UPPER MONUMENT CREEK PROJECT

PROPOSED TREATMENTS - GENERAL DESCRIPTIONS & SCALE

TREATMENT SUMMARY

Table 1. Summary of treatments by treatment type and acres.

TREATMENT TYPE	GENERAL LOCATION	BIOPHYSICAL SETTING - TREATMENT DESCRIPTION	FOOT-PRINT ACRES	TOTAL ACRES w/ 2nd ENTRY
Mechanized Thinning/Opening Creation	West	Dry Mixed Conifer UMC	1,794	1,794
		Ponderosa Pine/Douglas-Fir Woodland UMC	2,135	2,135
		Wet Mixed Conifer UMC	1,782	1,782
		Lodgepole Pine Forest UMC (class D for PICO is closed. For all other major BPS it is open)	1,132	1,132
Service Work TSI	West	Lodgepole Pine Forest - pre-commercial thinning	47	47
Service Work - w/Mechanized Thinning Treatments	West	Dry Mixed Conifer UMC	3,889	3,889
		Ponderosa Pine/Douglas-Fir Woodland UMC	4,879	4,879
		Wet Mixed Conifer UMC	1,321	1,321
Broadcast Burning 1st Entry	West - N. Central	Target dry veg types as much as practical	5,000	5,000
Broadcast Burning 2nd Entry	West	Dry Mixed Conifer & Ponderosa Pine/Douglas-fir Woodland **mechanized treatments** (60%)		2,357
		Dry Mixed Conifer & Ponderosa Pine/Douglas-fir Woodland **service work** (40%)		3,507
Fuelbreaks & Oak Mitigation	East	Mastication and mechanized thinning along roads, and property lines in ponderosa pine/gamble oak, gamble oak, plantations, planted rows, and dry mixed conifer.	1,607	1,607
Bighorn Sheep Habitat Improvement	East	Manual service work - thinning and opening creation on steep slopes, southern aspects.	420	420
Transmission Lines	Central, South	Primarily manual work around towers and facilities.	272	272
			24,278	30,142

TREATMENT DESCRIPTIONS

Mechanized Thinning/Opening Creation

Ground based logging with product utilization. Treatments would primarily be implemented through stewardship contracting. Implementation may also be feasible through an incidental amount of timber sales. Individual projects would include both mechanized treatment units and service units (see below) in order to create contiguous treatment areas.

Ponderosa pine – Douglas-fir woodlands and dry mixed conifer stands:

Treatments would create open, uneven-aged conditions and reduce tree densities. Density reduction is expected to convert most stands/treatment units from closed (S-Class B and E) to open canopy closure (S-Class C and D). Silvicultural practices include:

- Opening creation on 20 – 40% of the treatment area footprint. Opening size, pattern and distribution would be highly variable as determine by a range of location criteria. Example location criteria includes the enhancement of existing openings (mitigation of conifer encroachment), patch cutting adjacent to aspen clones to stimulate sprouting, and group selection in plantations that exhibit poor height growth characteristic of off-site genetics. The primary objective of these openings is to create persistence openings, not reforestation. Groups located within plantations would in some cases be intended to slowly convert these areas back to forest cover established from local progeny.
- Variable tree spacing by creating clumps (< 10 stems) and groups (10+ stems, average 10-20) where feasible. Basal area (BA) at the plot level would range from 0 – 100 sq. ft.
- Variable density thinning: low (BA = 0 - 40); moderate (BA = 40 - 80); and high density (BA = 80 - 100).
- The retention of no treatment areas within stands identified for management.
- The retention of legacy trees.
- Shade intolerant, early seral species such as ponderosa pine, aspen, and limber pine would be favored for retention over shade tolerant species such as Douglas-fir and spruce (blue and Engelmann).

W***et mixed-conifer forests***

Treatments would enhance uneven-aged conditions by creating more structural diversity and reducing the density of closed stands[1] by:

- Reducing density via thinning from below treatments in mature stands (S-Class D and E).
- Variable thinning (thinning throughout crown classes) in intermediate stands (S-Class B).
- The creation of openings in intermediate structure (S-Class B and C) or the enhancement of existing openings. Openings may also be located adjacent to treatments in ponderosa pine/Douglas-fir woodlands and dry mixed conifer areas in order to reduce the potential for an active crown fires to burn from the denser, wet mixed conifer areas into the dry forest cover types.

[1] Unlike ponderosa pine/Douglas-fir and dry mixed conifer cover, thinning in wet mixed conifer stands would rarely result in a conversion from a closed to an open S-Class.

- The placement of openings would include an evaluation of windthrow potential.
- Legacy trees and stands or pockets that contain a high frequency of legacies trees would be deferred or treatment prescriptions would revert to thin from below treatments with a low level of felling.

Lodgepole pine

Treatments would set up broadcast burning by establishing anchor points (along the edge of lodgepole pine cover) to prevent an active crown fire from burning into the Rampart East & West roadless areas. Treatments would create openings within lodgepole pine dominated areas that would slow the rate of spread and break up the direction of an active crown fire and expand aspen cover. Treatments would also negate the need for the creation of standard fuel breaks such as clearcut strips along roads and ridges, Finney bricks, etc. Specifications include:

- Target pre-treatment stand structure is S-Class B (mid-closed) & even-aged S-Class D (late closed stands).
- Openings > 1 acre should be placed in areas considered to have a moderate to low windthrow risk only.
- Where feasible, locate larger openings adjacent to drainages to enhance aspen sprouting and enhance the effects of reducing the speed of an active crown fire.
- The pattern of the large openings should be variable and be dispersed enough so that placement of transects through the treatment area will have a high probability of terminating in an opening.

Proposed silvicultural methods are:

<u>Even-Aged</u>: Clearcuts

- Treatment ranging from 10 - 20 acres located in the interior of the lodgepole pine dominated area.
- Total treatment footprint of approximately 125 acres (12% of the total treatment footprint).

<u>Uneven-Aged</u>: Group Selection

- *Large openings*
  - Openings ranging from 1 to 5 acres, averaging 2-3 acres in size on 35-40% of the total treatment footprint.
- *Small openings*
  - Create openings ranging from clumps (3-10 trees) up to 1 acre on approximately 50% of the total treatment footprint.

<u>Service Work w/Mechanized Treatments</u>

Thin from below treatments implemented via mastication or manual chainsaw work. These projects would be implemented in conjunction with mechanized treatments via stewardship contracting or through separate service contracts. Treatments would include felling or grinding of saplings (<5" dbh), pole sized (5 - 10.0" dbh), and small sawtimber size classes (10 - 14" dbh). Thinning of the small sawtimber size class is necessary to convert stands from closed to open conditions as much as is practical per residual slash loads. These treatments and would be combined with mechanized treatment units as much as

possible to reduce tree density and fuel loading across contiguous areas and along ridges and roads to set up broadcast burning.

Service Work – Timber Stand Improvement (TSI)

Pre-commercial thinning (saplings <5" dbh and poles 5-7" dbh) via manual chainsaw work with lop and scatter and hand piling slash treatments in old lodgepole clearcuts (S-Class A).

Broadcast Burning 1st Entry

Burn areas would target inaccessible and/or steep areas that are not feasible for treatment by mechanized thinning and service work. Proposed units would need to be tied to control features such as roads, ridges, or natural fuel breaks (waterbodies, rock, etc.). Target vegetation would primarily be ponderosa pine/Douglas-fir woodland and dry mixed conifer stands however other cover types would be included and burned within burn blocks.

Broadcast Burning 2nd Entry

Burn areas would target mechanical thinning and service work project areas, primarily ponderosa pine/Douglas-fir woodland and dry mixed conifer areas. Treatments would maintain open forest conditions and openings and create additional openings.

Fuelbreaks and Oak Mitigation

Treatments include a combination of activities with an emphasis on fuels reduction and the creation of fuelbreaks in and adjacent to the Monument Fire Center. Treatment goals also include the suppression of gamble oak especially where it is established with or encroaching upon ponderosa pine stands. Treatments include:

- The creation of fuelbreaks along roads and property lines in gamble oak and forest cover. These treatments would be implemented primarily by mastication.
- Mechanized thinning in ponderosa pine/gamble oak stands with understory oak cutting.
- Manual thinning in ponderosa pine/Douglas-fir woodland stands with understory oak cutting.
- Mechanized thinning in a ponderosa pine plantations and planted rows.

Treatment in and adjacent to the Monument Fire Center (MFC) would primary target gamble oak and ponderosa pine dominated stands.

Treatments along the property boundary, south of the MFC would primarily occur in gamble oak (approximately 60-70% of the total treatment footprint in this area). Treatment would also occur in dry mixed conifer and an incidental amount of ponderosa pine stands.

Transmission Lines

Xcel has given us a prescription to protect their transmission line structures from wildfires (both flames and convective heat). Each structure has two poles made of wood, aluminum or steel. Their prescription is a series of concentric circles as follows:

- Zone A (within first 10' of each pole), clearing all shrubs and trees; no flammable wooden material (no dead/down material)
- Zone B (10' to 50'), clearing all shrubs and trees; and less than 10 tons of surface fuels
- Zone C (50' to 120') thinning shrubs and trees to less than 40 percent canopy closure (or crown closure). Do not need to reduce surface fuels

Additional fuels reduction treatments consistent with mechanized thinning and/or service work described above may occur within the transmission line buffer depending upon access, slope, other features to protect, and the potential to create contagious treatment areas to meet restoration objectives.

Bighorn Sheep Treatments

Treatment would be implemented via manual chainsaw work and lop and scatter slash treatments. Treatments would enhance movement corridors by thinning to create open forest conditions and small openings near or adjacent to rock outcroppings in order to create escape terrain. Treatments would be located in the West Monument Creek and Blodgett peak area and would target steep, south facing rocky slopes (25% or greater). Target residual density would be less than 60 sq. ft. of basal area and highly variable. Residual density would be dependent upon existing density, operability, and estimated post-treatment slash depth and distribution.

Table 2. Table 1. Summary of treatments by treatment type, acres, and S-Class.

TREATMENT TYPE	GENERAL PROJECT AREA LOCATION	BIOPHYSICAL SETTING - TREATMENT DESCRIPTION	S-CLASS	FOOTPRINT ACRES		TOTAL ACRES with 2ND ENTRY
				ACRES	SUB-TOTAL	
Mechanized Thinning/Opening Creation	West	Dry-Mesic Mixed Conifer UMC	B	1,304		
			C	375		
			D	37		
			E	77	1,794	1,794
		Ponderosa Pine/Douglas-Fir Woodland UMC	B	882		
			C	481		
			D	166		
			E	606	2,135	2,135
		Mesic Mixed Conifer UMC	B	1,089		
			C	68		
			D	68		
			E	558	1,782	1,782
		Lodgepole Pine Forest UMC (class D for PICO is closed. For all other major BPS it is open)	B	779		
			D	352	1,132	1,132
Service Work TSI	West	Lodgepole Pine Forest - pre-commercial thinning	A	47	47	47
Serivce Work - w/Mechanized Thinning Treatments (Slope 21 - 25%)	West	Dry-Mesic Mixed Conifer UMC	B	1,416		

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				ACRES	SUB-TOTAL	
			C	318		
			D	94		
			E	179	2,007	2,007
		Ponderosa Pine/Douglas-Fir Woodland UMC	B	1,419		
			C	347		
			D	243		
			E	399	2,408	2,408
		Mesic Mixed Conifer UMC	B	1,184		
			C	110		
			D	27	1,321	1,321
Service Work - w/Mechanized Thinning Treatments (Slope 25 - 30%)	West	Dry-Mesic Mixed Conifer UMC	B	1,324		
			C	334		
			D	36		
			E	187	1,882	1,882
		Ponderosa Pine/Douglas-Fir Woodland UMC	B	1,507		
			C	368		
			D	116		
			E	479	2,471	2,471
Broadcast Burning 1st Entry	West - N. Central	Target dry veg types as much as practical.			5000	5000

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Broadcast Burning 2nd Entry	West	Dry-Mesic Mixed Conifer & Ponderosa Pine/Douglas-fir Woodland **mechanized treatments** (60%)				2,357
		Dry-Mesic Mixed Conifer & Ponderosa Pine/Douglas-fir Woodland **service work** (40%)				3,507
Fuelbreaks & Oak Mitigation Tier 1	East	200 Ft Fuelbreak		16		
		Oak Mit 100 Ft Fuelbreak		25		
		Oak Mit 200 Ft Fb		2		
		Oak Mit 200 Ft Fuelbreak		69		
		Oak Mitigation		61		
		Oak Mitigation & Mechanized Thin		237		
		Plantation Thin		31		
		Pre Commercial Thin		14		
		Thin Rows Historical		25		
				480	480	480
Fuelbreaks & Oak Mitigation Tier 2	East	Dry-Mesic Mixed Conifer UMC	B-E	316		
		Gambel Oak-Mixed Montane Shrubland UMC	B, C	726		
		Ponderosa Pine/Douglas-Fir Woodland UMC	B, C, E	84		
				1,127	1,127	1,127

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Bighorn Sheep Habitat Improvement	East	Manual service work - thinning and opening creation on steep slopes, southern aspects.		420	420	420
Transmission Lines	Central, South	Primarily manual work around towers and facilities.		272	272	272
					24,278	30,142

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