

Mini Mack Fuels Reduction Integrated Resource Contract Report

I. Location

The sale area is 721 acres in size and is located in sections 17, 18, 19, and 20 T62N, R1W, Boise Meridian, Boundary County, Idaho. The timber stand atlas compartment number is 717, Bonners Ferry Ranger District, Idaho Panhandle National Forests. Harvest is planned on 223 acres. The sale lies in the Myrtle Creek drainage. The sale area is located approximately 13 miles west of Bonners Ferry, accessed by Myrtle Creek Road 633.

II. Relationship to the Environmental Document and Other Uses

This sale is prepared under the direction of the Myrtle Creek Healthy Forests Restoration Act Project (HFRA) Final Environmental Impact Statement and Record of Decision approved by the Forest Supervisor on August 22, 2007. The purpose of the sale is to maintain the Myrtle Creek watershed as a source of high quality drinking water for the City of Bonners Ferry and reduce hazardous fuels in the project area. In addition, trend vegetation toward conditions less susceptible to catastrophic fire, while maintaining and restoring habitat for fish and wildlife. Alternative 2 was chosen to best meet management objectives.

The sale lies in Forest Plan Management Area 2 (TGRIZ) – Manage identified grizzly bear habitat to support the IPNF's share of a recovered grizzly bear population while providing for the production of commercially valuable wood products.

- A. Private Land/Right-of-Way:** Private land lies adjacent to cutting unit B5. The boundaries are clearly marked with signs. Fell trees away and whole tree yard within 150 ft from road 633 and the private property boundary. There is an existing cost share agreement on road 633. Liability insurance will be required.
- B. Threatened, Endangered, (T&E) and Sensitive Species:** This project may affect individuals or their habitat but is not likely to adversely affect any T & E or Sensitive species or contribute towards Federal listing. No rare plants have been found in the sale area, but if found shall be protected under the contract. This sale lies in a Lynx Analysis Unit but it is unlikely to result in adverse impacts to lynx or their habitat. The sale lies in a Bear Management Unit. All tractor harvesting shall occur in the winter, during the grizzly bear denning period (November 16 – March 31).
- C. Wetlands/Streamside Habitats:** All activities are designed to protect water quality and fisheries habitat in this municipal watershed. Standards and guidelines established by the Inland Native Fish Strategy (INFS) will be used. Mack, Adverse, and Myrtle creeks were buffered during unit layout and the Myrtle Creek crossing by road 1309 has a bridge. There are wet areas within the leave islands in cutting units D6 and D9. No equipment within the wet area exclusion and fell trees away from it.

- D. Special Uses, Mining Claims, and Range Allotments:** There are no mining claims, special use permits, or range allotments in the sale area.
- E. Noxious Weeds:** In order to prevent the spread of noxious weeds into the sale area, contractor shall be required to clean off-road logging and construction equipment prior to entry on to the sale area. Contractor shall treat noxious weeds along road 1309 by spraying herbicides prehaul and posthaul.
- F. Cultural Resources and Recreation:** There is an archaeological site trail that runs through the bottom of units B4 and B5 that will require protection under the contract. The location shall be flagged prior to ground disturbing activities. Skidding should be limited to designated corridors to limit potential ground disturbance. The trail corridor should be left clear of slash making it possible to follow the original route through the units. Slash treatment equipment should use the same corridors used for skidding and should avoid moving along the trail corridor. Slash should not be piled in the trail corridor.
- 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 would not be harvest. If the 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. When grapple piling slash, leave some piles unburned for small mammal habitat. No Goshawks have been found in the project area, however, if a nest is found it will be protected under the contract.
- H. Soils:** Tractor logging 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 an adequate slash mat. Mechanical felling shall only be allowed off skid trails if the machine travels on snow, frozen ground, or a slash mat. To retain nutrients as much as possible, trees shall be lopped and scattered, slash shall overwinter, and burning shall be light in nature (in spring).
- I. Roadless Area:** The sale area lies partially in the Selkirk Roadless Area. Roadless Area rules will apply and project activities should not change the character and values of recreational opportunities. No new roads will be constructed.
- J. Recreation:** Hauling will be restricted on weekends and holidays for safety reasons, due to residential and recreational use of the haul route.
- K. Old Growth:** None.

III. Timber Volumes

This sale was cruised in the fall of 2007, using a combination of sample tree and plot cruising methods. Units B4 and B5 were sample tree cruised for sawtimber. Units D1-9 were variable

plot cruised with a 20 BAF for sawtimber. All units were cruised with 1/20th acre fixed plots for non-sawtimber. Cutting unit acreages were determined using GPS.

This is a weight scale sale with a designed sale error of 20%. Refer to cruise number 70513, run on 10 - 11 - 2007. The INGY 2 point volume equations were used with a 5.6" top diameter for sawtimber and a 4.0" top diameter for non-sawtimber. The sale-as-a-whole error was 14.77 % 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 UC 5 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) is a mandatory product. The sale conversion factor is .5349 mbf/ccf. The average weight conversion factor is 2.11 ton/ccf. The following table summarizes sale acreage and estimated timber volumes by species, logging system, and unit:

Volumes (CCF)

Unit	Acre	AF	C	DF	GF	H	L	LP	S	Sawlog Total	Non-Saw	Sale Total	Sale Tons	Log System
B4	36	5	17	5	27	44	16	180	5	299	138	437	610	Tractor
B5	89	27	84	26	139	225	83	289	22	895	374	1269	523	Tractor
D1	14	67	35	11	5	74	12	30	12	246	64	310	1,062	Skyline
D2	12	57	30	10	4	63	11	26	10	211	55	266	2,839	Tractor
D6	48	229	120	37	17	253	43	104	41	844	221	1,065	2,090	Skyline
D9	24	115	60	19	8	126	21	52	21	422	110	532	1,045	Skyline
Total	223	500	346	108	200	785	186	681	111	2,917	962	3,879	8,169	
MBF		251	151	51	100	377	87	335	52	1,404	671	2,075		
Tons										5,995	2,174	8,169		

IV. Marking Plan

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. Disregard old blue paint in units D1 and D2. Leave islands inside cutting units are marked with pink paint as described above.

All units are Variable Density Mosaics that will provide for leave islands of uncut areas to represent a mosaic burn pattern typical of this area. Since this prescription is new and not available in the FACTS/TIM databases, Commercial Thinning will be used to best represent the harvest method.

Unit	Species Designation (SD) K-C.3.5.8#
B4	Cut all LP, GF, S, H, and AF meeting utilization standards. Cut all DF, L, C <9" dbh (11 inch stump dia). Cut all WP <7" dbh (9" stump dia).
B5	Cut all LP, S, H, and AF. Cut all DF, L < 10" dbh (12" stump dia) meeting utilization standards. Cut all GF, C < 14" dbh (17" stump dia) meeting utilization standards. Cut all WP <7" dbh (9" stump dia).
D1	Cut all LP, GF, S, H, and AF. Cut all DF, L and WP < 12" dbh (15" stump dia) meeting utilization standards. Cut all C < 14" dbh (17" stump dia) meeting utilization standards.
D2, D6	Cut all LP, GF, and S. Cut all DF, C, H, and AF < 14" dbh (17" stump dia) meeting utilization standards. Cut all L < 9" dbh (11" stump dia) meeting utilization standards. Cut all WP <7" dbh (9" stump dia).
D9	Cut all DF, C, H, AF, S, and GF < 16" dbh (19" stump dia) meeting utilization standards. Cut all L < 12" dbh (15" stump dia) meeting utilization standards. Cut all LP, WP <7" dbh (9" stump dia).

V. Logging Plan

A. General:

Tractor skidding is suitable on units B4, B5, and D2. Tractor units shall be logged in the winter over 18 inches of settled snow, or 4 inches of frozen ground, or a 24" snow layer, or an adequate slash mat, to minimize ground disturbance in the municipal watershed.

Skyline yarding is required on units D1, D6, and D9.

Mechanized felling shall be approved in advance for units D1, D6, and D9, and will only be approved when equipment works on snow, or frozen ground or a slash mat. No excavated skid trails are planned, but if constructed shall be fully recontoured after use by the purchaser.

In Units B4 and B5 trees shall be hand felled towards the road and no equipment on slopes above the road to the first bench to protect soils above retention walls along road 633. In addition, keep ditch lines maintained and if necessary construct waterbars on skid trails that enter the road during logging operations.

No hauling operations will occur on weekends or federal holidays.

Along road 633 in cutting units B4 and B5, whole trees shall be yarded (wty) to landings within 150' of the road and in unit B5 (wty) along private property.

B. Sawtimber Characteristics:

	Tractor	Skyline	Total/Ave.
Net Volume (CCF)	1405	1512	2917
Net Cut Vol/Ac (CCF)	10	18	13
Total Acres	137	86	223
Total Trees	13,131	12,374	25,505
Percentage by Volume	48	52	100
Ave. External Yard Distance (ft)	1400	1200	1300
Ave. DBH			9.2

C. Skyline Analysis: Analysis using LoggerPC has shown that all skyline units are feasible. Intermediate supports may be necessary in units D1, D6 and D9. Profiles are available for review at the Bonners Ferry District office.

VI. Transportation System

A. Average haul route to sale center:

Road Name	Road Number	Mileage
Cooks Peak	1309	1.0
Myrtle Creek	633	7.2
Westside Road	County Rd C18	4.4
Riverside Road	City Rd	1.0
US Highway 2	US2	8.7
Moyie Mill Road	C83	0.6
Total		22.9

B. Road construction or reconstruction:

Road Number	Road Name	Type of Work	Road Mileage
1309	Cooks Peak	Reconstruction	4.0
Total			4.0

C. Temporary roads: None.

D. Road Maintenance: A deposit will be collected for surface replacement and vegetative brushing for all Forest Service roads in the haul route. Contractor shall be responsible for recurrent maintenance, 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 off of roads.

1. Snowplowing: Estimate miles of 1 plowing/week & 1 winging/2 weeks on road 633 (7.2 mi) and on road 1309 to unit D2 (1.4 mi), for 8 weeks/season for 1 season:

$$\begin{aligned}
 &8 \text{ plowings} \times \$ 80.32/\text{hr (grader \& operator)} \times 8.6 \text{ miles} / 3 \text{ miles/hr} &= \$ 1,842 \\
 &4 \text{ wingings} \times \$ 80.32/\text{hr (grader \& operator)} \times 8.6 \text{ miles} / 1 \text{ mile/hr} &= \$ 2,763 \\
 &\text{Total Cost} = \$ 4,605 &\text{Cost/CCF} = \mathbf{\$ 1.58/CCF}
 \end{aligned}$$

2. Dust Abatement: Purchaser will be responsible for dust abatement on all roads in the haul route. One application of Calcium Chloride (CaCl) flakes will be planned for dust abatement on the first 7.2 miles on rd 633. Price quote from Tom Oxford, Moyie Springs, ID for one application CaCl flakes (77%), watered and applied, is \$262/ton and 9.4 ton/mile.

$$\$262/\text{ton} \times 9.4 \text{ ton/mile} \times 7.2 \text{ miles} = \$ 17,732 \qquad \text{Cost/CCF} = \mathbf{6.08}$$

E. Noxious Weed Pretreatment: Field reviews have found the occurrence of noxious weeds within the contract area. Logging equipment used in the area along with road reconstruction would further disturb the area creating a high risk of further invasion and establishment by the weed species. In order to help control the weeds, the purchaser will be required to spray herbicides along the following system road used in conjunction with this timber sale, as described under K-G.2.7#. An allowance shall be made for 2 treatments (prehaul and posthaul).

Road Number	M.P. to M.P. 0.00 to 4.0	Mileage
1309	From the end of unit D9 to the jct w/rd 633.	4.0
Total		4.0

\$320/mile x 4.0 miles x 2 treatments = \$ 2,560

Cost/CCF = \$.88 /CCF

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 and skid trails, shall be seeded, fertilized, and if needed waterbarred.

Area to Seed	Acres
Landings	3
Skid trails	2
Total	5

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 would conflict with other resource values (e.g. grizzly bear habitat).

C. Costs:

Seed: 18 lbs/ac x 5 acres = 90 lbs x \$1.42/lb = \$ 128
 Fertilizer: 200 lbs/ac x 5 acres = 1,000 lbs x \$.16/lb = \$ 160
 Labor: 5 ac x 1/3 manday/ac x \$ 212/manday = \$ 353
 Transportation: 46 mi/trip x \$.30/mile x 2 trips = \$ 28
 Total Erosion control needs = \$ 669
Cost/CCF = \$.23 /CCF

VIII. Sale Area Improvement

None.

IX. Hazard Reduction and Site Preparation

A. Contractor requirements: Limb, lop and scatter slash in all units except where whole tree yarding is required. Buck slash into 10-12 ft pieces. Whole tree yard within 150 feet of road 633 in units B4 and B5, and within 150 feet of the private property boundary in unit B5. Pile all landing slash in all units. Remove landing slash in units B4 and B5.

B. Forest Service requirements: Burn all grapple piles and landing piles.

The remaining slash treatment of activity fuels will be accomplished as stewardship projects under K-G.9#, including slashing and grapple piling.

C. Stewardship Projects

Item Number	Mandatory Items Work Activity Description
001	Slashing
002	Machine Piling Slash

Item Number	Optional Items Work Activity Description
003	Noxious Weed Treatment

X. Other Provisions

A. Period of contract:

1. Normal operating season: from December 1 to March 31 for units B4, B5, and D2, and from July 1 to October 31 for units D1, D6, D9, and road reconstruction.
2. Termination date: October 31, 2011.
3. Road Completion Date: October 31, 2008.

B. Purchaser fire liability:

Total number of personnel/crew	5
Number of hours/day	12
Total hours/crew day	60
Hourly rate AD-3 firefighter	\$13.24
Average daily cost	794
Average fire length	5 days
Purchaser obligation for fire operation	3,970
Rounded up to the nearest \$100	4,000

XI. Notification of Forest Practices

X	Harvest of forest tree species.
	Road construction associated with harvesting trees.
	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	50
FS -- Watershed	40 -- Fisheries Habitat Management and Watershed Improvement	50