

Leonia Timber Sale Report

I. Location

The sale area is 846 acres in size and is located in sections 15, 16, 20, 21, 22, 28 and 29 T.61N., R.3E., Boise Meridian, in Boundary County, Idaho. The timber stand atlas compartment numbers are 746 and 747 of the Bonners Ferry Ranger District, Idaho Panhandle National Forests. Harvest is planned on 447 acres. The sale lies in the Lower Boulder Creek and Kootenai River watersheds. The sale area is located approximately 11 miles east/southeast of Bonners Ferry, accessed by Katka Road #314.

II. Relationship to the Environmental Document and Other Uses

This sale is prepared under the direction of the Leonia Restoration Project Environmental Assessment and Decision Notice approved by the Forest Supervisor on April 2, 2012. The purpose of the sale is to trend the project landscape towards a natural condition class, with low severity fires being more frequently represented, reduce the potential for high intensity and severity fire, and maintain and improve overall forest health and perpetuate dry-site old-growth characteristics. Alternative 2 with modifications has been chosen as the preferred alternative that best meets the purpose and needs of the project.

This sale lies in Forest Plan Management Area 2 (TGRIZ) – Consists of lands designated to timber protection within identified grizzly bear habitat.

- A. Private Land/Right-of-Way:** There is no private land adjacent to any units in this sale.
- B. Threatened, Endangered, (T&E) and Sensitive Species:** This timber sale is located in the Boulder Bear Management Unit (BMU). All timber harvest activities shall be restricted to the grizzly bear denning season (December 1 – March 31). All road construction, road decommissioning and storage, grapple piling and slashing activities would take place outside of the grizzly bear spring season (April 1 – June 15). The temporary road that will be constructed to access cutting units will be obliterated immediately following harvest activities to reduce the amount of disturbance. The temporary road would not remain on the landscape for more than two years. If any other T & E species are found during project implementation, management activities and the contract would be altered to protect the species.

- C. Wetlands/Streamside Habitats:** Protected streamcourses have been identified on the sale area map. Units have been laid out with proper INFSH buffers in place. Commercial harvesting is prohibited in RCHA's (Riparian Conservation Habitat Area). Most protected streamcourses have been omitted from cutting units, except for a couple of dry draws (without riparian habitat) in units 2, 3, and 7 where trees may be harvested but equipment is restricted to >50 feet. Equipment is prohibited from all protected streamcourses. A wet area adjacent to unit 9 has been omitted from the cutting unit. Keep equipment out and fell trees away from the wet area.
- D. Special Uses, Mining Claims, Range Allotments:** There are no active range allotments in the sale area. There are two mining claims near the west boundary of unit 6. There are bearing trees and survey markers for these claims just inside the unit 6 boundary which shall be protected.
- E. Noxious Weeds:** In order to prevent the spread of noxious weeds into the sale area, the purchaser shall be required to clean off-road logging and construction equipment prior to entry into the sale area. If operations occur in areas infested with new invaders, all equipment shall be cleaned, prior to leaving the site. All newly constructed roads, skid trails, landings, fuel breaks or other areas of disturbance (including maintenance of existing roads), will be seeded with weed-free seed. During project implementation, haul routes and service landings will be monitored for weeds by the FS.
- F. Cultural Resources and Recreation:** There are no cultural resource sites impacted by this timber sale. There is a fair amount of recreational use in the summer, therefore, all logging related activities will be restricted on weekends and holidays. The Kootenai River Walk trailhead is located along the haul route on road 314. In order to minimize conflict, no work vehicles or equipment shall be parked at the trailhead.
- G. Wildlife:** Large woody debris shall be retained in all units to meet wildlife objectives, and soil nutrients. Snags and replacement snags will be maintained by appropriate harvest prescriptions (species designations with diameter limits) in all units, for wildlife purposes. Slash will be pulled back from veteran or relic ponderosa pine, western larch trees, and snags to protect them from the adverse effects of prescribed burning, where necessary. Leave dead trees >14.0" dbh standing (including merchantable snags), except for safety reasons. Retain smaller snags if they do not contribute to excessive understory congestion, and retention is consistent with unit management objectives. Any large diameter snags or large aspen and birch trees felled for safety reasons shall remain on the site, for large woody debris and long-term site productivity. Where consistent with fuels reduction objectives, when units are grapple piled, leave approximately 1 pile per 5 acres unburned, to provide for small animal habitat.

- H. Soils:** Specific soil and water conservation Best Management Practices (BMP) for units, roads, and landings are designed to meet or surpass the level of Idaho State BMP for watershed protection. Nutrient sources such as needles and limbs would be maintained on site by allowing slash to remain for one wet season prior to all slash disposal treatments. To minimize soil disturbance, mechanical equipment is limited to slopes <35%, utilizing existing skid trails and slash when available. Skid trails will be spaced at maximum distance, except where converging. Excavated skid trails shall be kept to a minimum and obliterated by the purchaser after use. Work shall occur only when the soil is dry, frozen, or snow-packed. Stop work when trenching is detected. If a fairly strong clod can be formed with the soil in the topmost 6 inches, then the site is too moist for work. For winter harvest on snow or frozen soil: 0 inches frozen soil requires 10 inches of machine-packed snow, 2 inches frozen soil requires 6 inches of machine-packed snow, and 4 inches frozen soil does not require snow cover. Underburn units when soil moisture is at least 25% by weight or 60-100% duff moisture. These guidelines are required to meet the Regional Soil Quality Standards by limiting disturbance to <15% of the activity area.
- I. Visuals:** Units 2, 4, 5, 6, and 9 are located along Katka Road #314 and would be visible to the public driving this road. In order to maximize the enhanced view, the use of paint for marking boundary and leave trees would be minimized.

III. Timber Volumes

This sale was cruised in the summer and fall of 2011 using variable plot cruising with a 20 BAF in all units. Non-sawlog small tree volume was determined by taking 1/50th acre fixed plots in all units. Cutting unit acreage was determined using GPS.

This is a weight scale sale with a designed sale error of 20 %. Refer to Cruise Processing Report (version 03.14.2012), Leonia cruise number 71202, run on 09-18-2012. The INGY 2 point volume equations were used with a 5.6" top diameter for sawtimber. The sale-as-a-whole error was 18 % at the 95% confidence level, based on net volume, and can be found in Table DS1. Strata errors < 50% were attained for all strata. Table UC5 was used for sawtimber volume. Table R101 was used for appraisal group statistics. Table UC11 was used to determine the number of trees. Non-sawtimber (4" top) and pulpwood are mandatory products in all units and non-sawtimber small trees (5" to 7" dbh) are mandatory products in units 1, 2, 3, 4, 6, 7, and 9. The sale conversion factor is 0.478 mbf/ccf. The average weight conversion factor is 3.305 ton/ccf. The following table summarizes sale acreage and estimated timber volumes by species, logging system, and unit:

Volumes (CCF)

Unit	Acre	Logging System	AF	C	DF	GF	H	L	LP	PP	S	WP	Sawlog Total	Non-Saw	Sale Total
1	76	Tractor	0	0	177	12	0	113	471	21	0	0	794	171	965
2	68	Tractor	0	0	482	0	0	10	12	70	0	0	574	113	687
3	74	Skyline	0	0	525	0	0	11	13	76	0	0	625	123	748
4	51	Tractor	0	0	362	0	0	7	9	52	0	0	430	85	515
5	12	Tractor	0	100	57	103	31	22	0	0	0	0	313	22	335
6	32	Tractor	0	0	75	5	0	48	198	9	0	0	335	72	407
7	94	Tractor	0	0	219	15	0	140	582	26	0	0	982	211	1193
9	40	Tractor	0	0	93	6	0	60	248	11	0	0	418	90	508
Total	447		0	100	1,990	141	31	411	1,533	265	0	0	4,471	887	5,358
MBF			0	48	989	73	16	209	784	129	0	0	2,248	314	2,562
Tons			0	224	6,508	511	106	1,399	4,779	984	0	0	14,511	3,200	17,711

IV. Marking Plan

- A. Unit Boundaries:** All cutting unit boundaries have been marked on three sides of cutting unit boundary trees with streaks of orange paint extending from near ground level to a height of 6 feet or more, and orange stump marks. The middle streak faces the cutting unit. Where a cutting unit is adjacent to a road the road is the boundary and no paint was used. Fell trees away from cutting unit boundaries.
- B. Prescriptions:** Units 1, 2, 3, 4, 6, 7 and 9 are group selection cuts. Unit 5 is a shelterwood cut.

C. Designations:

Unit	Species Designation
1	Cut all LP and GF meeting utilization standards. Cut all DF, L, PP, AF, S, H, C <10" dbh (12" stump dia) meeting utilization standards.
2	Cut all LP and GF meeting utilization standards. Cut all DF, PP <14" dbh (17" stump dia), and cut all L <12" dbh (14" stump dia), and cut all AF, S, H, C < 7" dbh (9" stump dia) meeting utilization standards. In addition cut all trees marked with blue paint.
3	Cut all LP and GF meeting utilization standards. Cut all DF, L, PP, <12" dbh (14" stump dia), and cut all AF, S, H, C < 7" dbh (9" stump dia) meeting utilization standards. In addition cut all trees marked with blue paint.
4	Cut all LP and GF meeting utilization standards. Cut all DF, PP, <14" dbh (17" stump), and cut all L <12" dbh (14" stump dia), and cut all AF, S, H, C < 7" dbh (9" stump dia) meeting utilization standards. In addition cut all trees marked with blue paint.
5	Cut all GF, LP, H, S, and AF meeting utilization standards. Cut all C <17" dbh (26" stump dia), and cut all DF <18" dbh (22" stump dia), and cut all PP, L <14" dbh (17" stump dia) meeting utilization standards.
6	Cut all LP and GF meeting utilization standards. Cut all DF, L, PP, <12" dbh (14" stump dia), and cut all AF, S, H, C < 7" dbh (9" stump dia) meeting utilization standards. In addition cut all trees marked with blue paint.
7	Cut all LP and GF meeting utilization standards. Cut all DF, L, PP, AF, S, H, C <12" dbh (14" stump dia) meeting utilization standards.
9	Cut all LP and GF meeting utilization standards. Cut all DF, AF, S, H, C < 7" dbh (9" stump dia) meeting utilization standards. In addition cut all trees marked with blue paint.

V. Logging Plan

A. General:

Tractor skidding is suitable for units 1, 2, 4, 5, 6, 7 and 9. To minimize soil disturbance, mechanical equipment is limited to slopes <35%, utilizing existing skid trails and slash when available. Skid trails will be spaced at maximum distance, except where converging. Excavated skid trails shall be kept to a minimum and obliterated by the purchaser after use. Work shall occur only when the soil is dry, frozen, or snow-packed.

Skyline yarding is required for unit 3. Skyline profiles for this unit are available to review at the Bonners Ferry Ranger District Office.

Unit	Average Skidding/Yarding Distance (feet)
1	2600
2	700
3	700
4	750
5	450
6	1100
7	1400
9	700

There are two protected streamcourses in unit 2, and another that is in both units 3 and 7. Cutting of timber is allowed in these streamcourses, however all equipment shall remain at a distance of 50 feet due to potentially sensitive soils and steep slopes.

All timber harvest activities shall be restricted to the grizzly bear denning season (December 1 – March 31).

Fell trees away from all cutting unit boundaries to facilitate slash treatment.

Leave dead trees > 14” dbh standing, except for safety reasons, for wildlife habitat. Any of these large diameter snags or large aspen and birch trees felled for safety reasons shall remain on site, for wildlife habitat and long-term site productivity.

No logging activities including hauling from the sale area on weekends or holidays, to avoid conflicts with recreationists, residents, and hunters.

There is a gate on road 2111 (gate #52) that has a seasonal closure. Although the purchaser may go behind the gate to work in cutting units, the gate shall be closed at the end of the day and during periods of non-use.

Protect all wet areas, mining claims, streamcourses, survey monuments, and plantations.

B. Sawtimber Characteristics: Ponderosa pine and Whitepine have been grouped with Lodgepole pine in this market area.

	Tractor	Skyline	Total/Ave.
Net Volume (CCF)	3,846	625	4,471
Net Cut Vol/Ac (CCF)	10.3	8.4	10
Total Acres	373	74	447
Total Trees	27,174	3,846	31,020
Percentage by Volume	86%	14%	100%
Ave. External Yard Distance	1,350'	700'	
Ave. DBH	10.2	11.1	

VI. Transportation System

A. Average haul route to sale center:

Road Name	Road Number	Mileage
Temp Road		0.5
East Gable	2111	1.0
Katka Face	314	7.77
Crossport/Katka	CR 24	10.75
Ash Street		0.3
Highway 95	US Hwy 95	7.0
Moyie Mill	City 83	0.50
Total		27.82

B. Road construction or reconstruction: None.

C. Road Reconditioning: The purchaser shall recondition road 2111 to facilitate logging. Reconditioning shall consist of brushing and blading to a landing location in unit 1.

D. Temporary roads: A temporary road shall be constructed off of road 2111. This road will be approximately 1.1 mile long and will be used to log units 3 and 7. The temporary road will be obliterated as soon as possible following units 3 and 7 harvest activities, by the purchaser. The temporary road shall not remain on the landscape for more than two calendar years.

E. Road maintenance: A deposit will be collected for surface replacement and vegetative brushing for all Forest Service roads in the haul route. An appraisal allowance will be made for purchaser snowplowing for winter logging.

- **Snowplowing:** Purchaser will need to snowplow roads to gain access to all units in the winter. Estimate 2 plowings/month and 1 winging/month, for 3 months/season for 2 seasons. Estimate 10.12 miles on the following roads:

Road	M.P. to M.P.	Mileage
Temp road	From beginning to end.	1.1
2111	From beginning to m.p. 1.1	1.1
314	m.p. 5.5 (county) to m.p.13.5	8.0
Total		10.2

12 plowings x \$127.04/hr (grader & operator) x 10.2 mi /3mi/hr = \$ 5,183

6 wingings x \$139.32/hr (dozer & operator) x 10.2 mi x 1 mi/hr = \$ 8,526

Total Cost = \$13,709 **Cost/ccf = \$ 3.07/ccf**

F. Road Storage: Road 2111 will be placed in long-term storage by the Forest Service within 1 year of the completion of post-harvest activities, funded with KV funds. Storage of the road involves the elimination of access to mechanical equipment and vehicles, removal of drainage structures, installing water bars, and establishing natural drainage patterns to eliminate the potential for road culvert failure. See KV narrative.

VII. Erosion Control

A. General:

Application shall be during the period from May 1 to June 15, and/or September 1 to September 30. Seed shall be applied evenly at the rate of 20 pounds per acre (Dry site mix) and 200 pounds per acre of fertilizer (16-16-16-4 or 18-18-14-6). Erosion control measures should be done by the end of the normal operating season to prepare for overwintering.

Landings, skid trails/corridors, and temporary roads shall be seeded, fertilized, and if needed waterbarred:

Area to Seed	Acres
Landing	6.1
Skid trail/corridor	0
Temporary road	4.0
Total	10.1

B. Standard Dry Seed Mix: Appropriate for roadside application on low to middle elevation sites that tend to be droughty and well-drained.

Species of Seed	PLS lbs/acre
Slender wheatgrass "Pryor" or "Revenue" (<i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i>)	6.0
Hard fescue "Durar" (<i>Festuca brevipila</i> , synonym: <i>Festuca ovina</i> var. <i>duriuscula</i>)	5.0
Steambank wheatgrass "Sodar" (<i>Elymus lanceolatus</i> ssp. <i>psammophilus</i>)	3.0
Annual rye (<i>Lolium multiflorum</i>)	2.0
Canby bluegrass "Canbar" (<i>Poa canbyi</i>) or Big bluegrass "Sherman" (<i>Poa ampla</i>)	4.0
Total	20 lb/ac

Acceptable substitutes:

Blue wildrye "Arlington" or "Elkton" (*Elymus glaucus*) @ 3 PLS LBS/AC for slender wheatgrass.

Use of Alsike clover has been removed since it would conflict with other resource values (e.g. grizzly bear habitat).

C. Costs:

Seed: 20 lbs/ac x 10.1 acres x \$3.80 /lb = \$ 768
 Fertilizer: 200 lbs/ac x 10.1 acres = 2,020 lbs x \$0.37/lb = \$ 747
 Labor: 10.1 ac x 1/3 manday/ac x \$218/manday = \$ 734
 Transportation: 51mi/trip x \$0.5/mile x 2 trips = \$ 51
 Total Erosion control needs = \$2,300
Cost/CCF = \$0.51

VIII. Sale Area Improvement

A. KV Base Rates Funded Activities:

- Slash units 1, 5, and 9 to prepare sites for planting.
- Grapple Pile unit 5 for planting site prep.
- Site Prep Burning (underburn) units 1 and 9.
- Complete preplant exams in units 1 and 5.
- Plant all acres in unit 5 and 10 acres in unit 1.
- 1st, 3rd, and 5th Year Stocking Surveys is planned for units 1 and planted acres.

- Store road 2111 after post-sale KV planting activities are completed, as required by the DN.

B. KV Unfunded Activities:

- 1st, 3rd, and 5th Year Stocking Surveys is planned for 1\3 acres of all Group Selection units where natural regeneration will be initiated.

IX. Hazard Reduction and Site Preparation

A. Purchaser requirements:

- Fell damaged residuals in units 1, 3, 5, 6, 7, and 9.
- Slashing with felling damaged residuals in units 2 and 4.
- Limb and lop tops of sawlogs in units 2 and 4.
- Protect leave trees in units 2 and 4 to prepare for underburning.
- Construct firelines on units 3, 4, 6, and 9. Handline will be needed in unit 3, and excavator line for units 3, 4, 6, and 9. Waterbar firelines as needed to minimize the potential for erosion.
- Grapple pile all landings.

B. Forest Service requirements:

- Underburn in units 3 and 6.
- Burn all grapple piles and landing piles.
- Burn Evaluations are planned in units 1, 3, 6, and 9.

Note: Burning will only occur when soil, weather, and air conditions are favorable, and when approved through the Montana/Idaho Airshed Management System.

X. Other Provisions

A. Period of contract:

- 1. Normal operating season:** All timber harvest activities shall be restricted to the grizzly bear denning season (December 1 – March 31). All road improvement work, temp road obliteration, road storage, grapple piling and slashing activities would take place outside of the grizzly bear spring season (April 1 – June 15).
- 2. Termination date:** October 31, 2016

B. Purchaser fire liability:

Total number of personnel/crew	15
Number of hours/day	12
Total hours/crew day	180
Hourly rate AD-C firefighter	\$17.40
Average daily cost	3,132
Average fire length	5 days
Purchaser obligation for fire operation	15,660
Rounded up to the nearest \$100	15,700

XII. Sale Objective Code

Purpose	Activity	Percentage
TC -- Timber Commodity Purpose	01 -- Timber Purpose	20
FS -- Forest Stewardship Purpose	10 -- Forest and Ecosystem Health	80

VALID PURPOSE CODES:

TC -- Timber Commodity Purpose
FS -- Forest Stewardship Purpose
PP -- Personal Use

VALID ACTIVITY CODES:

TC 01 -- Timber Purpose
FS 10 -- Forest and Ecosystem Health
FS 20 -- Recreation/Visual/Cultural Resource Enhancements
FS 30 -- Wildlife Habitat Management
FS 40 -- Fisheries Habitat Management and Watershed Improvement