

# Pre-Operations Report

**Operation Name:** Mighty Lyda

**County:** Tillamook

**Management Basin:** Rogers

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

| Area         | Harvest Type      | Gross Acres | Net Acres  |
|--------------|-------------------|-------------|------------|
| 1            | Modified Clearcut | 107         | 96         |
| 2            | Modified Clearcut | 92          | 79         |
| 3            | Modified Clearcut | 48          | 40         |
| 4            | Modified Clearcut | 32          | 28         |
| <b>Total</b> |                   | <b>279</b>  | <b>243</b> |

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

Area 1 has mostly Jewell soils with some Killam. Aspect is mostly north. It is located on the upper slope. Slope ranges from 15%-50%. Elevation ranges from 1,920-2,560 feet.

Area 2 has 100% Humbug soils. Aspect ranges from east to north. It is mostly located on the upper slope. Slopes range from 50%-90%. Elevation ranges from 1,440-2,240 feet.

Area 3 has mostly Killam soils with some Rye. Aspect is mostly east. It is located on the upper slope. Slope ranges from 10%-60%. Elevation ranges from 1,680-2,000 feet.

Area 4 has Jewell and Osweg soils. Aspect is north to northwest. It is located on the upper slope. Slopes range from 0%-80%. Elevation ranges from 2,400-2,800 feet.

## **II. CURRENT STAND CONDITION:**

All four sale areas burned in the 1933, 1939 and 1945 Tillamook Burns. All four areas were seeded between 1949 and 1951. A portion of Area 1 (90%) and Area 2 (80%) were thinned in 1999. The rest of the sale has not been managed.

Almost all of the sale areas have been inventoried using the Stand Level Inventory (SLI) procedure. Those stands that have not been inventoried have data that has been imputed from another similar stand. The stands within the sale have been classified as CSC and UDS. (see Tables 2 and 3)

The stands are comprised mostly of Douglas-fir with a minor component of western hemlock, noble fir, spruce and alder. The understory across all four areas is consistently comprised of primarily sword fern, oxalis and Oregon grape with some red

huckleberry. There is relatively little vine maple in all four areas, most of which is located in the drainages.

*Phellinus weirii* did not appear to be of concern. A couple of small patches were noticed during recon, but nothing requiring treatment, with the exception of Area 3. There is a significant pocket where a short spur enters the unit on the west side. This could be delineated prior to harvest and planted with alternative species.

SLI data estimates 0 snags greater than 15 inches in decay classes 0-2. There are approximately 2 snags > 12 inches in all decay classes. The stands also has very low amounts of DWD in decay classes 0-2 (approximately 100 cubic feet per acre or less). Total DWD amounts are about 3,000 cubic feet per acre.

**Table 2. Stand Inventory Information**

| Area | Prescription | Stand ID <sup>1</sup> | Species | Age | DBH | BA  | TPA | SDI | Acres <sup>2</sup> |
|------|--------------|-----------------------|---------|-----|-----|-----|-----|-----|--------------------|
| 1    | MC           | 7939                  | DF      | 49  | 17  | 220 | 147 | 55  | 16                 |
|      |              | 7947                  | DF      | 48  | 16  | 171 | 123 | 43  | 80                 |
| 2    | MC           | 7918                  | DF      | 49  | 15  | 240 | 207 | 63  | 24                 |
|      |              | 7923*                 | DF      | 53  | 17  | 220 | 147 | 55  | 55                 |
| 3    | MC           | 7940                  | DFRA    | 54  | 17  | 191 | 129 | 48  | 25                 |
|      |              | 7947                  | DF      | 48  | 16  | 171 | 123 | 43  | 15                 |
| 4    | MC           | 7966                  | DFCX    | 53  | 18  | 136 | 77  | 33  | 8                  |
|      |              | 8294*                 | DFRA    | 50  | 17  | 191 | 129 | 48  | 20                 |

<sup>1</sup>The source of stand inventory information is SLI grown forward to 2008 for trees 8 inches and larger in diameter. Those Stand ID's marked with an (\*) have data that has been imputed from another similar stand.

<sup>2</sup>The acres are based on GIS and exclude roads, stream buffers, reserve areas, etc.

### III. DESIRED FUTURE CONDITION/VISION:

According to the landscape design for the Rogers Basin (*Forest Grove District Implementation Plan, June 2009*), All four areas are designated for non-complex stands or "general". The harvest operation will yield a REG structure in the short term.

The sale will be planted with a mix of conifer species, predominantly Douglas-fir, and managed for timber production.

**Table 3. Stand Structure Information**

| Area | Stand ID | Current | Post Harvest <sup>1</sup> | Desired Future | Acres |
|------|----------|---------|---------------------------|----------------|-------|
| 1    | 7939     | CSC     | REG                       | GEN            | 16    |
|      | 7947     | CSC     | REG                       | GEN            | 80    |
| 2    | 7918     | CSC     | REG                       | GEN            | 24    |
|      | 7923*    | CSC     | REG                       | GEN            | 55    |
| 3    | 7940     | UDS     | REG                       | GEN            | 25    |
|      | 7947     | CSC     | REG                       | GEN            | 15    |
| 4    | 7966     | UDS     | REG                       | GEN            | 8     |
|      | 8294*    | UDS     | REG                       | GEN            | 20    |

<sup>1</sup> The stand is expected to develop into this condition in the five to ten years after this operation is completed, except in REG which occurs after harvest.

#### **IV. PROPOSED MANAGEMENT PRESCRIPTION AND PATHWAY:**

The harvest in all four areas will be a modified clearcut.

A variety of methods will be used to achieve green tree retention requirements, which include green tree retention areas (GTR), seasonal stream buffers and scattered green trees. Scattered GTR will be comprised of minor conifer species and the largest and healthiest Douglas-fir. These trees will be left to grow rapidly in open conditions. Throughout their life they will enhance species diversity and will provide large, high quality DWD for the future. Forest Management Plan (FMP) guidelines will be followed.

All existing DWD will be reserved in the sale areas. DWD recruitment is expected through mortality and windthrow of residual trees, felled snags, and logging slash.

The timber sale contract will specify that 2 trees per acre shall be topped. Topped trees will be scattered relatively evenly and in clusters of no more than four trees per acre. Tree selection will be from painted reserve trees and trees inside stream buffers and GTR areas. Trees selected for snag development will be Douglas-fir, topped at least 60 feet up the bole, and be at least 16 inches DBH.

Existing snags determined not to be a safety hazard will be retained and any felled snags will be left for down wood. Additional snags may be created from harvest activities and will develop over time through natural processes.

Machine piling on 40-50 acres in Areas 2-4, slashing of all non-merchantable hardwoods and vine maple, and whole tree yarding on the steeper slopes will help reduce the fire hazard and facilitate planting. Areas 3 and 4 also have good potential for prescribed burning. No herbicide application is anticipated.

Following completion of site prep activities, the areas will be replanted with approximately 85% Douglas-fir and 15% other species which may include western hemlock and western red cedar at a density of 430 to 550 trees per acre. Once planting

is complete, the operation area will fit the REG classification. By age 12, the stand will have moved from REG to CSC.

It is anticipated that when the stand reaches age 12-15, pre-commercial thinning will be used to reduce total trees to between 200 and 250 trees per acre. This will create an even-aged and sized stand that maximizes timber growth. The biggest and best trees will be retained, while also trying to maintain the existing species diversity.

At approximately age 35 the area will be capable of supporting a commercial thin. Contingent on goals in the year 2040, this area could be thinned to an RD of 30-35, capturing volume that would be lost due to competition mortality. This thinning would also move the stands on the pathway from CSC to UDS by opening the stands enough to allow vegetation to grow in the understory. Approximately 5-10 years following this thinning, the UDS condition will be achieved.

Beyond this, these stands could be thinned to further develop the stands toward a more complex structure or be good candidates for a modified clearcut.

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

**Table 4. Timber and Revenue**

| Ownership        |     | Sale Type |          |
|------------------|-----|-----------|----------|
| BOF              | CSL | Cash      | Recovery |
| <b>100%</b>      |     |           | <b>X</b> |
| Planned Quarter: |     | <b>3</b>  |          |

|                         | Conifer            | Hardwood             | Total              |
|-------------------------|--------------------|----------------------|--------------------|
| Net Volume (MBF)        | <b>7,400</b>       |                      | <b>7,400</b>       |
| Stumpage Value (\$/MBF) | <b>\$180</b>       |                      |                    |
| Estimated Gross Value   | <b>\$1,332,000</b> |                      | <b>\$1,332,000</b> |
|                         |                    | Project Costs:       | <b>\$112,000</b>   |
|                         |                    | Estimated Net Value: | <b>\$1,220,000</b> |

**VI. HARVESTING AND ACCESS CONSIDERATIONS:**

Approximately 0.39 miles of road will be constructed and 0.77 miles of road improved to provide access to cable yarding or landing locations. New construction is limited to ridge tops and gentle to moderate side slopes. Proposed roads will not cross any perennial streams. Estimated cost is \$64,000.

Crush and stockpile 6,000 cubic yards of rock for a 2011 planned timber sale at a cost of \$48,000.

The rock source will be the C-Line Pit.

All haul roads will have high quality crushed rock or pit run surfacing. Roads will provide access to all timber within the sale area and allow for logging methods and hauling which will minimize impacts to soils, residual timber, streams, and riparian areas.

Estimated cost of project work is \$112,000.

All skid trails within the sale areas will be blocked and closed upon completion of use.

The operation will be 65% cable yarding (with an average yarding distance of 800' and a maximum yarding distance of approximately 1,700') and 35% ground yarding (with an average yarding distance of 300').

**Table 5. Transportation Management Summary (Miles)**

| Activity       | Mainline | Collector | Rocked Spur | Dirt Spur |
|----------------|----------|-----------|-------------|-----------|
| Construct      | 0        | 0         | 0.39        | 0         |
| Improve        | 0        | 0.77      | 0           | 0         |
| Maintenance    | 0        | 10        | 0           | 0         |
| Block (Closed) | 0        | 0         | 0           | 0         |
| Vacate         | 0        | 0         | 0           | 0         |

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

All streams in and around the sale area are tributaries to the South Fork Wilson River.

All streams will be evaluated more closely during sale layout to determine flow duration and fish distribution. Riparian management areas (RMAS) will be applied consistent with the Northwest Forest Management Plan strategies. Portions of the largest seasonal streams will also be buffered for green tree retention areas. RMAs leave trees adjacent to streams protect stream temperature, provide nutrients, protect stream banks, and eventually provide wood to improve fish habitat.

A 170' riparian management area is established on all fish streams. Management is allowed beyond 25' in the "inner zone" only to achieve mature forest condition. Once mature forest condition is achieved the inner zone will not be harvested.

There are likely debris-flow prone channels in Areas 2 and 3. These streams have a high probability of delivering wood to downstream fish-bearing streams. No harvest will occur within 25 feet horizontal distance these streams. In addition, a minimum of 10 trees/acre will be retained within 100 feet of the stream to promote potential large wood recruitment.

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 seasonal restrictions on logging and hauling operations. Restrictions may include limiting the number of loads hauled

per day, not hauling during periods of heavy moisture, or having an alternate haul route. 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. WILDLIFE AND T&E SPECIES CONSIDERATIONS:**

The sale areas have been reviewed by the ODF Northwest Oregon Area Biologist.

Northern Spotted Owl surveys are not required for this sale, as the sale area is located within the Tillamook Burn ((see June, 2008 ODF Policy Guidance: *Northern Spotted Owls Operational Policies* and the associated procedures and guidance documents).

Surveys for marbled murrelets are not required, due to the absence of potentially suitable habitat within the sale. The District T&E Coordinator made the determination that the sale is non-suitable habitat for marbled murrelets. The ODF wildlife biologist for the NW Oregon Area reviewed and approved this determination.

This operation involves an activity that is listed in the National Marine Fisheries Service adopted rules under Section 4(d) of the Endangered Species Act. The sale area is in proximity to streams in which listed salmon and/or steelhead are present. For a discussion of protection measures for listed fish, see sections VI and VII.

The sale areas were checked against the Oregon Natural Heritage Program (ONHP) database of known listed plant locations, as well as against local records. No listed plant records were identified within or adjacent to the sale areas.

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

This assessment is based on a LiDAR-generated 1 m digital elevation model and available geologic maps. There are high landslide hazard locations scattered throughout the sale area. The sale areas drains to unnamed tributaries of the South Fork of the Wilson River. The risk of landslides delivering to these streams from Area II is high, from Area III is moderate, and from Areas I and IV is low to moderate. There may be large, deep-seated landslides in Area II. Areas I, III, and IV appear to be located on a large, deep-seated landslide landform. The geotechnical specialist will be consulted if evidence of recent landslide activity is identified during sale layout.

### **X. RECREATION RESOURCES:**

The sale area is designated as Motorized in the Tillamook State Forest Comprehensive Recreation Plan (1993). The District Recreation Coordinator will review this sale prior to sale layout.

Unauthorized OHV trails were identified within or adjacent to the sale areas. Trails will be evaluated by the District Recreation Coordinator to determine if the trails should be

protected, rehabilitated, and/or blocked to access. Further assessment will likely occur at time of timber sale preparation.

Short-term closure of trails and associated trailheads will occur to facilitate logging and public safety. A plan will be developed to advise the public when trails are closed due to harvest activity.

#### **XI. CULTURAL RESOURCES:**

The sale area and proposed road construction right-of-way were checked against the Tillamook State Forest Cultural Resource Inventory Database (GIS format). No cultural resource records were identified within or adjacent\* to the operation areas. If any significant cultural resources are located during sale preparation, the Public Use Coordinator (ODF Salem Staff) will be consulted regarding potential protection measures.

*\*Adjacent refers to approximately one tree length from an operation area. For the purpose of this screen, a 200 foot buffer around the sale boundary and proposed road construction right-of-way was assessed for cultural resource locations.*

#### **XII. SCENIC RESOURCES:**

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

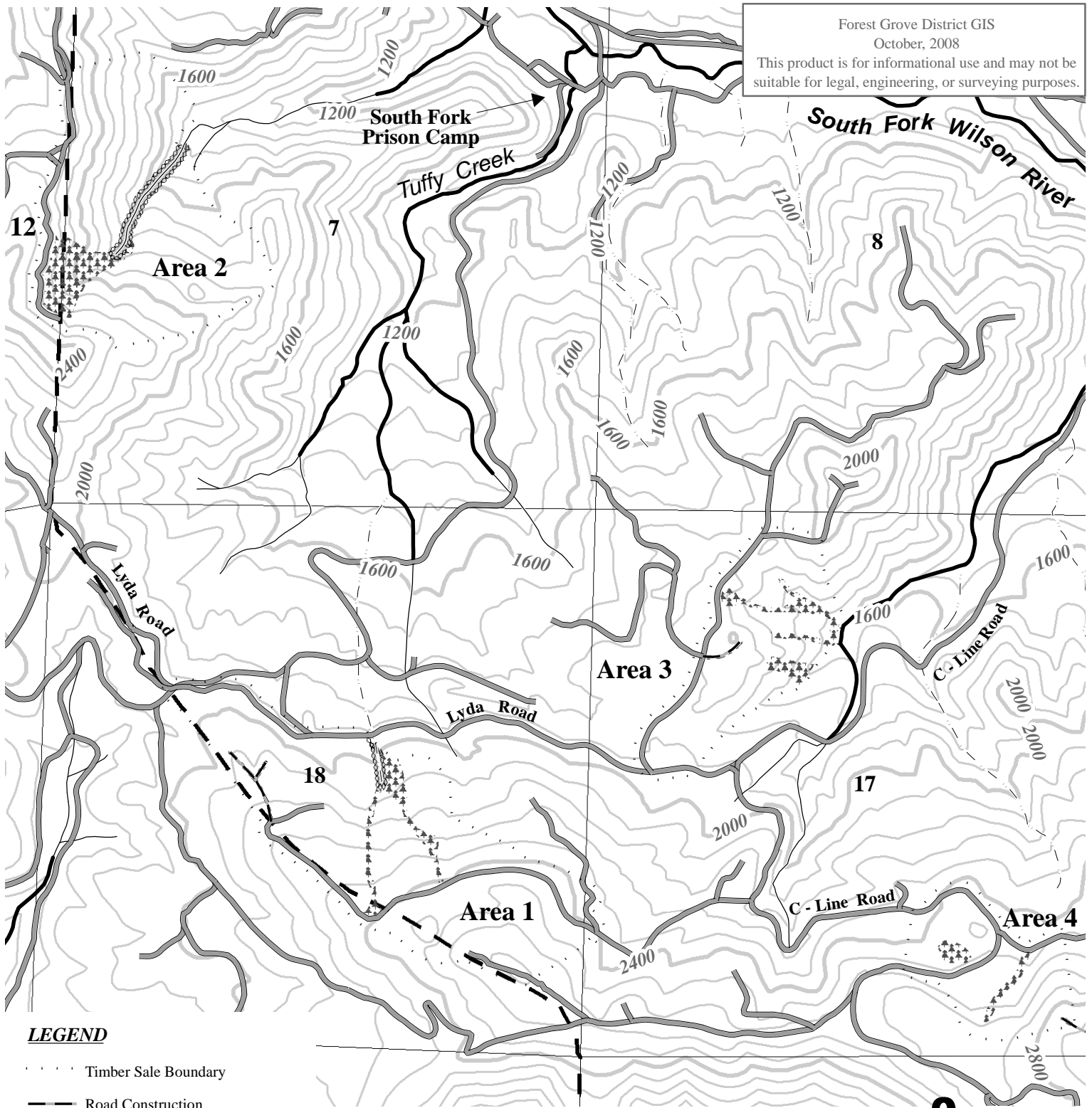
#### **XIII. OTHER RESOURCE CONSIDERATIONS:**

No property survey is needed.

Any survey corners and witness trees shall be protected from damage during any operations.

#### **XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

All four sale areas contain Focused and Special Stewardship, Aquatic and Riparian Subclass due to the perennial streams within the areas. See Section VII, Aquatic Resources and Water Quality for the management guidelines to be used in these areas. There is also an area of Focused Stewardship, Recreation within Area 4. See Section X, Recreation Resources for the strategies that will be implemented in that area.



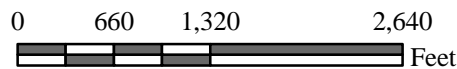
**LEGEND**

- Timber Sale Boundary
- Road Construction
- Existing Roads
- Perennial Fish Stream
- Perennial Non-fish Stream
- Stream, Unknown Fish Presence
- Green Tree Retention Area
- Road Construction Right-of-Way
- Stream Buffer
- ODF Ownership
- 400' Contour Intervals
- 80' Contour Intervals

FY 2010  
MIGHTY LYDA  
PORTIONS OF SECTIONS 7, 17 AND 18, T01N, R06W, W.M.,  
AND SECTION 12, T01N, R07W, W.M.,  
TILLAMOOK COUNTY, OREGON

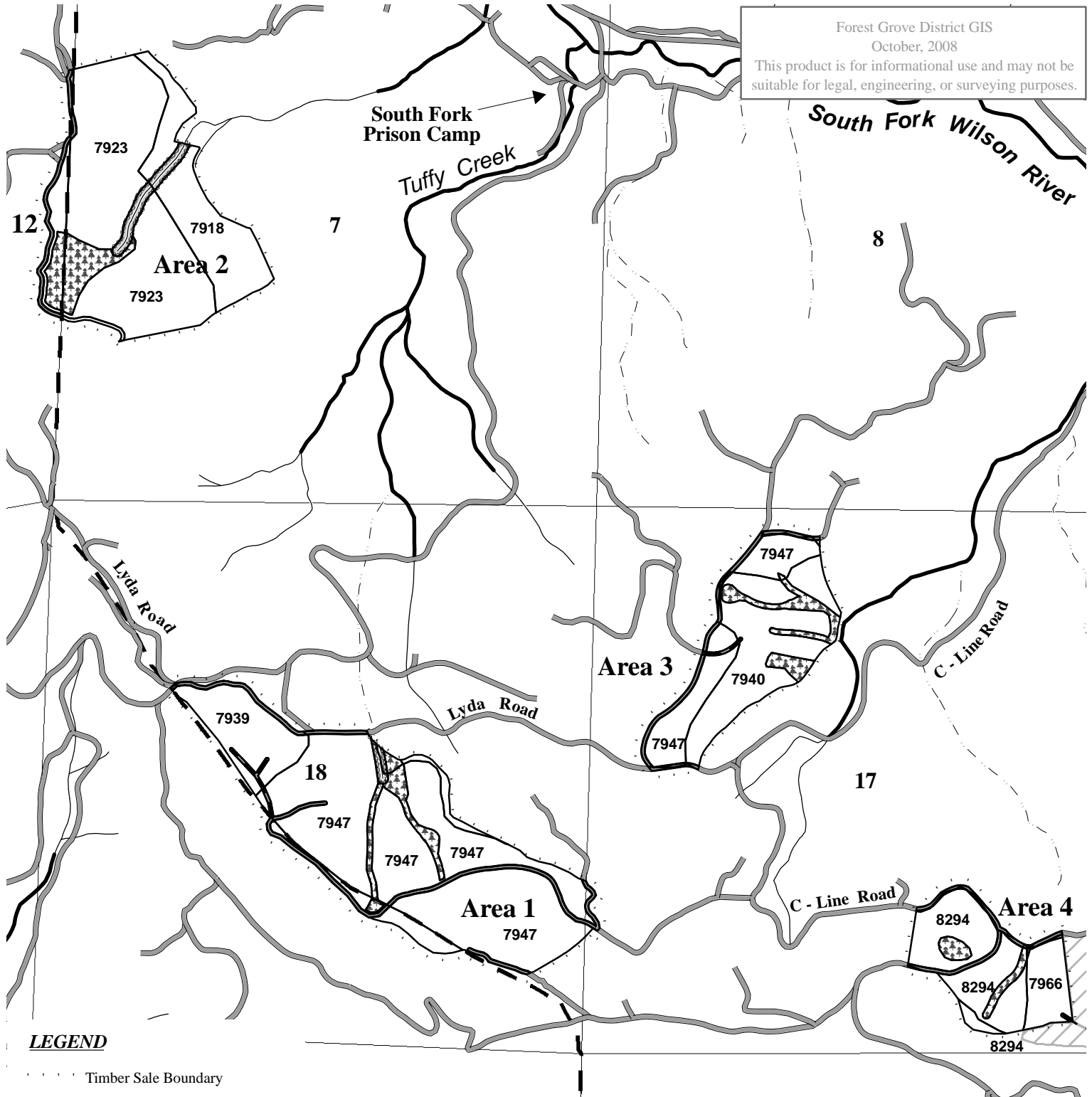
Attachment A: Topography

Scale  
1: 15,840  
1 inch = 1/4 Miles



APPROXIMATE NET ACREAGE

| Area         | Approximate Net Acreage | Acres (MC)   |
|--------------|-------------------------|--------------|
| AREA 1       | 96                      | ACRES (MC)   |
| AREA 2       | 79                      | ACRES (MC)   |
| AREA 3       | 40                      | ACRES (MC)   |
| AREA 4       | 28                      | ACRES (MC)   |
| <b>TOTAL</b> | <b>243</b>              | <b>ACRES</b> |

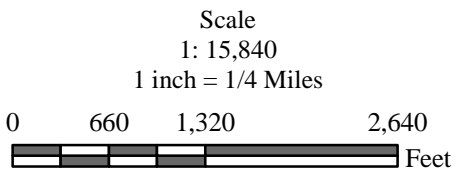


**LEGEND**

- Timber Sale Boundary
- Road Construction
- Existing Roads
- Perennial Fish Stream
- Perennial Non-fish Stream
- Stream, Unknown Fish Presence
- Green Tree Retention Area
- Stream Buffer
- ODF Ownership
- Stand ID
- DFC - Layered
- DFC - Older Forest Structure

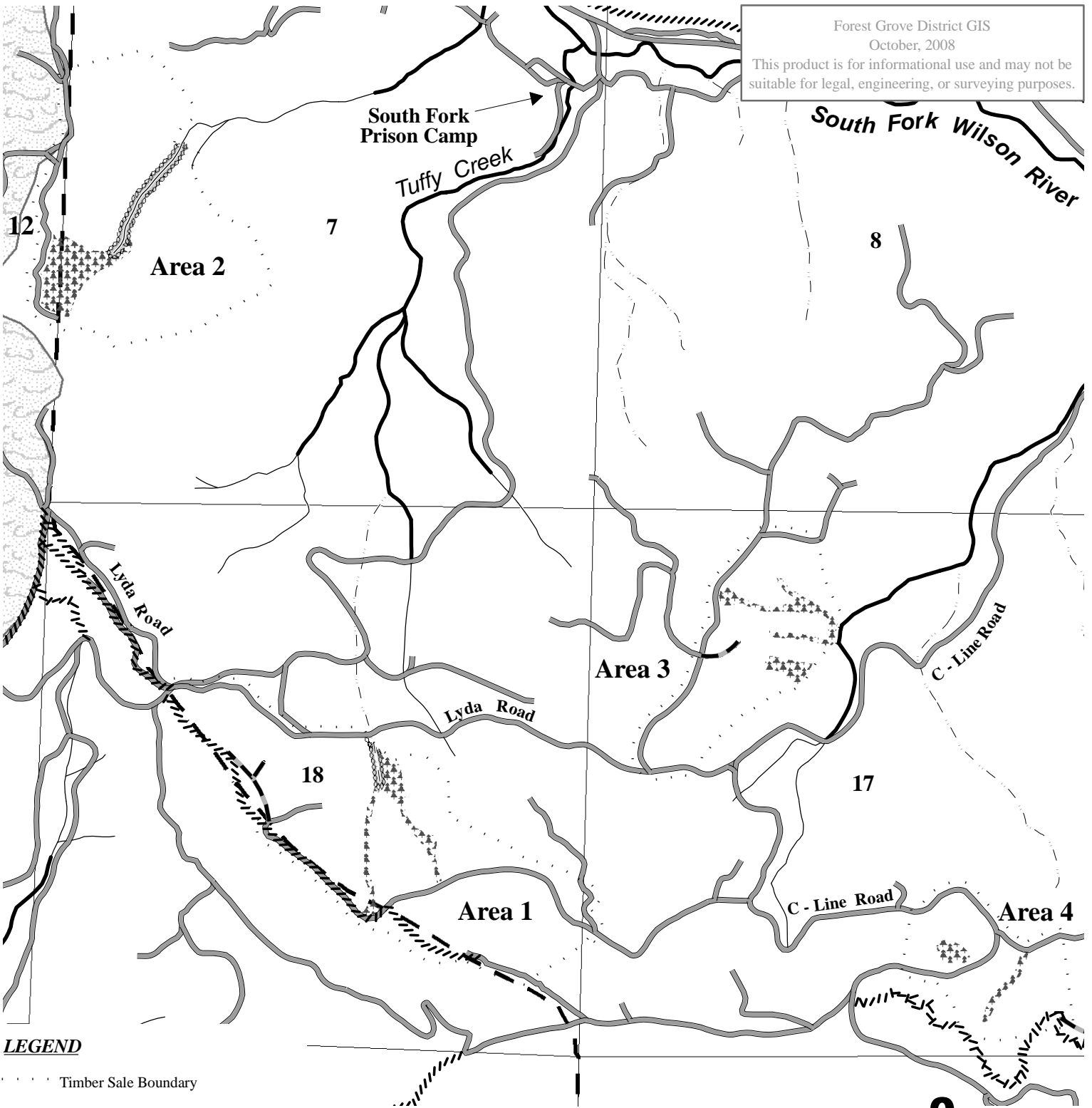
FY 2010  
 MIGHTY LYDA  
 PORTIONS OF SECTIONS 7, 17 AND 18, T01N, R06W, W.M.,  
 AND SECTION 12, T01N, R07W, W.M.,  
 TILLAMOOK COUNTY, OREGON

Attachment B: Desired Future Condition



**3**

| APPROXIMATE NET ACREAGE |            |              |
|-------------------------|------------|--------------|
| AREA 1                  | 96         | ACRES (MC)   |
| AREA 2                  | 79         | ACRES (MC)   |
| AREA 3                  | 40         | ACRES (MC)   |
| AREA 4                  | 28         | ACRES (MC)   |
| <b>TOTAL</b>            | <b>243</b> | <b>ACRES</b> |



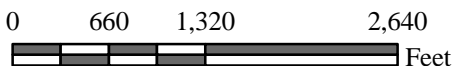
**LEGEND**

- Timber Sale Boundary
- Designated OHV Trails
- Road Construction
- Existing Roads
- Perennial Fish Stream
- Perennial Fish Stream
- Stream, Unknown Fish Presence
- Green Tree Retention Area
- Road Construction Right-of-Way
- Stream Buffer
- ODF Ownership
- Salmon Anchor Habitat (SAH)

FY 2010  
MIGHTY LYDA  
PORTIONS OF SECTIONS 7, 17 AND 18, T01N, R06W, W.M.,  
AND SECTION 12, T01N, R07W, W.M.,  
TILLAMOOK COUNTY, OREGON

Attachment C: Key Resources

Scale  
1: 15,840  
1 inch = 1/4 Miles



APPROXIMATE NET ACREAGE

|              |            |              |
|--------------|------------|--------------|
| AREA 1       | 96         | ACRES (MC)   |
| AREA 2       | 79         | ACRES (MC)   |
| AREA 3       | 40         | ACRES (MC)   |
| AREA 4       | 28         | ACRES (MC)   |
| <b>TOTAL</b> | <b>243</b> | <b>ACRES</b> |