

Northern Prairie Timber Sale Report

I. Location

The sale area is 1,230 acres in size and is located in sections 13, 24, 25, 26, and 34 T.65N. R.1E. and in sections 7, 16, 18, 19, 20, 22, and 30 T.65N. R2E. Boise Meridian, Boundary County, Idaho. The timber stand atlas compartment number is 727 in the Bonners Ferry Ranger District, Idaho Panhandle National Forests. Harvest is planned on 523 acres. The sale lies in the Round Prairie Creek drainage, including Miller, Harvey, and Gillon Creeks . The sale area is located approximately 30 miles north of Bonners Ferry, accessed by US95, on the northern end of the Purcell Mountains.

II. Relationship to the Environmental Document and Other Uses

This sale is prepared under the direction of the Northern Prairie Environmental Assessment and Decision Notice approved by the District Ranger on May 9, 2008. The purpose of the sale is to improve ecosystem composition, structure and landscape diversity by providing for tree species, stocking levels, and landscape patterns that better resist insects, diseases, and wildfire. In addition, the purpose is to restore normal slope hydrology where it has been altered by roads. Alternative 3 was chosen to best meet management objectives. The sale area is in the Wildland Urban Interface (WUI).

Units 71, 72, 73, 74, 75, 78, 80, 81, 82, and 103 lie in Forest Plan Management Area 1 (TIMBR) – Provide for the long-term growth and production of commercially valuable wood products on those lands that are suitable for timber production. Units 90, 96, 99, 105, 136, 137, and 138 lie in Forest Plan Management Area 4 (TMEKW) – Provide winter forage to support existing and projected big game populations through scheduled timber harvest and permanent forage areas.

- A. Private Land/Right-of-Way:** Private land lies adjacent to cutting units 72, 74, 90, 99, 136, 137, and 138. The boundaries are clearly marked with blazed trees and signs. Protect the private fence along some boundaries of units 90 & 136 and barb wire fence along unit 99, as shown on the sale area map. Fell trees away from private property boundaries. There is an existing cost share agreement with Forest Capital Partnerships for roads 272, 2481, and 2229. Liability insurance will be required.
- B. Threatened, Endangered, (T&E) and Sensitive Species:** This project will not affect any Threatened, Endangered or candidate wildlife, fish, or plant species which may occur in the area. No rare plants have been found in the sale area, but if found shall be protected under the contract. This sale lies in the Round Prairie Lynx Analysis Unit, but it is unlikely to result in adverse impacts to lynx or their critical habitat. The sale area lies in Gray Wolf habitat and it is unlikely to adversely affect wolves. Although the sale does not occur in a grizzly Bear Management Unit, it is known to have recurring grizzly bear use. There will be no spring logging, including tree felling, yarding, hauling, or road work from April 1 – June 15 in all

cutting units. Purchaser's activities behind gates on roads 2481 and 2229 during their closure period (beginning October 6 to end of elk rifle season) shall be permitted, however gates must be closed at the end of the day. No firearms permitted behind the gate during the closure period. There is no closure requirement for the gate on private ground on road 272E.

- C. Wetlands/Streamside Habitats:** All activities are designed to protect water quality and fisheries habitat. Standards and guidelines established by the Inland Native Fish Strategy (INFS) will be used: exclusion zones of no harvesting and no equipment within 300 feet for fish-bearing streams, 150 feet for perennial streams, and 50 feet for ephemeral draws. Wetlands, elk wallows and seeps or bogs < 1 acre in size will be protected with a no activity buffer of 50 ft radius. All buffers have been applied during unit layout and none are in cutting units.
- D. Special Uses, Mining Claims, or Range Allotments:** There are no mining claims, special uses, or range allotments in the sale area.
- E. Noxious Weeds:** In order to prevent the spread of noxious weeds into the sale area, contactor shall be required to clean off-road logging and construction equipment prior to entry on to the sale area.
- F. Cultural Resources:** There are four archaeological sites in the contract area requiring protection, adjacent to units 96, 99, 136, and 137. All sites have been buffered and excluded from cutting units. Fell trees away from these sites and no equipment permitted in the buffered areas.
- G. Wildlife:** Large woody debris shall be retained in all units to meet wildlife objectives. Snags and replacement snags will be maintained by appropriate harvest prescriptions in all units, for wildlife purposes. Leave dead trees (snags) > 15" dbh standing. To maintain habitat diversity, hardwood trees shall not be harvest. If large diameter snags or hardwood trees are felled for safety reasons, they shall remain on the site, for large woody debris recruitment, and long-term site productivity. Veteran or relic Ponderosa Pine and Larch (20" dbh or more) will be protected during underburning, by pulling back slash within a 12 ft radius. Leave areas with patches of uncut vegetation will be retained on dry sites, for Flammulated Owl habitat in Units 73, 74, 75, 90, 96, 99, 103, 105, 136, 137, and 138 (1/10th acre exclusions marked out of units with pink boundaries). When grapple piling slash, leave some piles unburned for small animal habitat.

- H. Soils:** Existing skid trails and slash mats will be used during logging and during grapple piling, when possible. Ground-based equipment shall stay on slopes less than 35%. To protect soils, tractor logging in units 90, 96, 99, 105, 136, 137, and 138 shall only occur when one or more of the following conditions exist: 18 inches of settled snow, 4 inches of frozen ground, 24" snow layer, or 12 inches of snow in combination with an adequate slash mat. Any skid trails excavated shall be fully recontoured after use by the contractor. Mechanical felling shall only be allowed off skid trails if the machine travels on 18 inches of snow, frozen ground, or an adequate slash mat to avoid soil compaction. No whole tree yarding to facilitate nutrient recycling. Allow slash to remain on the ground for at least 6 months prior to piling or burning, to allow nutrients to leach into the soil. In addition, leave 7-15 ton/acre of coarse woody debris on dry sites and 17-33 ton/acre on moist sites.
- I. Recreation:** Hauling will be restricted on weekends and holidays for safety reasons, due to residential and recreational use of the haul route. No recreation sites or trails will be impacted by this sale.

III. Timber Volumes

This sale was cruised in the fall of 2007, and finished in the spring of 2008 using sample tree and plot cruising methods. Units were variable plot cruised with a 20 BAF. Sample tree cruised units had sample groups with varying frequencies depending on population characteristics. All units require non-sawtimber removal. This non-sawtimber was cruised with 1/20th acre fixed plots. Cutting unit acres were determined using GPS.

This is a weight scale sale with a designed sale error of 20%. Refer to Northern Prairie cruise number 70801, run on 5-30-2008. The INGY 2 point volume equations were used with a 5.6" top diameter for sawtimber. Top diameter for non-sawtimber is 4.0". The sale-as-a-whole error was 13.66% 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 (topwood and small trees) are mandatory products. The sale conversion factor is .5098 mbf/ccf. The average weight conversion factor is 3.25 ton/ccf. The following table summarizes sale acreage and estimated timber volumes by species, product, and unit:

Volumes (CCF)

Unit	Acre	AF	C	DF	GF	H	L	LP	PP	S	Sawlog Total	Non- Saw	Sale Total
71	40	55	2	134	7	8	29	188	1	13	437	54	491
72	89	122	5	299	15	18	65	418	2	29	973	120	1093
73	14	64		44		16	26	136		12	298	25	323
74	13	18	1	44	2	3	10	61		4	143	18	161
75	11	15	1	37	2	2	8	52		4	121	15	136
78	30	41	2	101	5	6	22	141	1	10	329	41	370
80	8	11	1	27	1	2	6	38		3	89	11	100
81	21	96		65		24	38	204		18	445	37	482
82	19	86		59		21	35	184		16	401	34	435
90	39		6	182	54	4	30	76			352	52	404
96	16		3	75	22	2	12	31			145	21	166
99	43		7	200	59	5	33	84			388	58	446
103	51			106	19			611			736	100	836
105	25			52	9			300			361	49	410
136	41			149	8		57				214	45	259
137	37			134	7		51				192	41	233
138	26			94	5		36				135	29	164
Total	523	508	28	1,802	215	111	458	2,524	4	109	5,759	750	6,509
MBF		236	12	853	117	56	226	1,273	2	51	2,826	492	3,318
Tons		1,395	61	6,041	734	399	1,572	7,897	22	309	18,430	2,756	21,186

IV. Marking Plan

- A. General:** 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. Pink paint was used for Flammulated Owl leave islands that are within cutting units and boundaries are marked as described above.

Units 71, 81, and 82 are Irregular Shelterwoods. All other units will be harvested using Free Selection silvicultural methods for moist and dry site forest types. This is a relatively new method that is not in our database, so these units will be coded as Group Selections with Commercial Thinning, since they are an uneven management type system.

- B. Unit Designations:** PP and L trees >20" dbh will be protected as Reserve Trees in units 71, 72, 73, 74, 75, 90, 96, 99, 103, 105, 136, 137, and 138. Purchaser shall pay \$2000 for each tree damaged or destroyed by purchaser's operations.

Unit	Species Designation (SD) –C2.38#
71	Cut all LP meeting utilization standards. Cut all AF, S <15” dbh (19” stump dia) and cut all DF, L < 12” dbh (15” stump dia) meeting utilization standards.
72	Cut all LP meeting utilization standards. Cut all AF, S, DF, GF, H, C, PP, WP <15” dbh (19” stump dia) and cut all L < 12” dbh (15” stump dia) meeting utilization standards.
73	Cut all LP, AF meeting utilization standards. Cut all DF <15” dbh (19” stump dia) and cut all L < 12” dbh (15” stump dia) meeting utilization standards.
74, 78	Cut all LP meeting utilization standards. Cut all AF, S, DF, L, GF, H, C, PP, WP <14” dbh (18” stump dia) meeting utilization standards.
75	Cut all LP meeting utilization standards. Cut all AF, GF, S, H, C <15” dbh (19” stump dia) and cut all DF, L < 12” dbh (15” stump dia) meeting utilization standards.
80	Cut all LP meeting utilization standards. Cut all AF, S, DF, L, GF, H, C, PP, WP <16” dbh (20” stump dia) meeting utilization standards.
81	Cut all LP, H meeting utilization standards. Cut all AF, S, DF, L, GF, C, PP, WP <15” dbh (19” stump dia) meeting utilization standards.
82	Cut all LP meeting utilization standards. Cut all AF, S, DF, L, GF, H, C, PP, WP <17” dbh (21” stump dia) meeting utilization standards.
90	Cut all LP, GF meeting utilization standards. Cut all AF, S, DF, L, H, C, PP, WP <14” dbh (18” stump dia) meeting utilization standards.
96	Cut all LP, GF, H meeting utilization standards. Cut all AF, S, DF, L, C, PP, WP <14” dbh (18” stump dia) meeting utilization standards.
99	Cut all LP, GF meeting utilization standards. Cut all AF, S, DF, L, H, C, PP, WP <12” dbh (15” stump dia) meeting utilization standards.
103	Cut all LP meeting utilization standards. Cut all AF, S, DF, L, GF, H, C, PP, WP <12” dbh (15” stump dia) meeting utilization standards.
105	Cut all LP, GF meeting utilization standards. Cut all AF, S, DF, L, H, C, PP, WP <10” dbh (13” stump dia) meeting utilization standards.
136	Cut all LP, GF, AF, S meeting utilization standards. Cut all DF, L, H, C, PP, WP <12” dbh (15” stump dia) meeting utilization standards.
137	Cut all LP, GF meeting utilization standards. Cut all DF <15” dbh (19” stump dia) and cut all L, PP < 10” dbh (13” stump dia) meeting utilization standards.
138	Cut all AF, S, L, LP, GF, H, C, PP, WP <12” dbh (15” stump dia) and cut all DF < 15” dbh (19” stump dia) meeting utilization standards.

Note: All small trees and tops of sawlogs meeting non-saw utilization standards are designated for removal.

V. Logging Plan

A. General:

Tractor skidding is suitable on units 71, 73, 80, 82, 90, 96, 99, 105, 136, 137, and 138. Tractor logging in units 90, 96, 99, 105, 136, 137, and 138 shall only occur when one or more of the following conditions exist: 18 inches of settled snow, 4 inches of frozen ground, 24” snow layer, or 12” snow in combination with an adequate slash mat. No excavated skid trails are planned, but if constructed shall be fully recontoured after use by the purchaser.

Skyline yarding is required on units 72, 74, 75, 78, 81, and 103. A swing system will be needed on unit 81. Trees can be skyline yarded up to the unit boundary then tractor skidded to a landing on the road. The leading end of logs should be suspended during yarding.

Mechanical felling shall only be allowed off skid trails if the machine travels on 18 inches of snow, frozen ground, or an adequate slash mat, to minimize soil compaction.

A limited operating period of no spring felling, yarding, road work or hauling from April 1 – June 15 will apply to all units, due to grizzly bear use of the sale area.

No hauling operations will occur on weekends or federal holidays.

Wet areas (elk wallows) in or adjacent to units 72 and 99 have been protected with a 50 feet radius buffer. Buffered wet areas have been excluded from cutting units during unit layout. Fell trees away from these wet areas, which are designated on the sale area map.

No equipment and no harvesting in the Flammulated Owl exclusions in units 73, 74, 75, 90, 96, 99, 103, 105, 136, 137, and 138. Fell trees away from these sites and no slashing or burning.

Protect Reserve Trees, recreational trails, surveys monuments, private property and any private improvements, archaeological sites, plantations, and streamcourses.

Beware of old down and scattered barb wire fence in portions of unit 96. The areas identified on the map as “Not In Unit” are rocky outcrops.

B. Timber Characteristics:

	Tractor	Skyline	Total/Ave.
Net Volume (CCF)	3,012	2,747	5759
Net Cut Vol/Ac (CCF)	10	13	11
Total Acres	308	215	523
Total Trees	21,835	19,213	41,048
Percentage by Volume	52%	48%	100%
Ave. External Yard Distance	575	530	
Ave. DBH	10	10	10

C. Skyline Analysis: Analysis using LoggerPC has shown that all skyline units are feasible. Profiles are available for review at the Bonners Ferry District office. Unit 74 may need intermediate supports. Due to a lack of tail trees at the bottom of the unit, mobile tailholds will be needed to log unit 72. An allowance will be made for an excavator for 14 days.

VI. Transportation System

A. Average haul route to sale center:

Route A – Units 71,72,73,74,75,78,80,81,82	Road Number	% Volume (3236 CCF)	Mileage	Adjusted Mileage
Mission Mountain	2481	56%	9.9	5.5
Hall Mountain	272	56%	3.3	1.8
US Highway 95	US95	56%	17.9	10.0
Route A Total				17.3
Route B – Units 90,96,99,136,137,138	Road Number	% Volume (1426 CCF)	Mileage	Adjusted Mileage
Ross Road	2587	25%	1.7	0.4
Miller Creek	2228	25%	0.3	0.1
US Highway 95	US95	25%	19.9	5.0
Route B Total				5.5
Route C – Units 103,105	Road Number	% Volume (1097 CCF)	Mileage	Adjusted Mileage
Hogue Mountain	2573	19%	5.1	1.0
US Highway 95	US95	19%	29.0	5.5
Route C Total				6.5
All Routes				
US Highway 2	US2	100	5.7	5.7
Moyie Mill	Cty 83	100	0.5	0.5
Total Miles (weighted by volume)				35.5

B. Road construction or reconstruction:

Road Number	Road Name	Type of Work	Road Mileage
2481	Mission Mountain	Reconstruction	11.10
272	Hall Mountain	Reconstruction	3.25
2228	Miller Creek	Reconstruction	1.40
2587	Ross	Reconstruction	1.95
Total			17.7

C. Temporary roads: None.

D. Road Maintenance: A deposit will be collected for surface replacement, vegetative brushing, and recurrent maintenance for paved roads, for all Forest Service roads in the haul route. Purchaser shall be responsible for recurrent maintenance (except paved roads), including dust abatement. An allowance will be made for snowplowing on Forest Service maintained roads, for units requiring winter logging. All access roads must be carefully plowed and frequent cross drains created to prevent mass failures of roads.

1. Snowplowing: Estimate 5.6 miles of 1 plowing/week & 1 winging/2 weeks on rds 2228 (1.4 mi), 2587(2.0 mi), 272E(0.7 mi), and 2573(1.5 mi) to unit 105, for 8 weeks/season for 2 seasons:

16 plowings x \$ 80.32/hr (grader & operator) x 5.6 miles / 3 miles/hr = \$2,399
 8 wingings x \$ 90.01/hr (dozer & operator) x 5.6 miles / 1 mile/hr = \$4,032
 Total Cost = \$6,431 **Cost/CCF = \$1.12**

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 18 pounds per acre (moist site mix) and 200 pounds per acre of fertilizer type: 16N – 16P – 16K or 10N – 16P – 10K. 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. Temporary road seeding and fertilizing cost is included in the road obliteration cost.

Area to Seed	Acres
Landings	7
Skid trail/corridors	9
Total	16

- B. IPNF Standard Moist Site Seed Mix** - appropriate for roadside application on low to middle elevation sites that have moderate moisture.

SPECIES	PLS LBS/AC
Slender wheatgrass "Pryor" or "Revenue" (<i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i>)	3.0
Sheep fescue "Durar" (<i>Festuca ovina</i>)	5.0
Mountain brome "Bromar" (<i>Bromus marginatus</i>)	5.0
Annual rye (<i>Lolium multiflorum</i>)	4.0
Streambank wheatgrass "Sodar"	1.0
TOTAL	18.0

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: 18 lbs/ac x 16 acres x \$2.87/lb = \$ 827
 Fertilizer: 200 lbs/ac x 16 acres = 3200 lbs x \$.39/lb = \$1,248
 Labor: 16 ac x 1/3 manday/ac x \$ 212/manday = \$1,131
 Transportation: 71 mi/trip x \$.50 /mile x 2 trips = \$ 71
 Total Erosion control needs = \$3,277
Cost/CCF = \$.57/CCF

VIII. Sale Area Improvement

A. KV Reforestation: The sequence of activities and activity costs are attached. Costs are generated through the FACTS program.

A preplant exam, planting, and 4 stocking surveys each is planned for units 71, 81, 82 and portions of units 78, 80 (93 acres).

Natural regeneration will be initiated in portions of units 72, 73, 74, 75, 90, 96, 99, 103, 105, 136, 137, 138. Three stocking surveys each unit is planned in the first, third, and fifth years (131 acres).

Underburning site prep for planting is planned for unit 81 (21 acres).

Mechanical site prep (Grapple pile) for planting in portions of units 71, 78, 80, and 82 (51 acres).

B. KV Other: None.

IX. Hazard Reduction and Site Preparation

A. Purchaser requirements: Slash treatments shall occur within 30 days of skidding/yarding, unless otherwise agreed by the Sale Administrator.

Limb and lop tops of sawlogs in all cutting units. Buck slash into 12 ft pieces in units to be grapple piled.

Fell (slash) damaged residuals in all cutting units.

Construct firelines by hand in units 74, 75, 81, 103 (1.1 miles), and by machine (excavator) in units 75, 81, 103 (1.2 miles), to facilitate underburning. Unit perimeters requiring fireline construction are identified on the Sale Area, Hazard Reduction & Site Prep Map. Waterbar fireline (approximately every 50 ft or as needed) to minimize the potential for erosion.

Protect PP and L leave trees in units 74, 75, 81, and 103, by pulling slash back 12 feet from designated leave trees (94 acres).

Pile all landing slash (7 acres).

B. Forest Service requirements (BD): Leave areas with patches of uncut vegetation will be retained on dry sites, for Flammulated Owl habitat in Units 73, 74, 75, 90, 96, 99, 103, 105, 136, 137, and 138 (1/10th acre exclusions marked out of units with pink boundaries). No slash treatment in these leave areas.

Grapple pile trails and concentrations of slash that can be reached from skid trails/corridors in units 72, 73, 90, 96, 99, 105, 136, 137, 138 (78 acres). In areas were appropriate let slash overwinter or stay

on the ground for 6 months prior to piling, to allow nutrients to leach into soils. Leave approximately 7 to 15 tons per acre of coarse woody debris for dry sites, 17 to 33 tons per acre for moist sites, after piling operations are completed. Grapple piling equipment shall operate on a slash mat and existing skid trails on slopes under 35%.

Burn all grapple piles (129 acres). Leave approximately 1 piles per acre unburned, to provide habitat for small forest animals.

Underburn for fuels reduction and for site prep for natural regeneration in units 74, 75, and 103 (73 acres). Underburn in the spring, when soil moisture content is equal to or above 25 percent, when possible.

Burn all landing piles (7 acres).

X. Other Provisions

A. Period of contract:

1. Normal operating season:
 - July 1 thru October 31 for units 71, 72, 73, 74, 75, 78, 80, 81, 82, 103, and road work.
 - December 1 thru February 28 for units 90, 96, 99, 105, 136, 137, 138.
2. Termination date: October 31, 2012.
3. Road Completion Date: October 31, 2009.

B. Purchaser fire liability:

Total number of personnel/crew	8
Number of hours/day	12
Total hours/crew day	96
Hourly rate AD-C firefighter	\$13.24
Average daily cost	1,271
Average fire length	5 days
Purchaser obligation for fire operation	6,355
Rounded up to the nearest \$100	6,400

XI. Notification of Forest Practices

X	Harvest of forest tree species.
X	Road construction associated with harvesting trees.
X	Reforestation.
	Use of chemicals or fertilizers for the purpose of growing or managing trees.
X	Slashing or use of prescribed fire resulting from harvest or other management activities.
X	Site specific BMP's.
	Lake present.
X	Class 1 stream present.
	Steep slopes.
	Unstable or erodible soils present.
	Stream crossings anticipated.

XII. Sale Objective Code

Purpose	Activity	Percentage
FS -- Forest Stewardship Purpose	10 -- Forest and Ecosystem Health	75
FS -- Forest Stewardship Purpose	40 -- Fisheries Habitat Management and Watershed Improvement	25