

APPENDIX E

DEVELOPMENT OF ALTERNATIVE F

This appendix documents the rationale for the development of Alternative F (the Preferred Alternative). Because the Proposed Action (Alternative B) was the primary basis for the development of all other alternatives, this table will compare Alternative F to Alternative B.

Table E-1. Comparison of Commercial Timber Harvest Units of Proposed Action (Alternative B) to Preferred Alternative (Alternative F)

Unit Number *	Alt. B Acres	Alt. B Retention Level**	Explanation for Modifying Alternative F from Alternative B	Alt. F Acres	Alt. F Retention Level**
1	166	MDR	Change to HDR for wildlife connectivity and visual concerns.	166	HDR
2	65	HDR	No change.	65	HDR
3	100	MDR	Change to HDR for ungulate winter range and wildlife connectivity.	100	HDR
4	128	MDR	Reduction in acres in area that functions as big game winter range.	110	MDR
5	33	HDR	No change.	33	HDR
6	177	MDR	No change.	177	MDR
7A	25	MDR	No change.	25	MDR
8	104	HDR	No change.	104	HDR
9	18	MDR	Change to HDR for wildlife connectivity concerns.	18	HDR
10	13	MDR	Change to HDR for wildlife connectivity concerns.	13	HDR
11	80	MDR	Reduction in acres to provide a buffer for adjacent old growth.	54	MDR
14	201	MDR	Reduction in acres and change in retention level for wildlife connectivity concerns and to provide a buffer for adjacent old growth.	150	HDR#
15	79	MDR	Reduction in acres to provide a buffer for adjacent old growth.	75	MDR
16	53	HDR	No change.	53	HDR
17	64	LDR	No change.	64	LDR
17A	27	LDR	Dropped because unit is adjacent to stand of old growth timber and incorporating a buffer would create a unit that would not meet economical objectives due to small tree sizes and expensive logging systems.	-	-
18	29	MDR	Dropped because of wildlife connectivity, lynx denning habitat concerns, and to provide a buffer for adjacent old growth.	-	-
19A	70	LDR	No change.	70	LDR
20	147	LDR	Dropped because of difficult access, lynx denning and feeding habitat, wildlife connectivity, and to provide a buffer for adjacent old growth.	-	-
21	33	LDR	No change.	33	LDR
23A	11	LDR	No change.	11	LDR

Unit Number *	Alt. B Acres	Alt. B Retention Level**	Explanation for Modifying Alternative F from Alternative B	Alt. F Acres	Alt. F Retention Level**
24	31	LDR	No change.	31	LDR
25	78	LDR	Change in retention to HDR because recent field surveys indicate HDR is more silviculturally appropriate.	78	HDR
26	93	HDR	No change.	93	HDR
27	31	LDR	Dropped because of wildlife connectivity, fuels reduction objectives could not be met in this timber type, and wet soil conditions would limit harvesting operations to winter months. Specific information about this unit was received by adjacent landowners.	-	-
28A	28	LDR	No change.	28	LDR
29	33	MDR	No change.	33	MDR
30	35	LDR	No change.	35	LDR
31A	14	MDR	Dropped because of concerns about visual quality, wildlife connectivity, and to provide a buffer for adjacent old growth. Specific information about this unit was received by adjacent landowners.	-	-
32	123	MDR	Reduction in acres on south side of unit for hydrologic concerns in Pike Creek drainage. Other reasons to drop the unit include wildlife connectivity and to provide a buffer for adjacent old growth.	101	MDR
32A	10	MDR	Dropped because unit was determined to be old growth, as well as for wildlife connectivity and because it functions as lynx denning habitat.	-	-
33	90	MDR	Reduction in acres to avoid building a temporary road and to avoid harvesting a section of the original unit that was adjacent to old growth.	42	MDR
34	24	MDR	No change	24	MDR
35	222	MDR	Reduction in acres because approximately the eastern three-fifths of unit was designated as Unit 37 in Alternative F to be an HDR for wildlife connectivity concerns and because it is adjacent to a hiking trail. Also, eastern section provides a buffer for adjacent old growth	94	MDR
36	63	MDR	No change.	63	MDR
36A	38	MDR	Change in retention levels for wildlife connectivity.	38	HDR
-	-	-	Unit 37 in Alt. F was formerly a portion of Unit 35, but was made into a new Unit 37 with a different retention level than Unit 35 for wildlife connectivity and recreational concerns.	128	HDR
38	6	MDR	Dropped because this unit was determined through field reconnaissance to be too small in acreage to economically treat.	-	-
38A	9	MDR	Dropped because this unit is adjacent to old growth, and not enough would be left in the unit after an old growth buffer strip is delineated.	-	-
39	79	HDR	No change.	79	HDR
39A	26	HDR	No change.	26	HDR

Unit Number *	Alt. B Acres	Alt. B Retention Level**	Explanation for Modifying Alternative F from Alternative B	Alt. F Acres	Alt. F Retention Level**
39B	17	HDR	No change.	17	HDR
40	52	HDR	Change in retention level because recent field surveys indicate more tree mortality in unit than originally thought—not enough live trees for an HDR.	52	MDR
41	14	MDR	Dropped because recent stand surveys indicate that current stand conditions meet our purpose and need; no need to treat this unit at this time.	-	-
41A	127	MDR	No change.	127	MDR
42	31	MDR	Change in retention level to HDR for wildlife connectivity concerns.	31	HDR
43	34	HDR	No change.	34	HDR
44	29	HDR	No change.	29	HDR
45	15	HDR	No change.	15	HDR
46	17	MDR	No change.	17	MDR
47	53	MDR	Change in retention level for concerns about wildlife connectivity, hydrology in Oettiker Creek, and wildlife security.	53	HDR
47A	38	MDR	Change in retention level for wildlife connectivity concerns.	38	HDR#
48	77	MDR	Reduction in acres to provide a buffer next to adjacent old growth.	73	MDR
48A	7	MDR	No change.	7	MDR
49	28	MDR	Change in retention to HDR because recent field surveys indicate HDR is more silviculturally appropriate.	28	HDR
50	48	MDR	Dropped to avoid building a temporary road in this unit, as well as for concerns about wildlife connectivity, lynx denning habitat, and to provide a buffer for adjacent old growth.	-	-
51	17	MDR	No change.	17	MDR
52	120	LDR	No change.	120	LDR
53	12	MDR	No change.	12	MDR
53A	10	MDR	No change.	10	MDR
54	33	MDR	No change.	33	MDR
55A	148	MDR	Reduction in acres to provide a buffer for adjacent old growth.	132	MDR
56	69	MDR	No change.	69	MDR
57	9	LDR	No change.	9	LDR
58	14	MDR	No change.	14	MDR
59	8	MDR	No change.	8	MDR
60	27	HDR	No change.	27	HDR
61	11	MDR	No change.	11	MDR
62	11	HDR	No change.	11	HDR
63	14	MDR	No change.	14	MDR
64	65	MDR	Reduction in acres for wildlife connectivity concerns.	54	MDR
65	68	MDR	Change in retention level for wildlife connectivity concerns.	68	HDR

Unit Number *	Alt. B Acres	Alt. B Retention Level**	Explanation for Modifying Alternative F from Alternative B	Alt. F Acres	Alt. F Retention Level**
66A	13	MDR	No change.	13	MDR
67	39	HDR	No change.	39	HDR
68	9	HDR	No change.	9	HDR
68A	10	HDR	No change.	10	HDR
69	18	MDR	Stand conditions allow for change in retention level to respond to concern about wildlife connectivity, lynx denning habitat, and hydrology in Bill Creek.	18	HDR
69A	3	MDR	No change.	3	MDR
70	45	HDR	Dropped for wildlife connectivity concerns. Nine acres of this unit included in Unit 71 in Alt. F.	-	-
71	73	HDR	Increase in acres because 9 acres from Unit 70 included in Unit 71. Change in retention level to more effectively treat infestation of Douglas-fir beetle.	84	HAR#
71A	12	LDR	Change in retention level to more effectively treat infestation of Douglas-fir beetle.	12	HAR#
72	43	MDR	Change in retention level for wildlife connectivity concerns.	43	HDR
73	49	MDR	No change.	49	MDR
73A	64	MDR	No change.	64	MDR
74	66	MDR	No change.	66	MDR
74A	20	MDR	No change.	20	MDR
75	17	MDR	Dropped for hydrological concerns in Bill Creek and because trail goes through unit.	-	-
76	30	MDR	Stand conditions allow for change in retention level to respond to concerns about wildlife connectivity, lynx denning habitat, and hydrology in Bill Creek.	30	HDR
76A	10	MDR	Dropped because of concerns about hydrological concerns in Bill Creek and to provide a buffer for adjacent old growth.	-	-
76B	4	MDR	No change.	4	MDR
77	13	HDR	No change.	13	HDR
78	10	MDR	No change.	10	MDR
79	13	MDR	Change in retention level for wildlife connectivity concerns.	13	HDR
80	18	MDR	No change.	18	MDR
81	55	LDR	Reduction in acres out of concern for the hydrology of Cyclone Creek and wildlife connectivity, as well as to avoid building a temporary road.	43	LDR
82	70	LDR	Reduction in acres out of concern for the hydrology of Cyclone Creek and wildlife connectivity, as well as to avoid building a temporary road. Also, portion of unit dropped serves as a buffer to adjacent old growth.	26	LDR
85	17	MDR	No change.	17	MDR
86	16	HDR	No change.	16	HDR
87	8	HDR	No change.	8	HDR

Unit Number *	Alt. B Acres	Alt. B Retention Level**	Explanation for Modifying Alternative F from Alternative B	Alt. F Acres	Alt. F Retention Level**
88	83	LDR	Reduction in acres for wildlife connectivity and hydrological concerns for Cyclone Creek.	36	LDR
91	44	MDR	Reduction in acres for hydrological concerns for Cyclone Creek.	22	MDR
99	7	LDR	No change.	7	LDR
99A	10	LDR	No change.	10	LDR
100	62	MDR	No change.	62	MDR
100A	5	MDR	No change.	5	MDR
101	127	MDR	Reduction in acres to provide a buffer for adjacent old growth.	112	MDR
101A	14	MDR	No change.	14	MDR
102	9	MDR	No change.	9	MDR
103	42	MDR	No change.	42	MDR
105	18	HDR	No change.	18	HDR
106	18	MDR	No change.	18	MDR
107	24	MDR	No change.	24	MDR
108	51	MDR	No change.	51	MDR
109	116	MDR	Reduction in acres for wildlife connectivity concerns.	61	MDR
110	25	MDR	Dropped for wildlife connectivity concerns and to provide a buffer for adjacent old growth.	-	-
111A	21	MDR	No change.	21	MDR
112	24	MDR	Dropped for concerns about lynx denning habitat and wildlife connectivity.	-	-
112A	36	MDR	Reduction in acres to provide a buffer for adjacent old growth.	33	MDR
114	44	MDR	Reduction in acres to provide a buffer for adjacent old growth.	38	MDR
115	48	MDR	Dropped for wildlife connectivity and hydrological concerns in Cyclone Creek.	-	-
117	68	MDR	Reduction in acres to provide a buffer for adjacent old growth.	52	MDR
120A	10	MDR	No change.	10	MDR
124	52	MDR	No change.	52	MDR
124A	48	MDR	No change.	48	MDR
126	25	MDR	No change.	25	MDR
126A	23	MDR	Reduction in acres for wildlife connectivity concerns and to provide a buffer for adjacent old growth.	16	MDR
127	197	MDR	Reduction in acres for wildlife connectivity and hydrological concerns in Pike Creek.	171	MDR
127A	140	MDR	Reduction in acres for Pike Creek hydrological concerns as well as need to maintain wildlife connectivity and a buffer on an old growth forest. Also, acres reduced would prevent skidding through old growth habitat.	116	MDR
128	52	HDR	No change.	52	HDR
129	20	MDR	Dropped for hydrological concerns in Bill Creek and to provide a buffer for adjacent old growth.	-	-

Unit Number *	Alt. B Acres	Alt. B Retention Level**	Explanation for Modifying Alternative F from Alternative B	Alt. F Acres	Alt. F Retention Level**
130	11	MDR	Dropped for hydrological concerns in Bill Creek.	-	-
131	18	MDR	No change.	18	MDR
132	17	MDR	No change.	17	MDR
132A	48	MDR	No change.	48	MDR
133	36	MDR	No change.	36	MDR
134	175	MDR	Reduction in acres for wildlife connectivity concerns and to provide a buffer for adjacent old growth.	131	MDR
135	87	MDR	Reduction in acres for wildlife connectivity concerns and to provide a buffer for adjacent old growth.	29	MDR
136	10	MDR	No change.	10	MDR
136A	31	MDR	No change.	31	MDR
137	14	MDR	No change.	14	MDR
137A	25	MDR	No change.	25	MDR
138A	20	MDR	No change.	20	MDR
139	39	HDR	No change.	39	HDR
140	6	HDR	No change.	6	HDR
TOTAL	6624			5521	

* Units with an A or B designation indicate a skyline logging system or a skyline tractor swing (STS) system. All other units are ground-based.

**Retention Levels: (please refer to FEIS Chapter 3, Vegetation Affected Environment)

LDR = Light dispersed retention

MDR = Moderate dispersed retention

HDR = Heavy dispersed retention

HAR = Heavy aggregated retention

LAR = Light aggregated retention

Please see Chapter 3, Vegetation Section, Alternative B, Stand Groups for a detailed discussion of retention levels for these units.

Table E-2. Comparison of prescribed burn units for wildlife habitat improvement and/or fuel reduction, Proposed Action to the Preferred Alternative

Unit Number	Alt. B Acres	Alt. B Retention Level	Preferred Alternative Modification or Elimination Remarks, as Compared to Alternative B	Alt. F Acres	Alt. F Retention Level
200	169	HDR	No change.	169	HDR
201	56	HDR	No change.	56	HDR
202	157	HAR	No change.	157	HAR
202.1	123	LDR	No change.	123	LDR
203	61	HDR	No change.	61	HDR
Total:	566		Total:	566	

Table E-3. Comparison of fuel reduction areas using hand techniques, Proposed Action to the Preferred Alternative

Unit Number	Alt. B Acres	Alt. B Retention Level	Preferred Alternative Modification or Elimination Remarks, as Compared to Alternative B	Alt. F Acres	Alt. F Retention Level
300	157	HDR	No change.	157	HDR
301	23	HDR	No change.	23	HDR
302	2	LDR	No change.	2	LDR
Total:	182		Total:	182	

Table E-4. Comparison of proposed road construction, Proposed Action to the Preferred Alternative

Type of Road and Number, Alt. B	Length, Alt. B	Preferred Alternative Modification or Elimination Remarks, as Compared to Alternative B	Type of Road and Number, Alt. F	Length, Alt. B
System Roads			System Roads	
1	2.68	More effective road location developed between DEIS and FEIS	1	1.72
18	1.55	No change.	18	1.55
22	0.14	No change.	22	0.14
		New road added to Alternative F to all for relocation of Road 2913.	2	0.37
	Total: 4.37			Total: 3.78
Temporary Roads				
1	0.72	No change.	1	0.72
2	0.41	No change.	2	0.41
3	0.10	No change.	3	0.10
5	0.58	Road not needed in Alt. F since Unit 33 reduced in size.		
6	0.07	No change.	6	0.07
7	0.27	Road not needed in Alt. F since Unit 50 was eliminated.		
9	0.44	No change.	9	0.44
10	0.49	Road not needed in Alt. F since Unit 82 reduced in size.		
13	0.61	No change.	13	0.61
14	0.43	No change.	14	0.43
15	0.19	No change.	15	0.19
16	0.53	No change.	16	0.53
17	0.13	No change.	17	0.13
18	0.46	No change.	18	0.46
		Temporary Road 19 added as a result of System Road 1 being moved and Unit 134 being reduced in size.	19	0.44
	Total: 5.43			Total: 4.53

Table E-5. Comparison of roads proposed for reclamation, Proposed Action to the Preferred Alternative

Road Number, Alt. B	Reclaim Miles, Alt. B	Preferred Alternative Modification or Elimination Remarks, as Compared to Alternative B	Road Number, Alt. F	Reclaim Miles, Alt. F
313	0.80	An additional 0.20 of reclamation was available when road 313Y was determined to be not necessary for future management activities.	313	1.00
313N	1.00	No change.	313N	1.00
313T	0.50	No change.	313T	0.50
313V	0.60	No change.	313V	0.60
		After the development of the Proposed Action, this road section was determined to be a source of sediment to streams but could be repaired through road reclamation. It was also determined to be not necessary for future management activities.	313Y	1.50
		After the development of the Proposed Action, this road section was determined to be a source of sediment to streams but could be repaired through road reclamation. It was also determined to be not necessary for future management activities.	2886	1.50
2886B	2.70	Use of the upper 1.70 miles of this road section for future management activities, such as fire suppression or insect and disease control, was determined to be necessary between development of the Proposed Action and Alternative E. The remaining 1.00 mile of road at the end of the segment is not needed for future management and contains sediment sources that could be repaired by reclamation.	2886B	1.00
2913	1.30	This road segment was later determined to be necessary for long term management goals, such as fire suppression or insect and disease control. The 0.30 miles of reclamation is the portion of this road that will be relocated upland of the adjacent stream.	2913	0.30
		After the development of the Proposed Action, this road section was determined to be a source of sediment to streams but could be repaired through road reclamation. It was also determined to be not necessary for future management activities.	2915	0.60
		After the development of the Proposed Action, this road section was determined to be a source of sediment to streams but could be repaired through road reclamation. It was also determined to be not necessary for future management activities.	2917	0.40
2971	0.30	No change.	2971	0.30
5395	0.10	No change.	5395	0.10
9502	1.00	No change.	9502	1.00
9504	0.80	No change.	9504	0.80
9506	0.50	No change.	9506	0.50
9524	0.50	No change.	9524	0.50
9537	0.40	No change.	9537	0.40
9538	0.60	No change.	9538	0.60
9583	0.60	No change.	9583	0.60

Road Number, Alt. B	Reclaim Miles, Alt. B	Preferred Alternative Modification or Elimination Remarks, as Compared to Alternative B	Road Number, Alt. F	Reclaim Miles, Alt. F
		After the development of the Proposed Action, this road section was determined to be a source of sediment to streams but could be repaired through road reclamation. It was also determined to be not necessary for future management activities.	9617	0.60
9677A	0.60	No change.	9677A	0.60
9763D	0.30	No change.	9763D	0.30
9895	0.90	After the development of the Proposed Action, this road section was determined to be a source of sediment to streams but could be repaired through road reclamation. It was also determined to be not necessary for future management activities.	9895	0.40
		After the development of the Proposed Action, this road section was determined to be a source of sediment to streams but could be repaired through road reclamation. It was also determined to be not necessary for future management activities.	10268	0.80
10360	0.70	No change.	10360	0.70
10436	2.00	Use of this road section for future management activities, such as fire suppression or insect and disease control, was determined to be necessary between development of the Proposed Action and Alternative E.		
	Total: 16.20			Total: 16.60

Table E-6. Comparison of roads proposed for change to yearlong closure, Proposed Action to the Preferred Alternative

Road Number, Alt. B	Miles of Closure, Alt. B	Preferred Alternative Modification or Elimination Remarks, as Compared to Alternative B	Road Number, Alt. F	Miles of Closure, Alt. F
2909	3.60	No change.	2909	3.60
2909B	0.20	No change.	2909B	0.20
11258	0.40	No change.	11258	0.40
		This road section was later determined after the development of the Proposed Action to have minor public use, was necessary for future management activities, and would require substantial maintenance to avoid wet season damage.	10436	2.00
	Total: 4.20			Total: 6.20

Other Features of the Alternatives:

Precommercial thinning acres in the proposed action was reduced from 3783 acres to 310 acres in the preferred alternative for Canada lynx habitat considerations.

Fuel reduction in precommercial thinning areas was reduced from 83 in the proposed action to 15 acres in the preferred alternative since fewer acres of precommercial thinning is proposed in the preferred alternative.

No trail restrictions for motorized use were part of the proposed action. The preferred alternative incorporates 12.7 miles of restrictions on the motorized use of trail 800 for wildlife security purposes during the period of September 1 to November 30.

Trail construction in the vicinity of the Tally Lake Campground remains at 2000 feet for both the proposed action and preferred alternative.

There is no change in the proposed projects between the proposed action and the preferred alternative for large woody debris placement in streams for fisheries habitat improvement, pool construction in Logan Creek for fisheries habitat improvement, riparian planting of shrubs and conifers in old harvest areas for wildlife habitat improvement, and planting of shrubs in new harvest areas for wildlife habitat improvement.