemlock. After the regeneration harvest this stand will be composed of legacy structures retained from the present stand and have a new cohort of western hemlock, alder, spruce, and cedar that will provide both horizontal and vertical diversity.

Long Term Vision: The vision for this stand is to have a mixed species stand that has both vertical and horizontal diversity and that has maintained productivity to maximize revenues at final harvest.

IV. PROPOSED MANAGEMENT PRESCRIPTION:

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.

Partial Cut

Area 1, 2, and 7

Prescription: A partial cut will thin the Douglas-fir, hemlock, and alder to a basal area range of 120ft² to 140 ft². All other conifer and hardwood species will be reserved.

Snags: Approximately 1 snag per acre will be created in this area.

Down Wood: Due to the current stand size there will be no down wood creation in this area. Down wood creation will be evaluated during the second entry thinning.

Pathway: Another thinning will likely be needed in this stand in 15 to 20 years to keep this stand on a trajectory to complex stand structure. At this time managers will review density stand health, snag and down wood levels, and landscape goals to decide future management prescriptions.

Area 3:

Prescription: A partial cut will remove the merchantable alder and thin the Douglas-fir and hemlock to a basal area range of 100ft² to 120 ft². All other species (conifer and hardwood) will be reserved.

Snags and Down Wood: Due to the current stand size there will be no snag or down wood created in this stand. Snag and down wood creation will be evaluated during the second entry thinning

Pathway: Another thinning will be needed in 15 to 20 years to keep this stand on a trajectory to complex stand structure. At this time managers will review density stand health, snag and down wood levels, and landscape goals to decide future management prescriptions.

Modified Clearcut

Areas 4, and 6

Prescription: Merchantable alder will be harvested. A diameter limit will be used to harvest the smaller Douglas-fir and hemlock. All other conifer and hardwood species will be reserved.

Green Trees: A diameter limit will be used to select an average of 6 to 9 trees per acre for green tree retention. These will be scattered and clumped within the harvest unit and will be the largest conifer trees within the existing stands. A component of alder will be retained in stream buffers adjacent to and within the harvest unit. An additional 5 to 7 conifer green trees per acre will be left adjacent to Area 6 as a green tree retention area. These trees will become an older cohort in the future complex conifer stand.

Down Wood

The existing down wood will be left in the sale areas and additional down wood will be created during this harvest operation. Approximately 600 cubic feet of logs in decay classes 0-2 per acre will be added to enhance down woody debris within the sale areas. The goal for down wood creation will be completed by bucking and leaving obvious defect and butt logs from felled Douglas-fir and western hemlocks and felling up to 4 trees per acre, within the unit or in buffers or Green Tree retention areas, for down wood.

Additional down wood recruitment is also expected through mortality and windthrow of residual trees, felled snags and tops left during harvest. Non-merchantable hardwoods and conifers will be retained in both areas with the expectation that they will eventually become down wood.

Snags:

Snag creation will be done with this harvest operation. Approximately 2 snag per acre greater than 15 inches DBH will be created within these sale areas or adjacent to the harvest area in buffers or Green Tree retention areas.

Pathway: The area will be reforested with a mixture of conifer species: western hemlock, SNC tolerant Douglas-fir, western red cedar and noble fir. A precommercial thinning is anticipated at 12 to 17 years when the crowns begin to close. A commercial thinning will then be planned at age 35 to 40. At this time managers will review density, stand health, and landscape goals to decide future

management prescriptions. A commercial thinning at age 40 will produce a stand that has an average diameter of about 16 inches and 125 trees per acre. This will keep these stands on the trajectory of complex stand structure. Other treatments, such as the creation of small gaps, may be considered at this time to increase diversity. At about 60 years the stand will have an average diameter of 20 inches. At this time it will be evaluated for Layered characteristics and another thinning will likely be prescribed.

Area 5

Prescription: Merchantable alder will be harvested. A diameter limit will be used to harvest the Douglas-fir and hemlock. All other conifer and hardwood species will be reserved.

Green Trees: A diameter limit will be used to select an average of 2 to 3 trees per acre for green tree retention scattered within the harvest unit and will be the largest conifer trees within the existing stands. A component of alder will be retained in stream buffers adjacent to and within the harvest unit. An additional 5 to 7 conifer green trees per acre will be left adjacent to the outer zone of the Type F streams, in headwalls, and other high landslide hazard areas adjacent to Area 5.

Down Wood

The existing down wood will be left in the sale areas and additional down wood will be created during this harvest operation. Approximately 600 cubic feet of logs in decay classes 0-2 per acre will be added to enhance down woody debris within the sale areas. The goal for down wood creation will be completed by bucking and leaving obvious defect and butt logs from felled Douglas-fir and western hemlocks and felling 4 trees per acre, within the unit or in buffers or Green Tree retention areas, for down wood.

Additional down wood recruitment is also expected through mortality and windthrow of residual trees, felled snags and tops left during harvest. Non-merchantable hardwoods and conifers will be retained in both areas with the expectation that they will eventually become down wood.

Snags:

Snags will be created with this harvest operation. Approximately 2 snag per acre greater than 15 inches DBH will be created within these sale areas either by girdling or topping.

Pathway: The area will be reforested with a mixture of conifer species: western hemlock, SNC tolerant Douglas-fir, western red cedar and/or noble fir. A minor component of other conifer species will be scattered across the area and alder will be retained in stream buffers. A precommercial thinning is anticipated at 12 to 17 years when the crowns begin to close. A commercial thinning will then be

planned at age 35 to 40. At this time managers will review density, stand health, and landscape goals to decide future management prescriptions.

Refer to Green Tree, Snag and Down Wood Strategies in the Summary document for strategies used on every sale.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	0%		X
Planned Quarter:		3	

	Conifer	Hardwood	Total
Net Volume (MBF)	5897	2253	8150
Stumpage Value (\$/MBF) *	\$166	\$195	
Estimated Gross Value	\$978,015	\$439,350	\$1,417,365
		Project Costs:	\$360,600
		Estimated Net Value:	\$1,056,765

**Combined Douglas-fir, hemlock, and noble fir stumpage values based on harvest type.*

VI. HARVESTING AND ACCESS CONSIDERATIONS:

All areas are accessed via McPherson Road and Cook Creek Road. These are currently all weather crushed rock roads.

See maps for specific road locations and conditions.

Approximately 2.5 miles of existing surfaced road will be improved which includes grading, rocking, widening, culvert replacement, spot rocking, sidecast pullback, and adding new culverts. This work will bring all roads up to standards described in *the Forest Roads Manual*.

Approximately 1.7 miles of road will be constructed and 3.2 miles of abandoned road will be reconstructed to provide access to cable yarding areas. Approximately 0.6 miles will be closed with harvest operations. Following harvest, roads within the sale areas that are still open will be reviewed for closure. See summary document for more information on this topic.

The operation will be 99% cable yarding and 1% ground yarding.

Table 5. Transportation Planning Summary (Miles)⁴

Activity	Mainline	Collector	Rocked Spur ¹	Dirt Spur ¹
Construct			1.7 Constr	
Improve		2.5	3.2 Reconstr	
Maintain ²		10.5		
Close/Block ³			0.6	
Vacate ³				

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:

Lost Creek and East Fork Forks Creek are Type F streams that are adjacent to the sale areas. There are also several Type N streams within the sale areas. These streams will be reviewed and protected appropriately during sale layout based on flow, topography, and terrain.

Oregon Department of Fish and Wildlife (ODFW) will be requested to complete stream surveys before sale layout begins. Streams of unknown status will be treated as Type F until surveys are completed to verify fish use.

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.

Approximately 277 net acres of the sale are within the Cook Creek sub-basin. These sub-basins have been identified as a Salmon Anchor Habitat (SAH) Basin and the most current SAH Basin Strategies will be used at the time of contract development.

Refer to the Aquatic Resource Protection Strategies in the Summary document for information on the “in stream work period” for road work and stream improvement projects.

VIII. T&E SPECIES CONSIDERATIONS:

The sale areas have been reviewed with the ODF Northwest Oregon Area Biologist. It was determined that surveys for marbled murrelets are not required for due to the absence of potentially suitable habitat. It was determined that in the sale areas there is potential northern spotted owl habitat within or adjacent to the sale boundary. Surveys have been and will be conducted during the 2006, 2007, and 2008 survey season for northern spotted owl. All northern spotted owl surveys were and will be conducted in accordance with USFWS endorsed protocol. There have been no northern spotted owl detections during the 2006 and 2007 survey season.

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:

This assessment is based on analysis of USGS 1:24,000 topographic maps.

There are high landslide hazard locations scattered throughout the sale. Area 1 and Area 4 drain into Lost Creek. Area 2 drains into Forks Creek. Area 3 drains into Granite Creek. Area 5, 6, and 7 drain into unnamed tributaries of Lost Creek. The risk of landslides delivering directly from the sale to Lost Creek, Forks Creek, Granite Creek, and the unnamed tributaries to Lost Creek is high, except for from Area 5. The eastern portion of Area I and the northern portion of Area V appear to be located on large, deep-seated landslide landforms.

The geotechnical specialist will be consulted if evidence of recent landslide activity is identified during sale layout.

Portions of the sale areas have been identified as SAH Basin and the most current SAH Strategies will be used at the time of contract development. See the Summary Document for more information.

X. RECREATION RESOURCES:

The sale areas are designated as Non-Motorized in the *Tillamook State Forest Comprehensive Recreation Plan* (1993). This sale has been reviewed by the District Recreation Coordinator. No OHV trails were identified within or adjacent to the sale areas. Recreational use common to this area includes hunting and hiking.

XI. CULTURAL RESOURCES:

The *Tillamook State Cultural Assessment* does not list cultural sites within or adjacent to the proposed sale boundary.

XII. SCENIC RESOURCES:

The sale areas have a visual classification of Level 3, low sensitivity. No scenic impact is expected.

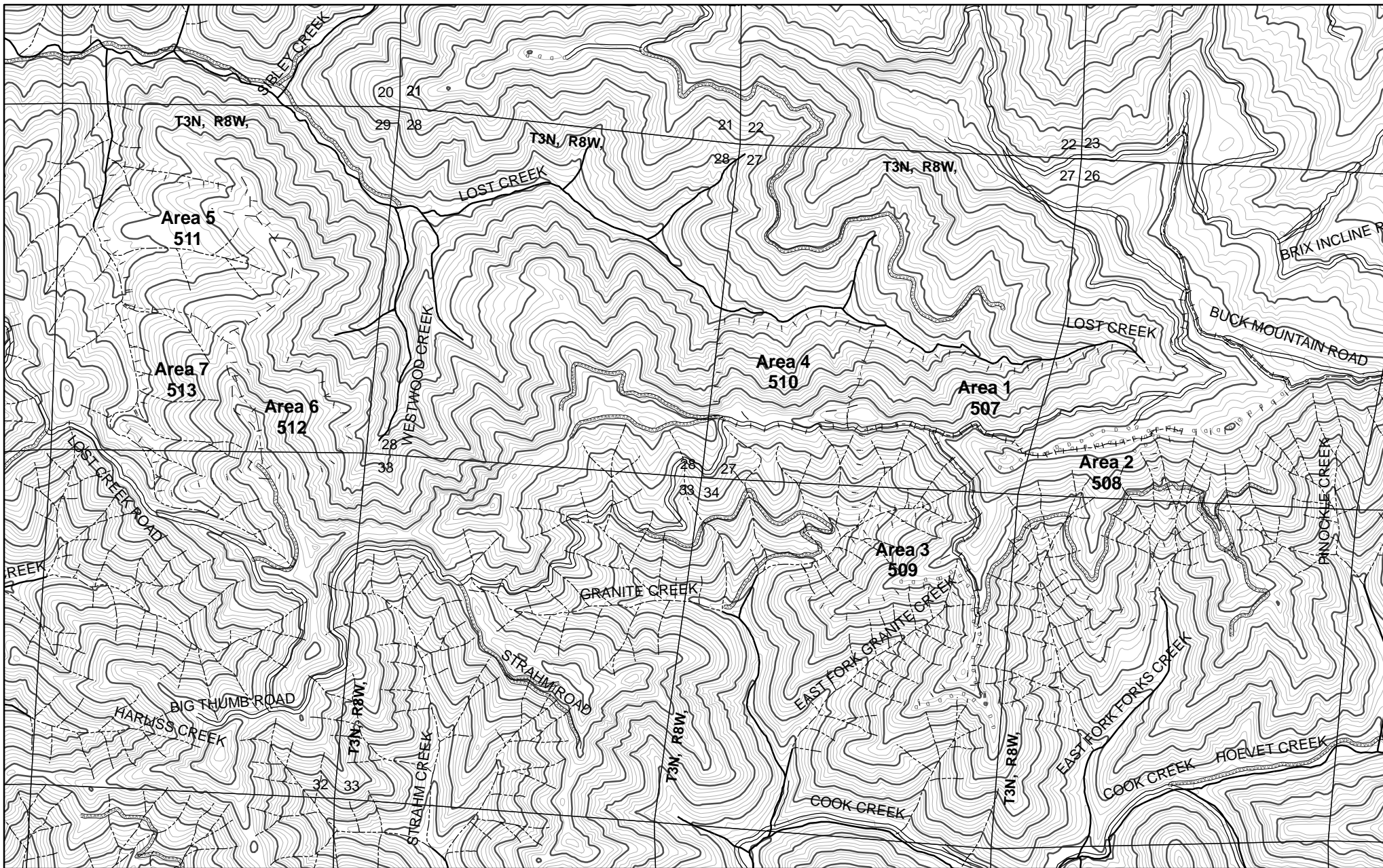
XIII. OTHER RESOURCE CONSIDERATIONS:

None Known

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

The sale areas contain Focused and Special, Aquatic and Riparian Habitat. See section VII. Aquatic Resources and Water Quality. Area 1 contains Special, Operationally Limited. See section IX, Slope Stability and Geotechnical Issues. Areas 1, 2, 3, and 4 contain Focused, Wildlife Habitat. See section VII. Aquatic Resources and Water Quality and See Section IX, Slope Stability and Geotechnical Issues.

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



Contour Interval 40'

- - - Area boundary
- ! - - Sale boundary
- - - Ownership boundary
- Perennial Type-F stream*
- - - Perennial Type-N stream*
- == Unsurfaced road
- Surfaced road
- State/Federal highway

- Legacy road
- o o o Blocked road
- - Road construction
- County road
- ; ; Transmission line

0 1,000 2,000 Feet



3

**Lost Buck
-- Topography --
2009 SALE PLAN
TILLAMOOK DISTRICT**

Portions of Sections 26, 27, 28, 29
32, 33, 34 and 35
T3N, R8W, W.M.,
Tillamook County, Oregon

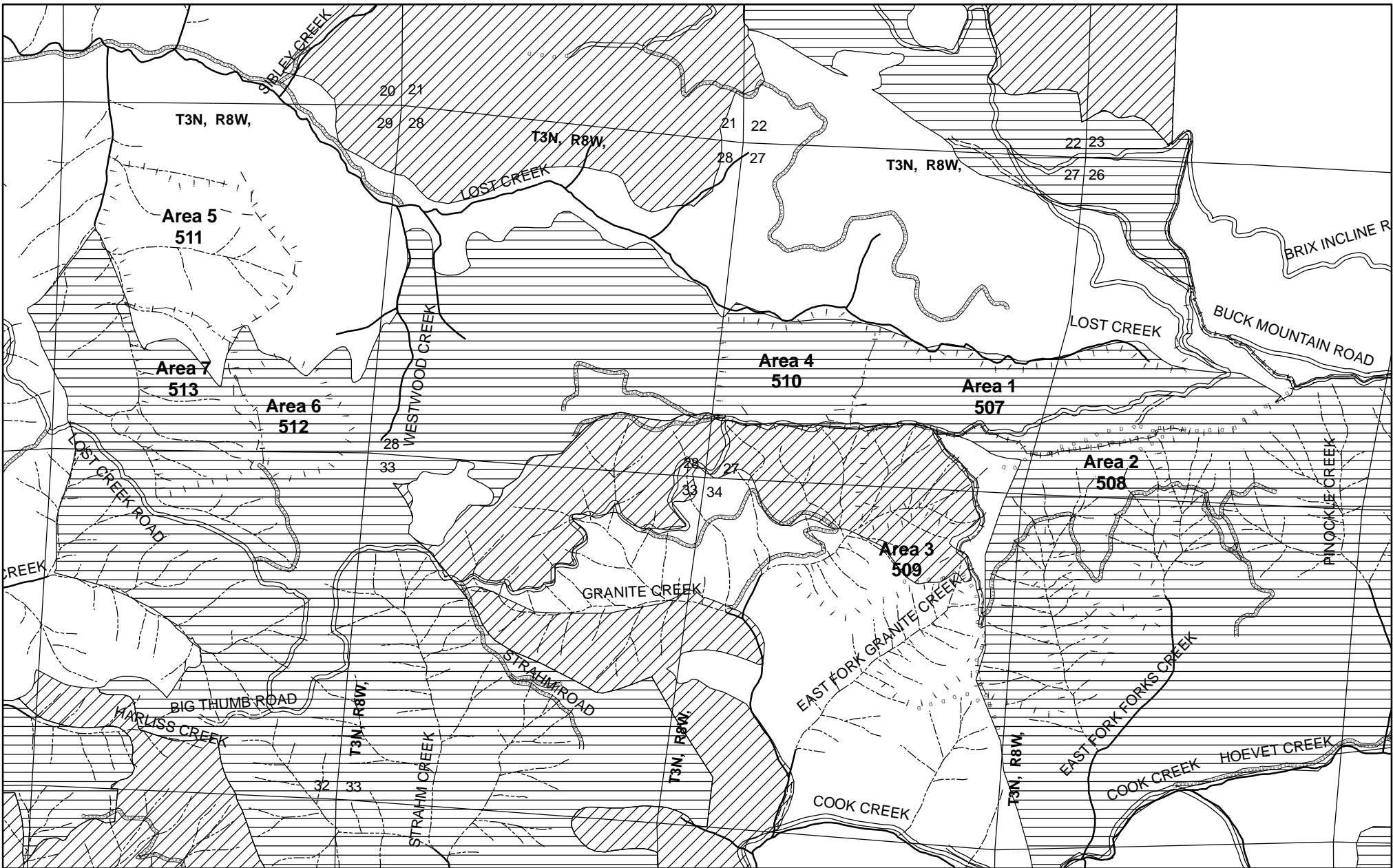
*Streams of unknown
fish presence are not
shown but will be surveyed
prior to the sale

Tillamook District GIS
10/24/2007

This product is for informational use and
may not have been prepared for, or suitable
for legal, engineering, or surveying purposes.

Area	Type of Operation
1	Partial Cut
2	Partial Cut
3	Partial Cut
4	Modified Clearcut
5	Modified Clearcut
6	Modified Clearcut
7	Partial Cut

Attachment A



Desired future condition

- Layered
- Older forest

- Area boundary
- Sale boundary
- Ownership boundary
- Perennial Type-F stream*
- Perennial Type-N stream*
- Unsurfaced road
- Surfaced road
- State/Federal highway

- Legacy road
- Blocked road
- Road construction
- County road
- Transmission line

0 1,000 2,000 Feet



3

Lost Buck
-- Current and Future Condition --
2009 SALE PLAN
TILLAMOOK DISTRICT

Portions of Sections 26,27,28,29

32,33,34 and 35

T3N, R8W, W.M.,

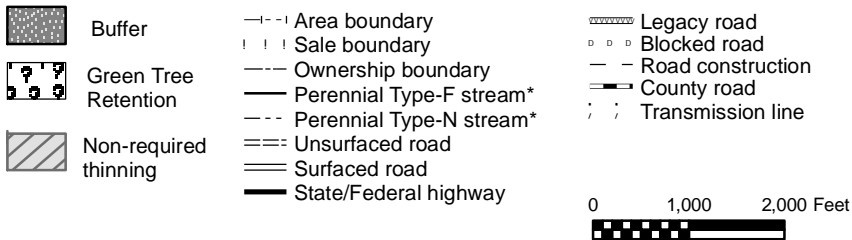
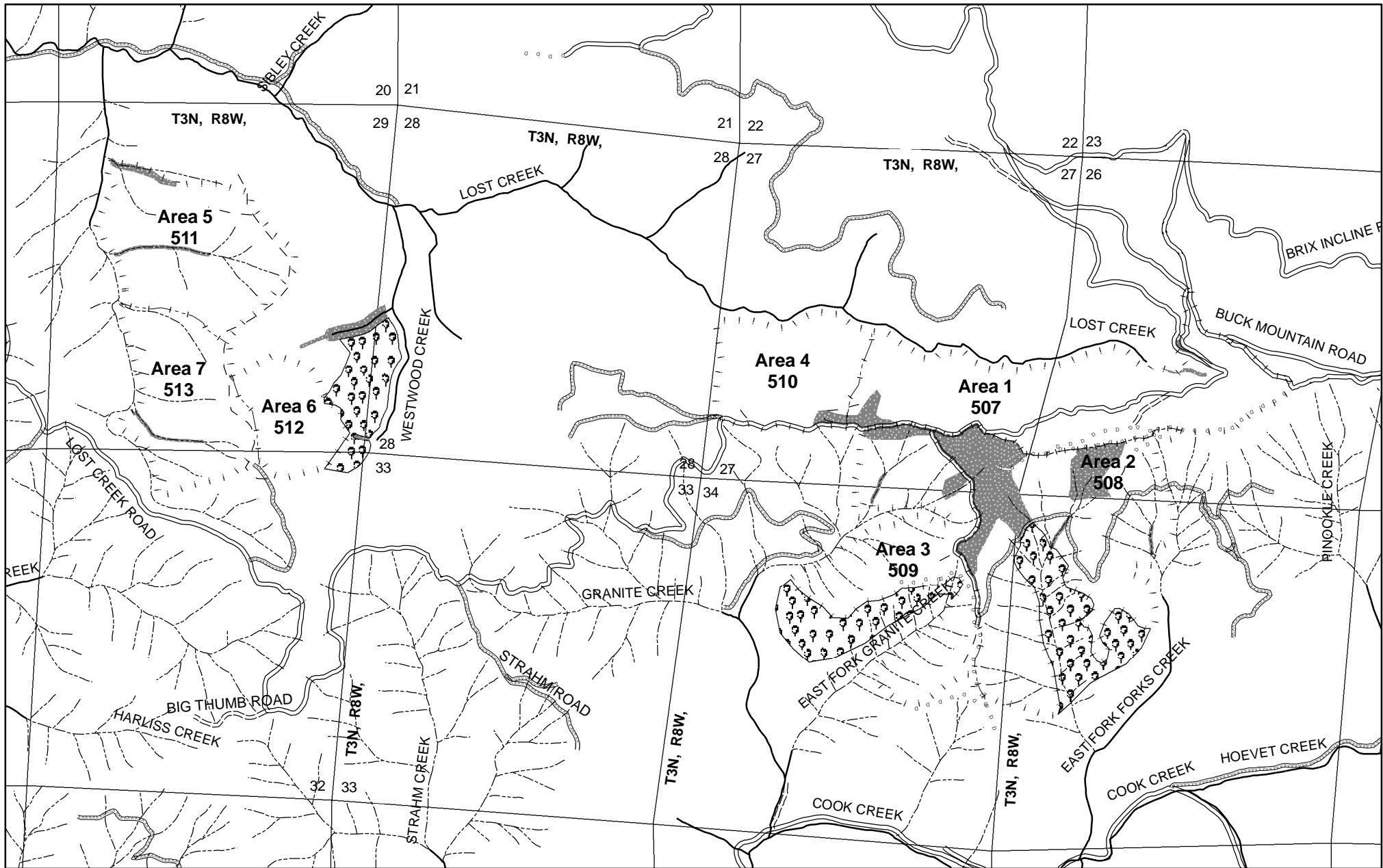
Tillamook County, Oregon

*Streams of unknown fish presence are not shown but will be surveyed prior to the sale

Tillamook District GIS
 01/08/2008

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Area	Type of Operation
1	Partial Cut
2	Partial Cut
3	Partial Cut
4	Modified Clearcut
5	Modified Clearcut
6	Modified Clearcut
7	Partial Cut



3

**Lost Buck
-- Key Resources --
2009 SALE PLAN
TILLAMOOK DISTRICT**
Portions of Sections 26,27,28 and 29
T3N, R8W, W.M.,
Tillamook County, Oregon

*Streams of unknown fish presence are not shown but will be surveyed prior to the sale

Tillamook District GIS
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