United States Department of the Interior
Bureau of Land Management

Environmental Assessment Addendum
MT- (DOI-BLM-MT-B010-2013-0017-EA)
December 9, 2014

Chamberlain-Wales Resource Management Projects

Location: Chamberlain Creek and Wales Creek and vicinity near Ovando, Montana.
T. 13N R.13W (Secs. 1 thru 15)
T.14N, R.13W (Secs. 19 thru 36)
T.15N R.13W Sec. 30
T.14N R14W Secs. 1, 2.

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INTRODUCTION

This Addendum to the Chamberlain-Wales Environmental Assessment (EA) provides corrections to the May 6, 2014 EA regarding the proposed precommercial thinning actions and affected Canada lynx habitat.

The EA Decision of May 7, 2014 included 632 acres of precommercial thinning that were thought to be either outside of lynx habitat, or classified as 'matrix' habitat within lynx habitat in accordance with the Lynx Conservation Assessment Strategy and the amended Garnet RMP. In the course of responding to an appeal of the Decision as it pertained to precommercial thinning impacts to Canada lynx, a field review conducted on Aug. 20, 2014 revealed that 432 acres of the 632 acres were actually within lynx habitat.

Since the new information affects a small portion of the content of the May 6, 2014 EA, this Addendum has been prepared to note only those edits necessary to correct the information and analysis pertaining to precommercial thinning actions and effects analysis.

The corrections are based on a 486-acre reduction in precommercial thinning from 632 to 146 acres. Treatments T2, T3, T4, T5, T6, T7, T8, T12, T13, T14, T15, T16 (486 acres) are deleted from the Proposed Action. The precommercial thinning treatments in these stands would not be consistent with the Garnet RMP as amended by the Lynx Conservation Assessment Strategy. The proposed action is amended so that precommercial thinning is 146 acres in treatment unit T1 which is located outside of Canada lynx forage habitat, denning habitat, and critical habitat.

The following supplemental information will refer to specific pages or sections of the EA pertaining to precommercial thinning and lynx habitat. There are no other changes to the EA. New information or corrections are provided in BLUE print, and invalid information struck out as needed. An amended treatment map is also included.

Changes to Purpose and Need 1.0

page 8:

3) With pre-commercial thinning focused on the lower, drier habitat types outside of Canada lynx forage habitat, denning habitat, and critical habitat ~~but within 'matrix' habitat (patches of drier or open habitats intermixed among larger expanses of typical Canada lynx habitat)~~, shift tree species arrangement, composition, and density to within the desired historical range of variability (HRV) while improving forest resiliency, diversity, and health.

Changes to Description of Alternatives 2.0

Page 17, Table 2-1:

Table 2-1. Vegetation Treatment Acres and Temporary Road Miles

Harvest and Prescribed Fire		Prescribed Fire only		Thinning		Planting		WSA Prescribed Fire		Temp. Road Construction & Rehab.	
Unit Name	Acres	Unit Name	Acres	Unit Name	Acres	Unit Name	Acres	Unit Name	Acres	Map Label	Miles
HF1	69	F1	100	T1	146	P1	53	WSA F1	430	TR1 (HF7)	0.19
HF2	144	F2	86			P2	42	WSA F2	1157	TR2 (HF8)	0.18
HF3	57	F3	21			P3	71	WSA F3	566	TR4 (HF3,4)	0.82
HF4	44	F4	51			P4	39			TR5 (HF2)	0.79
HF5	37	F5	28			P5	147			TR6 (HF7)	0.47
HF6	58	F6	78			P6	40				
HF7	103	F7	27			P7	46				
HF8	22	F8	189			P8	39				
HF9	99	F9	144			P9	15				
HF12	40	F10	94			P10	96				
		F12	426			P11	30				
		F13	99			P12	40				
		HF12	140			P13	119				
						P14	33				
						P15	95				
						P16	61				
						P17	96				
						P18	9				
						P19	27				
						P20	25				
						P21	19				
						P22	189				
673 acres Harvest & Rx Fire		1483 acres Rx Fire		146 acres Thinning		1331 acres Planting		2153 acres WSA Rx Fire*		2.5 miles Temp. Roads	

Pages 21-22:

Forest Stand and Wildlife Habitat Enhancement in Sapling/Pole-Sized Stands
(Units T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16)

Up to 669 146 acres of pre-commercial thinning would occur primarily on the lower, drier habitat types. Improved forest resiliency, diversity and health would occur through treatments by shifting tree species composition, density and arrangement to fall within the HRV (desired condition). Pre-commercial thinning would not occur in Canada lynx forage habitat, denning habitat, or critical habitat, except for Units T9, T10, and T11. All other potential treatment areas are considered Canada lynx 'matrix' habitat (smaller patches of drier or open habitats intermixed among larger expanses of typical lynx habitat) or are not within lynx habitat (i.e. dry ponderosa pine dominated sites).

These stands are typically regeneration harvests from the mid-1980's through the mid1990's. The harvests are predominantly on recently acquired industrial forest land (except T1 and half of T10) and are currently overstocked, or will transition to overstocked in the next decade.

The forest stand and wildlife habitat enhancements are is categorized into three types of treatment: as

- Research/Study site (T9, T10 and T11): Approximately 37 acres of dense sapling/small pole stands within the western larch/mixed conifer type would be established as a variable density thinning research site to study the effects of thinning on snowshoe hare. The area would contain research areas with both control (non-thinned) and test (pre-commercial thinned) areas delineated. Estimated size of the thinning area within these three units would not exceed 37 acres.

- Ponderosa pine restoration (T1, T2, T3, T4, T5, T6, T7, T8, T12, and T13): Approximately 546 146 acres of dense sapling/small pole stands within the ponderosa pine/Douglas-fir conifer type would be pre-commercially thinned. These stands are from regeneration harvests on recently acquired land (T13) or from conifers restocking the site following the 1991 Clearwater Game Range Fire (T1).

- Mixed conifer restoration (T14, T15, and T16): Approximately 86 acres occur within the Canada lynx 'matrix' habitat. These sites are composed of mixed conifer species on relatively drier sites located at lower elevations within the analysis area. These sites are dominated by either ponderosa pine and/or Douglas-fir.

T1through T8 and T12 through T16 are dense sapling/small pole stands that would be pre-commercially thinned with site-specific prescriptions designed to:

- Reduce competition and increase tree vigor by reducing average conifer overstory canopy coverage by approximately 50%, through variable spacing between 6 and 24 feet;

- Develop mixed species stands, where possible, composed of the best trees selected for growth, form, and disease and insect resistance characteristics;

- Promote seral tree species such as ponderosa pine, quaking aspen, black cottonwood and western larch, where applicable and possible;

~~• Create stand structure by reserving any subalpine fir and Engelmann spruce if present;~~

• Maintain and restore, where possible, key wildlife habitat elements such as snags, large down logs and quantity and quality of browse and forage species (i.e. serviceberry, fescues, etc.);

• Reduce infections of diseases such as dwarf mistletoe within the conifers;

• Reduce hazardous fuels in the long term (greater than 10 years).

Design Features specific to this treatment

Proposed treatment unit T1 would be inventoried prior to thinning to determine if Howell's gumweed (*Grindellia howellii*) is present. If found, individual plants would be flagged and avoided during treatment.

Changes to Environmental Impacts 4.0

Page 85, Table 4-2b:

Table 4-2b. Western Larch/Mixed Conifer Cover Type: Summary of Anticipated Shifts in Density		
Density/Canopy Coverage Class (% canopy cover)	**Acres and % of Total**	
	No Action	**Prop. Action**
0-14%	227 (1)	309 (1)
15-39%	1,716 (7)	1,945 (8)
40-69%	10,850 (46)	~~10,721 (46)~~ 10,635 (45)
70-100%	10,667 (46)	~~10,485 (45)~~ 10,571 (45)

Page 87-88: Delete section.

~~**Forest Stand and Wildlife Habitat Improvement in Sapling/Pole-Sized Stands**~~
~~*Mixed Conifer Thinning/Restoration (86 acres in Units T14, T15, and T16):*~~

Page 91, Table 4-3b:

Table 4-3b. Ponderosa Pine/Douglas-fir Conifer Cover Type: Summary of Anticipated Shifts in Density		
Density/Canopy Coverage Class (% canopy cover)	**Acres and % of Total**	
	No Action	**Prop. Action**
0-14%	414 (2)	664 (3)
15-39%	3,910 (19.5)	4,214 (21)
40-69%	11,744 (59)	~~11,206 (57)~~ 11,190 (56)
70-100%	3,900 (19.5)	~~3,884 (19)~~ 3,900 (19.5)

Page 92:

Forest Stand and Wildlife Habitat Improvement in Sapling/Pole-Sized Stands
Ponderosa pine restoration (~~546~~ 146 acres in Units~~~~ T1, ~~T2, T3, T4, T5, T6, T7, T8, T12, T13)~~*

COMPOSITION: Species composition would shift toward a higher percentage of ~~seral species such as~~ ponderosa pine ~~and western larch~~ while reducing shade tolerant species such as Douglas-fir. This shift would also move these stands closer to the HRV and desired condition (USDI-BLM, 2013a). The proposed would maintain existing overstory species composition. The proposed pre-commercial thinning would increase understory species (forbs, graminoids, shrubs) diversity, but may cause an increase in invasive or exotic species. However, Fiedler and others (2006) demonstrated that thinning would favor native species over non-natives.

Douglas-fir and ponderosa pine would be the predominant species removed during thinning. In relation to potential fire hazard, Douglas-fir thinning slash loses half of its original fuel loading and depth within two years of cutting, with fine fuels effects on fire hazard minimal after two to four years (Christiansen and Pickford, 1991). The immediate increase in fire hazard from slash is partially mitigated through requirement of slash to be lopped and scattered to a maximum height of 18 inches by Montana State Slash Law. In the long term, risk of crown fire is reduced due to a reduction in canopy bulk density and crown continuity canopy spacing between the pine (Peterson and others, 2005).

Page 97:

In two places on the page, change 4978 acres to 4492 acres.

Page 98:

Canada Lynx (threatened): The direct and indirect effects analysis area is the Chamberlain and McElwain Complex Lynx Analysis Units (LAUs), and for critical habitat, Unit 3, Northern Rockies Critical Habitat. Cone collection, culvert removal, helispot development, road drainage maintenance and improvement, road obliteration, and road travel management designation effects would be similar to those for the grizzly bear. Approximately ~~546~~ 146 acres of dense sapling/small pole stands within the ponderosa pine/Douglas-fir cover type are proposed for pre-commercial thinning, are not located in Canada lynx/snowshoe hare habitat, and would have no effect on these two species. Vegetation treatments would impact lynx habitat: lodgepole pine stand replacement with timber harvest and prescribed burns (359 acres), western larch-mixed conifer stand restoration with timber harvest and prescribed burn (314 acres), western larch restoration with prescribed fire and fuel augmentation outside Wales Creek WSA (323 acres), lodgepole pine prescribed fire and fuel augmentation outside the Wales Creek WSA (555 acres), lodgepole pine prescribed fire without fuel augmentation inside the Wales Creek WSA (2150 acres; up to 50% burned), snowshoe hare research study variable density thinning (37 acres), and 2.5 miles of temporary road construction creating 10 acres of vegetation disturbance. Timber harvest would not occur in multistory habitat. ~~Precommercial thinning in 86 acres of dry Douglas-fir habitat types would occur in lynx matrix habitat not providing snowshoe hare habitat.~~ Tree

planting would potentially enhance 579 acres of hare and lynx habitat. Roads and road use are not an issue for hares or lynx.

Page 100:

~~Pre-commercial thinning would occur on 86 acres of matrix habitat composed of dry Douglas-fir habitat types. These mixed conifer forests do not provide habitat for snowshoe hares.~~ Variable density thinning would occur on 37 acres of snowshoe hare habitat located in the 1994 East Chamberlain Burn. Thinning is part of the University of Montana snowshoe hare research project, which would study how snowshoe hares respond to light thinning techniques in young (19 year old) western larch stands. The research project is an attempt to restore western larch while retaining stand initiation structure for snowshoe hares. Stem exclusion timber harvest with prescribed fire on 359 acres of lodgepole pine are proposed to create stand initiation structure forage habitat in the long-term (15–20 years). Proposed action objectives are to produce snowshoe hare and Canada lynx habitat through vegetation treatments.

In the 'Wolverine' section, change 4978 acres to 4492 acres.

Page 101:

In the 'Forest Bats' section, change 4978 acres to 4492 acres.

Page 102:

In the 'Gray Wolf' section, change 4978 acres to 4492 acres.

Bald and Golden Eagles: Cone collection, culvert removal, helispot development, road drainage maintenance and improvement, road obliteration, and road travel management designation effects would be similar to the grizzly bear. What appears to be an eagle nest is located ~~½ mile south of a pre-commercial thinning area (T8)~~ in the East Fork of Chamberlain Creek.

Page 103:

In the 'Great Gray and Flammulated Owls' section, change 4978 acres to 4492 acres.

Page 104:

In the 'Black-Backed and American Three-toed Woodpeckers' section, change 4978 acres to 4492 acres.

Page 105:

In the 'Elk' section, change 4978 acres to 4492 acres in two places

Page 107:

In the 'Mule Deer and White-tailed Deer' section, change 4373 acres to 4492 acres.

Page 108:

In the 'Black Bears' section, change 4373 acres to 4492 acres.

Page 111:

Table 4-5 corrections

Table 4-5. Subdrainage polygons evaluated for indirect effects of proposed harvest, fire, thinning on streams.

Polygon	Acres	Past Harvest or Fire Acres	Percent of subdrainage	Proposed Action acres	Percent of subdrainage
Lost Horse (Chamberlain)	1148	342 harvest	30	78 RX fire 212 planting	7 18
Sec. 29 (Chamberlain)	321	152 harvest	47	~~8 thinning~~ 49 harvest & fire	~~2~~ 15
Sec. 33 (Chamberlain)	728	307 harvest 147 wildfire	42 20	27 RX fire 27 planting	4 4
East Fork Chamberlain	984	555 harvest 708 wildfire	56 72	~~169 thinning~~ 21	~~28~~ 2
East Fork Pearson	1113	198 harvest	18	166 RX fire 99 planting	15 9
Upper Frazier	1216	143 harvest	12	40 harvest & fire 378 RX fire	3 31

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East Fork Chamberlain: Some instream effects are evident from the 1994 wildfire (72% of the basin). These effects are not separable however from the pre and post-fire harvests which occurred over 56% of the basin. The proposed action would perform thinning on ~~28%~~ 2% of the subdrainage regenerating stands. This action would not likely cause any stream impacts from water yield change, particularly over the long-term as the thinned stands increase growth.

Page 123:

Table 4-10: Combined past, present, and RFFA's as a percentage of the CIAA for Forest Vegetation			
CIAA	**Combined Past, Present, and RFFAs (acres)**	**Cover type in CIAA (acres)**	**Percentage of Cover Type With Vegetation Management**
Lodgepole pine/ subalpine fir	4,110	44,774	9%
Western larch/ mixed-conifer	~~3,860~~ 3,774	34,405	11%
Ponderosa pine/ Douglas-fir	~~6,681~~ 6,281	40,253	~~17%~~ 16%
Combined Cover Types	14,651	119,432	12%

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Table 4-14: Summary of Past, Present, and Reasonable Foreseeable Future Actions combined with the Proposed Action for Forest Vegetation										
CIAA and Resource Issue Area	**Past and Present Actions (acres)**		**RFFAs (acres)**				**Proposed Action (acres)**			
CIAA = Chamberlain/Murray Douglas/Elk Creek	Vegetation Management (Harvest, Thin, Plant) from 1957 to 2013*		Harvest	Thin	Plant	Rx Burn	Harvest/Rx Burn	Thin	Plant	Rx Burn
Lodgepole pine/ subalpine fir	4,110						359	0	579	1458
Western larch/ mixed-conifer	3,710		150				314	~~186~~ 100	699	323
Ponderosa pine/ Douglas-fir	4,604		1,577	500				~~546~~ 146	53	605
	TOTAL	12,424	TOTAL			2,227	TOTAL			~~5122~~ 4636
TOTAL (past, present, RFFA, proposed action) ~~19,773~~ 19,287										

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Table 4-15: Percentage of the total CIAA of the combined Past, Present, Reasonable Foreseeable Future and Proposed Actions for Forest Vegetation			
CIAA	Combined Past, Present, RFFA and Proposed Action (acres)	Cover type in CIAA (acres)	Percentage of Cover Type With Vegetation Management
Lodgepole pine/ subalpine fir	6,546	44,774	15%
Western larch/ mixed-conifer	~~5,382~~ 5296	34,405	~~16%~~ 15%
Ponderosa pine/ Douglas-fir	~~7,885~~ 7,485	40,253	~~20%~~ 19%
Combined Cover Types	~~20,574~~ 20,088	119,432	17%

Page 127:

Table 4-17: Western Larch/Mixed Conifer Cover Type: Summary of Anticipated Shifts in Structure/Composition/Density from Proposed Action (all treatments proposed for Cover Type) within the CIAA Area			
Dominate Stand Structure (size class and inches DBH)	**Percent of Total Acreage**	**Acres**	**Dominant Species by order of abundance**
Seedling-Sapling (< 5.0)	12	4,005	WL/DF/LP
Pole (5.0-8.9)	14	4,730	WL/LP/DF
Medium (9.0 -14.9)	30	10,455	DF/WL/LP
Large (15-20.9)	30	10,244	DF/WL/PP/LP
Very Large (21.0 +)	14	4,963	DF/WL/PP
Non-stocked/Non-forest	<1	8	
Total acres in cover type		34,405	

Density Class/Canopy Coverage	**Percent of Total Acreage**	**Acres**
0-14%	29	9,971
15-39%	6	2,210
40-69%	~~33~~ 32	~~11,211~~ 11,125
70-100%	32	~~11,013~~ 11,099
Total acres in cover type		34,405

Page 128:

Density Class/Canopy Coverage	**Percent of Total Acreage**	**Acres**
0-14%	~~11~~ 9.1	3,688
15-39%	~~14~~ 14.2	5,698
40-69%	~~54~~ 53.6	~~21,962~~ 21,562
70-100%	~~21~~ 23.1	~~8,905~~ 9,305
Total acres in cover type		40,253