Appendix A – Treatments Proposed

Vegetation Treatments: The following table displays the treatment areas (unit), acres, vegetation treatment proposed (Rx), and logging method proposed for alternative B. Acres are generally rounded to the nearest acre.

Acres listed throughout the Environmental Assessment for post-sale treatments are based on analysis of the original number of proposed treatments. As a result of collaboration with the Northeast Washington Forestry Coalition (NEWFC) group and the public, and recent site-specific analysis/field visits, the number of acres for post-sale treatments has been modified.

These are the district's best estimate of acres as of 5-1-2008.

Table A-1. – Vegetation treatments and logging methods proposed, alternative B.

Unit	Unit Ac	Rx	Logging Method	Major Species	Post-Sale Treatments	Mgt Area
1	80	HTH	H	LP/DF/WL	UB	8,7,6,5
3	75	HSL	G	LP/WL/PP	MF/PLANT	7
4	25	HTH	G	DF/WL	UB/PLANT	8
5	42	HTH	G	DF/WL	MF/PLANT	8,7
6	48	HTH/HSH	G	WL/LP	UB/PLANT	8
7	88	HTH/HSH	G	WL,DF	UB/PLANT	6,8
8	61	HTH/HSH	G	DF	UB/PLANT	6,8
9	36	HTH/HSH	G	WL,DF	UB/PLANT	6, 8
10	13	HTH	G	WL/DF/LP	UB	6
11	62	HTH	G	WL/DF/LP	UB	6
12	77	HTH	G	DF/WL	UB	6
13	41	HTH	H	DF/WL	UB	6
14	50	HTH	S	WL/DF/LP	UB	6
15	48	HTH	S	DF/WL	MF	6
16	49	HTH	G	DF/WL	MF	6
17	19	HTH	G	WL/DF/LP	UB	6
18	20	HTH	G	WL/HRWD	MF	6
19	41	HTH	G	DF/WL/LP	UB	6
20	16	HTH/HSH	H	LP	UB/PLANT	6
21	27	HSL	G	DF/LP/WL	MF	6
22	31	HSL	S	WL,GF,DF	UB	6
23	31	HSL	G	PP, DF	UB	6
24	6	HSL	H	WL		6
25	48	HTH/HSH	G	DF,LP	UB/PLANT	6
26	23	HSL	G	LP/DF/GF	MF	6
27	58	HTH/HSH	G	LP	UB/PLANT	8,6
28	35	HTH/HSH	G	LP/WL	MF/PLANT	6,8
30	9	HSL	G	WL	FUELS/FIRE	6

Unit	Unit Ac	Rx	Logging Method	Major Species	Post-Sale Treatments	Mgt Area
31	11	HSL	G	RC/WH	FUELS/FIRE/ PLANT	5,6
32	22	HTH/HSH	G	LP/WL/DF	FUELS/FIRE/ PLANT	6,8
33	15	HTH/HSH	S	WL/LP	UB/PLANT	8,6
34	88	HSL/HSH	G	RC/WH/DF/ WL	MF/PLANT	5,6,7,8
35	7	HTH	S	RC/WH	MF	5,6
36	7	HTH	S	DF/LP	UB	7,8
37	21	HTH/HSH	G	DF/LP	UB/PLANT	7,8
38	39	HTH/HSH	G	WL/DF/LP	MF/PLANT	8
39	94	HTH/HSH	G	LP, WL	MF/PLANT	8
40	44	HTH/HSH	G	LP	MF/PLANT	8
41	133	HTH/HSH	G	WL, LP	MF/PLANT	8
42	56	HTH/HSH	G	LP/WL	MF/PLANT	8
43	51	HTH/HSH	G	WL/PP/LP	MF/PLANT	7,8
44	38	HTH/HSH	G	LP/WL	MF/PLANT	7
45	12	HSH	G	LP	MF/PLANT	8
46	15	HTH/HSH	G	LP	UB/PLANT	7,8
48	48	HSH	H	LP	MF/PLANT	7
49	9	HSL	G	WL/LP/RC/ WH		7
50	116	HTH/HSH	G	WL/LP	MF/PLANT	7
52	46	HTH	H	DF/WL	UB	5,7
53	46	HTH/HSH	G	DF/WL	MF/PLANT	5,7
54	37	HTH	G	DF	UB	8,6,7,5
55	33	HTH/HSH	H	DF/LP	UB/PLANT	7,8
56	68	HTH/HSH	G	WL/LP	UB/PLANT	7,8
57	70	HTH/HSH	G	WL/HRDW	UB/PLANT	7,8
58	85	HTH/HSH	G	WL/DF/LP	MF/PLANT	7,8
59	83	HTH/HSH	G	LP/WL/GF	MF/PLANT	7,8
60	55	HTH/HSH	G	WL/DF/PP	UB/PLANT	8,7
61	52	HTH/HSH	G	WL	UB/PLANT	8,7
62	34	HTH	G	WL	UB	8,7
63	12	HTH/HSH	G	LP/RC/WL	MF	5
64	47	HTH/HSH	G	WL	MF/PLANT	5
65	56	HTH/HSH	G	WL/LP	MF/PLANT	5
66	8	HSH	S	WL/LP	MF/PLANT	5
67	13	HTH	S	WL/DF	MF	5
68	85	HTH/HSH	G	WL/DF/LP	MF/PLANT	5,8,7
Total	**2815**					

Unit	Unit Ac	Rx	Logging Method	Major Species	Post-Sale Treatments	Mgt Area
The following stands would receive only noncommercial treatments						
3001600	38			WL/DF	UB	5
3001602	54			DF/WL/RC	UB	5
3001607	30			DF/WL/LP	UB	6,8
3001608	36			WL/DF	UB	6,8
3001609	61			LP/WL	UB	1,8,6
3001610	61			WL/DF	UB	1,6
3001611	45			DF	UB	1,6
3001612	25			DF/WL	UB	8,6
3001617	35			WL/DF	UB	7,8
3001618	23			DF/GF	UB	6
3001726	5			PP	UB	8,7
3001727	40			DF	UB	8,7
3001728	35			DF/WL	UB	6,8
3001729	39			DF	UB	1
3001730	64			WL/DF	UB	1
3001731	49			PP	UB	8
3001732	11			LP	UB	8
3001733	16			DF/PP	UB	8,1
3001734	15			DF/WL	UB	1,8,6
3001736	13			DF/WL	UB	6
3002063	61			DF/WL/LP	UB	7,8
3002064	49			DF/WL/LP	UB	1
3002065	156			DF/WL/LP	UB	8
3002119	380			DF/WL/LP	UB	6,5
3002120	211			DF/WL/LP	UB	6
3002130	36			DF/WL/LP	UB	1
3002131	57			DF/WL/LP	UB	1
3002133	29			DF/WL/LP	UB	1
3002134	18			DF/WL/LP	UB	1
3002135	21			DF/WL/LP	UB	1
3002139	14			DF/WL	UB	6
3003002	39			DF/GF	UB	5
3003003	16			DF/GF	UB	5
3003006	27			DF	UB	6
3003008	28			DF/WL/ HRDW	UB	6
3003009	25			DF/WL/LP	UB	6
3003010	24			DF	FUELS/FIRE	6

Unit	Unit Ac	Rx	Logging Method	Major Species	Post-Sale Treatments	Mgt Area
3003012	62			DF	FUELS/FIRE	6
3003027	67				PCT	6
3003034	13			DF/LP/WL	FUELS/FIRE	6
3003038	3			RC/ES/LP	FUELS/FIRE	8,7
3003039	8			WL	FUELS/FIRE	6
3003044	21			WL	UB	8,6
3003045	9			LP/WL/DF	FUELS/FIRE	6,8
3003049	42			DF/LP	UB	7,8
3003050	19			WL	UB	7,5
3003060	69			LP	UB	7,8
3003061	43			DF/PP	UB	8,7,5
3003082	75			WL	UB	7
3003083	38				PCT	7
3003094	140			DF/HRDW	UB	7,5
3003097	55			WL	UB	5,7
3003099	73			DF/HRDW	UB	5
3003110	46			DF/HRDW	UB	7,5
3003112	112			DF	UB	5,6,8
3003116	18				PCT/WP PRUNING	6
3003117	21				PCT/WP PRUNING	6
3003118	13				PCT/WP PRUNING	7
3003119	38				PCT/WP PRUNING	5
3003120	32				PCT/WP PRUNING	5
3003121	39				PCT/WP PRUNING	7,5
3003122	39				PCT	7,8,5
3003123	38				PCT	7
3003124	41				PCT/WP PRUNING	7
3003125	21				PCT	8,6
3003128	21				PCT/WP PRUNING	8
3003147	9			DF	UB	6
3003166	23			DF	UB	5

Logging System

G - Ground based (cut-to-length, mechanized tractor) - 2338 acres
S - Skyline - 179 acres
H - Helicopter - 298 acres

Harvest Type

HTH - Commercial thinning* - generally 40-60 trees/ac depending on average diameter - 1880 acres

HSL - Selection harvest - single trees removed and small holes created up to 1 acre, usually natural regeneration - 292 acres

HSH - Shelterwood harvest*- average 20-25 overstory leave trees/acre, mostly planted to replace undesirable naturals or to restock areas with no regeneration present - 643 acres

* acres of each type from the combination treatment units (i.e. HTH/HSH) are generally rough estimates

Road Construction

System roads- 4.8 miles
Temporary roads- .5 miles

Post Sale Treatments (see definitions below)

FUELS/FIRE - Combination of mechanical treatment with fuel breaks in preparation of prescribed fire
MF - Mechanical (machine/grapple piling, mastication)
PCT/WWP – precommercial thinning with western white pine pruning
PCT – precommercial thinning
UB - Underburn
PLANT - Tree planting (usually PP, WL, WP)

Totals for alternative B:

Rx	Acres
HTH	711
HTH/HSH	1726
HSL	222
HSL/HSH	88
HSH	68
Total	2815

Logging Method Legend:
G – Ground based, tractor, cut-to-length harvester
S – Skyline
H – Helicopter

Post Sale Treatments:

Commercial Trts[i]	Acres	Noncommercial Trts	Acres
Plant	643[ii]	Precommercial thin	204
Underburn	1278	Whitepine prune/pct	223
Mechanical Fuels	1480	Underburn	2589
Fire/Fuels	42	Fire/Fuels	119

[i] There would be an overlap of acres in the commercial treatment areas where more than one post-sale treatment occurs, such as underburning and planting.
[ii] Only a portion of the HSH areas would be planted, not the entire unit acres listed in table A-1.

Commercial Treatment Definitions

Commercial thinning	The removal of a portion of the trees in even-aged or uneven-aged stands to control stand spacing and favor desired trees. The objectives are to remove trees that exhibit poor form, vigor, or pose a significant risk of insect or disease mortality; reduce competition; and to increase growing space for the development of large trees. A fully stocked stand with 40+ residual trees larger than 6” in diameter would result from this treatment.
Commercial thin/shelterwood	The stands would be a mix of commercial thinning and shelterwood. Portions of the stand that are stagnant and would not readily move towards a late structural stage without regenerating the area would receive a shelterwood harvest. The remainder of the stand would be thinned. Within the Misery Lake project area, those areas proposed for shelterwood harvest are primarily lodgepole pine pockets that would not respond to a release (thinning) treatment.
Selection harvest	Selection of individual trees or small groups of trees to retain a stand with high forest cover while simultaneously providing for an orderly development of trees with a range of ages. Generally uneven-aged management. The result of this treatment is a fully stocked stand that exhibits a variety of stocking and may have small openings created where a new crop of seedlings will become established.
Selection harvest/shelterwood	The stands would receive a mix of selection and shelterwood harvest. Portions of the stand that are stagnant and would not readily move towards a late structural stage without regenerating the area would receive a shelterwood harvest. The remainder of the stand would be treated through selection harvest. Within the Misery Lake project area, those areas proposed for shelterwood harvest are primarily lodgepole pine pockets that would not respond to a release (thinning) treatment.
Shelterwood regeneration harvest	All trees would be harvested except those needed for seed, wildlife, and shelter for the stand-to-be. Residual stand retains 12-30+ trees/acre in the overstory. Generally, the largest trees available would be left as green-tree replacements for snags. This prescription is mostly used on dense, stagnant stands to produce a new stand of early seral species (seedlings) capable of growing toward late structural stage.

Noncommercial Treatment Definitions

Fuels/fire	A method to reduce fuel loadings to historic conditions. Treatments may include mechanical thinning from below and fuel breaks. The mechanical treatments are designed to prepare the sites for prescribed fire.
Underburn	A method of reintroducing fire on the landscape. This treatment will help reduce fuel loadings to historic conditions. Underburning will help reduce undesirable competing vegetation, including conifers and brush. Also a benefit of underburning will be to make browse species more palatable to big game by stimulating new sprouts. Underburning will also help in raising the lower crown height by reducing the lower live limbs, resulting in a lowered risk of surface or ground fires climbing into the crown of trees. **Jackpot burning** is a type of underburn designed to consume concentrations of forest fuels.
Mechanical fuel	These treatments are being done in commercial treatment stands to reduce fuels to historic conditions and create planting spots for regeneration. Treatments may include machine/grapple piling, noncommercial tree felling, and hand piling. Mechanical fuel treatments may also prepare the stands for future underburning, or where prescribed fire will likely result in losses to the residual overstory.
Mastication	Mastication is the process of grinding, shredding, or chopping surface and ladder fuel residue. This treatment can lower fuel bed depth, raise crown base height, and increase fuel-ground contact to promote decomposition. Mastication can be used in lieu of prescribed fire—either due to risk of escape, smoke concerns, or other management constraints.
Machine/Grapple Piling	The piling of slash in a harvest unit using a machine with a grapple arm for picking up slash. Slash is piled in open areas for burning when snow cover is sufficient to prevent fire spread. Allows for the burning of slash in a more controlled environment.
Precommercial thinning	Treatment in plantations that do not have enough commercial value to treat with a harvest prescription, but would benefit by thinning out small-diameter trees, allowing residual trees to grow and increasing overall stand vigor. Cut trees would be bucked, lopped, and scattered on the site. Generally the stands would be thinned on a 12 feet by 12 feet spacing where topography and economics would allow for a future commercial thinning in 20 to 40 years. In stands that a future commercial thin is not considered to be economically feasible then the

	average PCT spacing should be increased to approximately 14ft by 14ft. A mix of different species including hardwoods is preferred after treatment with a priority on leaving the healthiest trees with greater than 40% live crown ratios and removing trees with damage or disease evident.
White Pine pruning	Treatment in plantations to reduce the risk of White Pine blister rust infection in the white pine saplings. Pruning would be done by hand using saws or pruning shears to remove the lower portion of the crown, generally up to 4.5+ feet high. This lower portion of the live crown has been found to have the highest infection risk.
Planting	Artificial reforestation to regenerate a stand or interplant with natural regeneration. Planting would reintroduce species that may be absent or lacking in the stand due to past disturbances. Planting allows the FS to plant a 1 to 3 year old seedling on the site to help overcome the competition of brush or grasses. Planting helps to rapidly re-establish the next stand and move it towards the desired future condition. Relying on only natural regeneration can often be difficult and unsuccessful in re-establishing the desired mix of species on the site.