These appendices are included as reference material only and do not form part of the legal approved Forest Stewardship Plan.

APPENDIX I – KALUM SRMP MAPS AND TABLES

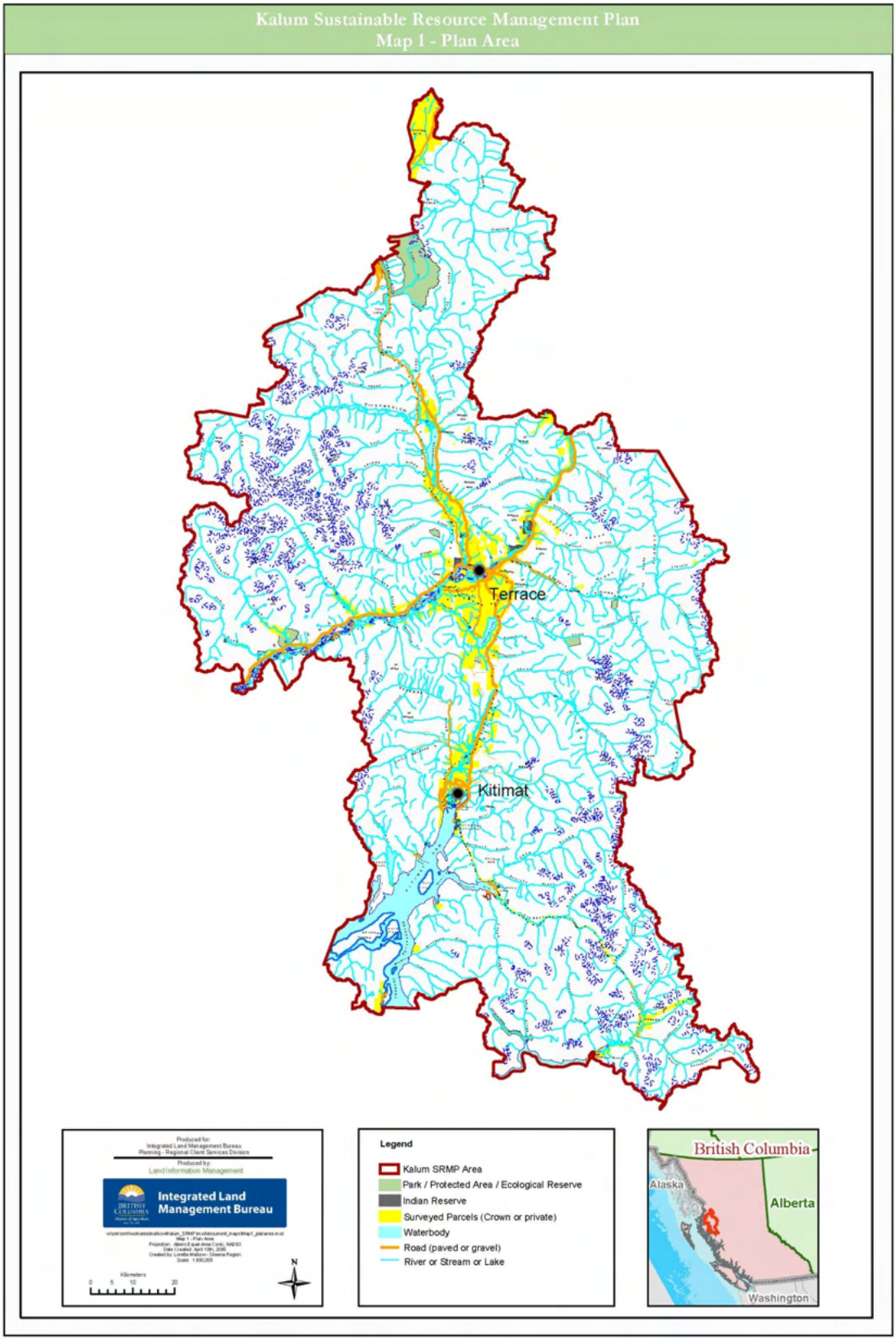

Figure 1. Kalum SRMP Map 1 – Plan Area

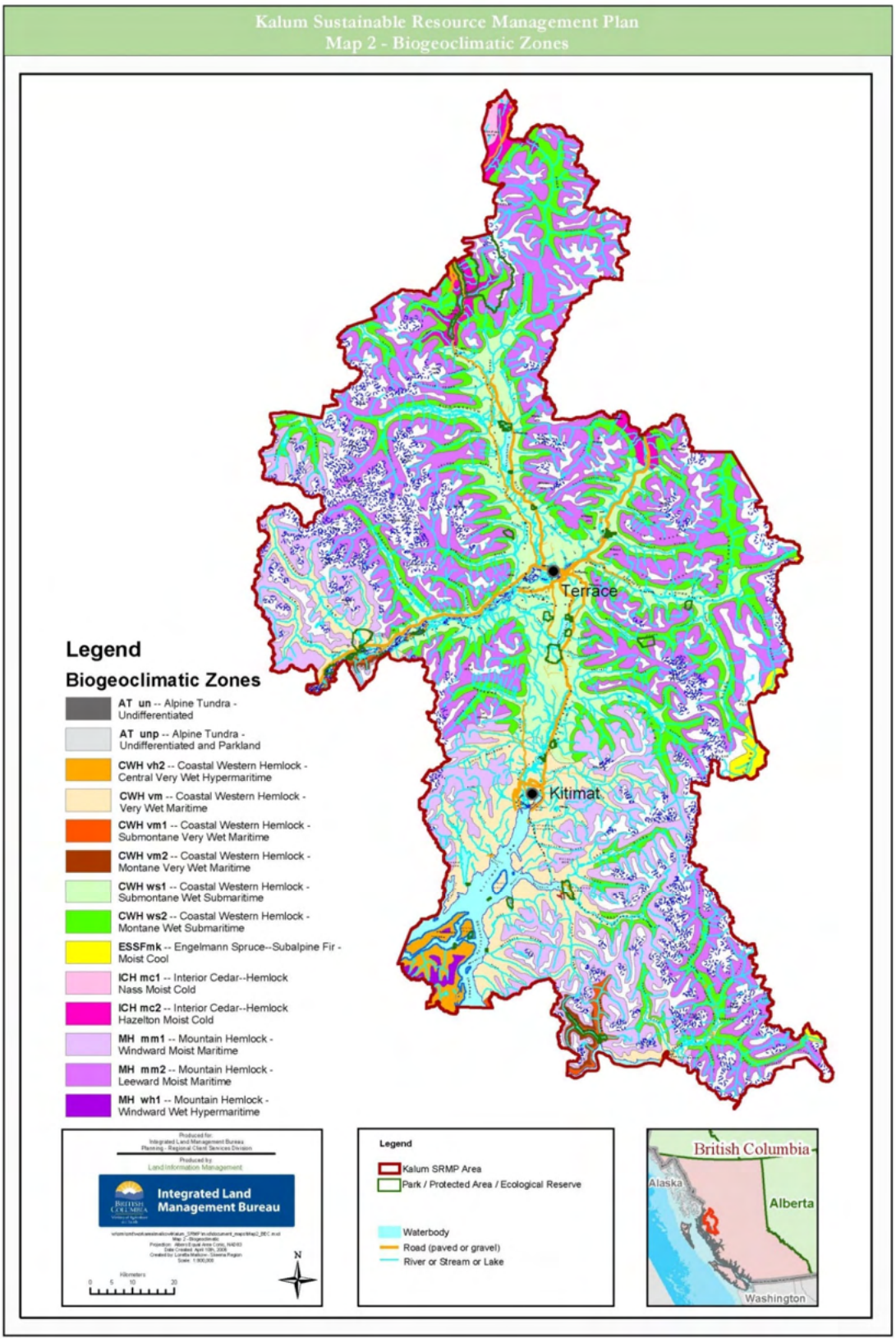

Figure 2. Kalum SRMP Map 2 – Biogeoclimatic Zones

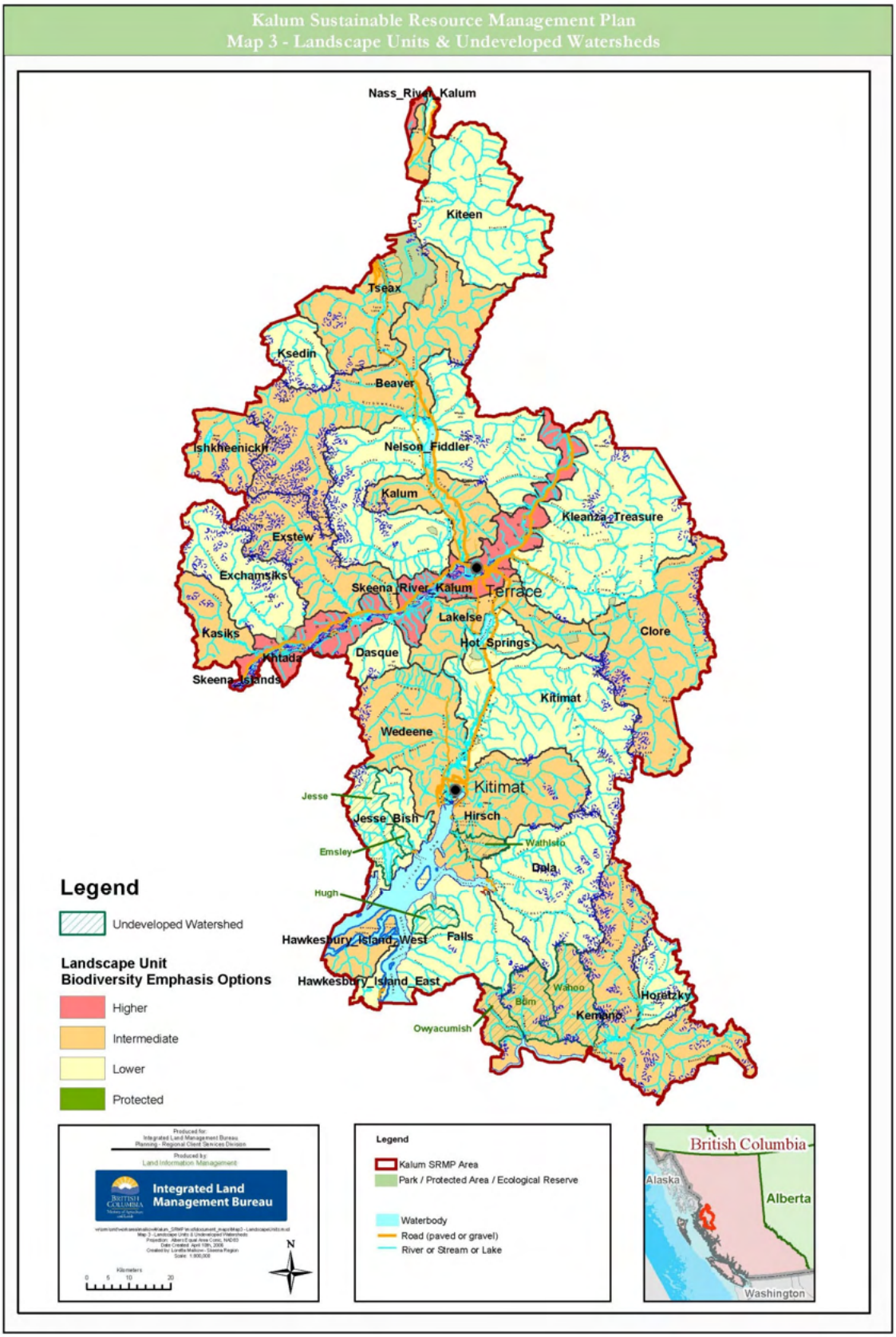

Figure 3. Kalum SRMP Map 3 – Landscape Units and Undeveloped Watersheds

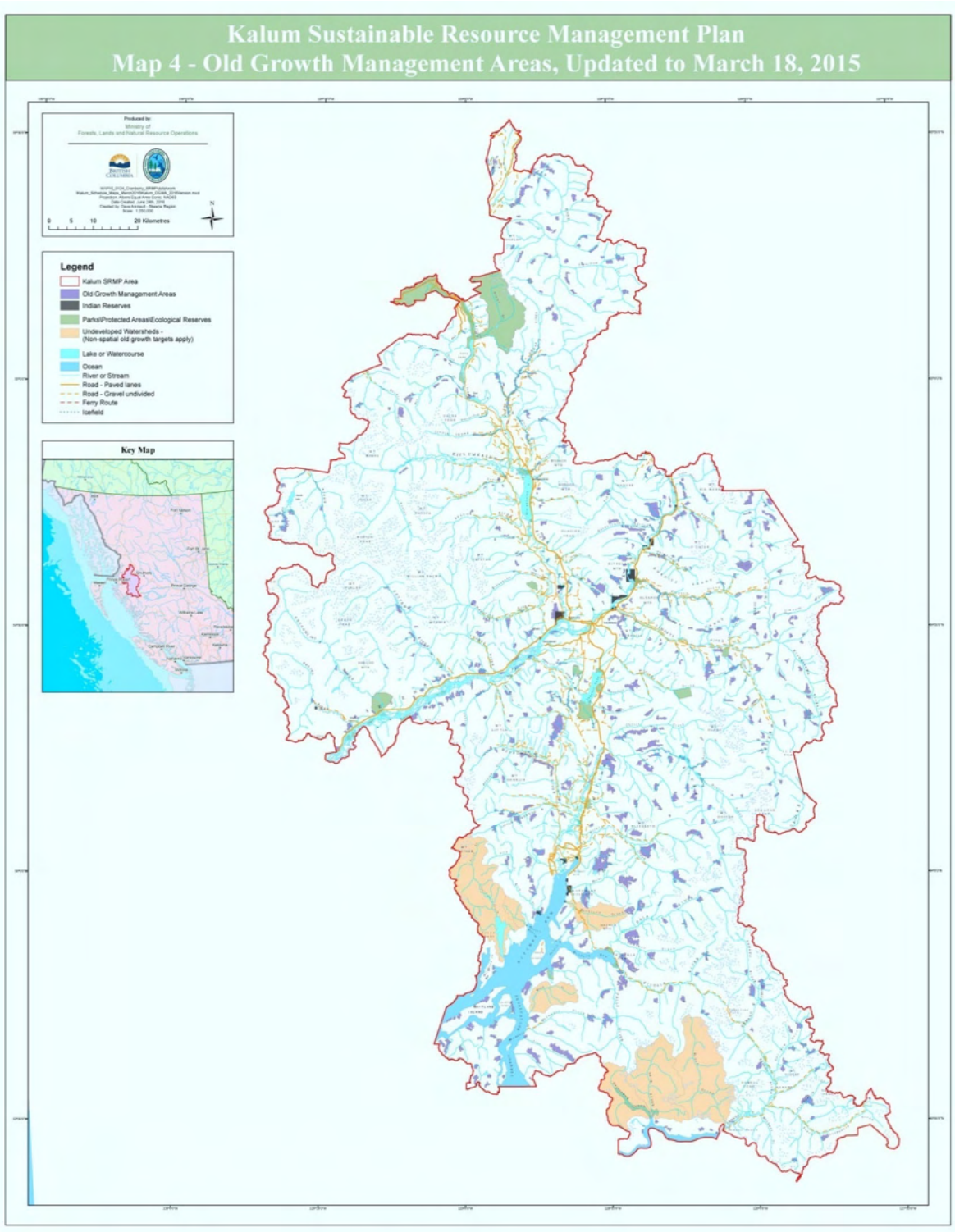

Figure 4. Kalum SRMP Map 4 – Old Growth Management Areas (amended March 18, 2015)

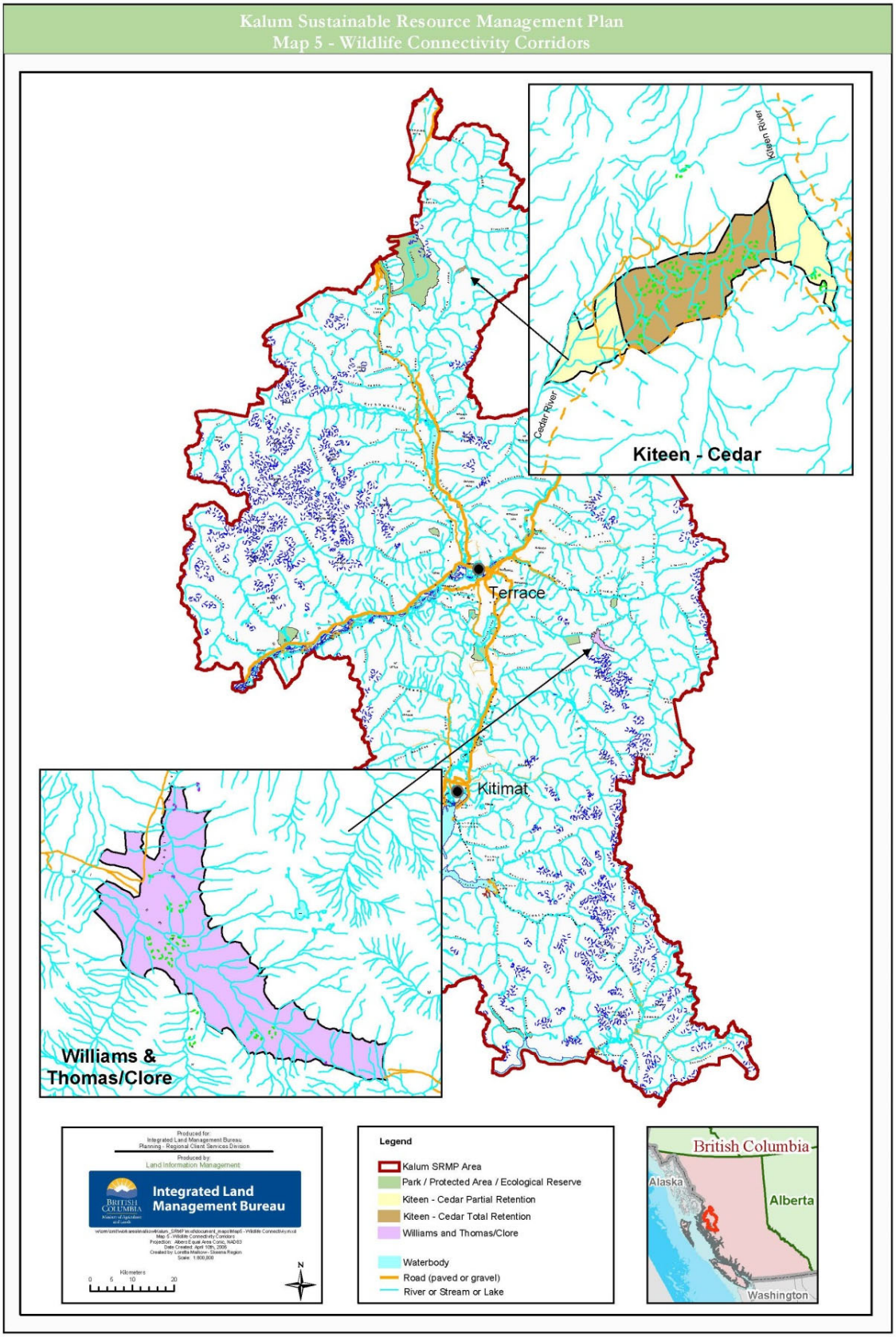

Figure 5. Kalum SRMP Map 5 – Wildlife Connectivity Corridors

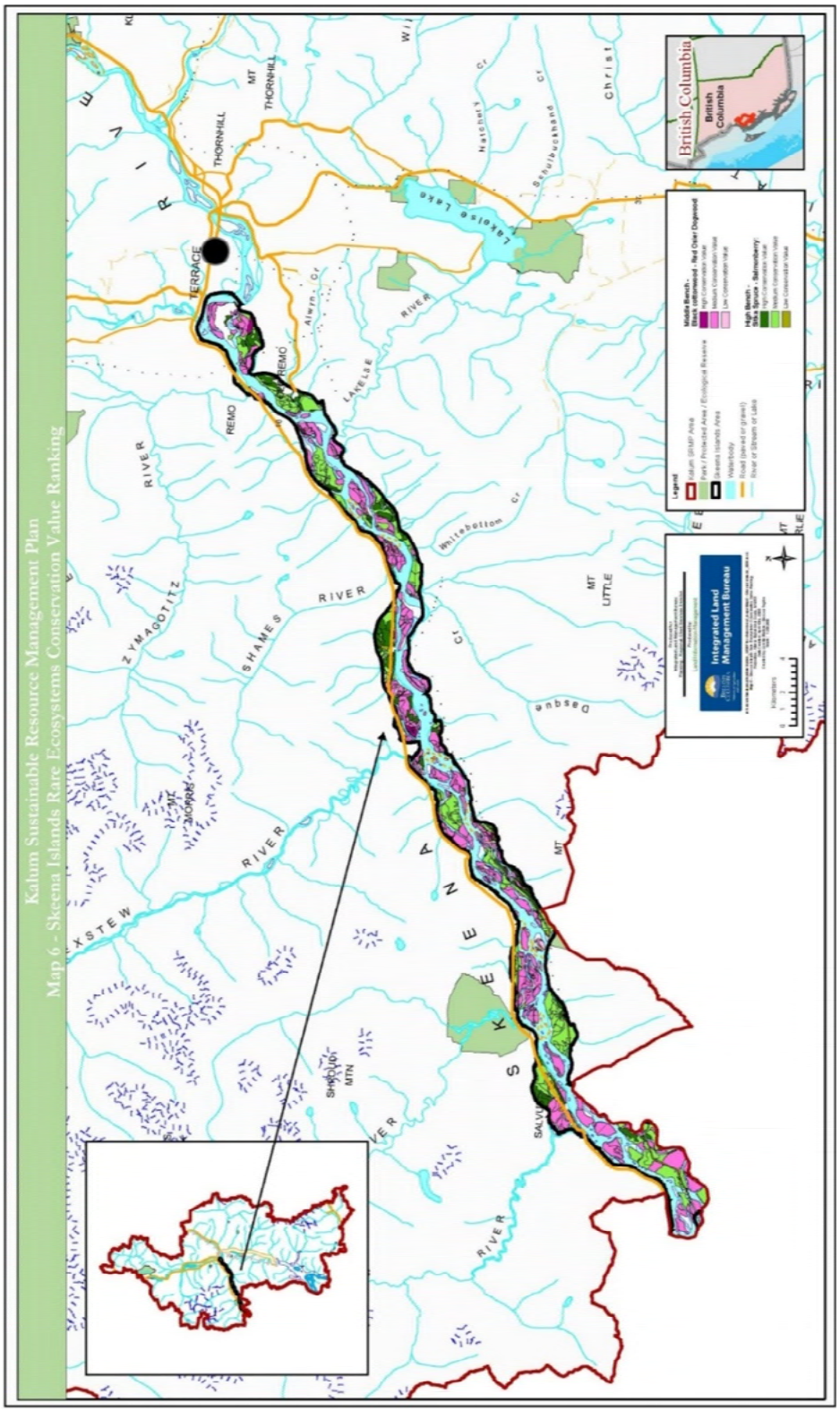

Figure 6. Kalum SRMP Map 6 – Skeena Islands Rare Ecosystems Conservation Value Ranking

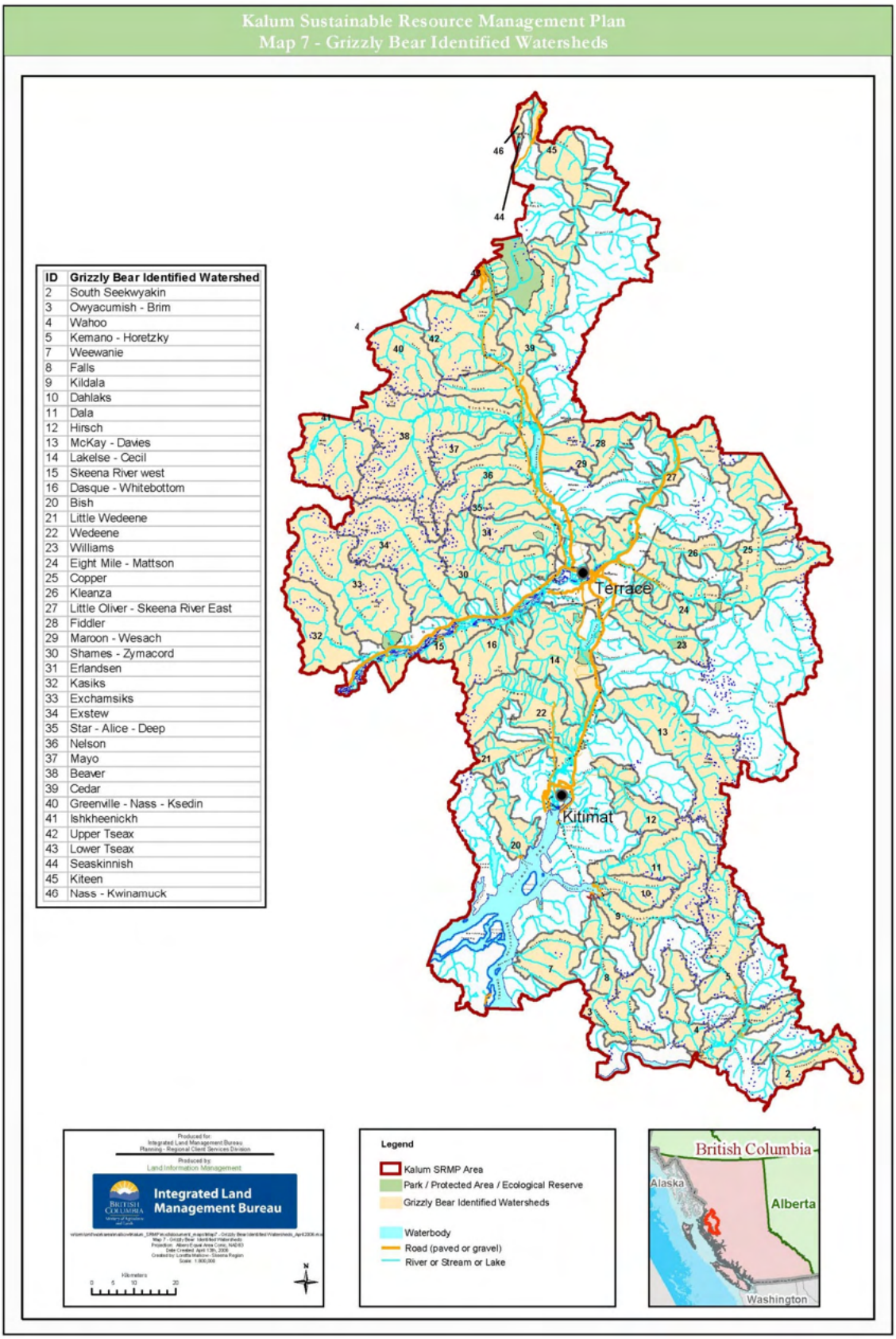

Figure 7. Kalum SRMP Map 7 – Grizzly Bear Identified Watersheds

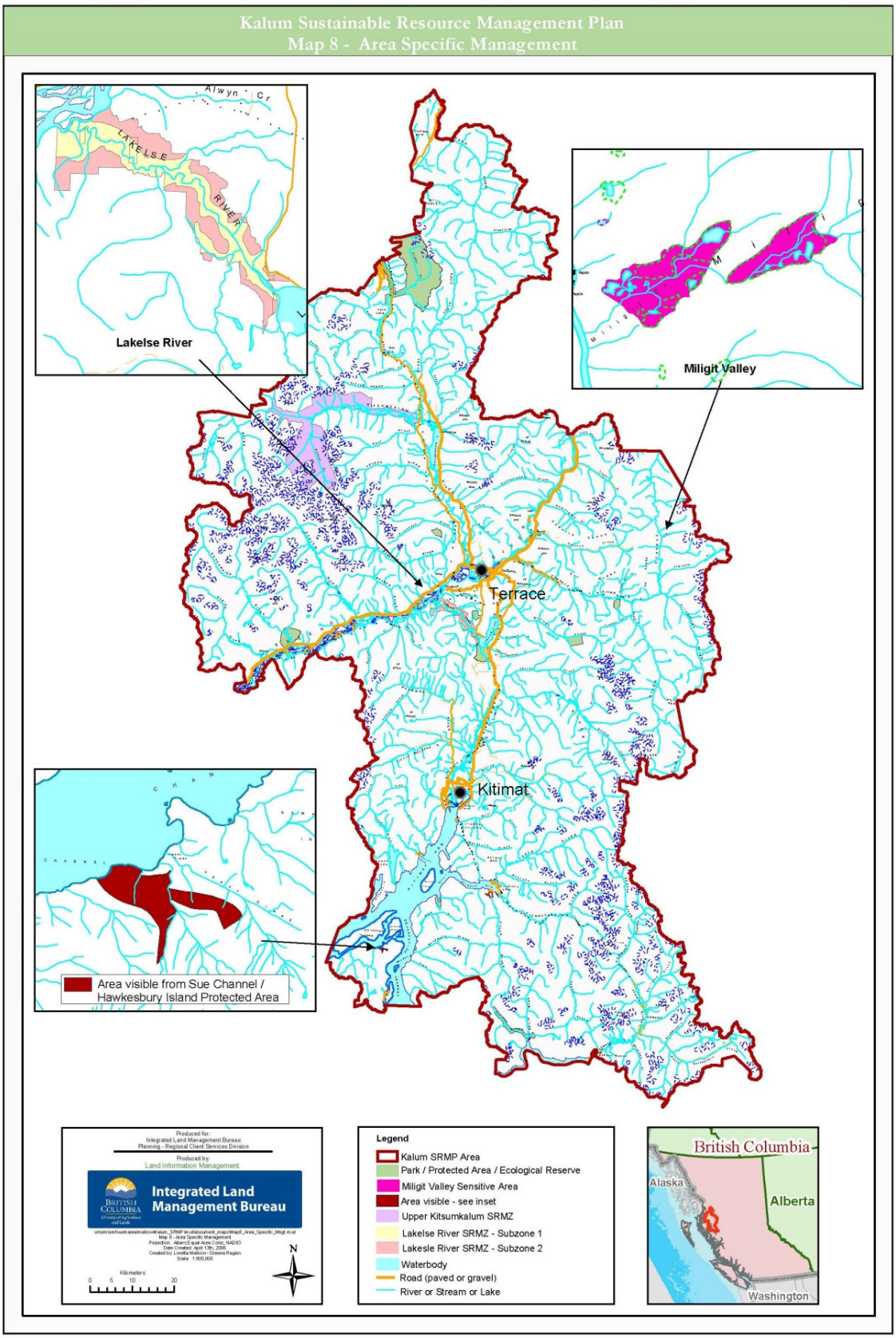

Figure 8. Kalum SRMP Map 8 – Area Specific Management

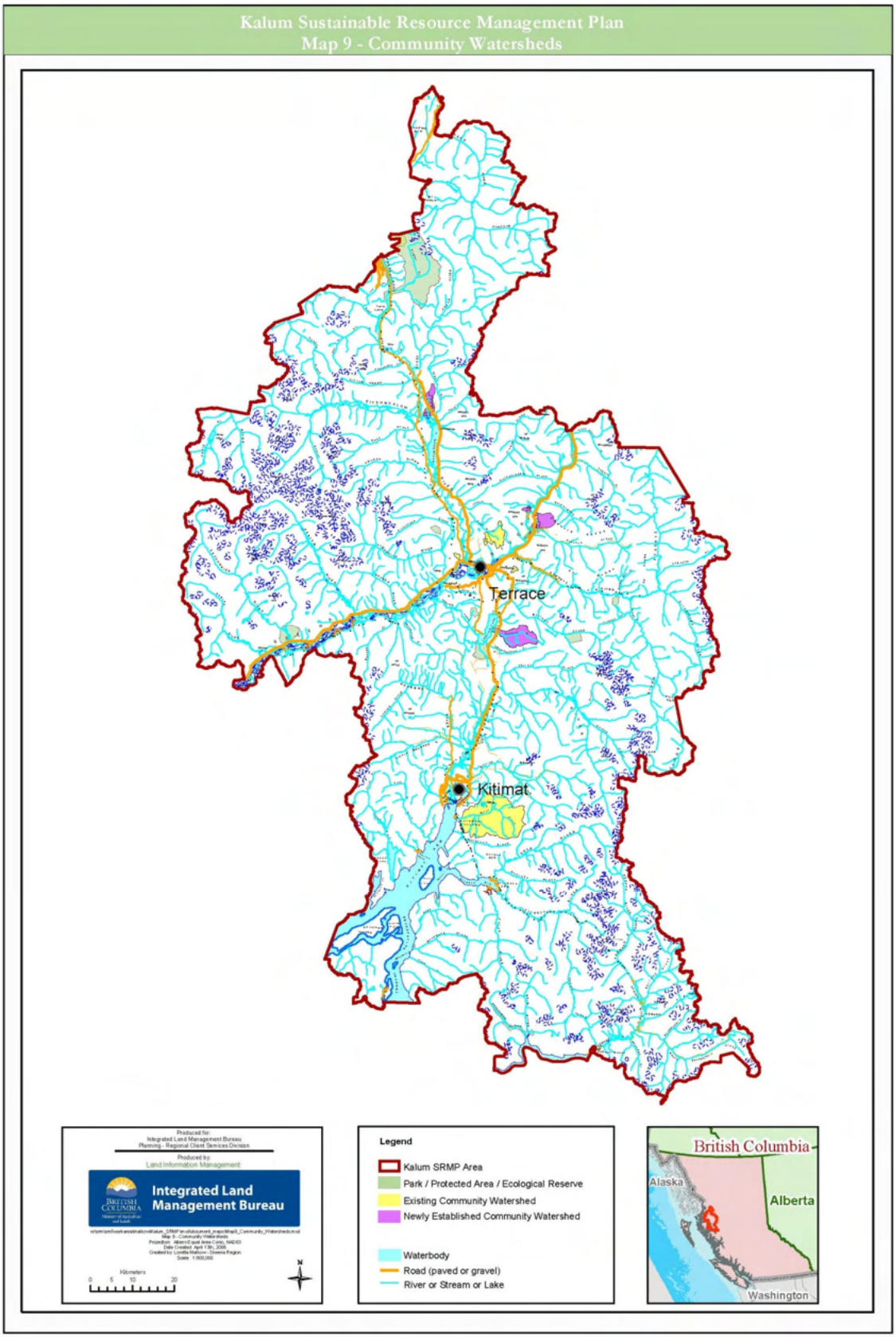

Figure 9. Kalum SRMP Map 9 – Community Watersheds

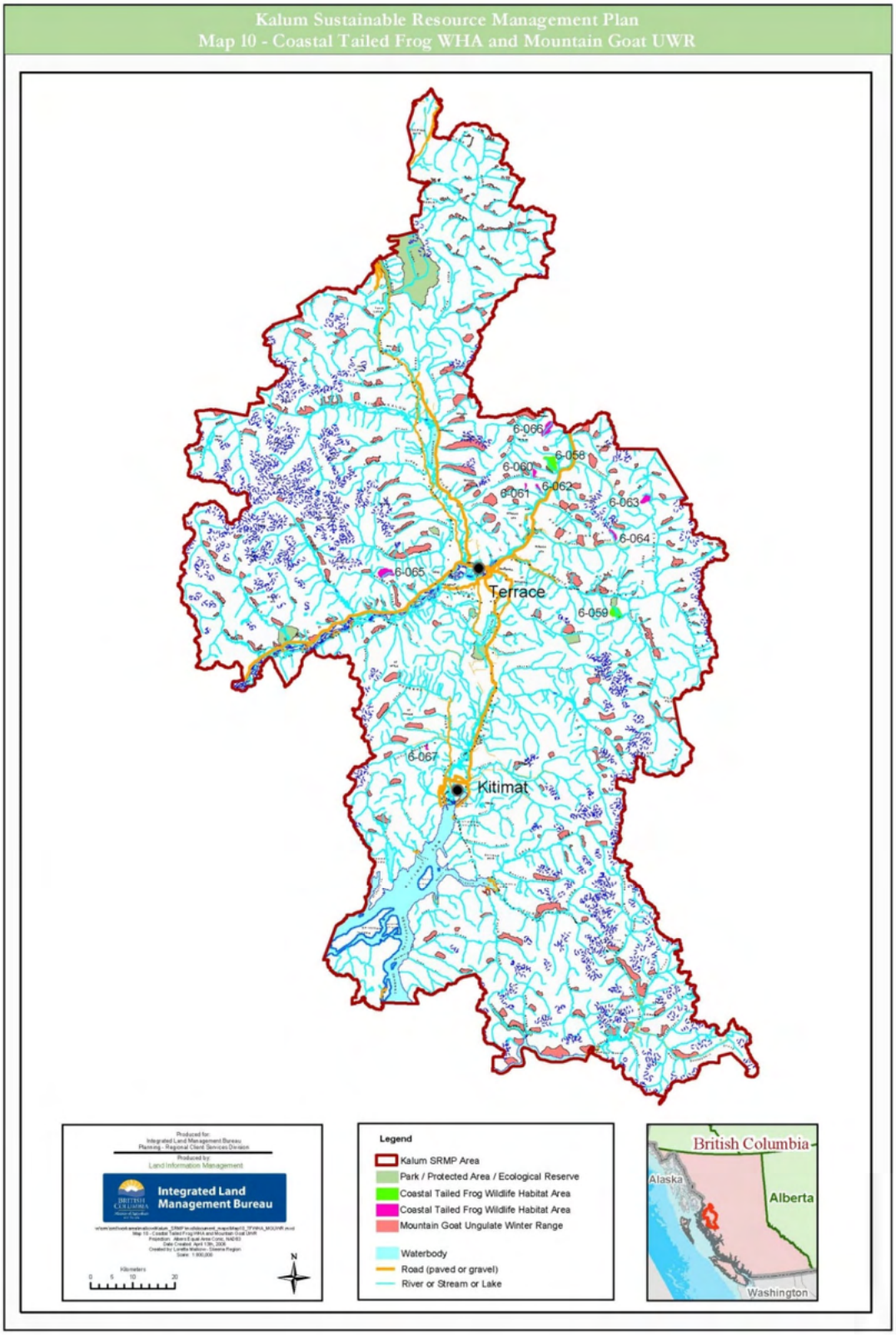

Figure 10. Kalum SRMP Map 10 – Coastal Tailed Frog WHA and Mountain Goat UWR

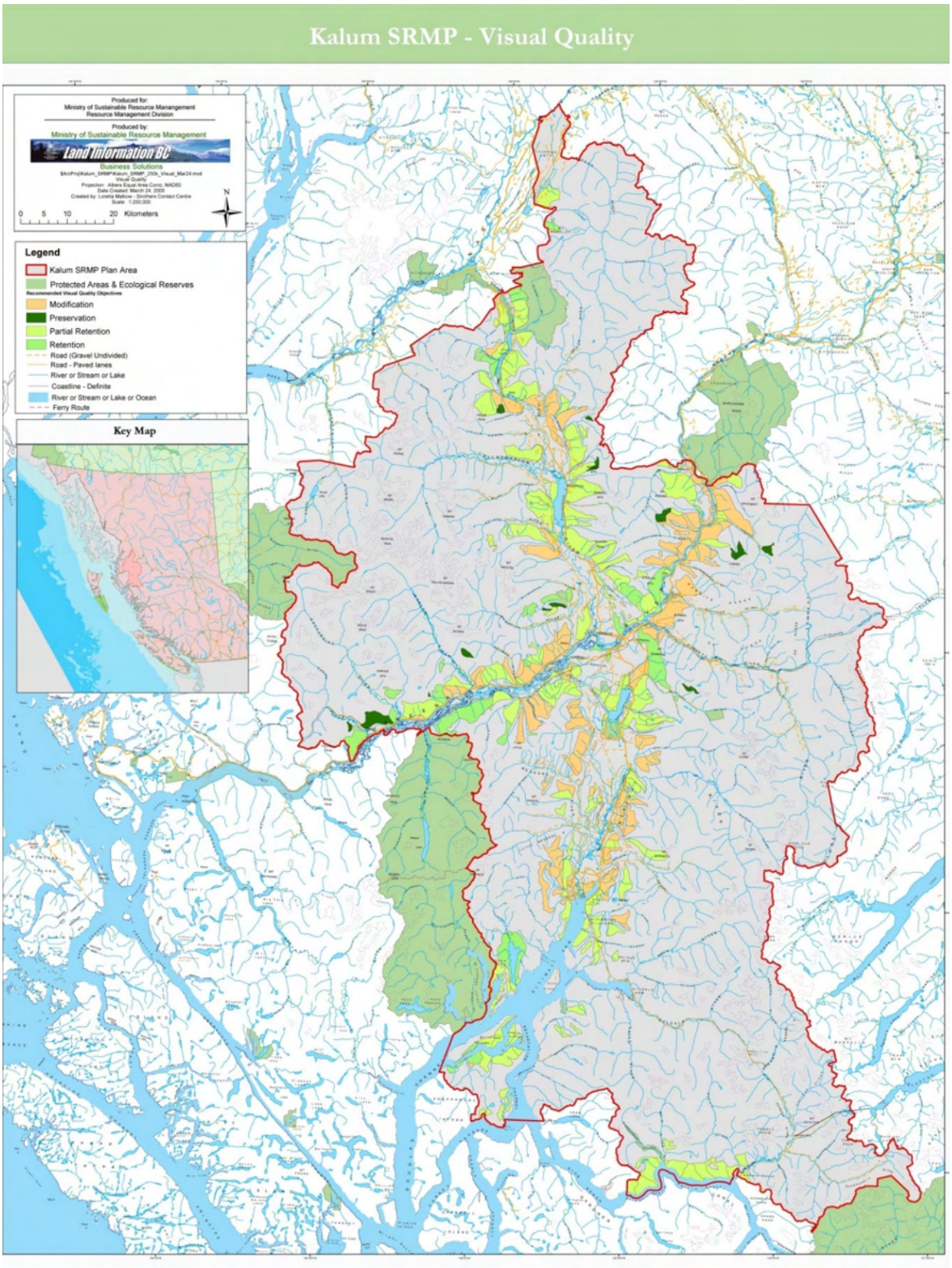

Figure 11. Kalum SRMP Map – Visual Quality

Table 22. Kalum SRMP Table 1 - Seral stage definition by biogeoclimatic unit (based on the Biodiversity Guidebook 1995).

BEC Unit	NDT	Forest Stand Age (years)		
		Early	Mature	Old
CWHvh2, vm, vm1, vm2	1	<40	>80	>250
ESSFwv, MH mm1, mm2	1	<40	>120	>250
CWHws1, ws2	2	<40	>80	>250
ESSFmk	2	<40	>120	>250
ICHmc1, mc2	2	<40	>100	>250

Source: Kalum SRMP Table 1

Table 23. Kalum SRMP Table 2 -Target seral stage distribution (% of forested land base in each BEC unit).

Landscape Unit	BEO	BEC Variant	Seral Stage Distribution (% of forested land base)		
			Early	Mature + old	Old
Nass River (K'alii Aksim Lisims) Kalum	H	ICHmc1/mc2	<27	>46	>13
Skeena River Kalum	H	CWHvm CWHws1/ws2 ICHmc2 MHmm1/mm2	<23 <27 <27 <17	>54 >51 >46 >54	>19 >13 >13 >28
Beaver	I	CWHws1/ws2 MHmm2	<36 <22	>34 >36	>9 >19
Clore	I	CWHws1/ws2 ESSFmk ESSFwv, MHmm2	<36 <36 <22	>34 >28 >36	>9 >9 >19
Exstew	I	CWHws1/ws2 MHmm2	<36 <22	>34 >36	>9 >19
Hawkesbury Island West	I	CWHvh2 MHwh1	<30 <22	>36 >36	>13 >19
Hirsch[9]	I	CWHvm CWHws1/ws2, MHmm1	<30 <36 <22	>36 >34 >36	>13 >9 >19
Ishkheenickh (Ksi Hlginx)	I	CWHvm, CWHws1/ws2 MHmm1	<30 <36 <22	>36 >34 >36	>13 >9 >19
Kalum	I	CWHws1/ws2 MHmm2	<36 <22	>34 >36	>9 >19
Kasiks	I	CWHvm MHmm1	<30 <22	>36 >36	>13 >19
Kemano[10]	I	CWHvm/vm1/vm2	<30	>36	>13
		CWHws2 ESSFmk MHmm1/mm2	<36 <36 <22	>34 >28 >36	>9 >9 >19
Lakelse11	I	CWHws1/ws2 MHmm2	<36 <22	>34 >36	>9 >19
Tseax (Ksi Sii Aks)	I	CWHws1/ws2 ICHmc1/mc2 MHmm2	<36 <36 <22	>34 >31 >36	>9 >9 >19
Wedeene	I	CWHvh2/vm CWHws1/ws2 MHmm1/mm2	<30 <36 <22	>36 >34 >36	>13 >9 >19
Dala	L	CWHvm CWHws2 MHmm1	n/a n/a n/a	>18 >17 >19	>13 >9 >19
Dasque	L	CWHws1/ws2 MHmm2	n/a n/a	>17 >19	>9 >19
Exchamsiks	L	CWHvm MHmm1	n/a n/a	>18 >19	>13 >19

Landscape Unit	BEO	BEC Variant	Seral Stage Distribution (% of forested land base)		
			Early	Mature + old	Old
Falls12	L	CWHvm/vm1 MHmm1	n/a n/a	>18 >19	>13 >19
Hawkesbury Island East	L	CWHvh2 MHwh1	n/a n/a	>18 >19	>13 >19
Horetzky	L	CWHws2 MHmm2	n/a n/a	>17 >19	>9 >19
Hot Springs	L	CWHws1/ws2 MHmm2	n/a n/a	>17 >19	>9 >19
Jesse Bish13	L	CWHvm MHmm1	n/a n/a	>18 >19	>13 >19
Kiteen (Ksi Gahlt'in)	L	CWHws2 ICHmc1/mc2 MHmm2	n/a n/a n/a	>17 >15 >19	>9 >9 >19
Kitimat	L	CWHvm CWHws1/ws2 MHmm1/mm2	n/a n/a n/a	>18 >17 >19	>13 >9 >19
Kleanza Treasure	L	CWHws1/ws2 ICHmc2 MHmm2	n/a n/a n/a	>17 >15 >19	>9 >9 >19
Ksedin (Ksi Mat'in)	L	CWHws1/ws2 MHmm2	n/a n/a	>19 >19	>9 >19
Nelson Fiddler	L	CWHws1/ws2 ICHmc2 MHmm2	n/a n/a n/a	>17 >15 >19	>9 >9 >19

Source: Kalum SRMP Table 2

[9] The old seral targets do not apply to the Wathlsto watershed of this landscape unit (see Map 3). Old seral targets for this watershed are specified in Table 5.

[10] The old seral targets do not apply to the Owyacumish, Brim, and Wahoo watersheds of this landscape unit (see Map **3). Old seral targets for these watersheds are specified in Table 5.**

[11] The early seral targets do not apply to Lakelse River Special Resource Management Zone (SRMZ), Subzone 2 (Map 8). Targets for this area are specified in objective 12.

[12] The old seral targets do not apply to the Hugh watershed of this landscape unit (see Map 3). Old seral targets for this watershed are specified in Table 5.

[13] The old seral targets do not apply to the Jesse and Emsley watersheds of this landscape unit (see Map 3). Old seral targets for these watersheds are specified in Table 5.

Table 24. Kalum SRMP Table 3 - Allowable deviations from the early seral stage targets set in Table 2

Landscape Unit	BEC variant	Maximum Early Seral Forest (% of forested land base)
Nass River (K'alii Aksim Lisims) Kalum	ICHmc1 ICHmc2	<42 <37
Skeena River Kalum	CWHvm CWHws1 CWHws2, ICHmc2 MHmm1, MHmm2	<33 <42 <37 <27
Beaver	CWHws1 CWHws2 MHmm2	<51 <46 <32
Clore	CWHws1 CWHws2, ESSFmk ESSFwv, MHmm2	<51 <46 <32
Exstew	CWHws1	<51
	CWHws2 MHmm2	<46 <32
Hawkesbury Island West	CWHvh2 MHwh1	<40 <32
Hirsch	CWHvm CWHws1 CWHws2 MHmm1	<40 <51 <46 <32
Ishkheenickh (Ksi Hlginx)	CWHvm CWHws1, CWHws2 MHmm1	<40 <46 <32
Kalum	CWHws1 CWHws2 MHmm2	<51 <46 <32
Kasiks	CWHvm MHmm1	<30 <32
Kemano	CWHvm, CWHvm1, vm2 CWHws2, ESSFmk MHmm1, MHmm2	<40 <46 <32
Lakelse[14]	CWHws1 CWHws2 MHmm2	<51 <46 <32
Tseax (Ksi Sii Aks)	CWHws1 CWHws2, ICHmc1 ICHmc2 MHmm2	<51 <46 <51 <32
Wedeene	CWHvh2, CWHvm CWHws1 CWHws2 MHmm1, MHmm2	<40 <51 <46 <32

Source: Kalum SRMP Table 3

Table 25. Kalum SRMP Table 4 - Undeveloped watersheds

Landscape Unit	Undeveloped Watersheds
Jesse Bish	Jesse / Emsley
Hirsch	Wathlsto
Falls	Hugh
Kemano	Brim / Wahoo / Owyacumish

Source: Kalum SRMP Table 4

Table 26. Kalum SRMP Table 5 - Target old seral stage forest within undeveloped watersheds (% forested land base in each BEC unit/site series)

Undeveloped Watershed	BEC Variant	Site Series	% of old forest predicted by natural disturbance	Old Seral Forest Target (% of forested land base)
Jesse Emsley	CWHvm1	01	89	27
		03	93	28
		05	73	22
		06	88	26
		08	73	22
		09	70	21
		12	93	28
		13	93	28
		14	78	23
	CWHvm2	01	89	27
		03	93	28
		05	73	22
		06	88	26
		08	73	22
		09	70	21
		10	70	21
	MHmm1	01	86	26
		02	93	28
		03	86	26
		04	93	28
		06	93	28
Wathlsto	CWHvm1	01	89	27
		03	93	28
		05	73	22
		06	88	26
		08	73	22
		12	93	28
		13	93	28
Wathlsto	CWHws2	01	89	27
		03	93	28
		06	88	26
		10	70	21
		11	70	21
	MHmm1	01	86	26
		02	93	28
		03	86	26
		04	93	28
		06	93	28
Hugh	CWHvm1	01	89	27
		03	93	28
		05	73	22
		06	88	26
		08	73	22
		09	70	21
		12	93	28
		13	93	28
	CWHvm2	01	89	27
		03	93	28
		05	73	22
		06	88	26
		08	73	22
		10	70	21
	CWHws2	01	86	26
		03	93	28
		06	70	21
		10	93	28
	MHmm1	01	86	26
		02	93	28
		03	86	26
		04	93	28
		06	93	28

Undeveloped Watershed	BEC Variant	Site Series	% of old forest predicted by natural disturbance	Old Seral Forest Target (% of forested land base)
Wahoo	CWHvm1	01	89	27
		03	93	28
		05	73	22
		06	88	26
		08	73	22
		13	98	29
	CWHws2	01	86	26
		03	93	28
	CWHws2	06	70	21
		07	70	21
		10	93	28
Wahoo		11	78	23
	ESSFmk	01	70	21
		02	70	21
		03	70	21
		04	70	21
		08	70	21
	MHmm1	01	86	26
		02	93	28
Brim	CWHvm1	01	89	27
		03	93	28
		05	73	22
		06	88	26
		08	73	22
		09	70	21
		12	93	28
		14	78	23
	CWHvm2	01	89	27
		03	93	28
		06	88	26
		10	70	21
		11	70	21
	MHmm1	01	86	26
		02	93	28
		03	86	26
		04	93	28
		06	93	28
Owyacumish	CWHvm1	01	89	27
		03	93	28
		05	73	22
		06	88	26
		08	73	22
	CWHws2	01	89	27
		03	93	28
		06	70	21
		10	93	28
	CWHws2	11	78	23
Owyacumish	MHmm1	01	86	26
		02	93	28
		03	86	26
		04	93	28
		06	93	28

Source: Kalum SRMP Table 5

Table 17. Kalum SRMP Table 6 - Wildlife tree patch retention targets

Landscape Unit	BEC Subzone	Target WTP retention[23] (%)
Nass River (K'alii Aksim Lisims) Kalum	**ICHmc**	**7**
Skeena River Kalum	**CWHvm** **CWHws ICHmc** **MHmm**	**5** **5** **4** **0**
Beaver	**CWHws** **MHmm**	**8** **0.5**
Clore	**CWHws** **ESSFmk ESSFwv** **MHmm**	**6** **3** **1** **3**
Exstew	**CWHws** **MHmm**	**6** **3**
Hawkesbury Island West	**CWHvh** **MHwh**	**0** **0**
Hirsch	**CWHvm** **CWHws** **MHmm**	**5** **11** **0**
Ishkheenickh (Ksi Hlginx)	**CWHvm** **CWHws** **MHmm**	**2** **2** **0**
Kalum	**CWHws** **MHmm**	**10** **5**
Kasiks	**CWHvm** **MHmm**	**0** **0**
Kemano	**CWHvm** **CWHws ESSFmk** **MHmm**	**0** **1** **0** **0**
Lakelse	**CWHws** **MHmm**	**7** **0**
Tseax (Ksi Sii Aks)	**CWHws** **ICHmc** **MHmm**	**4** **8** **0**
Wedeene	**CWHvm** **CWHvh CWHws** **MHmm**	**3** **2** **10** **3**
Dala	**CWHvm** **CWHws** **MHmm**	**3** **0.5** **0**
Dasque	**CWHws** **MHmm**	**7** **0**
Exchamsiks	**CWHvm** **MHmm**	**0** **0**
Falls	**CWHvm** **MHmm**	**1** **0**
Hawkesbury Island East	**CWHvh** **MHwh**	**1** **0**
Horetzky	**CWHws** **MHmm**	**2** **0**
Hot Springs	**CWHws** **MHmm**	**7** **0.5**
Jesse Bish	**CWHvm** **MHmm**	**1** **0**

Landscape Unit	BEC Subzone	Target WTP retention[23] (%)
Kiteen (Ksi Gahlt'in)	**CWHws ESSFwv ICHmc MHmm**	**3 1 7 1**
Kitimat	**CWHvm CWHws**	**5 7**
	MHmm	0
Kleanza Treasure	CWHws ICHmc MHmm	7 6 2
Ksedin (Ksi Mat'in)	CWHws MHmm	6 0
Nelson Fiddler	CWHws ICHmc MHmm	8 5 2

Source: Kalum SRMP Table 6

[23] % of cut block area

Table 28. Kalum SRMP Table 7 - Patch size distribution targets (harvest units and leave areas)

Natural Disturbance Type	Patch Size (ha)	Patch Size Distribution Target (% forested area within landscape unit)
NDT1, NDT2	<40 40-80 80-250	30-40 30-40 20-40

Table 29. Kalum SRMP Table 8 - Grizzly bear stocking standards

Site Association[27]	Subzone Variants	Free growing stocking standards (stems/ha)[28]		
		Target	Minimum	Maximum[29]
BaSs-Devil's club	vm1 and vm2	600	400	660
BaCw-Devil's club	ws1 and ws2	600	400	660
Cwss-Skunk cabbage	vm1 and vm2 ws1 and ws2	400	200	440
Ss-salmonberry and Act-Red-osier dogwood	vm1 and vm2 ws1 and ws2	500	200	550

[27] Stocking levels for low bench floodplain site associations are not listed; site-specific prescriptions for these associations should be developed that account for the naturally low density of microsites appropriate for crop tree growth and high shrub cover.

[28] The "well spaced" clause does not apply to forage gaps when stems are clustered as part of the site plan/ forest stewardship plan (FSP). Crop tree size vs. competing brush standards is unchanged from existing regional guidelines.
When determining the number of crop trees, minimum inter-tree distances, as stated in the site plan/FSP, still apply to trees within the cluster.

[29] If stand exceeds maximum density set in the site plan/FSP at free-growing, these guidelines recommend spacing back to this stocking level.

[30] A five year planning cycle will start on the effective date of the "order establishing land use objectives".

Table 30. Kalum Recreation Sites and Trails - Objectives

Site or Trail	Recreation Experience Objective	Site or Trail	Site or Trail	Recreation Experience Objective
Bornite Mountain Recreation Trail	Semi- primitive non-motorized	Active trail and natural vegetation will be retained within ten metres on either side of the trail centerline.	Hiking and viewing.	n/a
Clearwater Lakes Recreation Site	Semi- primitive non-motorized	Campsite and trail will be retained; the lake shoreline and natural vegetation will be conserved.	Hiking, tent camping, picnicking, and angling.	Non-motorized trail
Copper Mountain Recreation Site	No Established Objectives	No Established Objectives	No Established Objectives	No Established Objectives
Deception Lake Recreation Site *DECOMMISIONED*	Roaded	Lake shoreline and natural vegetation will be retained within site boundaries.	Camping, picnicking, angling and canoeing.	n/a
Gunsight Peak Recreation Trail	Semi- primitive non-motorized	Active trail and natural vegetation will be retained within ten metres on either side of the trail centerline.	Hiking and viewing.	n/a
Hai Lake Recreation Trail *Part of Hai Lakes Provincial Park*	Semi- primitive non- motorized	Active trail and natural vegetation will be retained within ten metres on either side of the trail centerline.	Hiking and viewing.	n/a
Harvey Recreation Site	No Established Objectives	No Established Objectives	No Established QPjectives	No Established Objectives
Lakelse River Recreation Site	No Established Objectives	No Established Objectives	No Established Objectives	No Established Objectives
Lucky 7 Recreation Trail	No Established Objectives	No Established Objectives	No Established Objectives	No Established Objectives
Onion Lake Recreation Trail	Semi- primitive non- motorized	Active trail and natural vegetation will be retained within 10 metres on either side of the trail centerline.	Hiking, picnicking, snowshoeing and viewing.	n/a
Onion Lake Recreation Ski Trails	*Winter, with snow on the ground:* Semi-primitive non-motorized *Summer, snow free season:* Roaded	Trail will be maintained and the natural vegetation will be conserved within ten metres of the trail centerline.	*Winter, with snow on the ground:* Cross country skiing *Summer, snow free season:* Hiking and mountain biking.	*Winter, snow on the ground:* No motorized use permitted, other than for track setting and trail grooming activities.

Site or Trail	Recreation Experience Objective	Site or Trail	Site or Trail	Recreation Experience Objective
				Summer, snow free season: n/a
Salmon Run Recreation Site	No Established Objectives	No Established Objectives	No Established Objectives	No Established Objectives
Steinhoe Ridge Recreation Trail	No Established Objectives	No Established Objectives	No Established Objectives	No Established Objectives
Terrace Mountain Bike Trails	No Established Objectives	No Established Objectives	No Established Objectives	No Established Objectives
Terrace Mountain Hiking Trails	No Established Objectives	No Established Objectives	No Established Objectives	No Established Objectives
Thomas Recreation Site	No Established Objectives	No Established Objectives	No Established Objectives	No Established Objectives
Thornhill Mountain Recreation Trail	Semi- primitive non- motorized	Active trail and natural vegetation will be retained within ten metres on either side of the trail centerline.	Hiking and viewing.	n/a
Trapline Mountain Recreation Site	No Established Objectives	No Established Objectives	No Established Objectives	No Established Objectives
West Lake Recreation Site	Roaded	Lake shoreline and natural vegetation will be retained within site boundaries.	Camping, picnicking, angling, and canoeing.	n/a

APPENDIX II – NASS SOUTH LUOR +MAPS

Ministerial Order
Land Use Objectives Regulation Order

Nass South
Sustainable Resource Management Plan

BRITISH COLUMBIA

Ministry of Forests, Lands and Natural Resource Operations

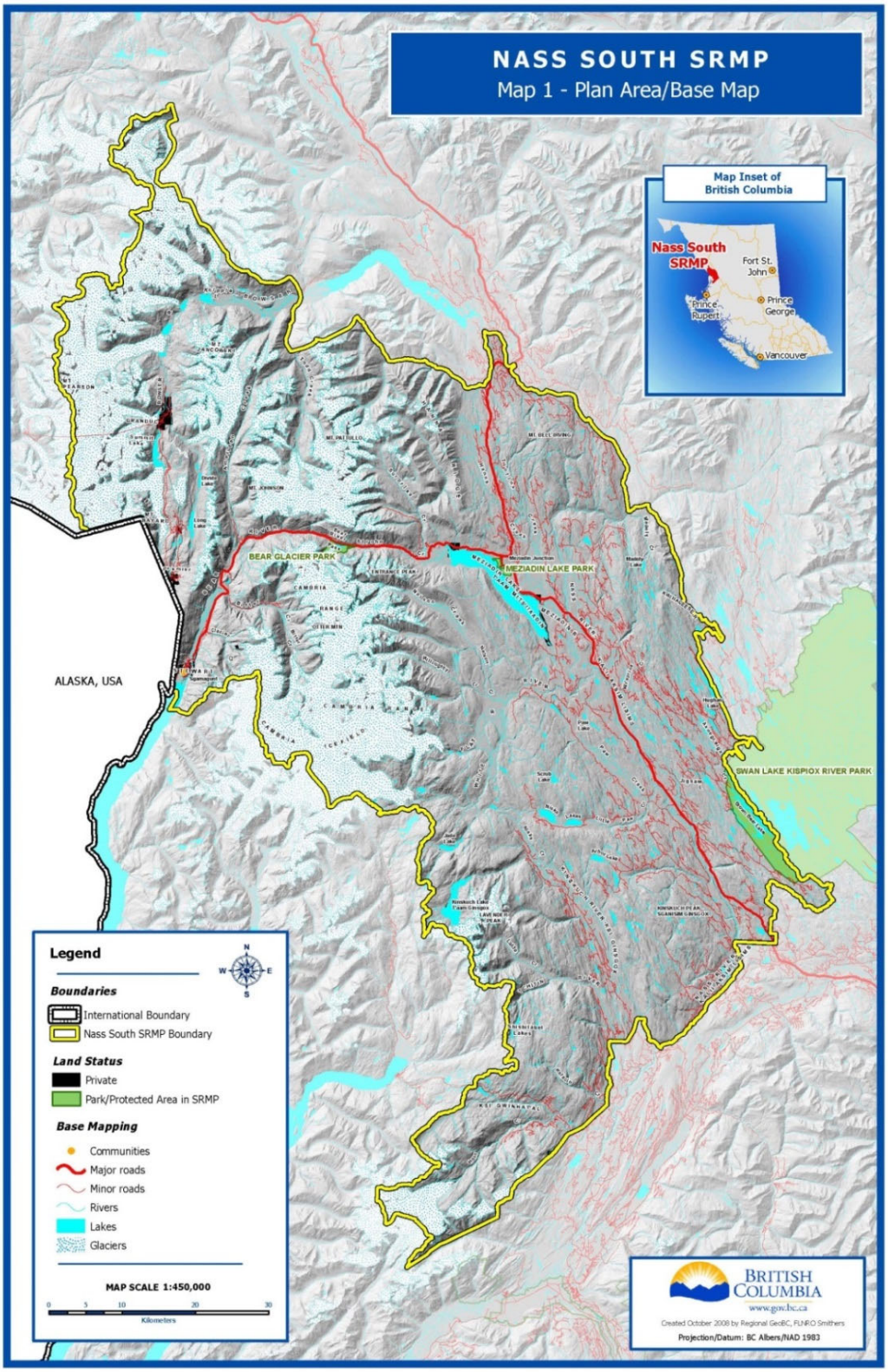

Figure 12. Nass South SRMP Map 1, Plan Area Base Map

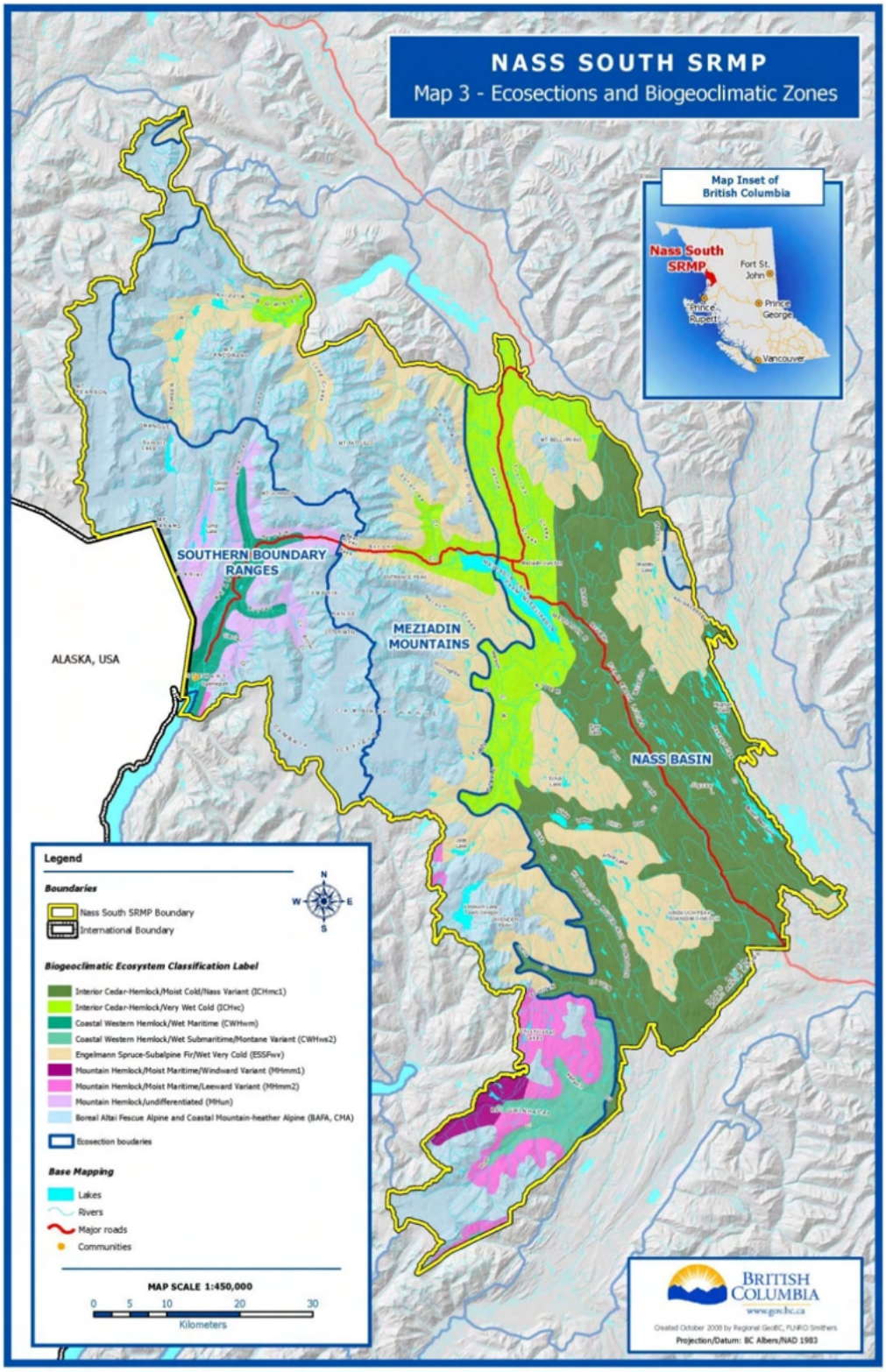

Figure 13. Nass South SRMP Map 2, Ecosections and Biogeoclimatic Zones

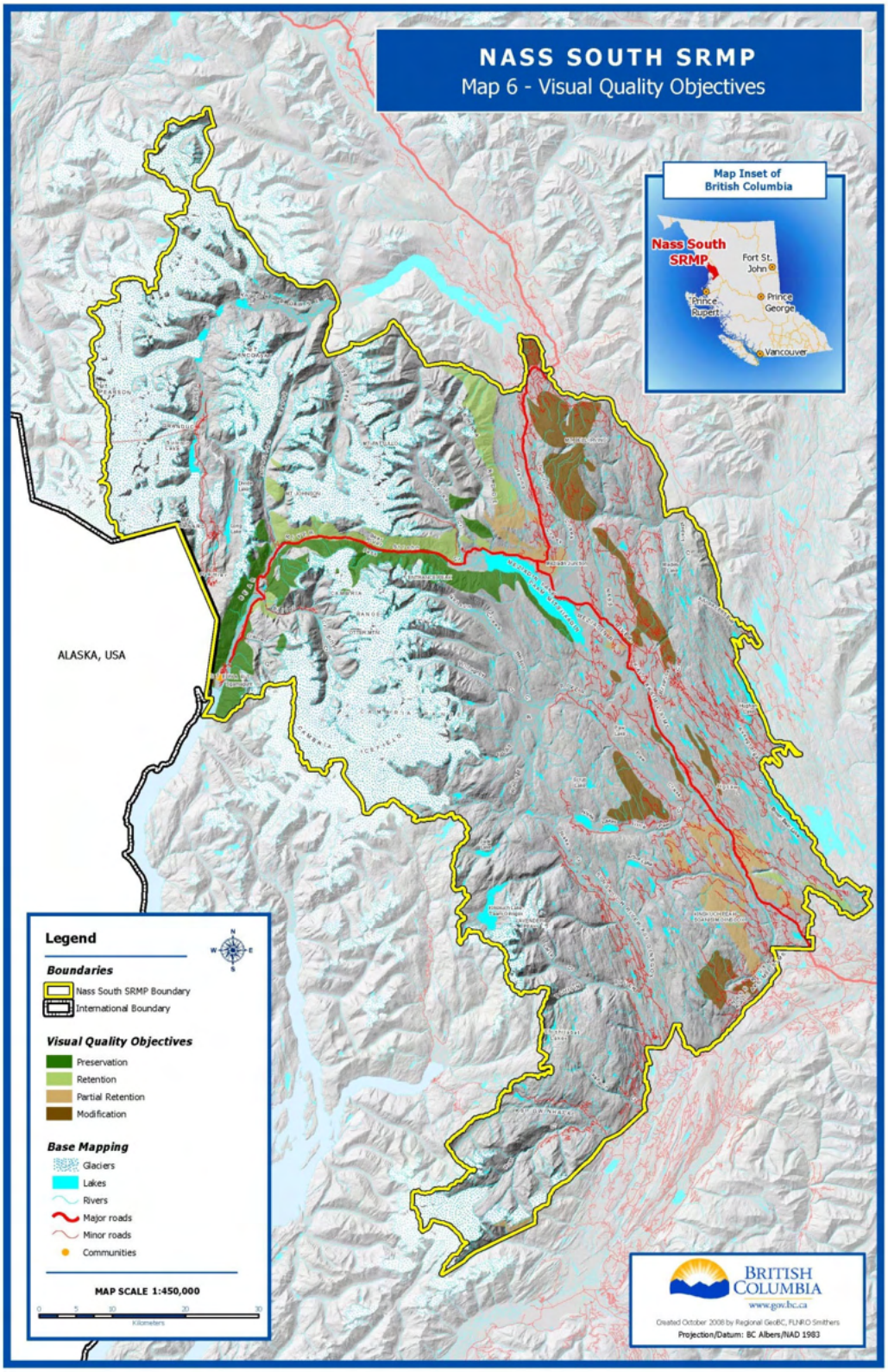

Figure 14. Nass South SRMP Map 6 – Visual Quality Objectives

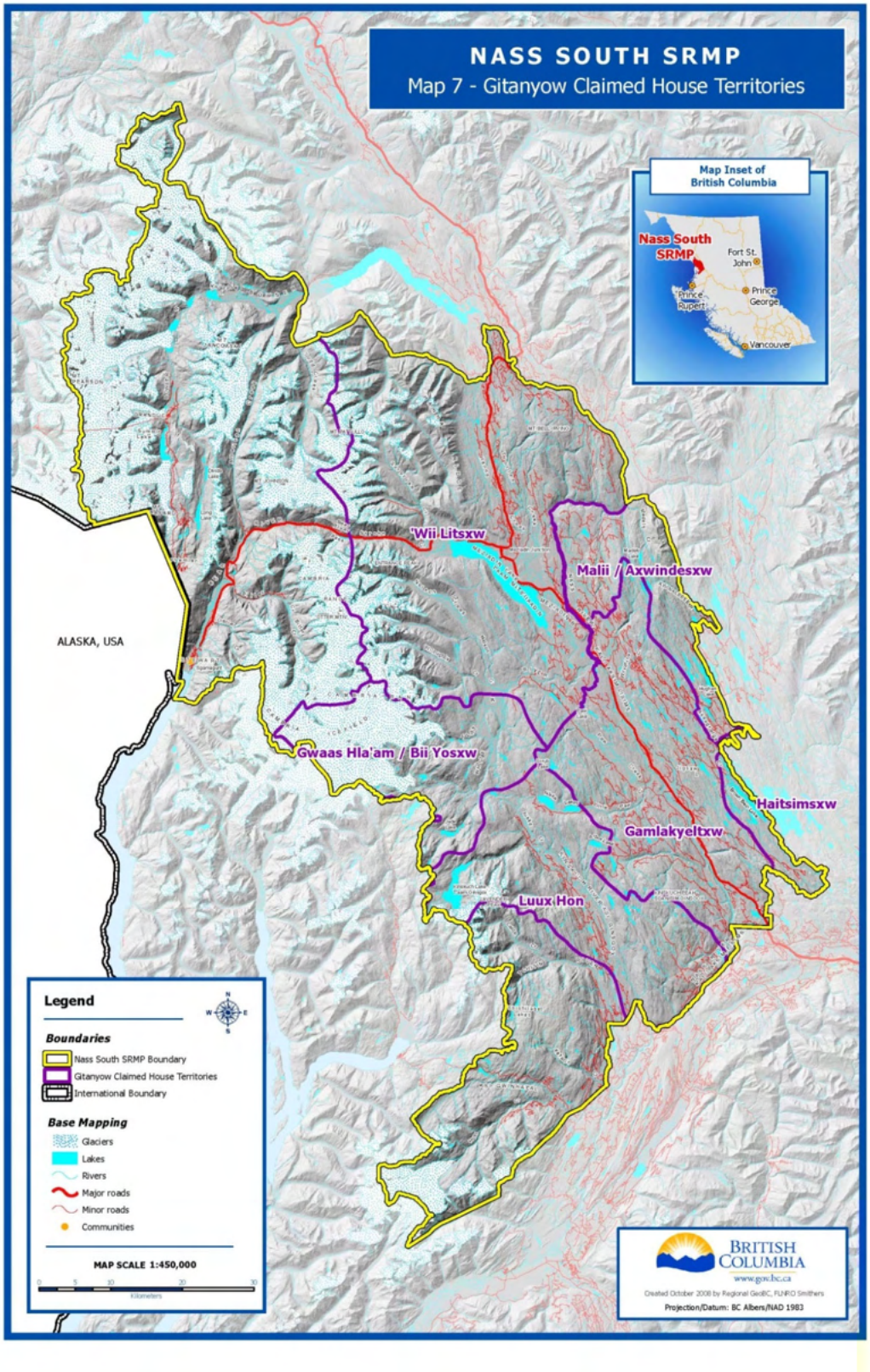

Figure 15. Nass South SRMP Map 7, Gitanyow Houses

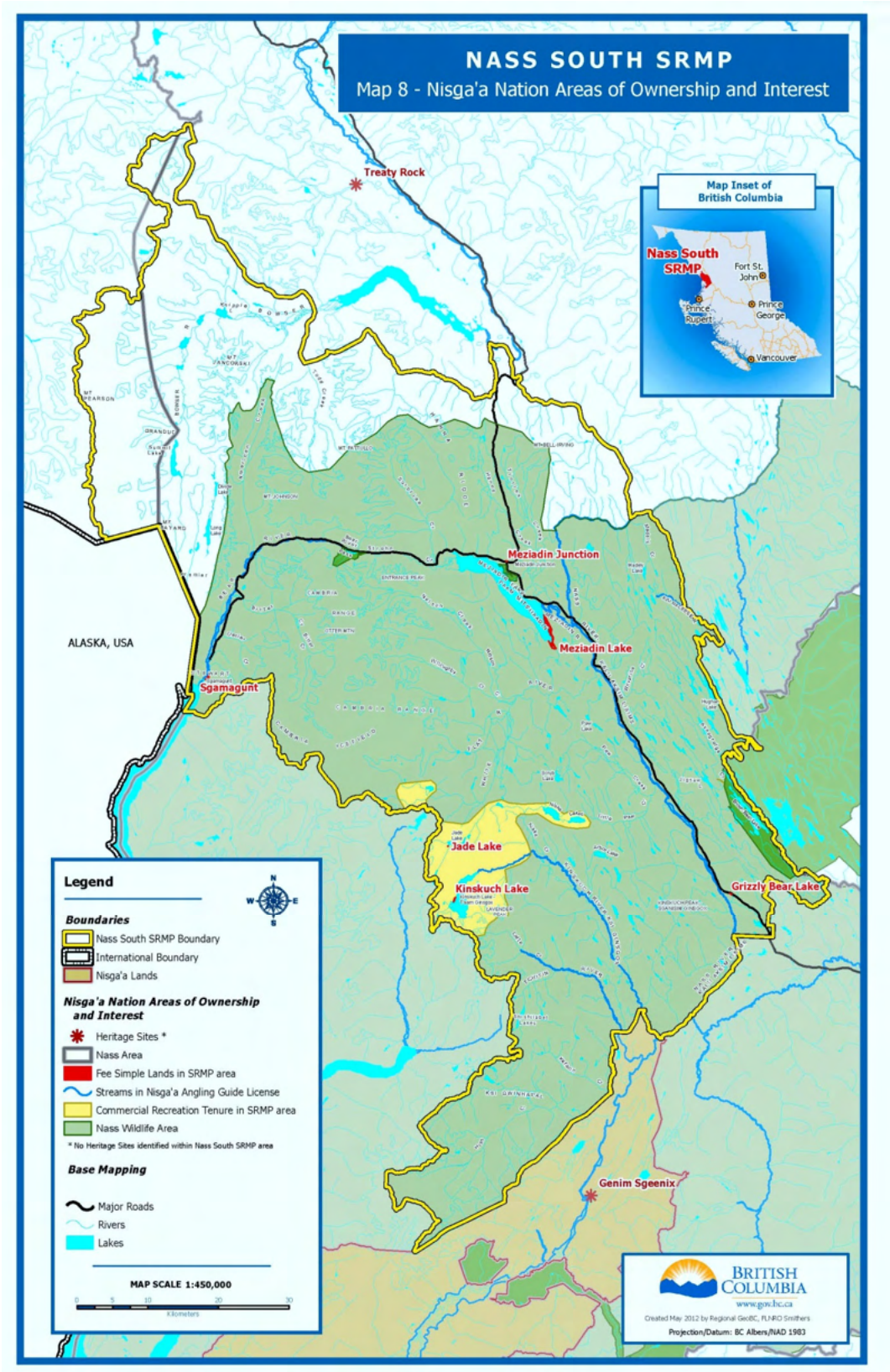

Figure 16. Nass South SRMP Map 8, Nisga'a Nation Areas of Ownership and Interest

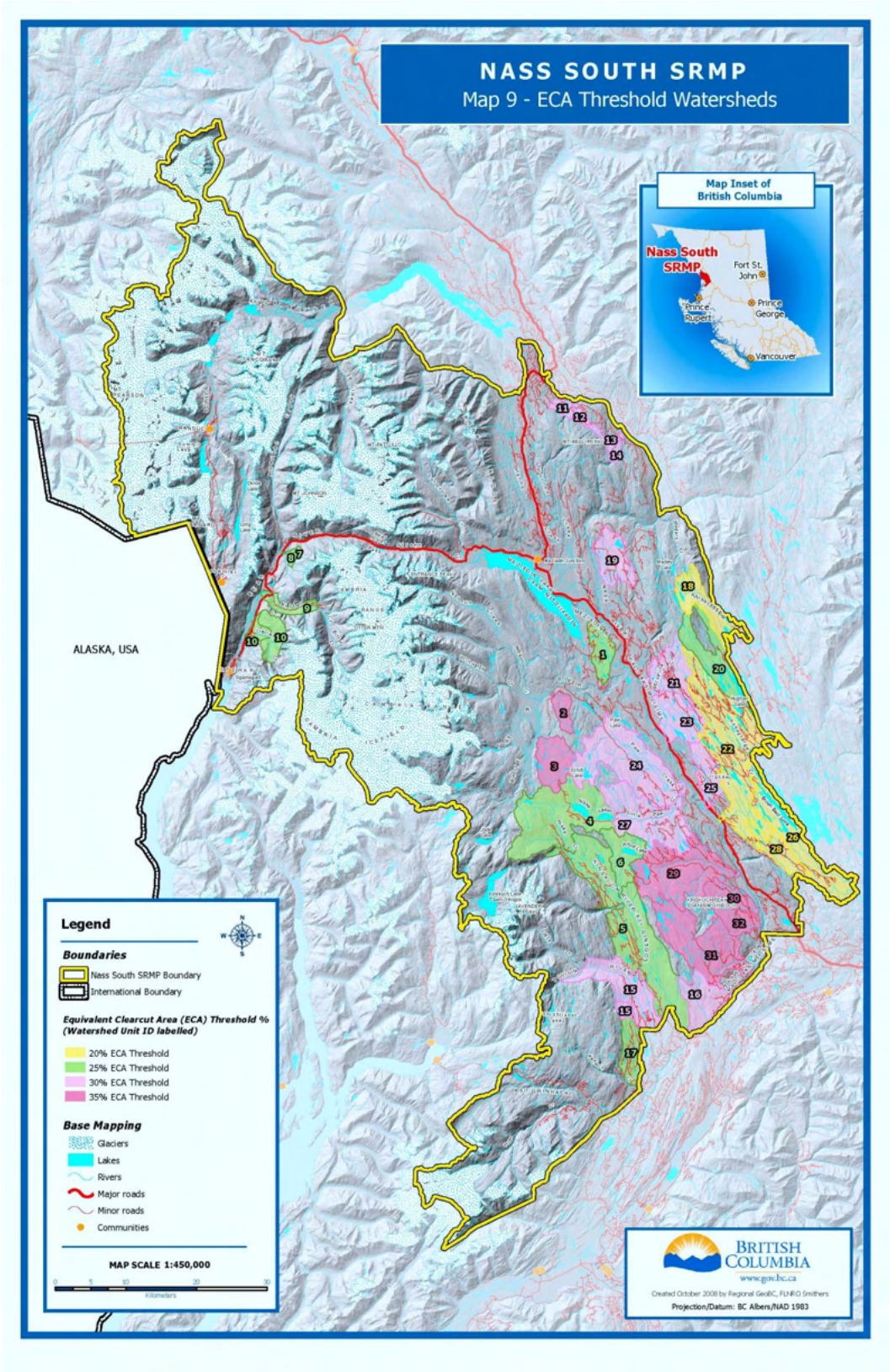

Figure 17. Nass South SRMP Map 9, Equivalent Clearcut Area Threshold Watersheds

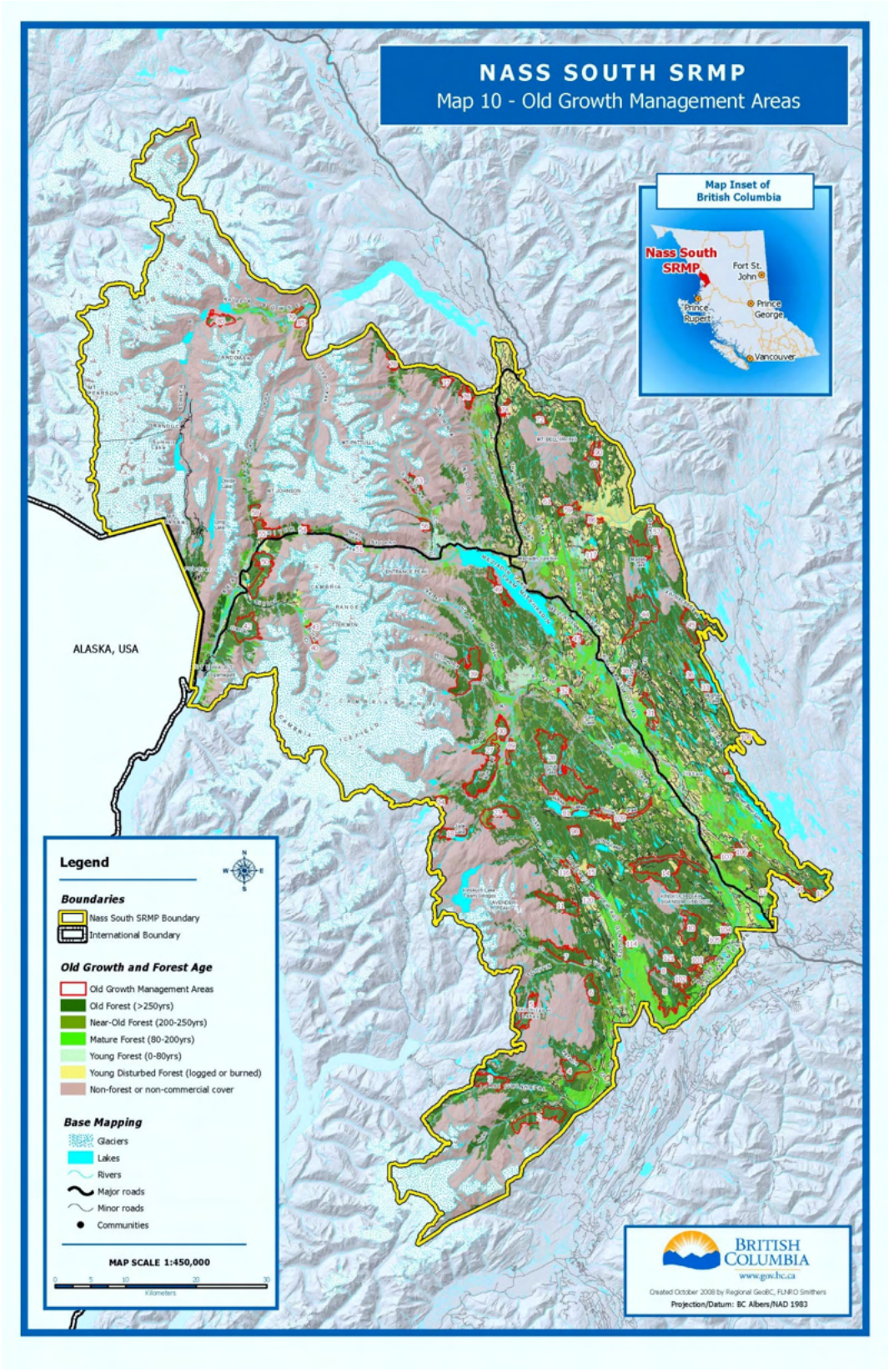

Figure 18. Nass South SRMP Map 10, Old Growth Management Areas

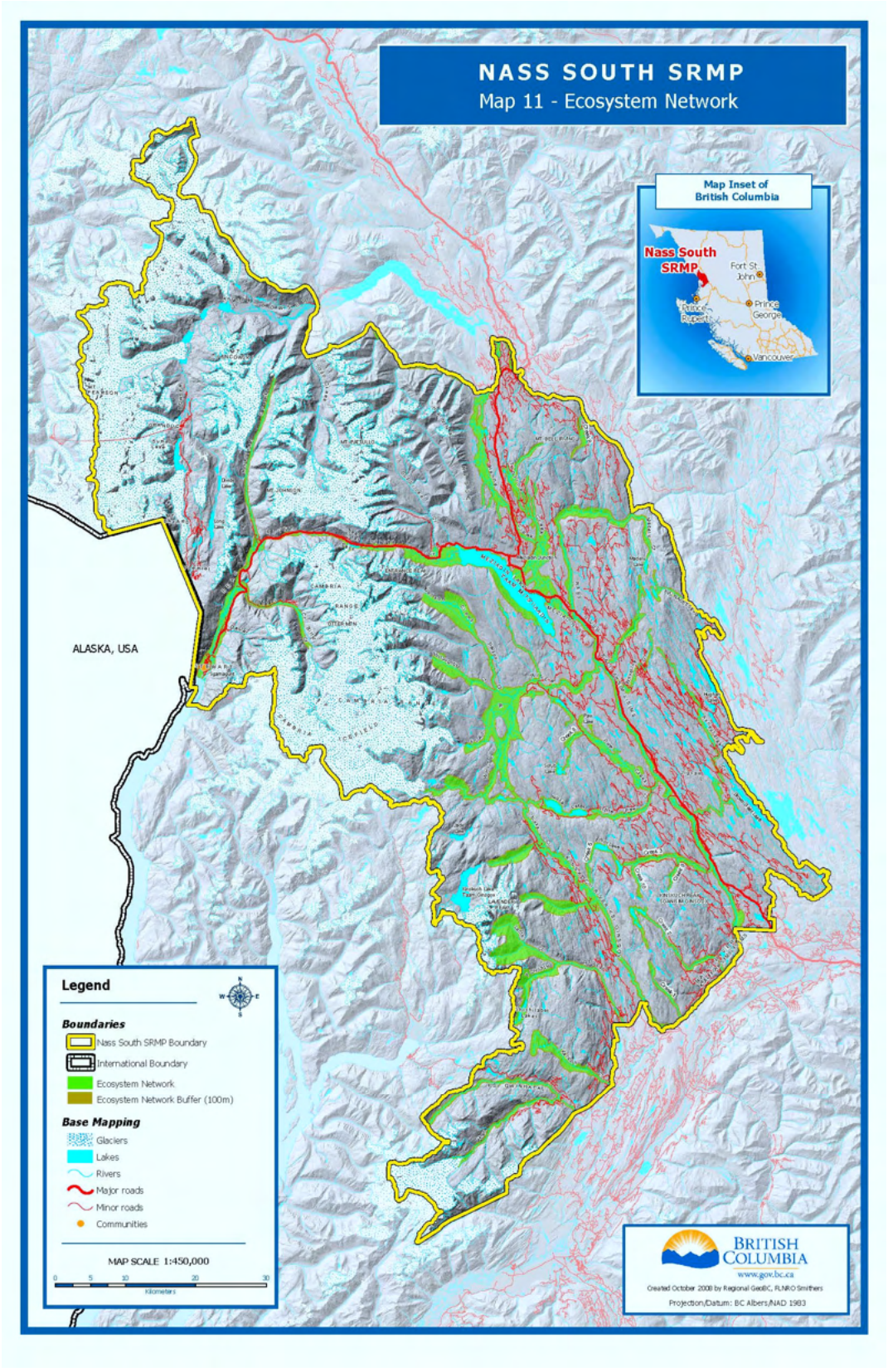

Figure 19. Nass South SRMP Map 11, Ecosystem Networks

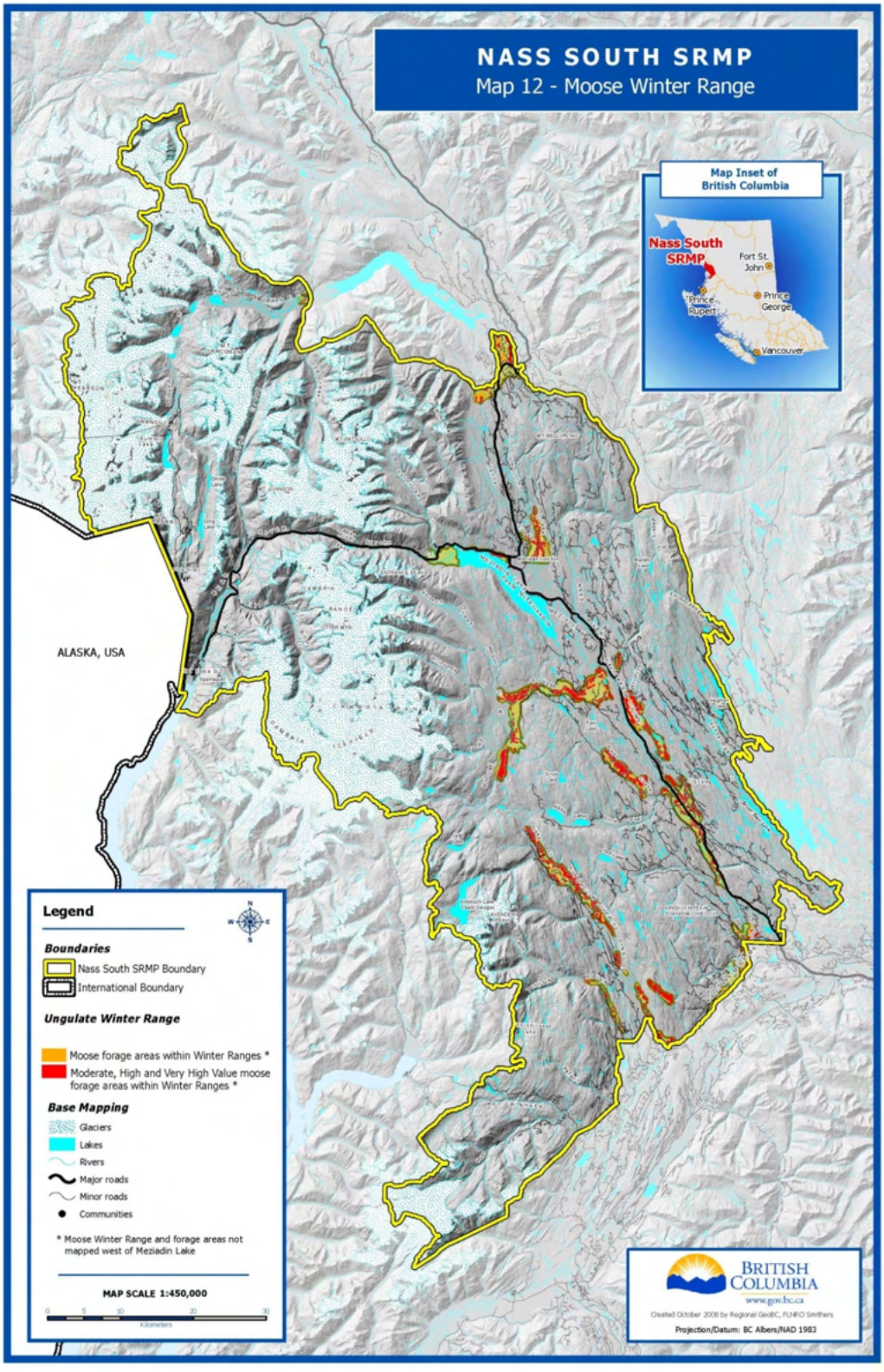

Figure 20. Nass South SRMP Map 12, Moose Winter Range

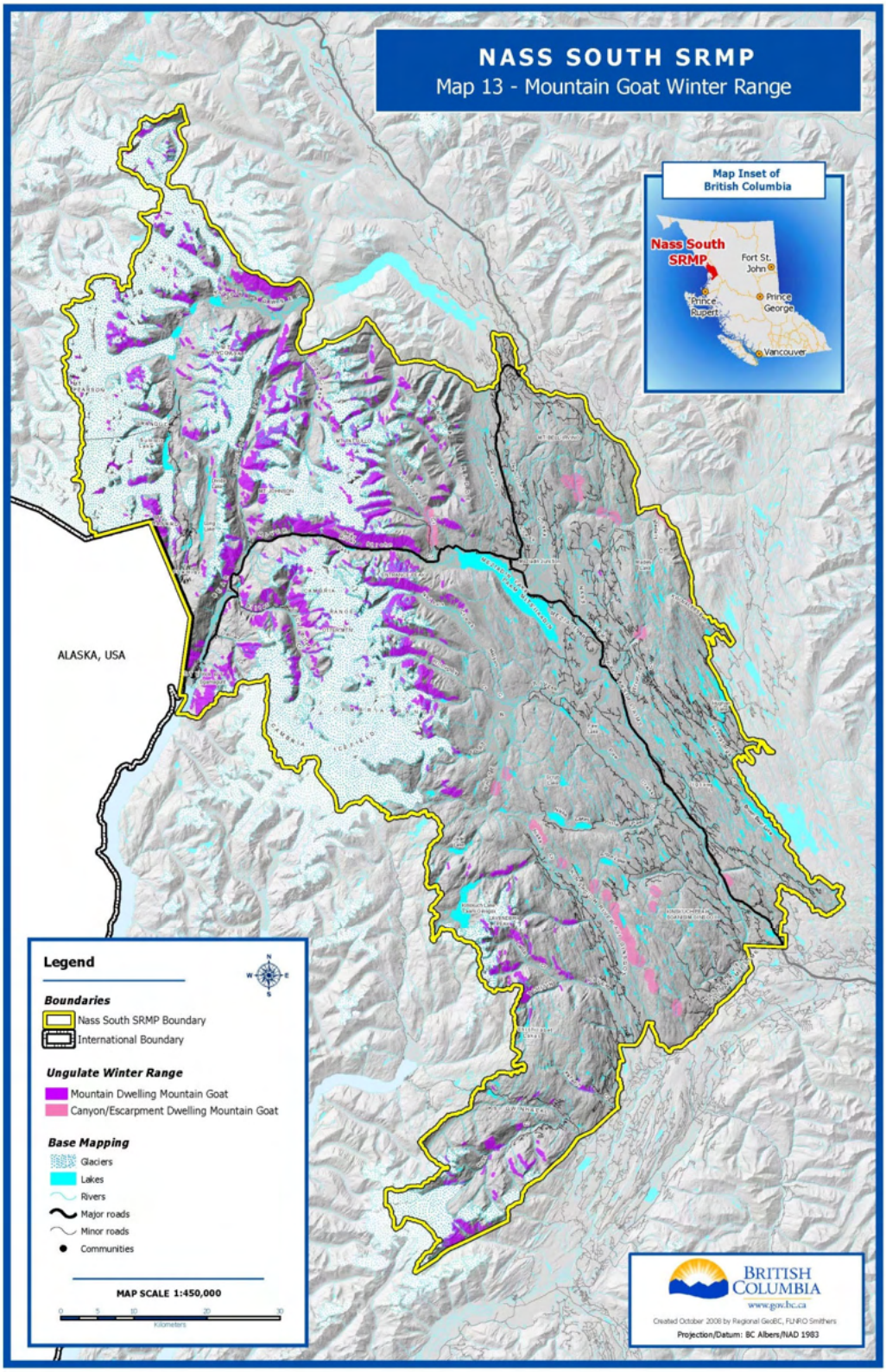

Figure 21. Nass South SRMP Map 13, Mountain Goat Winter Range

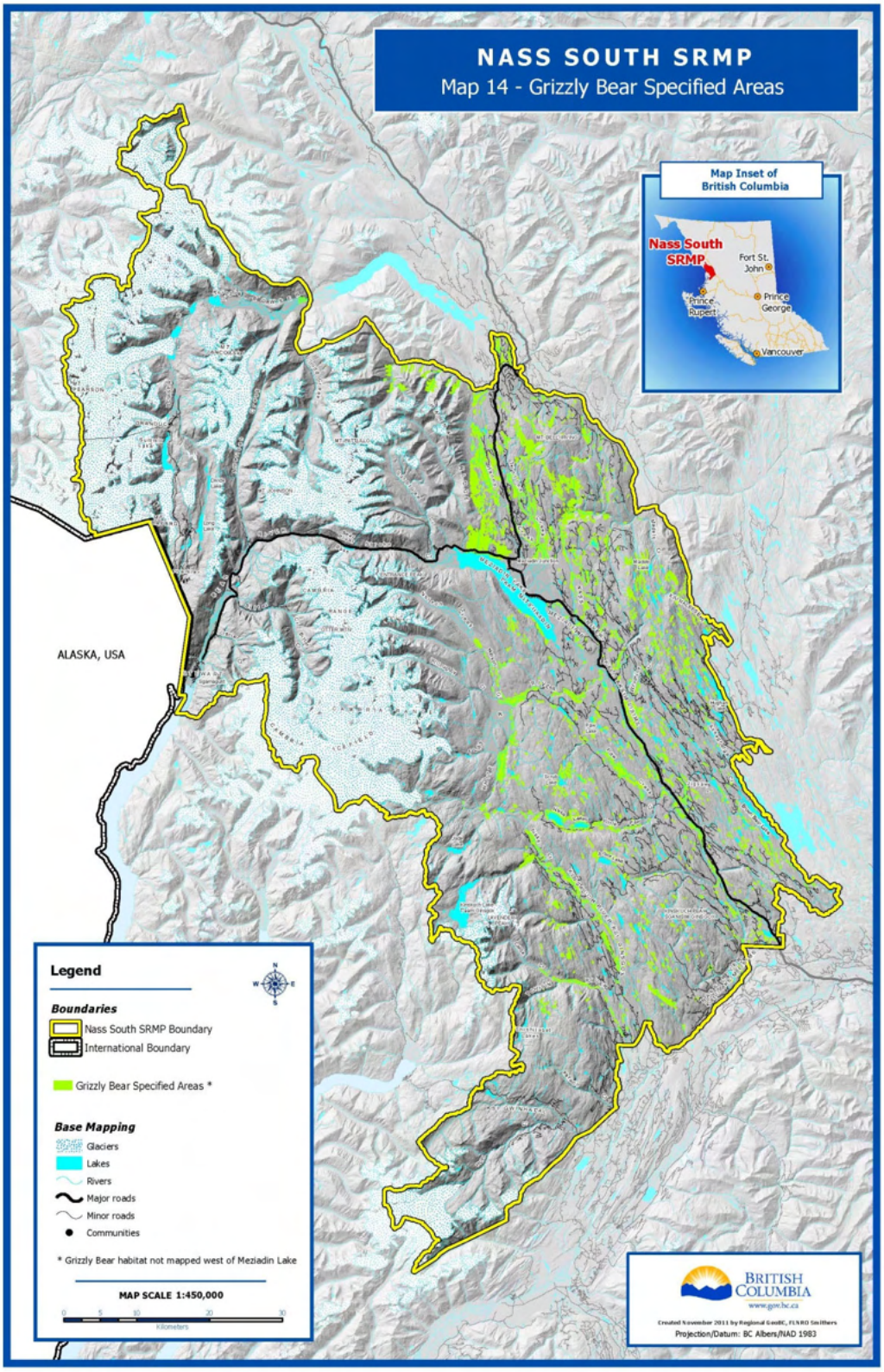

Figure 22. Nass South SRMP Map 14, Grizzly Bear Specified Areas

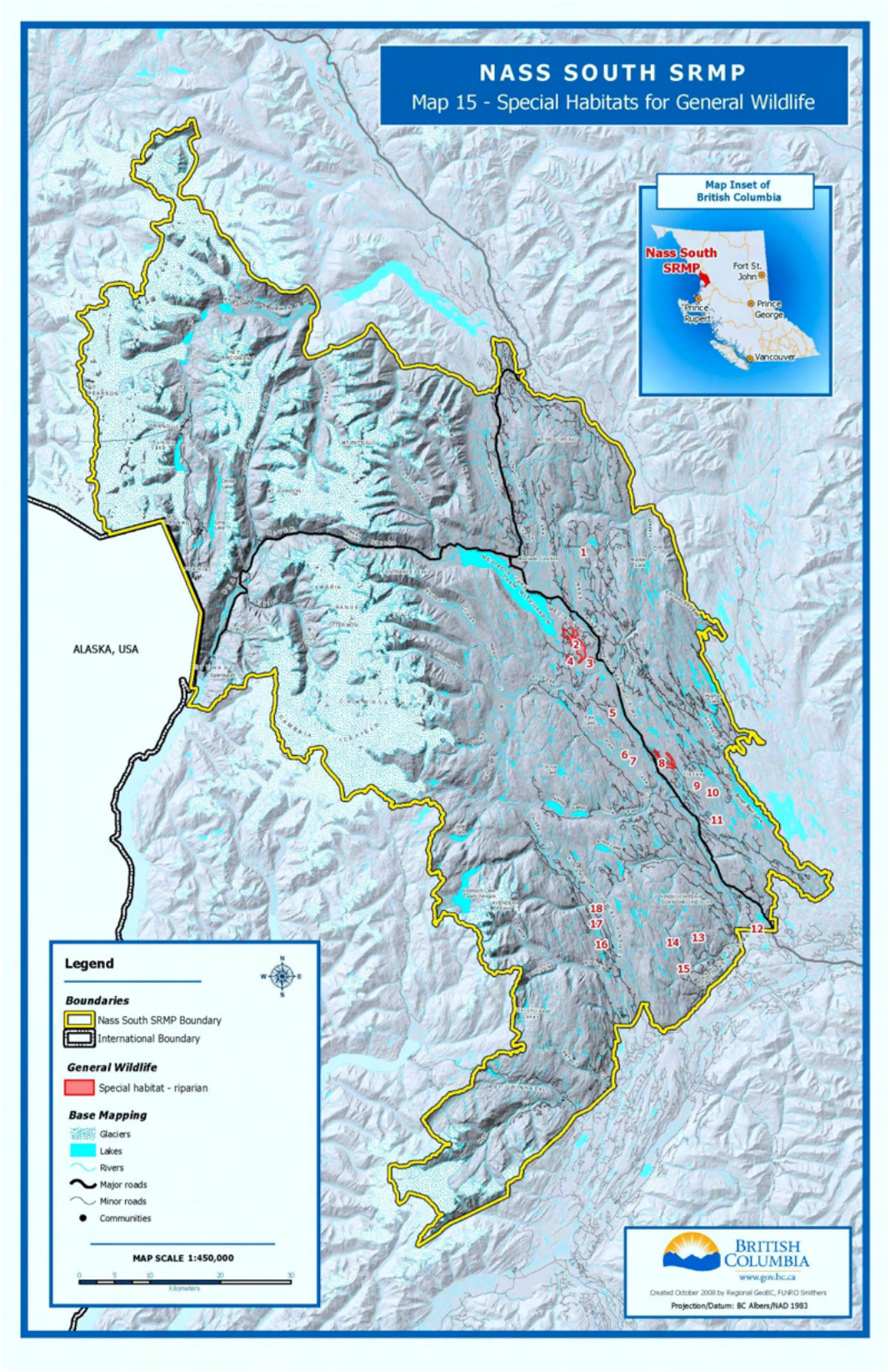

Figure 23. Nass South SRMP Map 15, General Wildlife Areas

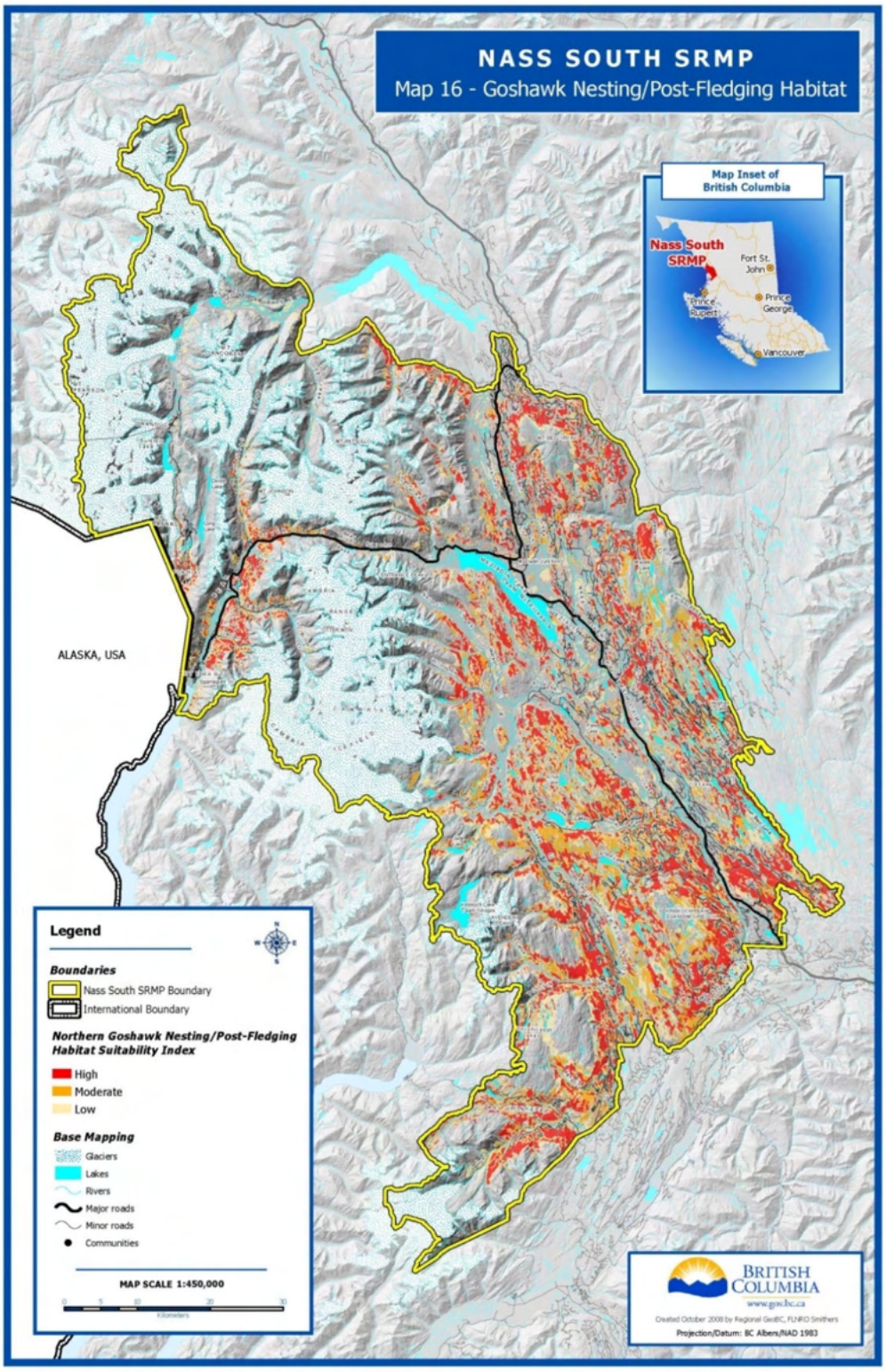

Figure 24. Nass South SRMP Map 16, Northern Goshawk Nesting,/Post-fledgling Habitat

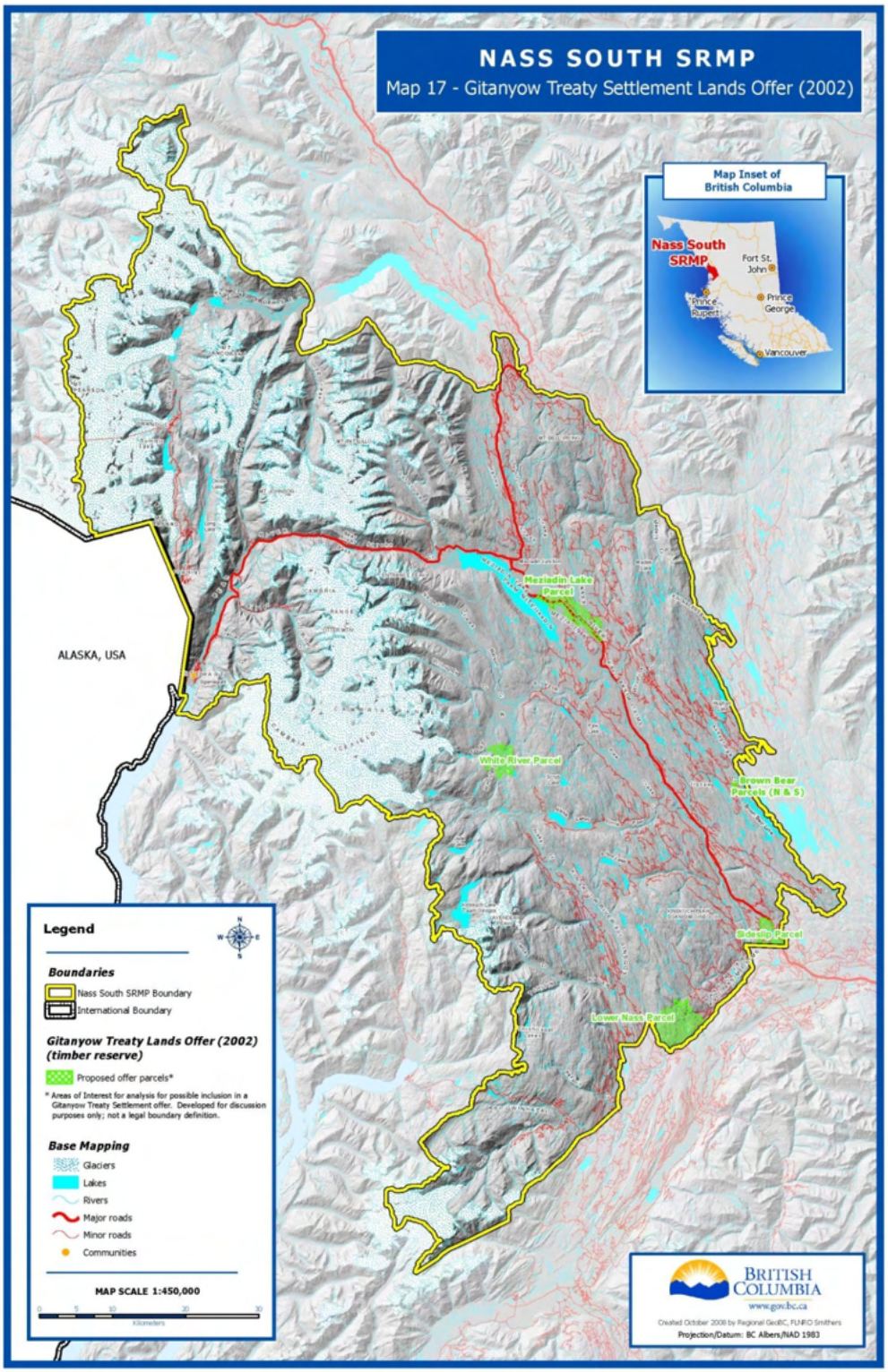

Figure 25. Nass South SRMP Map 17, Gitanyow Treaty Settlement Lands Offer (2002)

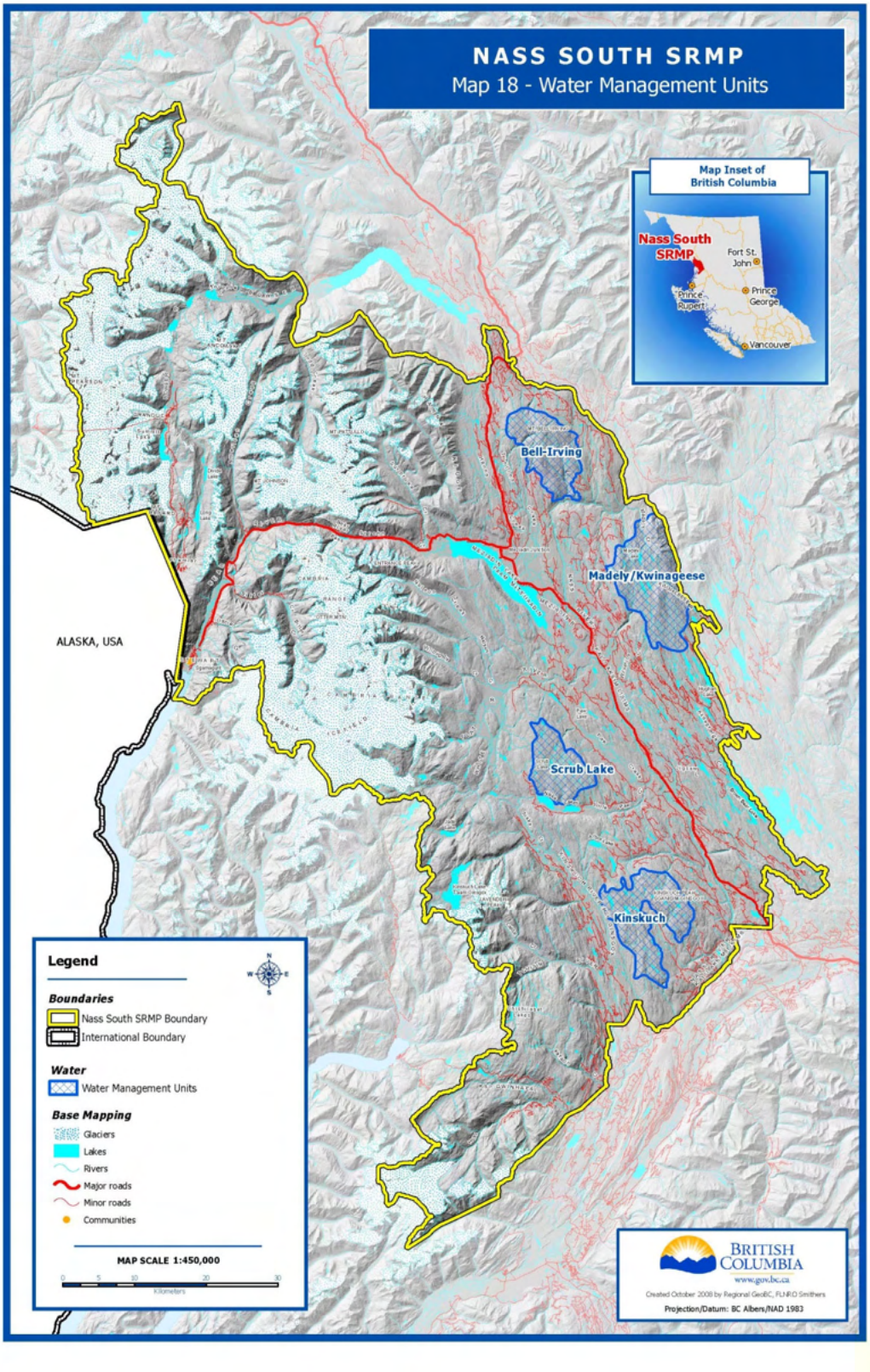

Figure 26. Nass South SRMP Map 18, Water Management Units

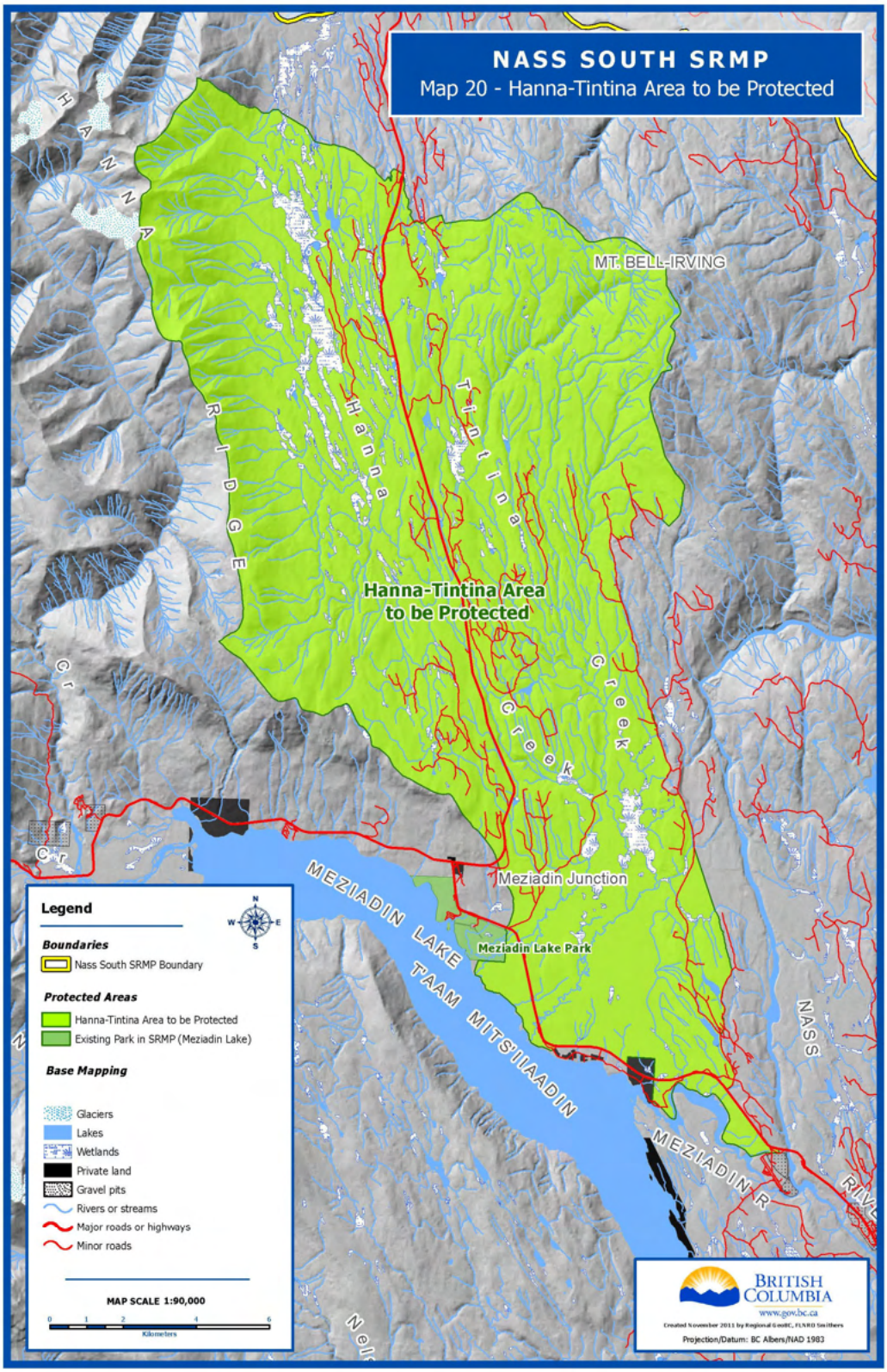

Figure 27. Nass South SRMP Map 20, Hanna-Tintina Area To Be Protected

APPENDIX III – APPLICABLE ORDERS ENABLED BY REGULATION

Including Applicable Government Action Regulation Orders, Ministerial Orders, and Orders under the Forest Practices Code

Included in this Appendix:

Recreation Sites and Trails Orders

FPPR s. 7 Species at Risk Notice

- Notice – Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Species at Risk in the Kalum Forest District (No Map)

Specified Area Orders

- GAR Order: Coastal Tailed Frog Wildlife Habitat Area – Order #6-058, #6-059, and #6-060 to #6-067: March 28, 2006
- GAR Order: Ungulate Winter Range – Order #U-6-001 Mountain goat (Kalum TSA) November 24, 2005 (including Map)
- GAR Order: Ungulate Winter Range – Order #6-009 Moose (Kalum TSA, Cascadia TSA, Pacific TSA, TFL 1 and TFL41): April 21, 2015 (including Map)
- GAR Order: Ungulate Winter Range – Order #U-6-002 Mountain goat (Nass TSA and upper portion of the Ningunsaw and Unuk watersheds), December 2008 (including Map)
- GAR Order: Ungulate Winter Range – Order #6-018 Moose (Nass TSA), September 17, 2014 (including Map)
- GAR Order-Specified Area #6-282 Grizzly Bear (Nass TSA), October 20, 2014 (including Map)
- GAR Order – Wildlife Habitat Area # 6-287 Grizzly Bear (Kalum TSA, Cascadia TSA, Pacific TSA, TFL 1, and TFL 41), June 18, 2018
- GAR Order-Specified Area #6-292 Thinhorn Sheep (Skeena Region), February 5, 2020

Ministerial Orders

- Ministerial Order - Land Use Objectives Regulation Amendment to Land Use Objective 10 – Skeena Islands in the Kalum Sustainable Resource Management Plan (2006) – Province of British Columbia (December 4, 2017)

Orders

- Order Establishing Provincial Non-Spatial Old Growth Objectives, June 30, 2004 (under the Forest Practices Code)

ORDER TO ESTABLISH OBJECTIVES FOR A RECREATION SITE, RECREATION TRAIL OR INTERPRETIVE FOREST SITE

File: 16660-04
16660/20-6321

Dated: August 19, 2011

Notice is hereby given that, pursuant to Section 56 of the *Forest and Range Practices Act*, amended objectives for the following Ministry of Forests, Lands and Natural Resource Operations Trail are to be established effective August 19, 2011

Sterling Mountain Recreation Trail
Project File 16660/20-6321, Kalum Forest District, (established May 10, 1996).

Management Intent

The Sterling Mountain Recreation Trail is being managed for a semi primitive winter motorized recreational experience during the period of November 1 to June 30, with all motorized activities restricted from July 1 to October 31 annually (under Recreation Regulations), unless otherwise approved by the District Recreation Officer. The trail is used by both residents of the Terrace area and visitors to the area and provides opportunities for motorized winter recreational activities.

Objectives

The natural vegetation will be managed within boundaries of the established trail area.

Maintain opportunities for snowmobiling along the trail.

Original signed by

_____
Jim Ladds
Regional Recreation Manager
Northern Interior Region
Recreation Sites and Trails Branch

BRITISH COLUMBIA

ORDER TO ESTABLISH OBJECTIVES FOR A RECREATION SITE, RECREATION TRAIL OR INTERPRETIVE FOREST SITE

Ministry of Forests

File: 16660-04 Dated: November 8, 1996

Pursuant to Section 6.3 of the *Forest Practices Code of British Columbia Act*, objectives for the following Ministry of Forests recreation sites, recreation trails and interpretive forest sites have been established:

Glory Hole Recreation Site - Project File 900-0603, Kalum Forest District, (established May 10, 1996).

The objectives are to manage the Glory Hole recreation site for a roaded recreation experience. The coniferous vegetation feature will be retained within established site boundaries . Opportunities for swimming, picnicking, and canoeing will be available at this site. Gravel road access to the site will be maintained for two wheel drive vehicles year round, weather permitting.

Jigsaw Lake Recreation Site - Project File 900-3522, Kalum Forest District, (established May 10, 1996).

The objectives are to manage the Jigsaw Lake recreation site for a natural recreation experience. The lake shoreline, and coniferous vegetation features will be retained within established site boundaries. Opportunities for camping, picnicking, angling, boating and canoeing will be available at this site. Gravel road access to the site will be maintained for two wheel drive vehicles from May to the first of October, weather permitting.

Dragon Lake Recreation Site - Project File 900-0654, Kalum Forest District, (established May 10, 1996).

The objectives are to manage the Dragon Lake recreation site for a roaded recreation experience. The shoreline and high scenic values will be retained within established site boundaries. Opportunities for camping, picnicking, angling, boating, canoeing and swimming will be available at this site. Gravel road access to the site will be maintained for two wheel drive vehicles from May to the first of October, weather permitting.

Pine Lake Recreation Site - Project File 900-3525, Kalum Forest District, (established May 10, 1996).

The objectives are to manage the Pine Lake recreation site for a natural recreation experience. The shoreline, and coniferous features will be retained within established site boundaries. Opportunities for camping, picnicking, canoeing, angling and wildlife viewing will be available at this site. Rough gravel road access to the site will be maintained for two wheel drive vehicles from May to the first of October, weather permitting.

Weewanie Hotsprings Recreation Site - Project File 900-0813, Kalum Forest District, (established May 10, 1996).

The objectives are to manage the Weewanie Hotsprings recreation site for a semi-primitive motorized experience. The marine foreshore, thermal springs, and coniferous vegetation will be protected within established site boundaries. Opportunities for bathing, camping, picnicking, angling and boat mooring will be available at this site. Boat access to the site is available year round, weather permitting.

Mt. Elizabeth Recreation Trail - Project File 900-0604, Kalum Forest District, (established May 10, 1996).

The objectives are to manage the Mt. Elizabeth recreation trail for a semi-primitive non-motorized recreation experience. The alpine, active trail and coniferous vegetation features will be retained within 10 metres of the established trail perimeters. Opportunities for hiking, viewing and mountaineering will be available along this trail. Road access to the trailhead will be maintained for four wheel drive vehicles from May to the first of October, weather permitting.

Clearwater Lakes Recreation Trail - Project File 900-3506, Kalum Forest District, (established May 10, 1996).

The objectives are to manage the Onion Lake recreation trail for a natural recreation experience. The active trail, and coniferous vegetation features will be retained within 10 metres of the established trail perimeters. Opportunities for hiking, picnicking, snowshoeing and viewing will be available along this trail. Road access to the trailhead will be provided by Highway 37.

Maroon Mountain Recreation Trail - Project File 900-0627, Kalum Forest District, (established May 10, 1996).

The objectives are to manage the Maroon Mountain recreation trail for a semi-primitive non-motorized recreation experience. The active trail, alpine and coniferous vegetation features will be retained within 10 metres of the established trail perimeters. Opportunities for hiking and viewing will be available along this trail. Rough gravel road access to the trailhead will be maintained for two wheel drive vehicles from May to the first of October, weather permitting.

Pine Lake Recreation Trail - Project File 900-3505, Kalum Forest District, (established May 10, 1996).

The objectives are to manage the Pine Lake recreation trail for a natural recreation experience. The active trail, lake shoreline and coniferous vegetation will be retained within 10 metres of the established trail perimeters. Opportunities for hiking, angling, picnicking and wildlife viewing will be available along this trail. Rough gravel road access to the trailhead will be maintained for two wheel drive vehicles from May to the first of October, weather permitting.

Gunsight Peak Recreation Trail - Project File 900-0934, Kalum Forest District, (established May 10, 1996).

The objectives are to manage the Gunsight Peak Recreation Trail for a semi-primitive non-motorized recreational experience. The active trail and natural vegetation will be retained within 10 metres on either side of the trail centerline. Opportunities for hiking and viewing will be available along this trail. This trail is not yet fully developed.

Sterling Mountain Recreation Trail - Project File 900-6321, Kalum Forest District, (established May 10, 1996).

The objectives are to manage the Sterling Mountain Recreation Trail for appropriate semi-primitive motorized winter recreational activities from November 1 to June 30, with all motorized activities restricted from July 1 to October 31. The active trail and natural vegetation will be retained within 10 metres on either side of the trail centerline. Opportunities for snowmobiling will be available along the trail.

Original signed by

_____ Dated: _____

B. D. Downie, District Manager
Kalum Forest District

ORDER TO ESTABLISH OBJECTIVES FOR A RECREATION SITE, RECREATION TRAIL OR INTERPRETIVE FOREST SITE

Ministry of Forests

File: 16660-04

Notice is hereby given that, pursuant to Section 6 (3) of the *Forest Practices Code Of British Columbia Act*, objectives for the following Ministry of Forests recreation site and trails are to be established effective July 30, 1997.

Bonney Lake Recreation Site - Project 900-0622, Kalum Forest District, (established May 1, 1997).

The objectives are to manage the Bonney Lake Recreation Site for a roaded recreation experience. The lake shoreline and natural vegetation will be retained within site boundaries. Opportunities for camping, picnicking, angling, boating and canoeing will be available at the site.

Bonney Lake Portage Recreational Trails - Project 900-0623, Kalum Forest District, (established May 1, 1997).

The objectives are to manage the Bonney Lake Portage Recreation Trails for a semi-primitive non-motorized recreational experience. The active trails, lake shoreline and natural vegetation will be retained within ten meters on either side of the trail centerline. Opportunities for canoeing, hiking and angling will be available along the trails.

Red Top Recreational Trail - Project 900-0961, Kalum Forest District, (established May 1, 1997).

The objectives are to manage the Red Top Recreation Trail for a semi-primitive non-motorized recreational experience. The active trail and natural vegetation will be retained within ten meters on either side of the trail centerline. Opportunities for hiking and viewing will be available along the trail.

West Lake Recreation Site - Project 900-6418, Kalum Forest District, (established May 1, 1997).

The objectives are to manage the West Lake Recreation Site for a roaded recreation experience. The lake shoreline and natural vegetation will be retained within site boundaries. Opportunities for camping, picnicking, angling, and canoeing will be available at the site.

Chist Creek Recreation Site - Project 900-6419, Kalum Forest District, (established May 1, 1997).

The objectives are to manage the Chist Creek Recreation Site for a roaded recreation experience. The exposed bedrock and natural vegetation will be retained within site boundaries. Opportunities for camping, picnicking, hiking and climbing will be available at the site.

Enso Recreation Site - Project 900-6420, Kalum Forest District, (established May 1, 1997).

The objectives are to manage the Enso Recreation Site for a roaded recreation experience. The river and creek shoreline and natural vegetation will be retained within site boundaries. Opportunities for camping, picnicking and angling will be available at the site.

Deception Lake Recreation Site - Project 900-6460, Kalum Forest District, (established May 1, 1997).

The objectives are to manage the Deception Lake Recreation Site for a roaded recreation experience. The lake shoreline and natural vegetation will be retained within site boundaries. Opportunities for camping, picnicking, angling and canoeing will be available at the site.

Original signed by

_____ Dated:_____

B.D. Downie, District Manager
Kalum Forest District

ORDER TO ESTABLISH OBJECTIVES FOR A RECREATION SITE, RECREATION TRAIL OR INTERPRETIVE FOREST SITE

Ministry of Forests

File 16660-04

Notice is hereby given that, pursuant to Section 6 (3) of the *Forest Practices Code Of British Columbia Act*, objectives for the following Ministry of Forests recreation trails are to be established effective July 6, 1998.

American Creek Recreation Trail - Project 900-0964, Kalum Forest District (established January 31, 1998)

The objectives are to manage the American Creek Recreation Trail for a semi-primitive non-motorized recreational experience. The active trail and natural vegetation will be retained within ten metres on either side of the trail centreline. Opportunities for hiking and viewing will be available along the trail

Bornite Mountain Recreation Trail - Project 900-0530, Kalum Forest District (established January 31, 1998)

The objectives are to manage the Bornite Mountain Recreation Trail for a semi-primitive non-motorized recreational experience. The active trail and natural vegetation will be retained within ten metres on either side of the trail centreline. Opportunities for hiking and viewing will be available along the trail.

Big Cedar Recreation Trail - Project 900-6459, Kalum Forest District (established January 31, 1998)

The objectives are to manage the Big Cedar Recreation Trail for appropriate semi-primitive motorized winter recreational activities from November 1 to June 30, with all motorized activities restricted from July 1 to October 31. The active trail and natural vegetation will be retained within ten metres on either side of the trail centreline. Opportunities for snowmobiling will be available along the trail.

Hai Lake Recreation Trail - Project 900-3549, Kalum Forest District (established January 31, 1998)

The objectives are to manage the Hai Lake Recreation Trail for a semi-primitive non-motorized recreational experience. The active trail and natural vegetation will be retained within ten metres on either side of the trail centreline. Opportunities for hiking and viewing will be available along the trail.

Ore Mountain Recreation Trail - Project 900-0996, Kalum Forest District (established January 31, 1998)

The objectives are to manage the Ore Mountain Recreation Trail for a semi-primitive non-motorized recreational experience. The active trail and natural vegetation will be retained within ten metres on either side of the trail centreline. Opportunities for hiking and viewing will be available along the trail.

Sleeping Beauty Recreation Trail - Project 900-0645, Kalum Forest District (established January 31, 1998)

The objectives are to manage the Sleeping Beauty Recreation Trail for a semi-primitive non-motorized recreational experience. The active trail and natural vegetation will be retained within ten metres on either side of the trail centreline. Opportunities for hiking and viewing will be available along the trail.

Thornhill Mountain Recreation Trail - Project 900-0585, Kalum Forest District (established January 31, 1998)

The objectives are to manage the Thornhill Mountain Recreation Trail for a semi-primitive non-motorized recreational experience. The active trail and natural vegetation will be retained within ten metres on either side of the trail centreline. Opportunities for hiking and viewing will be available along the trail.

Original signed by

_____ Dated: _____

B.D. Downie, District Manager
Kalum Forest District

BRITISH COLUMBIA

ORDER TO ESTABLISH OBJECTIVES FOR A RECREATION SITE, RECREATION TRAIL OR INTERPRETIVE FOREST SITE

Ministry of Forests

File 16660-04

Notice is hereby given that, pursuant to Section 6 (3) of the *Forest Practices Code Of British Columbia Act*, objectives for the following Ministry of Forests recreation site and trails are to be established effective March 29, 1999.

Robinson Ridge Recreation Trail - Project 900-0992, Kalum Forest District, (established January 28, 1999).

The objectives are to manage the Robinson Ridge Recreation Trail for appropriate semi-primitive motorized winter recreational activities from November 1 to May 30, with all motorized activities restricted from June 1 to October 31. The active trail and natural vegetation will be retained within ten metres on either side of the trail centerline. Opportunities along the trail will include snowmobiling, hiking and viewing.

Kitimat River Recreation Site - Project 900-3521, Kalum Forest District, (established January 28, 1999).

The objectives are to manage the Kitimat River Recreation Site for a roaded recreation experience. The river shoreline and natural vegetation will be retained within site boundaries. Opportunities for camping, picnicking and angling will be available at the site.

Claque Mountain Recreation Trail - Project 900-6595, Kalum Forest District, (established January 28, 1999).

The objectives are to manage the Claque Mountain Recreation Trail for appropriate semi-primitive motorized winter recreational activities from November 1 to May 30, with all motorized activities restricted from June 1 to October 31. The active trail and natural vegetation will be retained within ten metres on either side of the trail centerline. Opportunities along the trail will include snowmobiling, hiking and viewing.

Robinson Lake Recreational Trail - Project 900-6596, Kalum Forest District, (established January 28, 1999).

The objectives are to manage the Robinson Lake Recreation Trail for a semi-primitive non-motorized recreational experience. The active trail and natural vegetation will be retained within ten meters on either side of the trail centerline. Opportunities for hiking and viewing will be available along the trail.

Original signed by

_____ Dated: _____

B.D. Downie, District Manager
Kalum Forest District

BRITISH COLUMBIA

ORDER TO ESTABLISH OBJECTIVES FOR A RECREATION SITE, RECREATION TRAIL OR INTERPRETIVE FOREST SITE

Ministry of Forests

File 16660-04

Notice is hereby given that, pursuant to Section 6 (3) of the *Forest Practices Code Of British Columbia Act*, objectives for the following Ministry of Forests recreation site and trails are to be established effective August 16, 1999.

Red Sand Lake Interpretive Forest Site - Project 900-6449, Kalum Forest District, (May 21, 1999).

The objectives are to manage the Red Sand Lake Interpretive Forest Site for a roaded recreation experience. The shoreline and natural vegetation will be conserved within the site boundaries. Some small scale timber harvesting and silviculture practices will exist on the site as part of forest interpretation and education. Opportunities for camping, picnicking, hiking, canoeing, biking, and angling will be available at the site. Forest interpretation activities and education on local ecosytems and forest practices will be provided through brochures, self guided interpretive trails and signage.

Onion Lake Recreation Ski Trails - Project 900-6409, Kalum Forest District, (May 21, 1999)

In winter, when snow is on the ground, the objective is to manage the Onion Lake Recreation Ski Trails for a semi primitive non motorized recreation experience; opportunities for cross country skiing are available, no motorized use permitted, other than for track setting and trail grooming activities. During the summer, snow free season, the objectives is to manage the trail for a roaded resource recreation experience; opportunities for hiking and mountain biking are available. The trail will be maintained and the natural vegetation will be conserved within ten metres of the trail centerline.

Clearwater Lakes Recreation Site - Project 900-3506, Kalum Forest District, (May 21, 1999)

The objectives are to manage the Clearwater Lakes Recreation Site for a semi-primitive non-motorized recreation experience. Opportunities for hiking, tent camping, picnicking, and angling will be available at the site. The campsite and trail will be retained; the lake shoreline and natural vegetation will be conserved. Access is by non-motorized trail.

Original signed by

_____ Dated:_____

B.D. Downie, District Manager
Kalum Forest District

BRITISH COLUMBIA

December 30, 2004

NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN THE KALUM FOREST DISTRICT

This Notice is given under the authority of section 7(2) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/04) and 9(3) of the *Woodlot Licence Planning and Practices Regulation* (B.C. Reg. 21/04).

The following Notice includes indicators of the amount, distribution and attributes of wildlife habitat required for the survival of the species at risk outlined in Schedule 1.

Approved Wildlife Habitat Areas are not included in the indicators of amount, distribution and attributes for each of the species outlined in Schedule 1. As per section 7(3) of the *Forest Planning and Practices Regulation*, forest tenure holders are exempt from the obligation to specify a result or strategy in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation*, for approved Wildlife Habitat Areas.

This Notice applies to the Kalum Forest District.

Schedule 1

1) Marbled Murrelet (*Brachyramphus marmoratus*)

Amount:

1. An amount equal to the total amount of currently suitable nesting habitat in the non-contributing landbase. Government policy for determining the amount of suitable nesting habitat is provided in the species account for Marbled Murrelet in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004);
2. An amount of suitable Marbled Murrelet nesting habitat within Old Growth Management Areas consistent with the direction from landscape unit planning; and
3. An amount of suitable nesting habitat to a maximum net mature timber harvesting landbase impact of 1000 ha.

Distribution:

1. The amount of habitat referenced above must be distributed to provide:
   - areas of suitable habitat of the size, spatial distribution and connectivity identified in the species account for Marbled Murrelet in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).

2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Marbled Murrelet in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

Species: Marbled murrelet

Attribute	Characteristics
Size	Maintain a balanced range of patch sizes including a mix of large (>200 ha), medium (50-200 ha) and small (<50 ha) patches within managed forests. The area should include vertical canopy complexity,
Tree Features	Large branches or branches with deformities, and presence of mossy platforms
Tree Species	It is unlikely that Marbled murrelets select particular tree species, however certain species are more likely to provide large horizontal platforms suitable for nesting. This includes yellow cedar, western hemlock, Sitka spruce, Douglas-fir and western red cedar. Less likely species include mountain hemlock and amabilis fir.
Nesting Habitat Features	Suitable nesting habitat includes old seral stage coniferous forests, providing large trees with platforms (limbs or deformities >15cm diameter) with variable canopy structure and small gaps in the canopy. Readily nest on steep slopes but is not essential if forest canopies are non-uniform.
Tree Size	Most nesting trees in BC are >200 yr. Nest trees are typically >40 m tall and nest heights are typically >30 m. Nest limbs range in size from 15-74 cm diameter.
Structural Stage	7: old forest (>250 yr - age class 9, but 8 is acceptable if older forest is not present and the age class 8 provides platform limbs and other nest attributes).
Additional information	Table 3 of the IWMS Version 2004 species account for Marbled Murrelet provides detailed information about the habitat features that are associated with most likely, moderately likely and least likely habitat within each of the Marbled Murrelet Conservation regions.

2) Coastal Tailed Frog (*Ascaphus truei*)

Amount:

1. 2,544 ha not exceeding an impact to the mature timber harvesting landbase of 675 ha.

Distribution:

1. The amount of habitat referenced above must be distributed to provide:
   - areas of suitable habitat of the size, spatial distribution and connectivity identified in the species account for Coastal Tailed Frog in the *Accounts and Measures for*

Managing Identified Wildlife (Identified Wildlife Management Strategy Version 2004).

2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Coastal Tailed Frog in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

Species: Coastal Tailed Frog	
Attribute	**Characteristics**
Size	Approximately 20 ha (depending on number and length of suitable stream reaches). Larger areas may be appropriate in watersheds with unstable terrain (class 4-5). Areas should include at least two streams or stream reaches (i.e., S4 to S6) with previous detections of tailed frogs. The area should include a 30 m core area buffered by a 20m management zone on both sides of occupied stream reaches.
Habitat Attributes	Tailed frog aquatic habitats are generally characterised by year round flow, non fish bearing (S4-S6), intermediate gradient (>2.5%), coarse substrates (>6.4 cm), stable channel beds and forest cover (generally associated with structural stage S6 or S7). Retain 100% of forest cover within the core area. Within the management zone maintain 70% basal area with appropriate structure to maintain riparian forest, important structural elements (e.g., coarse wood debris,) water quality and temperature (5 to 18 degrees), and naturally dispersed water flows.
Elevation	From sea level to 2140 m.

3) Grizzly Bear (*Ursus arctos*)

Amount:

1. Within TFL 1 an amount not exceeding a 3 to 5% timber supply impact for critical grizzly bear habitat;
2. Within TFL 41 an amount not exceeding a 2 to 4% timber supply impact for critical grizzly bear habitat; and
3. Within the Kalum TSA an amount not exceeding a 3 to 5% timber supply impact for critical grizzly bear habitat.

Distribution:

1. The amount of habitat referenced above must be distributed to provide:
   - areas of suitable foraging and security habitat of the size and spatial distribution identified in the species account for Grizzly Bear in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Grizzly Bear in the *Accounts and*

Measures for Managing Identified Wildlife in the Identified Wildlife Management Strategy Version 2004, consistent with Grizzly Bear Management Areas as identified in the Kalum LRMP and considering the attributes identified below.

Attributes

1) Attributes of critical Grizzly Bear habitat:

Species:
Grizzly Bear

Attribute	**Characteristics**
Size	1-500 ha, depending on the area of use, extent of seasonal habitat and buffer size required.
Critical patch habitats	Critical patch habitats include herb dominated avalanche tracks with adjacent forest, non-forested fens, herbaceous riparian meadow/wetland complexes and seepage sites, skunk cabbage swamps, sub alpine parkland meadows, whitebark pine stands, salmon fishing areas and old burns or other successional areas dominated by Vaccinium (blueberry) species. Non-forested critical habitats include a core area and buffer of forested cover. Forested critical habitats are not buffered.
Denning Habitat Features	Hibernating habitats tend to be high elevation areas that are sloped with dry, stable soil conditions that remain frozen throughout the winter. Dens are typically located on steep north-facing slopes, areas where vegetation will stabilize the den roof and where snow will accumulate for insulation. Dens are rarely re-used but Grizzly bears will often return to the same vicinity to dig new dens.
Foraging Habitat Features	Habitat selection is strongly influenced by meeting nutritional requirements, access to mates, thermal cover (i.e., dens), social interactions and the presence and activities of people. Habitat requirement vary greatly as some bears are more transient while others are more resident. Both residents and transients select patches or complexes of habitats within landscapes.
Structural Stage	Generally, foraging is more abundant in non-forested sites, sites with partial forest or sites with many tree gaps in older forest. Closed forest sites near quality habitat may be used for security and day bedding areas. Many or all structural stages can be used seasonally or for specific needs and as such, forage type is not necessarily tied to one particular structural stage.
Elevation	All elevations from sea level estuaries to high alpine meadows and talus slopes.

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ORDER – AMENDMENT TO KALUM MOUNTAIN GOAT UNGULATE WINTER RANGE U-6-001

This order is given under the authority of sections 9(1), 9(2) and 12(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004).

The Regional Executive Director of the Ministry of Forests, Lands and Natural Resource Operations orders that:

5. "pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan are hereby exempted from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation* for the winter survival of Mountain Goat in the Kalum TSA, TFL 41 and TFL 1; and", is replaced with:

   "pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan are hereby exempted from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation* for the winter survival of Mountain Goat in the Kalum TSA, Cascadia TSA, Pacific TSA, TFL 41 and TFL 1."

6. "the general wildlife measures outlined in schedule 1 do not apply for the purposes of exploration, development and production activities when these activities have been authorized for the purpose of subsurface resource exploration, development or production by the Mineral Tenure Act, the Coal Act, the Mines Act, the Petroleum and Natural Gas Act, the Pipeline Act or the Geothermal Resources Act.", be deleted.

Definitions:

Include an additional definition of material or adverse disturbance:

c) "material or adverse disturbance" means inducing stress to mountain goats to the point of either temporary winter range abandonment, diminishment of individual health and fitness, or diminishment of population well being.

General Wildlife Measure 3:

"Primary forest activities that occur within 500 meters horizontal distance of a mountain goat winter range will not result in material or adverse disturbance to goats. Operational activities that have not been exempted will take place during the period starting June 15 and ending October 31", is replaced with:

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"Primary forest activities that occur within 500 metres horizontal distance of a mountain goat winter range, or within 1000 metres horizontal distance of a specified canyon/escarpment mountain goat winter range, will not result in material or adverse disturbance to goats. Primary forest activities will take place during the period starting June 15 and ending October 31".

General Wildlife Measure 4:

"Access roads and structures required for primary forest activities within 500 meters of mountain goat winter range will be constructed in a manner that will facilitate effective deactivation. All roads or structures that have not been exempted will be deactivated within one year following forest harvesting activities", is replaced with:

"Access roads and structures required for primary forest activities within 500 metres horizontal distance of mountain goat winter range, or within 1000 metres horizontal distance of a specified canyon/escarpment mountain goat winter range, will be constructed in a manner that will facilitate deactivation. All roads or structures that have not been exempted will be deactivated within one year following forest harvesting activities".

General Wildlife Measure 5:

"All helicopter logging activities conducted within 2000 meters line of sight of a mountain goat winter range that have not been exempted will take place during the period starting June 15 and ending October 31", is replaced with:

"All helicopter logging activities conducted within 2000 metres line of sight of a mountain goat winter range will take place during the period starting June 15 and ending October 31."

Appendix 1:

Clarity of when the Order does not apply is added to be consistent with other Orders:

1. As per section 2(2) of the *Government Actions Regulation*, the order entitled "ORDER –SA 6-001 does not apply in respect of:
    a. any of the following entered into before the order takes effect:
        i. a cutting permit;
        ii. a road permit;
        iii. a timber sale licence that does not provide for cutting permits;
        iv. a forestry licence to cut issued by a timber sales manager under section 47.6(3) of the *Forest Act*;

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v. subject to subsection (3), a minor tenure.
b. a declared area;
c. areas described in section 196(1) of the *FRPA*; and
d. areas referred to in section 110 of the *FPPR*.

4. "Primary forest activities should avoid road or trail construction within 500 meters horizontal distance of a mountain goat winter range", is replaced with:

"Primary forest activities should avoid road or trail construction within 500 metres horizontal distance of a mountain goat winter range, or within 1000 metres horizontal distance of a specified canyon/escarpment mountain goat winter range."

5. "A person conducting forestry activities may consider seeking an exemption from the requirement to comply with the applicable General Wildlife Measures. Authority to consider an exemption is provided in section 92(1) of the *Forest Planning and Practices Regulation,"* is replaced with:

"A person conducting forestry activities may consider seeking an exemption from the requirement to comply with the applicable General Wildlife Measures. Authority to consider an exemption is provided in section 92(1) of the *Forest Planning and Practices Regulation* and *section 79(1) of the Woodlot Licenses Planning and Practices Regulation."*

5 h) "The construction of semi-permanent mainline roads within 500 meters horizontal distance of a mountain goat winter range when it can be demonstrated that no other road location options exist to access timber beyond a specific mountain goat winter range", is replaced with:

"The construction of semi-permanent mainline roads within 500 metres horizontal distance of a mountain goat winter range , or within 1000 metres horizontal distance of a canyon/escarpment mountain goat winter range, when it can be demonstrated that no other road location options exist to access timber beyond a specific mountain goat winter range."

7. "It is recommended that existing roads and trails within 500 meters of a mountain goat winter range be assessed for disturbance risk to mountain goat populations", is replaced with:

"It is recommended that existing roads and trails within 500 metres horizontal distance of a mountain goat winter range, or within 1000 metres horizontal distance of a specified canyon/escarpment mountain goat winter range, be assessed for disturbance risk to mountain goat populations."

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8. "...place mountian goat populations and their habitat at risk", is replaced with:

   "...place mountain goat populations and their habitat at risk.", and

   "silivicultural" is replaced with "silvicultural"

Section 9. was added to define locations of canyon/escarpment dwelling goats:

9. The following goat winter range polygons are considered canyon/escarpment dwelling for purposes of this Order:
   Mg-004, 007, 008 & 009 – Kiteen Watershed
   Mg-017 – Near Dragon Lake
   Mg-198 – Upper Clore Canyon

Signed this 17 day of Sept, 2014
Eamon O'Donoghue, Regional Executive Director, Skeena Region, Ministry of Forests, Lands and Natural Resource Operations

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ORDER – UNGULATE WINTER RANGE (mountain goat) #U-6-002
Nass Timber Supply Area + Upper Portion of Ningunsaw & Unuk Watersheds

This order is given under the authority of sections 9(2) and 12(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004).

The Deputy Minister of Environment orders that:

1. the ungulate winter range shown in the map set out in the attached Schedule A (#U-6-002) is established;
2. the ungulate winter range in the attached Schedule A is established for mountain goat (*Oreamnos americanus*);
3. the general wildlife measures outlined in Schedule 1 are established for the ungulate winter range in the attached Schedule A;
4. the specified areas outlined in general wildlife measure 4, 5 and 6, Schedule 1, are established;
5. where there is any discrepancy between the ungulate winter range boundaries as shown in the attached Schedule A and the GIS file *tuwra_bc*, the boundaries as detailed in the GIS file will take precedent. The centre point of the line on the map denoting the ungulate winter range is what establishes the boundary; and,
6. pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan are hereby exempted from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation* for the winter survival of mountain goat in the Nass, Ningunsaw, Unuk and Bear River watersheds covered by the map set out in the attached Schedule A (#U-6-002).

Schedule 1 – General Wildlife Measures

In this schedule:

a) "primary forest activity" is defined as in the *Forest Planning and Practices Regulation*,
b) "access structure" is defined as in the *Forest Planning and Practices Regulation*,
c) "mountain goat winter range" are those winter ranges established by way of this Order,
d) "deactivate" or "deactivation" refers to either partial or complete treatment of roads and trails with the intent to prevent, as much as possible, motor vehicle access while taking into account site specific operating constraints; where practicable this activity will include right-of-way revegetation activities to manage long-term access, and
e) "reforestation" means the re-establishment of trees on denuded forest land by natural or artificial means, such as planting and seeding.

1. Timber harvesting and road construction must not occur within the mountain goat winter range except where provided for by GWM 2.

2. GWM 1 does not apply where guyline tiebacks are required to facilitate timber harvesting.

3. Trees felled in accordance with GWM 2 or section 2(3) of the *Forest Planning and Practices Regulation* that fall within the mountain goat winter range must be retained on-site.

4. Primary forest activities that occur within 500 meters horizontal distance of a mountain goat winter range must not result in material or adverse disturbance to goats. Primary forest activities must take place during the period starting June 15 and ending October 31.

5. Access structures required for primary forest activities within 500 meters of mountain goat winter range, and within 1000 meters of specified canyon/escarpment mountain goat winter range, must be constructed in a manner that will facilitate effective deactivation. All access structures must be deactivated within one year following completion of reforestation.

6. All helicopter logging activities conducted within 2000 meters line of sight of a mountain goat winter range must take place during the period starting June 15 and ending October 31.

Joan Hesketh

Signed this 12 day of December, 2008
Joan Hesketh, Deputy Minister
Ministry of Environment

Appendix 1 – General Information

The following information is intended to provide background information and support to the legal order establishing U-6-002. This appendix is not part of the legal order.

1. As per section 2(2) of the *Government Actions Regulation*, the order entitled "ORDER – Ungulate Winter Range #U-6-002" does not apply in respect of:
    a. any of the following entered into before the order takes effect:
        i. a cutting permit;
        ii. a road permit;
        iii. a timber sale license that does not provide for cutting permits;
        iv. a forestry license to cut issued by a timber sales manager under section 47.6(3) of the *Forest Act*;
        v. a minor tenure.
    b. a declared area;
    c. areas described in section 196(1) of the *Forest and Range Practices Act*; and
    d. areas refereed to in section 110 of the *Forest Planning and Practices Regulation*.

    In these instances the requirement to comply with the order and the general wildlife measures does not apply.

2. Authority to consider an exemption from these general wildlife measures is provided in Section 92(1) of the *Forest Planning and Practices Regulation*. An exemption may be provided if the Minister's delegate is satisfied that the intent of the general wildlife measure will be achieved or that compliance with the provision is not practicable, given the circumstances or conditions applicable to a particular area.

    An exemption application should be submitted to the Minister's delegate (Regional Manager – Ministry of Environment, for the Region that the UWR is located) with a rationale describing the nature of the problem and options to integrate UWR conservation with proposed forest practices. A spatially explicit strategy for conservation of mountain goat winter range is recommended as part of the submission. This submission will assist in timely consideration of the matter, and will inform the conditions, if any, of the exemption that may be granted prior to commencement of activities. Upon receipt of a complete exemption application, a determination will normally be made within 14 days of arrival. Incomplete packages will be returned to the proponent for re-submission.

Exemptions may be considered for:

a) The construction of roads or trails in a mountain goat winter range, including the harvest of associated right-of-way timber, where it can be demonstrated that no other access options exist.

    These roads and trails will be:

i. designed, as much as possible, to prevent all motorized vehicle access outside of the June 15th to October 31st timing window, and
ii. will be deactivated (consistent with the definition for "deactivation" in the order) as soon as practicable, and no later than one year, following primary forest activities.

b) The construction of semi-permanent mainline roads within 500 meters horizontal distance of a mountain goat winter range when it can be demonstrated that no other road location options exist to access timber beyond a specific mountain goat winter range.

These roads and trails will be:

i. designed, as much as possible, to prevent all motorized vehicle access outside of the June 15th to October 31st timing window, and
ii. will be deactivated (consistent with the definition for "deactivation" in the order) as soon as practicable, and no later than one year, following primary forest activities.

c) Singular, site-specific extensions may be granted before the beginning of the timing window in June where it can be demonstrated by a qualified professional biologist that, due to exceptional circumstance(s), there is no risk to goats.

Appendix 2 – Supporting Information

Note: this appendix is not part of the legal Order for U-6-002. It is intended to provide guidance/best management practices for meeting the general wildlife measures addressed in the order.

1. Retention of forest cover in mountain goat winter range is required to deliver habitat attributes critical to the survival of this species. These attributes include patches of mature/old forest in areas adjacent to escape terrain that provide winter forage production, snow interception, and thermal/security cover.

2. Improvements in scientific and biological information may lead to amendment(s) consistent with the *Government Actions Regulation* of the mountain goat winter range measures including:
    a) the addition of new, or deletion of existing, mountain goat winter range polygon units,
    b) the adjustment of mountain goat winter range unit boundaries including their associated buffer sizes, and
    c) modification of a specific measure to address operational constraints while protecting mountain goat populations and their habitat.

3. Primary forest activities should avoid road or trail construction within 500 meters horizontal distance of a mountain goat winter range. Where no other practicable access options exist, roads and trails should utilize strategies to protect goats and their habitat from disturbance including:
    a) placing adequate timber buffers around mountain goat winter range boundaries,
    b) locating a road or trail no closer to mountain goat winter range than made necessary by operational site constraints, or
    c) other suitable techniques.

4. It is recommended that where forests within mountain goat winter range have been disturbed either by forest fire or prior logging, and where habitat is limited, these units be silviculturally treated to accelerate their restoration and rehabilitation to achieve mature and old forest habitat attributes (snow interception, security and thermal cover, and forage production). Treatments should be based on the recommendations of a qualified professional forester and qualified professional biologist.

5. It is recommended that existing roads and trails within 500 meters of a mountain goat winter range, and within 1000 meters of canyon dwelling goat winter range meters be assessed for disturbance risk to mountain goat populations. Where assessment determines that access to mountain goat winter range on such roads and trails has increased risk to goats, plans for the deactivation of these roads should be developed and implemented. Where the deactivation of specific existing roads conflicts with operational activities, the licensee and the Minister's designate should work cooperatively to develop strategies which address both operational objectives and minimize disturbance to mountain goats without constraining operational activities. This may include access restrictions on permanent roads through the development and implementation of an official Access Management Plan.

6. It is recommended that historic and planned (FRPA S. 196(1)) primary forest activities within mountain goat winter ranges be assessed to determine if these activities have, or will, place mountain goat populations and their habitat at risk. Where an assessment determines that winter range is, or will be, limited relative to historic levels, the Minister's designate and the licensee(s) should work cooperatively to develop short- and long-term strategies aimed at offsetting and re-establishing winter range shortfalls (e.g. temporarily reserving mature or old forest reserves, silivicultural treatments [see item 5 above], and others as deemed appropriate). Where necessary, strategies should include the establishment and implementation of spatially explicit plans.

7. It is recommended that extra due diligence is required in proximity to canyon and escarpment winter ranges since the habitat model and aerial validation work does not adequately capture foraging habitat in proximity to cliffs within these habitat types. However, the majority of foraging habitat should be captured within the winter range boundary given that the 500 meter primary forest activity exclusion zone associated with canyon and escarpment winter ranges has been incorporated into the winter range boundary.

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ORDER – Ungulate Winter Range
 # 6-009

Moose –Kalum TSA, Cascadia TSA, Pacific TSA, TFL 1 and TFL 41.

This order is given under the authority of sections 9(1), 9(2), and 12(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004) (GAR).

1. The Regional Executive Director, Skeena region, of Forests, Lands and Natural Resource Operations, Skeena Region, being satisfied that
   i. the following area contains habitat that is necessary to meet the habitat requirements for moose (*Alces alces*); and
   ii. the habitat requires special management that is not otherwise provided for under GAR or another enactment;

   orders that:

a) the area shown in the map set out in the attached Schedule A (U-6-009) and contained in the Ungulate Winter Range (UWR) spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER _RANGE_SP) are established as ungulate winter range U-6-009 for moose. The centre point of the line on the attached Schedule A is what establishes the UWR boundary; and
b) if there is a discrepancy between the areas shown in the map set out in the attached Schedule A and the UWR spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.W WCP_UNGULATE_WINTER _RANGE_SP), the areas as detailed in the UWR spatial layer will take precedent; and
c) pursuant to section 7(3) of the *Forest Planning and Practices Regulation* (FPPR), the person(s) required to prepare a forest stewardship plan are hereby exempted from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation (FPPR)* for moose in the portion of the Kalum TSA, Cascadia TSA, Pacific TSA, TFL 1 & 41 covered by this Order.

2. The Regional Executive Director of Forests, Lands and Natural Resource Operations, Skeena Region, being satisfied that
   i. the general wildlife measures (GWMs) described below are necessary to protect or conserve moose and moose habitat and
   ii. GAR or another enactment does not otherwise provide for that protection or conservation;

   orders that:

   a) the GWMs outlined in Schedule 1 are established for UWR U-6-009; and
   b) the GWM 8 outlined in Schedule 1 is applied to the area specified in that GWM.

Schedule 1 – General Wildlife Measures

In this schedule:

a) Words and expressions not defined in this order have the meaning given to them in the Forest and Range Practices Act (FRPA) and the regulations made there under, unless context indicates otherwise.

b) **Regeneration delay** is defined as in Ministry of Forests and Range Glossary of Forestry Terms in British Columbia March 2008: The period of time between harvesting and the date at which an area is occupied by a specified minimum number of acceptable well-spaced trees.

c) **Moisture Regime** (subhygric to subhydric) : refer to Field Manual for Describing Terrestrial Ecosystems.

d) The minimum size for a silvicultural treatable unit is:
- One hectare for pure subhygric to subhydric sites;
- Two hectares of noncontiguous subhygric to subhydric sites within ecosystem complexes where the individual sites are greater than 0.25 ha and such sites comprise 20% or more of the ecosystem complex area.

e) The minimum size for a willow or red-osier dogwood complex is:
- One hectare for pure willow and/or red-osier dogwood sites;
- Two hectares of noncontiguous willow and/or red-osier dogwood sites within ecosystem complexes where the individual sites are greater than 0.25 ha and such sites comprise 20% or more of the ecosystem complex area.

f) **Thermal Cover** is defined as canopy cover that moderates air temperature which results in cooling during the summer and a reduction of wind chill in the winter.

g) **Security Cover** is defined as sufficient vegetation cover and/or terrain features that prevent displacement or disturbance behavior in moose, despite adjacent activities or predator movement that might otherwise elicit these behaviours.

h) **Mainline Road** is an artery road providing access to a watershed or a given geographic area. A mainline road is usually a long-term permanent road that may be used continuously or intermittently.

i) **Deactivated** refers to either partial or complete treatment of roads and trails with the intent to deter motor vehicle access, while taking into account site specific operating constraints.

j) **Motor Vehicle** means a device in, on or by which a person or thing is being or may be transported or drawn, and which is designed to be self-propelled, and includes an ATV or snowmobile, but does not include:

(a) a device designed to be moved by human, animal or wind power,

(b) a device designed to be used exclusively on stationary rails or stationary tracks, or
(c) a boat propelled by motorized power.

k) **Moose Winter Range Management Units** are defined in the spatial file contained in the Ungulate Winter Range (UWR) spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER _RANGE_SP), under the field name MWR_MU, identified as being the Upper Skeena, Copper, Nass, Kitsumkalum, Mid Skeena and Kitimat moose management units.

1. No timber harvesting is permitted within willow and red-osier dogwood complexes within the portion of the Kalum SRMP shown in the map set out in the attached Schedule A (U-6-009).

2. Less than 20% of the area of any given cutblock shall be more than 100 metres away from adjacent mature forest cover for snow interception.

3. Maintain, enhance or restore moose forage production, post-timber harvest, on all subhygric to subhydric sites that are large enough to be considered a silvicultural treatable unit.

4. Security cover within or adjacent to cut blocks must be maintained and at least 80% of the security cover shall be separated by no greater than 200 metres.

5. Retain existing security cover directly adjacent to subhygric to subhydric sites that are large enough to be considered a silvicultural treatable unit that contain willow and red-osier dogwood as the main shrub species.

6. Retain greater than 30% of the area in each moose winter range management unit as mature + old forest for snow interception and thermal cover with distribution weighted to willow and red-osier dogwood forage area adjacency.

7. Variances to GWM 6. are permitted as follows:
   (a) Kitimat moose winter range management unit: allow variance to no less than 20% mature + old forest while working towards the targeted management objective of >30%;
   (b) Mid-Skeena moose winter range management: allow variance to no less than 28% mature + old forest while working towards the targeted management objective of >30%; and
   (c) for all moose winter range management units, and to ensure no timber supply impact due to the targeted management objective of >30% mature + old forest: variance is acceptable but shall be limited to no more than is necessary to ensure no timber supply impact due to the target.

8. All forest development roads, excluding mainlines, within 500 metres of a moose winter range must be deactivated following achievement of regeneration delay or within 1 year following harvest completion date by cutting permit area.

9. All forest development roads, excluding mainlines, within moose winter range must be deactivated following achievement of regeneration delay or within 1 year following harvest completion date by cutting permit area.

10. Variance of GWMs 1-9 are permitted under a moose winter range plan prepared by a qualified registered professional and reviewed jointly by the province of British Columbia and respective First Nations.

Signed this 22nd day of April, 2015
Anthony Pesklevits, Acting Regional Executive Director
Ministry of Forests, Lands and Natural Resource Operations
Skeena Region

Appendix 1 – General Information

The following information is intended to provide background information and support to the legal order establishing UWR 6-009. This appendix is not part of the legal order.

1. As per section 2(2) of the *Government Actions Regulation*, the order entitled "ORDER – Ungulate Winter Range # 6-009" does not apply in respect of:
    a. any of the following entered into before the order takes effect:
        i. a cutting permit;
        ii. a road permit;
        iii. a timber sale licence that does not provide for cutting permits;
        iv. a forestry licence to cut issued by a timber sales manager under section 47.6(3) of the *Forest Act*;
        v. subject to subsection (3), a minor tenure.
    b. a declared area;
    c. areas described in section 196(1) of the FRPA; and
    d. areas referred to in section 110 of the FPPR.

    In these instances the requirement to comply with the order and the general wildlife measures does not apply.

2. Authority to consider an exemption from these general wildlife measures is provided in section 92(1) of the *Forest Planning and Practices Regulation,* section 79(1) of the *Woodlot Licenses Planning and Practices Regulation* and section 36(3) of the *Range Planning and Practices Regulation.* An exemption may be provided if the Minister's delegate is satisfied that the intent of the general wildlife measure will be achieved or that compliance with the provision is not practicable, given the circumstances or conditions applicable to a particular area.

    An exemption application should be submitted to the Minister's delegate (Director, Resource Management – Ministry of Forests, Lands and Natural Resource Operations), with a rationale describing the nature of the problem and options to integrate UWR conservation with proposed forest and/or range practices. A spatially explicit strategy for conservation of moose winter range habitat will assist in timely consideration of the matter when submitted to the Minister's delegate, and will inform the conditions, if any, of the exemption that may be granted. This submission will assist in timely consideration of the matter, and will inform the conditions, if any, of the exemption that may be granted prior to commencement of activities. Upon receipt of a complete exemption application, a determination will normally be made within 14 days of arrival. Incomplete packages will be returned to the proponent for re-submission.

3. Improvements in scientific and biological information, including field assessments completed by qualified professionals, may lead to amendment(s) consistent with the *Government Actions Regulation* of moose UWR measures including:
    a. the addition of new, or deletion of existing moose UWR polygon units,

b. the adjustment of moose winter range unit boundaries, and
c. modification of a specific measure.

4. For cut blocks that fall under section 196 (1) of FRPA or S. 14(4) of FPPR (declared area), a meeting and or site visit should take place to discuss the overlap and develop suitable mitigation measures where practicable.

5. Within identified moose UWR polygons, harvest using silviculture systems, block configurations, patch sizing and patch distribution that will provide forage, visual screening, thermal and security cover, and snow interception while integrating timber and silvicultural management objectives.

6. Emphasis for thermal cover, snow interception and security cover management within UWR polygons is adjacent to forage areas such as willow and red-osier dogwood complexes. A forested buffer of 50 to 100 m wide is recommended, depending on topography. It is also recommended that forest types be retained adjacent to forage areas.

7. Moose forage production can be facilitated post timber harvest by promoting gap openings through reduced stocking standards, cluster planting, spacing and pruning at the silvicultural treatment unit level.

8. Moose winter range management plans should be prepared for winter ranges that are subject to forest development, where funding is available. These plans should include a monitoring component to ensure adaptive management can correct any errors, should they be found, in moose winter range placement or the management regime. The intent of moose winter range plans is to spatially identify areas where forage production and security cover are to be emphasized along with thermoregulation consideration during summer use. Limiting road development, the amount of active roads and access will also be components of moose winter range plans. Preparation of moose winter range plans is anticipated to be a partnership arrangement between forest licencee and the Ministry of Forests, Lands and Natural Resource Operations. Moose winter range plans will integrate into existing work such as the Skeena Islands Project.

9. Establish moose forage production guidelines within a moose winter range plan that are based on ecological parameters such as site series or plant communities. Depending on site classification the following are options for consideration: (1) maintain the native mixed deciduous-conifer stand profile; (2) reduce the density of conifer stocked; (3) concentrate varied spacing of conifers on higher dry ground; (4) allow willow and dogwood regeneration on lower wet ground; (5) thin dense alder stands to encourage willow and dogwood growth; (6) prune a percentage of old woody willows and dogwoods that are more than 3 meters tall to encourage new growth, giving preference to the use of manual treatments rather than herbicides for vegetation control; and, (7) where possible, use brushing treatments to enhance moose winter forage.

10. Moose winter range management plans should address both the risk of disturbance and methods for limiting access to moose winter ranges during their wintering period (November 1 to May 1).

11. An exemption from GWM 8 or 9 may be granted if the intent of road deactivation can be achieved through access restrictions. Access restrictions include attempt to prevent access by 4WD and off-road vehicles, and legislative authorities for vehicle closure.

12. A mainline, for purposes of this Order, includes main roads and major branch roads. It may be defined and/or described as a road that:

    - is the primary road in a valley-bottom or at the lowest-elevation practicable that provides access through order 4 and larger watersheds, or large landscapes where the terrain is rolling plateau and not defined valleys;
    - is defined and constructed (grade, alignment, width, surfacing and drainage) primarily for long-term efficient transportation of logs and equipment, not as a road intended for yarding, skidding, or loading of logs;
    - is used continuously or frequently throughout the full rotation of the forest (through time) and inactivity for primary forest operations is generally weeks or months, not years;
    - is subject to regular maintenance so that road deactivation is not required to protect and maintain the integrity of the road prism, drainage structures, and the adjacent ecological resources; and
    - may have extended periods (several years) of inactivity, planned for operational or wildlife conservation purposes, requiring temporary deactivation or access control.

13. Within a moose winter range, primary forest activities to focus within a short time frame, followed by a long phase of inactivity to reduce access related impacts to wintering moose.

14. Within the Skeena Islands Complex, co-locate moose thermal cover in areas that emphasize large conifer protection, rare plant communities and Wildlife Habitat Management Areas.

15. With respect to the transition strategy (GWM 7), it is the agreed upon intent with forest licencee to achieve a 30% or greater mature + old forest seral stage distribution for the Kitimat and Mid-Skeena moose winter range management units as soon as it is possible without impacting timber supply as per standard timber supply analysis.

Kalum LRMP direction for moose winter range also provides best management practice guidance as summarized below:

1.0 Within primary moose winter range:

1.1 The forest management focus of the slope adjacent to the floodplain is to provide for security cover.
1.2 Thermal cover retention on the adjacent forested slope will be managed for in the absence of large conifers on the floodplain. This management will generally occur within the immediate forested slope except where significant forage exists on such slopes.
1.3 Adjacent forested slopes within moose winter range will have a forage management emphasis when the site series (subhygric to hydric) that produce deciduous browse species (willow - *Salix spp.*, dogwood – *Cornus stolonifera*, cottonwood – *Populus trichocarpa*) become the predominant (>50%) site series from a stand level perspective (e.g. cutblock or overview mapping perspective at 1:20 000 scale).
1.4 Incorporate moose winter ranges in the design and application of forest connectivity.
1.5 Retain willow and dogwood browse, particularly along island and floodplain channels.
1.6 Prescribe forestry operations to address the risk of salmonberry (*Rubus spectabilis*) encroachment on site associations that could support red-osier dogwood or willow.
1.7 Retain security and thermal cover (i.e. conifers) in proximity to useable forage areas appropriate to the size of the habitat unit as defined in the moose winter range plan.
1.8 Retain a proportion of mature and old growth conifer stands with canopy structures which will trap snow, and provide bedding sites particularly adjacent to foraging areas identified in moose winter range plans.
1.9 Retain a percentage of large spruce trees within deciduous leading stands for thermal cover and bedding microsites.
1.10 In regenerating areas and plantations where security and thermal cover is lacking, identify conifer stands or large patches suitable for future cover and manage for cover attributes that mimic natural forests in terms of visual screening and large well formed branchy vets capable of snow interception and thermoregulation.

2.0 Within secondary moose winter range:

2.1 Encourage rotational forest stand development (i.e. harvest at early stand maturity) on sites conducive to both early seral forage and conifer production.
2.2 Promote the duration of early seral stage conditions on prime forage sites (subhygric to hydric) that produce deciduous browse species (willow, dogwood, cottonwood) where such sites predominate (>50%) from a stand level perspective (e.g. cutblock or overview mapping perspective at 1:20 000 scale). Stand spacing, pruning, reduced conifer stocking standards, and varied conifer spacing will assist in promoting the duration of early seral stage conditions.
2.3 Provide that adequate thermal cover and screening are available to a maximum range of 75 to 125 metres within and to prime forage areas (i.e. mature to old stands or large wildlife tree patches to be in the range of 150 to 250 metres apart).

2.4 Preference will be given to ground based vegetation management.
2.5 Maintain the natural deciduous/conifer mix of tree species and shrubs as expected for early seral conditions in prime forage potential sites.
2.6 Allow for natural establishment of willows along decommissioned road right-of-ways.

3.0 Within both primary and secondary moose winter range:
3.1 Limit road development and recreational use within moose winter ranges. Where road avoidance is not practicable, use measures to maintain security, such as maintaining dense coniferous visual screens, deactivating roads before November, building temporary roads or conducting road rehabilitation.
3.2 Where practicable, minimize moose disturbance in winter by using measures such as: geographically focusing roads and operations within a given winter range, restricted access and timing of activities.
3.3 Where practicable, retain, enhance or plant visual screens to obscure the winter ranges from high use transportation corridors.
3.4 Leave a proportion of large old growth trees for moose predator-response behaviour.

Appendix 2: Moose Habitat Attributes

Compiled by Len Vanderstar, R.P. Bio, R.P.F., Ecosystems, Skeena Region, MFLNRO, from surveys and published species accounts.

Life Requisite	Habitat Attribute and Description
Forage Habitat	**Structural Stage** • Early seral stages (3 and 4: herb-shrub and pole-sapling) usually provide ideal foraging conditions, supporting abundant deciduous browse year-round within secondary winter range. • Valley bottom fluvial complexes that define primary winter range are noted for providing abundant forage, by virtue of containing many pocketed or larger seasonally wet open areas, regardless of structural stage. • Aquatic habitats provide moose with aquatic forage during spring and summer. Buckbean (*Menyanthes trifoliata*), pondweed (*Potamogeton spp.*), and sedges are the predominant aquatic forage species. **Shrub Cover** • Shrub-dominated habitats that occupy 15 to 30% of a defined area (e.g. moose winter range) generally provide sufficient forage in both growing and winter seasons, provided that height requirements (below) are met. **Shrub Height** • 1 to 5 m for growing season (also assists in providing visual screening); >2.5 m for winter forage. **Shrub Species Composition** • Important woody browse includes willow, red-osier dogwood, high-bush cranberry, western red cedar and young subalpine fir; black twinberry, elderberry, mountain ash, aspen and cottonwood are also utilized depending on availability. **Aspect** • Site aspect is generally not important. However, south- and west-facing slopes have reduced snow depths and are first to be snow-free in spring. This provides moose access to shrub cover, early spring herbaceous emergents and green-up forage. **Landscape Position** • Valley bottom floodplains and other fertile drainages/areas have high forage productivity and diversity, particularly for early spring green-up forage.

Life Requisite	Habitat Attribute and Description
Thermal Cover	**Basal Area** • 10% measured by pre-harvest mature & old forest cover. **Species Composition** • Thermal cover species should be composed of large canopy, somewhat open grown conifer species, notably very mature and old-growth spruce and subalpine fir.
Snow Interception	**Canopy Cover** • In areas of high snowfall, moose movement is facilitated by forests with crown closure of exceeding 50%, preferably >65% (Moose Wildlife Habitat Decision Aid, JEM-Vol. 11, No. 3). Snow interception cover is three dimensional and is optimized through both horizontal and vertical (canopy depth) structural development. **Area Coverage** • Literature recommends more than 50% of winter range to have favourable snow interception canopy cover in high snow depth wetter biogeoclimatic zones.
Security Cover	**Visual Screening** Stem density that obscures 90% of the moose at 60 m provides optimum visual screening. A measureable criteria would be when a 2 meter x 2 meter dark surface area has only 0.4 m^2 visible, keeping in mind broadleaf leafless winter conditions. • A diverse understory that obscures a moose at close range also provides effective security cover. • Gullied terrain may offer security opportunities, and could be considered good security habitat. **Structural Stage** • Suitable security cover could occur in structural stages 3, 4, 5, 6 and 7; however, the best security cover will likely occur in structural stages 3, 4 and 5 (5 being young forests).
Calving	**Landscape Position** • Forested patches with good security cover, surrounded by extensive wetland complexes, forested peninsulas (water or wetland), and islands, are primary calving sites. **Adjacency** • Isolation or seclusion of calving sites is critical.
Rutting Areas	**Landscape Position** • Optimum rutting areas include subalpine meadow complexes, wetland complexes, extensive floodplains, early to mid-seral natural wildfire burned areas, and deciduous stands adjacent to high forage areas. **Adjacency** • Isolation or seclusion of rutting areas ensures minimal disturbance to moose activity, and thus more successful mating behaviour.

BRITISH COLUMBIA
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ORDER – Ungulate Winter Range
#U-6-018

Moose – Nass TSA

This order is given under the authority of sections 9(1), 9 (2) and 12 (1) of the *Government Actions Regulation* (B.C. Reg. 582/04).

The Regional Executive Director of Forests, Lands and Natural Resource Operations orders that:

1. the ungulate winter ranges (UWR) shown in the maps set out in the attached Schedule A (UWR U-6-018) are established for moose (*Alces alces);*
2. the general wildlife measures (GWMs) outlined in Schedule 1 are established for UWR U-6-018 and boundaries contained in the GIS file *tuwr_bc*;
3. the specified areas outlined in general wildlife measure 8 are established;
4. where there is a discrepancy between the UWR boundaries as shown in the attached Schedule A and the GIS file *tuwr_bc*, the boundaries as detailed in the GIS file will take precedent. The centre point of the line on the map denoting the UWR is what establishes the boundary;

Schedule 1 – General Wildlife Measures

In this schedule:

a) Words and expressions not defined in this order have the meaning given to them in the *Forest and Range Practices Act* (FRPA) and the regulations made there under, unless otherwise defined in the order.

b) "regeneration delay" is defined as in Ministry of Forests and Range Glossary of Forestry Terms in British Columbia (March 2008) as "*the period of time between harvesting and the date at which an area is occupied by a specified minimum number of acceptable well-spaced trees*".

c) Moisture Regime –refer to *Field Manual for Describing Terrestrial Ecosystems* (BC Ministry of Forests and Range and BC Ministry of Environment, Research Branch) for definitions of subhygric to subhydric.

d) The minimum size for a silvicultural treatable unit is:
   - One hectare for pure subhygric to subhydric sites;
   - Two hectares of noncontiguous subhygric to subhydric sites within ecosystem complexes where the individual sites are greater than 0.25 ha and such sites comprise 20% or more of the ecosystem complex area.

e) Thermal Cover is defined as canopy cover that moderates air temperature which results in cooling during the summer and a reduction of wind chill in the winter.

f) Security Cover is defined as sufficient vegetation cover and/or terrain features that prevent displacement or disturbance behaviour in moose, despite adjacent activities or predator movement that might otherwise elicit these behaviours.

g) The designation, identification and definition of mainline roads must be considered in context of the applicable circumstances in consultation among qualified resource professionals, inclusive of a government biologist responsible for habitat protection.

h) Deactivated refers to either partial or complete treatment of roads and trails with the intent to prevent motor vehicle access, while taking into account site specific operating constraints.

1. No timber harvesting is permitted within moderate, high and very high value mapped forage areas as depicted on the maps set out in the attached Schedule A.
2. Less than 20% of the area of any given cutblock shall be more than 100 m away from adjacent mature forest cover (for the purposes of security cover).
3. Maintain, enhance or restore moose forage production, post timber harvest, on 100% of subhygric to subhydric sites large enough to be considered a silvicultural treatable unit.
4. Retain 10% of mature forest as thermal cover within 100m of mapped forage areas as depicted in colour outline or colour shading shown on the maps set out in the attached Schedule A.
5. Security cover within or adjacent to cut blocks must be provided and at least 80% of the security cover shall be separated from other areas of security cover by no greater than 200 meters.
6. All security cover shall be retained directly adjacent to moderate, high and very high value mapped forage areas as depicted on the maps set out in the attached Schedule A.
7. Retain >30% mature + old forest canopy for snow interception in each winter range polygon outside of mapped forage areas.
8. All roads, excluding mainline roads, within 500 m of moose winter range must be deactivated following achievement of regeneration delay or within 1 year of cessation of industrial activities.
9. All roads within moose winter range must be deactivated following achievement of regeneration delay or within 1 year of cessation of industrial activities.

Signed this 17 day of Sept, 2014
Eamon O'Donoghue, Regional Executive Director
Ministry of Forests, Lands and Natural Resource Operations, Skeena Region

Appendix 1 – General Information

The following information is intended to provide background information and support to the legal order establishing UWR U-6-018. This appendix is not part of the legal order.

1. As per section 2(2) of the *Government Actions Regulation*, the order entitled "ORDER – Ungulate Winter Range # U-6-018" does not apply in respect of:
    a. any of the following entered into before the order takes effect:
        i. a cutting permit;
        ii. a road permit;
        iii. a timber sale licence that does not provide for cutting permits;
        iv. a forestry licence to cut issued by a timber sales manager under section 47.6(3) of the *Forest Act*;
        v. subject to subsection (3), a minor tenure.
    b. a declared area;
    c. areas described in section 196(1) of the FRPA; and
    d. areas referred to in section 110 of the FPPR.

    In these instances the requirement to comply with the order and the general wildlife measures does not apply.

2. Authority to consider an exemption from these general wildlife measures is provided in section 92(1) of the FPPR, section 79(1) of the *Woodlot Licenses Planning and Practices Regulation* and section 36(3) of the *Range Planning and Practices Regulation.* An exemption may be provided if the Minister's delegate is satisfied that the intent of the general wildlife measure will be achieved or that compliance with the provision is not practicable, given the circumstances or conditions applicable to a particular area.

    An exemption application should be submitted to the Minister's delegate (Regional Executive Director – MFLNRO, for the Region that the UWR is located) with a rationale describing the nature of the problem and options to integrate UWR conservation with proposed forest and/or range practices. A spatially explicit strategy for conservation of moose winter range habitat will assist in timely consideration of the matter when submitted to the Minister's delegate, and will inform the conditions, if any, of the exemption that may be granted. This submission will assist in timely consideration of the matter, and will inform the conditions, if any, of the exemption that may be granted prior to commencement of activities. Upon receipt of a complete exemption application, a determination will normally be made within 14 days of arrival. Incomplete packages will be returned to the proponent for re-submission.

3. Improvements in scientific and biological information, including field assessments completed by qualified professionals, may lead to amendment(s) consistent with the *Government Actions Regulation* of moose UWR measures including:
    a. the addition of new, or deletion of existing moose winter range polygon units,
    b. the adjustment of moose winter range unit boundaries, and
    c. modification of a specific measure.

4. For cut blocks that fall under section 196 (1) of FRPA or S. 14(4) of FPPR (declared area), a meeting and or site visit should take place to discuss the overlap and develop suitable mitigation measures where practicable.
5. Within identified moose winter range, harvest using silviculture systems, block configurations, patch sizing and patch distribution that will provide forage, visual screening, thermal and security cover, and snow interception while integrating timber and silvicultural management objectives.
6. Emphasis for thermal cover, snow interception and security cover management is adjacent to mapped forage areas. A forested buffer of 50 to 100 m wide is recommended, depending on topography. It is also recommended that forest types be retained adjacent to moderate, high and very high value mapped forage areas.
7. Moose forage production can be facilitated post timber harvest by promoting gap openings through reduced stocking standards, cluster planting, spacing and pruning at the silvicultural treatment unit level.
8. Moose winter range management plans should be prepared for winter ranges that are subject to forest development, where funding is available. These plans should include a monitoring component to ensure adaptive management can correct any errors, should they be found, in moose winter range placement or the management regime.
9. An exemption from GWM 8 or 9 may be granted if the intent of road deactivation can be achieved through access restrictions. Access restrictions include attempt to prevent access by 4WD and off-road vehicles, and legislative authorities for vehicle closure.
10. A mainline, for purposes of this Order, includes main roads and major branch roads, and may be defined/described as a road that is the primary valley bottom or lowest practicable elevation road that provides access through order 4 and larger watersheds, or large landscapes where the terrain is rolling plateau and not defined valleys; is defined and constructed (grade, alignment, width, surfacing and drainage) primarily for long-term efficient transportation of logs and equipment, not as a road intended for yarding, skidding, or loading of logs; is used continuously or frequently throughout the full rotation of the forest (through time) and inactivity for primary forest operations is generally weeks or months, not years; is subject to regular maintenance so that road deactivation is not required to protect and maintain the integrity of the road prism, drainage structures, and the adjacent ecological resources; may have extended periods (several years) of inactivity, planned for operational or wildlife conservation purposes, requiring temporary deactivation or access control.
11. Within a moose winter range, primary forest activities to focus within a short time frame, followed by a long phase of inactivity to reduce access related impacts to wintering moose.
12. Moose winter range management plans should address both the risk of disturbance and methods for limiting access to moose winter ranges during their wintering period (November 1 to May 1).

Appendix 2: Moose Habitat Attributes

Compiled by Len Vanderstar, R.P. Bio, R.P.F., MFLNRO: Skeena Region, from surveys and published species accounts.

Life Requisite	Habitat Attribute and Description
Forage Habitat	**Structural Stage** • Early seral stages (3 and 4: herb-shrub and pole-sapling) usually provide ideal foraging conditions, supporting abundant deciduous browse year-round within secondary winter range. • Valley bottom fluvial complexes that define primary winter range are noted for providing abundant forage, by virtue of containing many pocketed or larger seasonally wet open areas, regardless of structural stage. • Aquatic habitats provide moose with aquatic forage during spring and summer which is important for lactating females. Buckbean (*Menyanthes trifoliata*), pondweed (*Potamogeton spp.*), and sedges are the predominant aquatic/wetland forage species noted in the Nass watershed. **Shrub Cover** • Shrub-dominated habitats that occupy 15 to 30% of a defined area (e.g. moose winter range) generally provide sufficient forage in both growing and winter seasons, provided that height requirements (below) are met. **Shrub Height** • 1 to 5 m for growing season (also assists in providing visual screening); >2.5 m for winter forage. **Shrub Species Composition** • Important woody browse includes willow, red-osier dogwood, high-bush cranberry and young subalpine fir within the Nass South SRMP area; black twinberry, elderberry, mountain ash, aspen and cottonwood are also utilized depending on availability. **Aspect** • Site aspect is generally not important. However, south- and west-facing slopes have reduced snow depths and are first to be snow-free in spring. This provides moose access to shrub cover, early spring herbaceous emergents and green-up forage. **Landscape Position** • Valley bottom floodplains and other fertile drainages/areas have high forage productivity and diversity, particularly for early spring green-up forage.

Life Requisite	Habitat Attribute and Description
Thermal Cover	**Basal Area** • 10% measured by pre-harvest mature & old forest cover. **Species Composition** • Thermal cover species should be composed of large canopy, somewhat open grown conifer species, notably very mature and old-growth spruce and subalpine fir.
Snow Interception	**Canopy Cover** • In areas of high snowfall, moose movement is facilitated by forests with crown closure exceeding 50%, preferably >65% (Moose Wildlife Habitat Decision Aid, JEM-Vol. 11, No.3). Snow interception cover is three dimensional and is optimized through both horizontal and vertical (canopy depth) structural development. **Area Coverage** • Recommend more than 50% of winter range to have favourable snow interception canopy cover in high snow depth, wetter biogeoclimatic zones.
Security Cover	**Visual Screening** • Stem density that obscures 90% of the moose at 60 m provides optimum visual screening, thus enhancing the animals' sense of security. A measureable criteria would be when a 2 meter x 2 meter dark surface area has only 0.4 m^2 visible, keeping in mind broadleaf leafless winter conditions. • A diverse understory that obscures a moose at close range also provides effective security cover. • Gullied terrain may offer security opportunities, and could be considered good security habitat. **Structural Stage** • Suitable security cover could occur in structural stages 3, 4, 5, 6 and 7; however, the best security cover will likely occur in structural stages 3, 4 and 5 (5 being young forests).
Calving	**Landscape Position** • Forested patches with good security cover, surrounded by extensive wetland complexes, forested peninsulas (water or wetland), and islands, are primary calving sites.

Life Requisite	Habitat Attribute and Description
	Adjacency • Isolation or seclusion of calving sites is critical.
Rutting Areas	**Landscape Position** • Optimum rutting areas include subalpine meadow complexes, wetland complexes, extensive floodplains, early to mid-seral natural wildfire burned areas, and deciduous stands adjacent to high forage areas. **Adjacency** • Isolation or seclusion of rutting areas ensures minimal disturbance to moose activity, and thus more successful mating behaviour.

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ORDER – Specified Area # 6-282

Grizzly Bear – Nass Timber Supply Area

This order is given under the authority of sections 9(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004) (GAR).

1. The Regional Executive Director of Forests, Lands and Natural Resource Operations - Skeena region, being satisfied that

i. the general wildlife measures (GWMs) described below are necessary to protect or conserve grizzly bear; and
ii. GAR or another enactment does not otherwise provide for that protection or conservation;

orders that

a) the GWMs outlined in Schedule 1 are established for SA6-282, for grizzly bear;
b) the specified area shown in the map set out in the attached Schedule A (6-282) and contained in the wildlife habitat area (WHA) spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_WILDLIFE_HABITAT_AREA_POLY) are established as a Specified Area (6-282) for grizzly bear. The centre point of the line on the attached Schedule A is what establishes the specified area boundary;
c) if there is a discrepancy between the areas shown in the map set out in the attached Schedule A and the WHA spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_WILDLIFE_HABITAT_AREA_POLY), the areas as detailed in the WHA spatial layer will take precedent; and

Schedule 1 – General Wildlife Measures (GWM)

Definitions

a) Words and expressions not defined in this order have the meaning given to them in the *Forest and Range Practices Act (FRPA)* and the regulations made there under, unless otherwise defined in the order.

b) Thermal Cover is defined as canopy cover that moderates air temperature which results in cooling during the summer and a reduction of wind chill in the winter.

c) Security Cover is defined as sufficient vegetation cover and/or terrain features that prevent displacement or disturbance behaviour in grizzly bear, despite adjacent activities or predator movement that might otherwise elicit these behaviours.

d) Permanent roads are defined as either a main forestry road that provide primary access through a valley or landscape and are never deactivated, or branch roads that provide access to two or more cutblocks, that may or may not be de-activated, and that are intended to be used in the future for forestry-related activities.

1. In order to provide functional thermal or security cover, 100% of the forested area of each specified area (SA) polygon must be retained in a mature and old-growth condition with allowance to 90% to address operational flexibility where necessary. Harvesting should be located along the edge of the SA polygon and should only occur for the following purposes:
   - access
   - operational safety considerations
   - to minimize impacts on adjacent environmental values.
2. GWM 1 does not apply where:
   a. the SA polygon boundary has been inaccurately mapped with respect to topographic features and causes an overlap with an adjacent primary forest activity; and making the small change will not affect the intent or integrity of the SA polygon; or
   b. a minor mapping error has occurred between a cutblock, road, trail or landing at final design stage and a SA polygon boundary, or
   c. points a) and/or b) above are agreed to by the decision-maker prior to the commencement of primary forest activities.
3. Do not use pesticides, except as provided in GWM 4.
4. GWM 3 does not apply for the application of herbicides to control for noxious weeds and invasive plants.
5. Ensure that, where ever practicable, 150 meters is the minimum distance between permanent roads and the mapped Specified Area.

Signed this 20 day of Oct, 2014
Eamon O'Donoghue, Regional Executive Director, Skeena Region
Ministry of Forests, Lands and Natural Resource Operations

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Appendix 1 – General Information

This appendix is intended to provide background information and support to the legal order establishing Specified Area #6-282 (SA 6-282). This appendix does not form part of the legal order.

1. As per section 2(2) of the *Government Actions Regulation*, the order entitled "ORDER – SA 6-282 does not apply in respect of:
    a. any of the following entered into before the order takes effect:
        i. a cutting permit;
        ii. a road permit;
        iii. a timber sale licence that does not provide for cutting permits;
        iv. a forestry licence to cut issued by a timber sales manager under section 47.6(3) of the *Forest Act*;
        v. subject to subsection (3), a minor tenure.
    b. a declared area;
    c. areas described in section 196(1) of the *FRPA*; and
    d. areas referred to in section 110 of the *FPPR*.

    In these instances the requirement to comply with the order and the general wildlife measures does not apply.

2. Authority to consider an exemption from these general wildlife measures is provided in section 92(1) of the *Forest Planning and Practices Regulation,* section 79(1) of the *Woodlot Licenses Planning and Practices Regulation* and section 36(3) of the *Range Planning and Practices Regulation*. An exemption may be provided if the decision-maker is satisfied that the intent of the general wildlife measure will be achieved or that compliance with the provision is not practicable, given the circumstances or conditions applicable to a particular area.

    An exemption application should be submitted to the decision-maker for the region in which the SA is located, with a rationale describing the nature of the problem and options to integrate SA conservation with proposed forest and/or range practices. A spatially explicit strategy for conservation of grizzly bear wildlife habitat will assist in timely consideration of the matter when submitted and will inform the conditions, if any, of the exemption that may be granted prior to commencement of activities. Upon receipt of a complete exemption application, a determination will normally be made within 14 days. Incomplete packages will be returned to the proponent for re-submission.

3. Where an exemption is provided to the requirements of GWM 1 the delegated decision maker may consider adding the following conditions to the approval of the exemption:
    - Design roads or trails, as much as possible, to prevent all motorized vehicle access throughout the snow free season.

- Deactivate roads or trails as soon as practicable, and no later than one year, following primary forest activities.

Exemptions to GWM 1 may be considered when it can be demonstrated that no practicable road location options exist to access timber beyond a SA polygon or for the harvest of associated right-of-way timber.

4. Improvements in scientific and biological information, including field assessments completed by qualified professionals, may lead to amendment(s) consistent with the *Government Actions Regulation* of grizzly bear SA measures including:
    a. the addition of new, or deletion of existing grizzly bear polygon units,
    b. the adjustment of grizzly bear unit boundaries including their associated buffer sizes, and
    c. modification of a specific measure to address operational constraints while maintaining grizzly bear populations and their habitat.

5. Primary forest activities should consider the seasonal use by grizzly bears within the SA, and where practicable, conduct operations outside of high seasonal use to mitigate human/bear interactions.

6. While it is recognized that within a SA polygon there is generally a 50 metre buffer around the core habitats to supply thermal and security cover as well as other attributes, strategies should be put in place to minimize wind throw to protect the integrity of the SA polygon. Strategies should include, but are not limited to wind firm treatments, increasing buffer protection, and other techniques used in Riparian Management Areas proven to minimize wind throw.

7. Overhead aircraft activity should attempt to keep to a minimum of 500 vertical metres above grizzly bear SA polygons in the spring, summer and fall, when practicable.

8. Where practicable from a harvest block layout and forest operations perspective, major grizzly bear trails leading to or connecting grizzly bear SAs, as noted by bite and marked trees, shall have their integrity maintained in terms of existing natural stand structure.

9. Maintenance of the quality and effectiveness of grizzly bear forage supply outside of the SAs is directed by the Nass South SRMP.

10. The intent of GWM 1 reflects the agreement associated with the Nass South SRMP to accommodate operational flexibility where necessary.

12. The intent of GWM 2 is to facilitate SA polygon boundary adjustment without having to go through an amendment process where a SA polygon boundary has been either: a) inaccurately mapped (e.g. when the intent was to follow a creek or road and the boundary inadvertently extends slightly beyond the creek or road), or b) when unintentional overlap

occurs with a cutblock, road, trail or landing at final design stage that becomes evident when comparing map scales (e.g. 1:20000 vs 1:5000). In almost all instances the amount of overlap is anticipated to affect a small area (<0.5 ha). The appropriate government agency should be notified of boundary adjustments specific to GWM 2 for tracking purposes. Spatial file submission would be most appropriate. Boundary adjustments meeting the conditions identified in GWM 2 will be periodically reviewed by government and the SA polygon boundary officially amended under the *Government Actions Regulation*. It remains the proponent's responsibility to keep records of each occurrence. Records must be made available to a government official upon request.

13. It is the expectation that no timber felling within the high value forage area will occur. The objective is to protect this core habitat while providing suitable forested buffer for screening and thermal cover immediately adjacent to the high value forage area.

GAR Rationale – Approval of WHA 6-287
Grizzly Bear (Ursus arctos)
Kalum TSA, Cascade TSA, Pacific TSA, TFL 1and TFL 41

In approving this Wildlife Habitat Area (WHA 6-287) each of the tests under the *Government Actions Regulation* (GAR) was considered.

GAR 2 – Limitations on Actions

(1)(a) The order is consistent with established objectives.

Having considered all available information pertaining to this order, I find that there are no elements of this order that would be inconsistent with established objectives applicable to forest and range practices and planning within the Coast Mountain Natural Resource District. Kalum LRMP provided direction to help meet the goals of the provincial Grizzly Bear Conservation Strategy (GBCS) and was written to provide an overall framework for managing grizzly bears and their habitat throughout the plan area. Discussion and analysis primarily focused on achieving an agreement that balance long term grizzly bear population viability and impacts on timber supply and timber flow.

(1)(b) The order would not unduly reduce the supply of timber from British Columbia's forests.

The WHA established by this order encompass 69,275 ha in the Coast Mountains Natural Resource District. The WHA has a direct overlap with the THLB of 12,536 ha. This equates to a THLB impact of approximately 2.3% without taking into account THLB exclusion factors. This is well within the 4.6% impact set out in the Kalum LRMP (2002). Approximately half of the Kalum LRMP area and associated grizzly bear identified watersheds are part of this WHA Order. Upon funding availability, future work will progress to see this critical habitat mapping through to completion.

A balance of protection of critical grizzly bear habitat and minimizing impacts to the THLB is being achieved through minimization of timbered buffer zones around critical patch habitats. A further reduction of THLB impact may be achieved by re-evaluating Old Growth Management Areas (OGMA) in close proximity to approved grizzly bear WHA polygons, i.e. co-location of OGMAs over Grizzly Bear WHA polygons may free up additional THLB.

There are a number of factors to consider whether this WHA represents an undue impact to the provincial timber supply. I recognize the high level of collaboration between affected forest licensees and the provincial government in their input into the design of the WHA. This collaboration resulted in amendments to proposed WHA

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boundaries, deletion of candidate areas, and wording within the order document to allow for exemptions, with input from a Qualified Professional.

This WHA was designed with a high degree of overlap with existing timber harvesting constraints, notably around wetland forage areas. 100% of the forested area of each WHA polygon must be retained in mature and/or old-growth condition with allowance to 90% to address operational flexibility for access, operations safety and to minimize impacts on adjacent environmental values.

(1)(c)(i) The benefits to the public derived from the order would outweigh any material adverse impact of the order on the delivered wood costs of a holder of any agreement under the Forest Act that would be affected by the order.

The information I have considered, including comments from affected *Forest Act* agreement holders, does not indicate that this order would create a material adverse impact on delivered wood costs.

All eight of the Forest Act agreement holders with overlapping tenures did not raise concerns or issues with respect to the delivered wood costs associated with the WHA established by this order.

Throughout the consultation process, individual licensees met with staff to discuss and work out potential issues as well as address wording within the order. After numerous amendments, there was endorsement of the proposed order from members of the Coast Mountain Timber Supply Steering Committee prior to the last round of public consultation (review & comment).

In addition to considering the potential for this order to have a material adverse impact on delivered wood costs, I have considered the public benefits that would be derived from this order. Canada and British Columbia are signatories to the 1996 Accord for the Protection of Species at Risk that commits the federal government, provinces and territories to establish complementary legislation and programs to protect Canada's species at risk. In BC, the majority of British Columbians support the protection and recovery of species at risk.

Grizzly bear is one of the identified 'Species at Risk' in British Columbia. Policies for conservation of identified wildlife are outlined in the provincial *Identified Wildlife Management Strategy* (IWMS, MWLAP 2004) and are implemented through the *Forest & Range Practices Act* (FRPA). The proposed WHA covers portions of five Grizzly Bear Population Units: Stewart-Meziadin, Khutzeymateen, Cranberry, North Coast, and Bulkley-Lakes. These are listed as viable populations and are provincially significant. Industrial-activities under the *Forest and Range Practices Act* and the *Oil and Gas Activities Act* have the potential to adversely impact grizzly bear habitat through forest cover removal (impacting security cover, forage availability, bedding sites and grizzly bear trails) and the creation of roads and other linear corridors (e.g. pipeline right-of-ways).

Provincial / Federal Conservation Status for Grizzly Bears:
BC Status: S3 (2010) CDC Blue List
COSEWIC ranking: SC (2002) G4 (2000)
Conservation Framework Highest Score: 2 (Prevent species from becoming at risk).
GAR Implementation Plan Provincial Score: 7.5
GAR Implementation Plan Regional Score: 3

Expected Conservation Achievements /Outcome

The Coast Mountains Resource District in noted for its high value grizzly bear habitat and is some of the best in the province and is ranked provincially significant. Grizzly bear is an identified "Species at Risk" in British Columbia. Policies for conservation of identified wildlife are outlined in the provincial Identified Wildlife Management Strategy (IWMS, MWLAP 2004) and are implemented through the Forest and Range Practices Act (FRPA).

This Order, in part, will contribute to the habitat protection conservation pillar through the protection of a portion of critical habitat at this time. Other conservation pillars focus on reducing human/bear conflict, habitat suitability alteration and fragmentation, and erosion prevention of habitat effectiveness (access management for example).

(1)(c)(ii) The benefits to the public derived from the order would outweigh any undue constraint on the ability of a holder of an agreement under the Forest Act or the Range Act that would be affected by the order to exercise the holder's rights under the agreement.

The information I have considered, including comments from affected *Forest Act* and *Range Act* agreement holders, does not indicate that this order would constrain the ability of a holder of an agreement under the *Forest Act* or the *Range Act* to exercise the holder's rights under the agreement. Of the five *Forest Act* agreement holders who provided comments, Coast Tsimshian Resources and Haisla Resources Limited Partnership, represented by Brinkman, have indicated concern over loss of economic opportunity, and thus pulled their support. However, this WHA Order directly fulfills elements of the Kalum LRMP direction. In addition, both Coast Tsimshian Resources and Haisla Resources Limited Partnership have committed to managing the critical grizzly bear habitat in their Forest Stewardship Plans, illustrating that such management in fact is current practice.

There are no *Range Act* agreement holders within the plan area.

In addition to considering the potential for this order to unduly constrain the ability of an agreement holder to exercise their rights, I have considered the public benefits that would be derived from this order (see GAR 1(c)(i) above). Considering the information available to me, I find the public benefit of this order to be compelling

relative to the lack of an indication of undue constraint on the ability of a holder to execute the holder's rights under the agreement.

GAR 3 – Consultations and Reviews

(1)(a) An opportunity for review and comment was provided to the holders of agreements under the Forest Act or the Range Act that would potentially be affected by the order.
(1)(b) Consultation was carried out with holders on whom the order may have a material adverse effect.

This order was originally supported by all forest licensees affected in the Coast Mountains Resource District, and follows direction set out in the Kalum LRMP (2002). During the consultation process with the CMRD TSA Steering Committee, there were two main concerns with the package:
1) being operationally effective & flexible with an adequate amendment process, and
2) a lack of coverage for the entire plan area.

Reworking of the written order and associated general wildlife measures with members of the TSA steering committee alleviated the first issue. Issue 2 is more complex, and assurances were given that works will continue into the future as funding permits, and the Ministry provided assurance that the THLB impacts within the Kalum LRMP agreement will not be exceeded with future revisions.

All comments received by MFLNRO during review/comment or consultation were made available for my consideration.

Due diligence was exercised to ensure that:
a) any holder of an agreement under the *Forest Act* or *Range Act* that would potentially be affected by this order was given an opportunity to review and comment on the proposed order;
b) consultation was carried out with any holder on whom the order may have a material adverse effect.

GAR 9 - General Wildlife Measures

(2)(a) The general wildlife measures are necessary to protect or conserve the species at risk.

I am satisfied that the general wildlife measures established by this order are necessary to protect or conserve the species at risk. The measures are consistent with current standards, are supported by the current best available science, and have been made available to agreement holders for review and comment.

(2)(b) The regulations under the Forest and Range Practices Act or another enactment do not otherwise provide for that protection or conservation.

While other regulations or enactments may deliver some of the special management required for the protection or conservation of the WHA, these restrictions are not specific to Grizzly bear and there is no certainty that the mechanism will provide ongoing protection to the species. The general wildlife measures established by this order are necessary and I am satisfied that the regulations under the *Forest and Range Practices Act* or another enactment do not otherwise provide for protection or conservation of the areas and species addressed by this order.

The principal threats to grizzly bear populations in British Columbia, aside from human caused mortality, are habitat loss, alienation, and fragmentation. Policies for conservation of identified wildlife are outlined in the Provincial Identified Wildlife Management Strategy (IWMS) and are implemented through the Forest and Range Practices Act (FRPA). The IWMS includes course filter mechanisms for managing identified wildlife, such as landscape level planning, Old Growth Management Areas (OGMA's) and fine filter mechanisms, such as the establishment of WHAs and associated General Wildlife Measures (GWMs).

Critical patch habitats for grizzly bear in this order include open habitats, inherently free of timber and not directly threatened by forest harvesting. However, for these sites to retain their ecological integrity and value to grizzly bears, the maintenance of adjacent forest (security and thermal cover) is essential. Adjacent forests contain important wildlife habitat features such as bed areas, trails, mark trees and wallows. These also provide shade and reduced temperatures during the summer months. Without this cover, the value of these core areas is reduced or negated. Protection of the security and thermal cover associated with critical patch habitat is achieved by the delineation of forested buffers around these habitats. These WHA polygons are the combination of the core/critical habitats and a forested buffer.

GAR 10 – Wildlife Habitat Areas

(1) The wildlife habitat area is necessary to meet the habitat requirements of a category of species at risk.

I am satisfied that the WHA approved by this order contain habitat that is necessary to meet the habitat requirements of Grizzly bear. Suitability of the WHA polygons was confirmed through orthophoto typing of habitats by McElhanney Consulting Services Ltd., and a site visit or aerial reconnaissance sampling for verification of habitat ratings prior to inclusion to the proposed WHA. The work was conducted in the years of 2004, 2005, 2006 and 2014.

Signed this 19 day of ~~2018~~, 2018
Eamon O'Donoghue, Regional Executive Director, Skeena Region
Ministry of Forests, Lands, Natural Resource Operations and Rural Development

BRITISH COLUMBIA

ORDER – Specified Area GAR
#SA-6-292
Thinhorn Sheep Disease Prevention – Skeena Region

This order is given under the authority of section 9(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004) (GAR).

The Regional Executive Directors of Forests, Lands, Natural Resource Operations and Rural Development – Skeena Region being satisfied that:

i. the following specified area contains habitat that is necessary to meet the habitat requirements for Dall's sheep (*Ovis dalli dalli*) and Stone's sheep (*Ovis dalli stonei*), collectively referenced to as thinhorn sheep; and
ii. the general wildlife measures (GWMs) described below are necessary to protect and conserve Dall's sheep and Stone's sheep herd health; and
i. the habitat requires special management that is not otherwise provided for under GAR or another enactment;

orders that:

a) the area shown in the map set out in the attached Schedule A (#SA-6-292) and contained in the Specified Area (SA) spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_WILDLIFE_HABITAT_AREA _POLY) are established as Specified Area #SA-6-292 for thinhorn sheep. The centre point of the line on the attached Schedule A is what establishes the SA boundary; and

b) if there is a discrepancy between the areas shown in the map set out in the attached Schedule A and the SA spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_ WILDLIFE_HABITAT_AREA _POLY), the areas as detailed in the SA spatial layer will take precedent; and

c) the GWMs outlined in Schedule 1 are established for Specified Area SA-6-292; and

d) for the purposes of section 2(3)(a) of the *Government Actions Regulation*, the general wildlife measures outlined in Schedule 1 apply to minor tenures.

1

Schedule 1 – General Wildlife Measures

Definitions

Words and expressions not defined in this Order have the meaning given to them in the *Forest and Range Practices Act* (FRPA) and the regulations made under it, unless otherwise defined in the Order.

In this schedule:

a) **Camelids** are defined as various mammals of the family Camelidae, having padded two-toed feet and a cleft upper lip, and including the alpaca, camels, guanaco, llama, and vicuña.

b) **Thinhorn sheep specified area** is the specified area polygon established by way of this Order where thinhorn sheep include Dall's sheep and Stone's sheep.

c) **Vegetation Management** includes the removal, suppression, or control of any plant growth. This may pertain to changing species composition, or structure of plant communities via different silvicultural methods.

General Wildlife Measures (GWMs)

1. The use of domestic sheep, goats or camelids is prohibited on range tenures, in range tenure agreements, and for vegetation management/silviculture treatment within the thinhorn sheep specified area.

2. Salt or mineral supplement blocks placed within thinhorn sheep specified area will be in an unused condition and must not have been predisposed to contact with domestic sheep, goats or camelids.

3. Hay and feed used within thinhorn sheep specified area will not have been predisposed to contact with domestic sheep, goats or camelids.

Signed this 5 day of February, 2020
Geoff Recknell, Regional Executive Director, Skeena Region
Ministry of Forests, Lands and Natural Resource Operations and Rural Development

2

Appendix 1 – General Information

The following information is provided as background information and support to the Order establishing Specified Area #SA-6-292. This appendix is not part of the legal Order.

1. **Activities to which the order does not apply:** Section 2(2) of the *Government Actions Regulation* states

   An order under any of sections 5 to 15 does not apply in respect of
   (a) any of the following entered into before the Order takes effect:
      (i) a cutting permit;
      (ii) a road permit;
      (iii) a timber sale licence that does not provide for cutting permits;
      (iv) a forestry licence to cut issued by a timber sales manager under section 47.6 (3) of the *Forest Act*;
      (v) subject to subsection (3), a minor tenure,
   (b) a declared area,
   (c) areas described in section 196 (1) of the Act, and
   (d) areas referred to in section 110 of the *Forest Planning and Practices Regulation*.

2. Vegetation management by domestic sheep and goats is generally a silviculture prescription (described in section 42 of the Forest Planning and Practices Regulation) under FRPA.

3. GAR Order SA-6-292 applies only to Parks Protected Areas that allow for range tenure establishment or have existent range tenure agreements that involve the use or holding of domestic sheep, goat, and camelids.

4. Authority to consider an exemption from these GWMs is provided in section 92(1) of the *Forest Planning and Practices Regulation,* section 79(1) of the *Woodlot Licenses Planning and Practices Regulation* and section 36(3) of the *Range Planning and Practices Regulation*. An exemption may be provided if the Minister's delegate is satisfied that the intent of the general wildlife measure will be achieved or that compliance with the provision is not practicable, given the circumstances or conditions applicable to a particular area.

   An exemption application should be submitted to the Minister's delegate (Ministry of Forests, Lands, Natural Resource Operations and Rural Development Regional Director of Resource Management for the Region within which the SA is located) with a rationale describing the nature of the problem and options to integrate SA conservation with proposed forest and/or range practices. A spatially explicit strategy for conservation of thinhorn sheep assist in timely consideration of the matter, and will inform the conditions, if any, of the exemption that may be granted prior to commencement of activities. Upon receipt of a complete exemption application, a determination will normally be made within 14 days of arrival. Incomplete packages will be returned to the proponent for re-submission.

Exemptions may be considered for:

Temporary presence of domestic sheep, goats or camelids where singular, site-specific exceptions may be granted where it can be demonstrated by a qualified professional biologist or wildlife veterinarian that, due to exceptional circumstance(s), there is no risk to thinhorn sheep.

5. Improvements in scientific and biological information may lead to amendment(s) consistent with the *Government Actions Regulation* of the thinhorn sheep specified area measures including:
    a. the addition of new, or deletion of existing, thinhorn sheep habitat polygon units;
    b. the adjustment of thinhorn sheep specified area unit boundaries including their associated buffers.

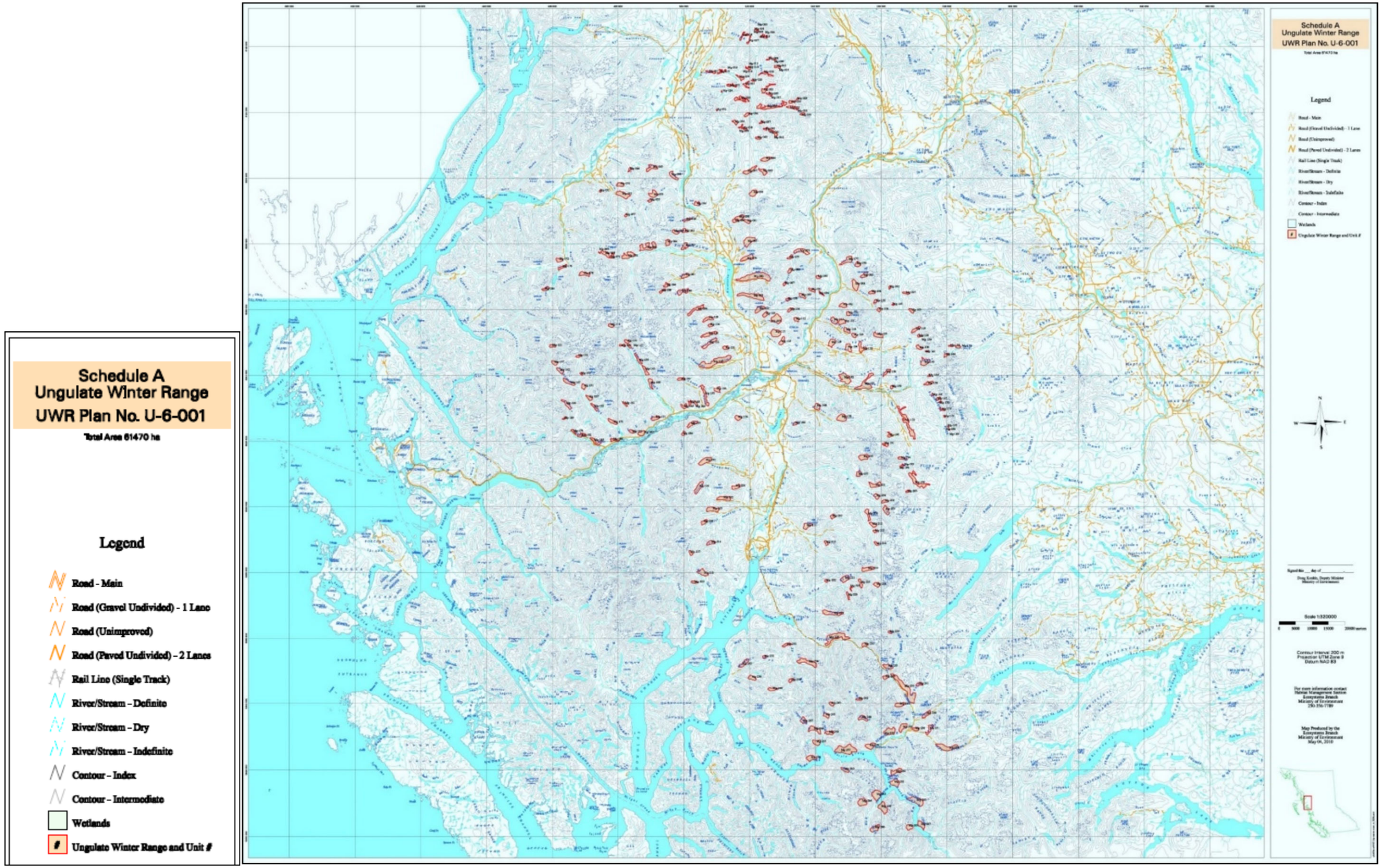


Figure 28. Ungulate Winter Range U-6-001 for Mountain Goat

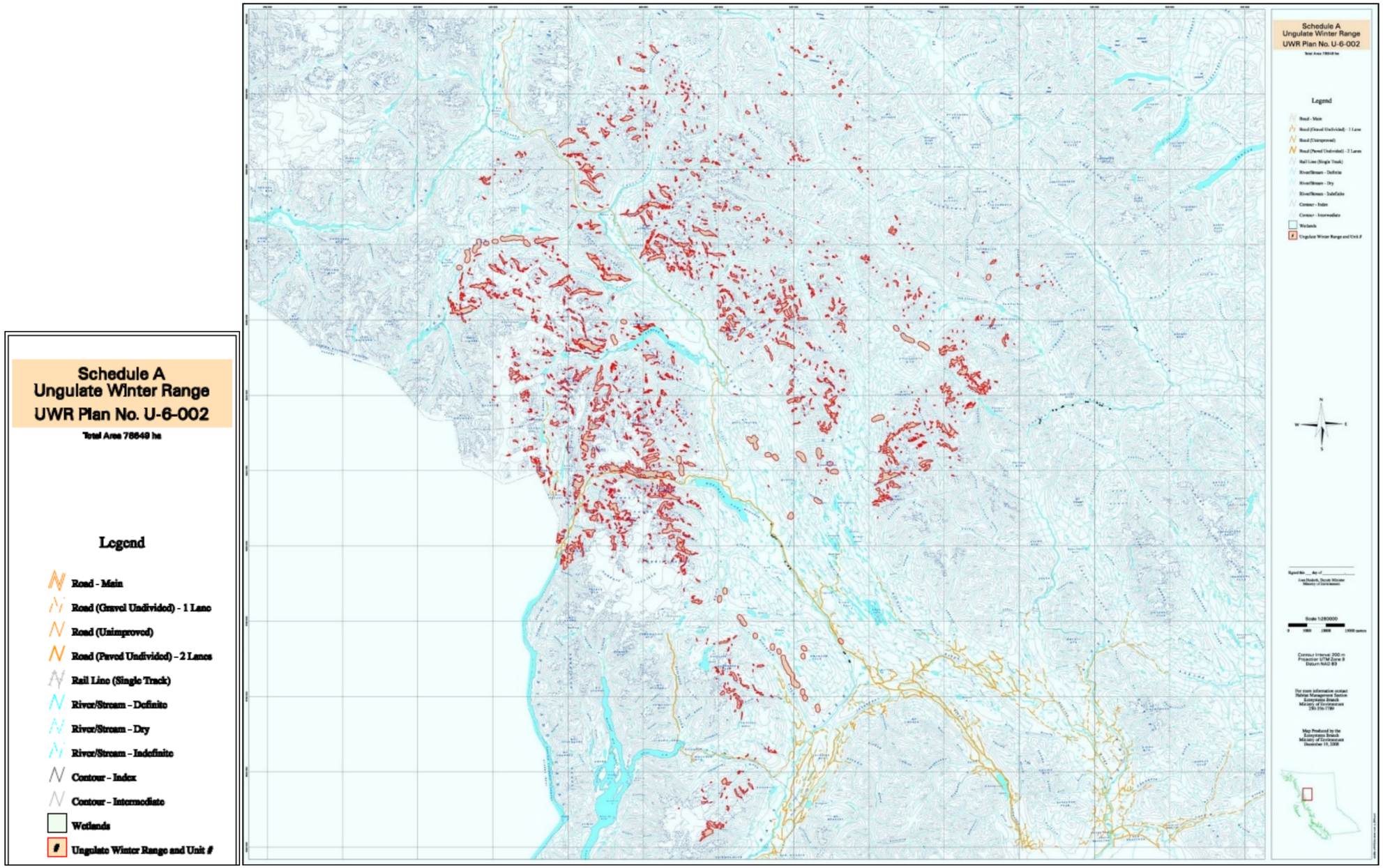


Figure 29. Ungulate Winter Range U-6-002 for Mountain Goat

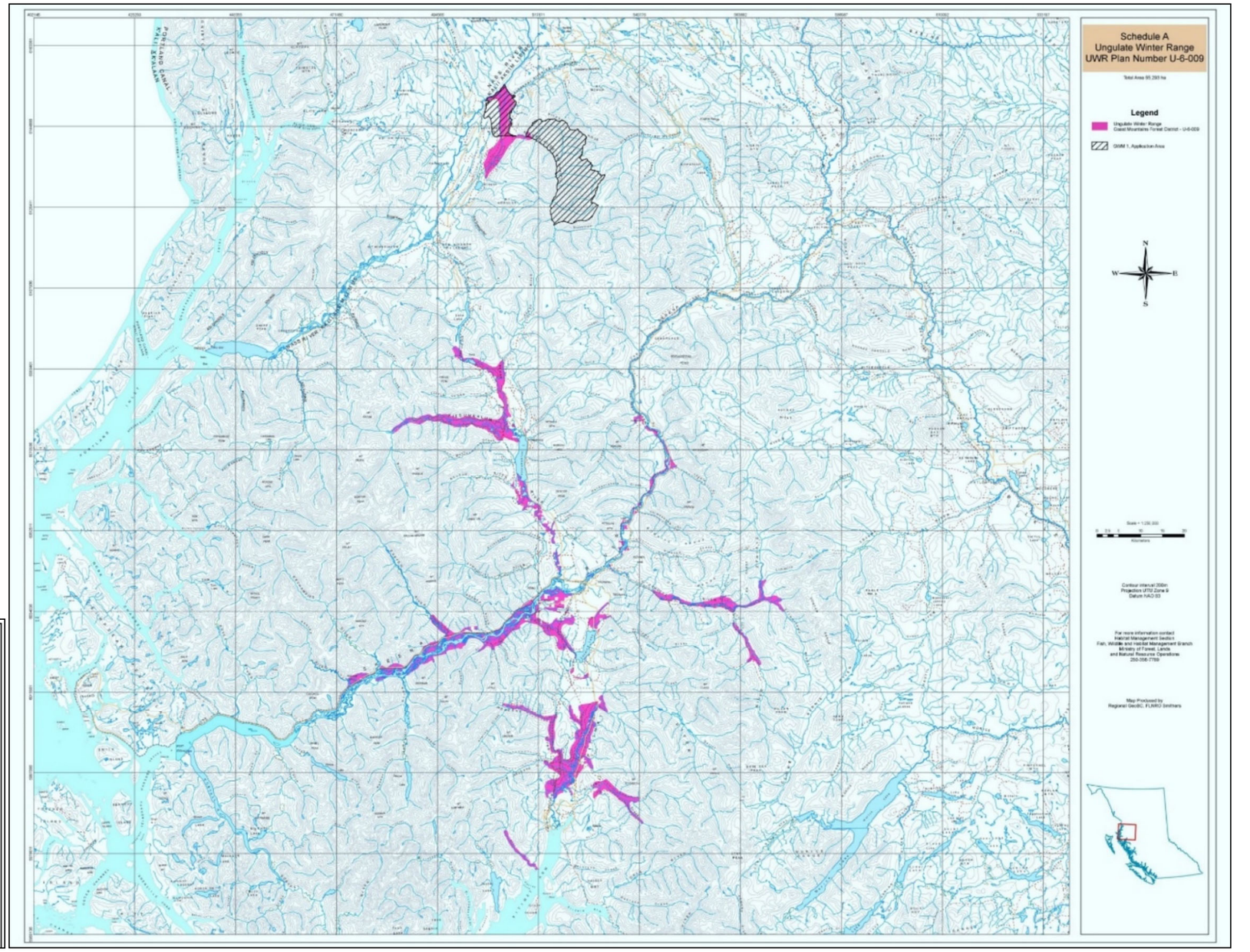


Figure 30. Ungulate Winter Range U-6-009 for Moose

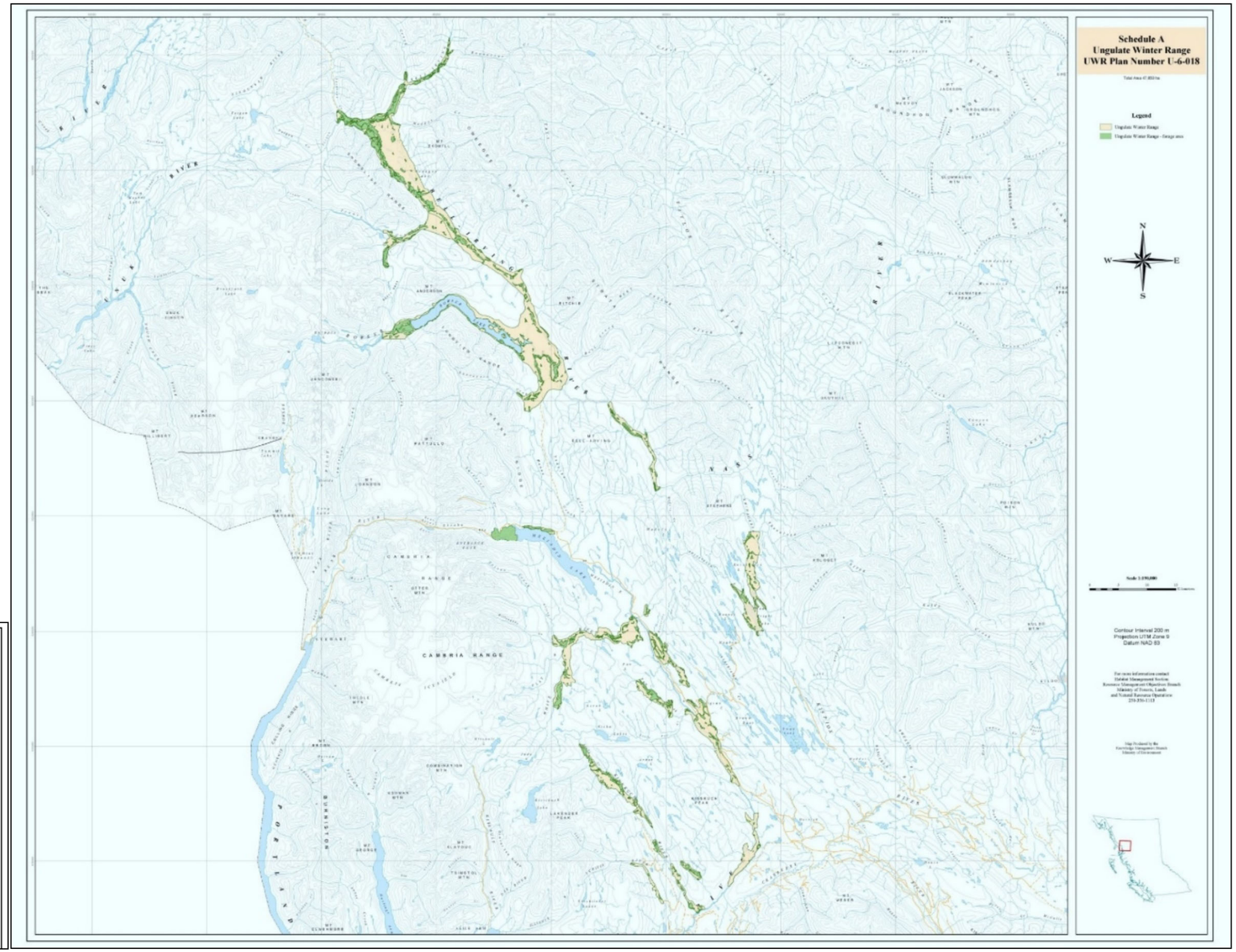


Figure 31. Ungulate Winter Range U-6-018 for Moose

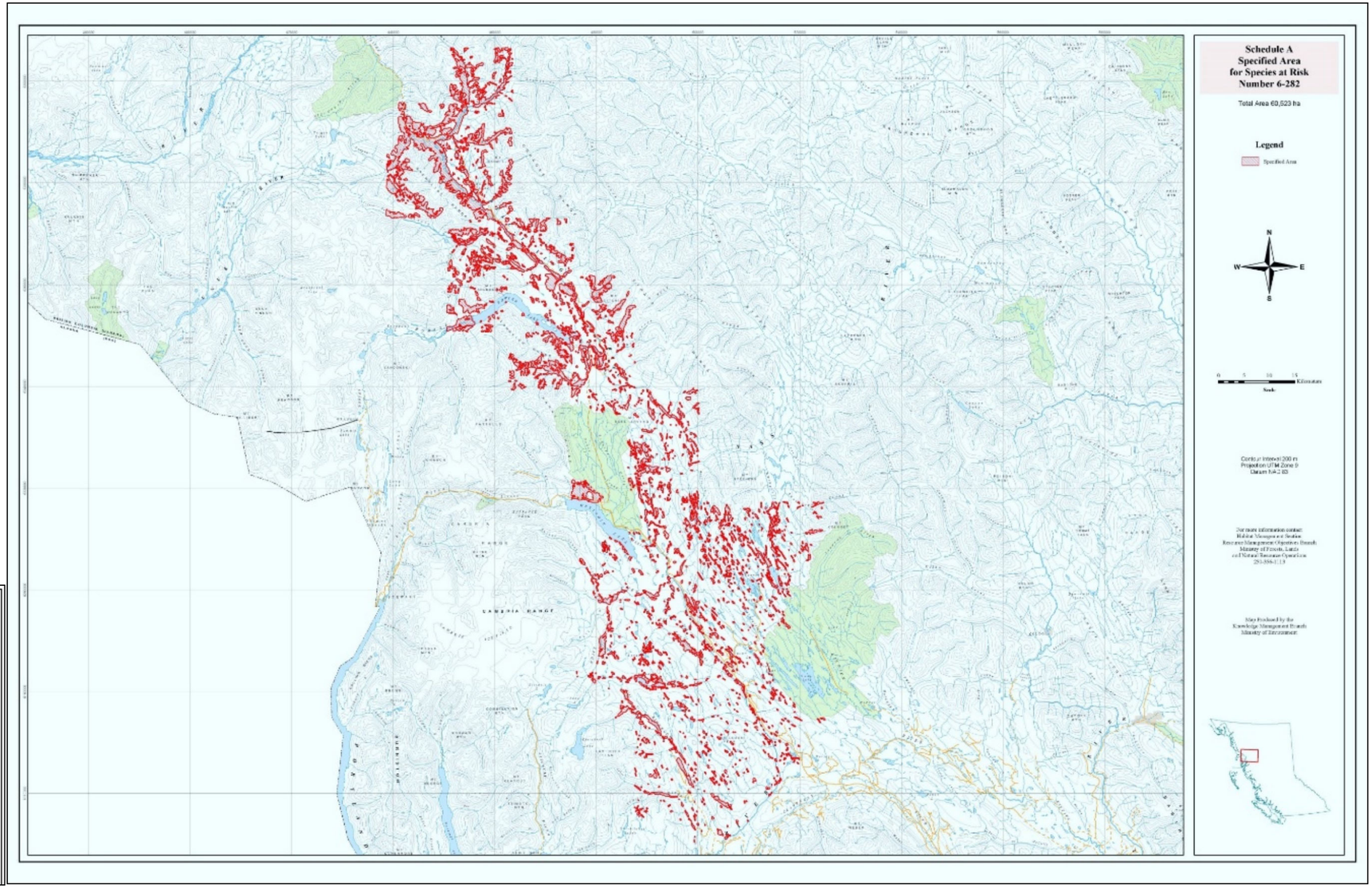


Figure 32. Specified Area U-6-282 for Grizzly Bear

BRITISH COLUMBIA

ORDER – Wildlife Habitat Areas # 6-058 and 6-059

This order is given under the authority of sections 9(2) and 10(1) of the *Government Actions Regulation* (B.C. Reg. 582/04).

The Deputy Minister of Environment orders that:

1. the wildlife habitat area shown in the map set out in the attached Schedules A (6-058 and 6-059) and boundaries contained in the GIS file *twha_bc* are established;
2. the wildlife habitat area in the attached Schedule A and boundaries contained in the GIS file *twha_bc* are established for Coastal Tailed Frog (*Ascaphus truei*);
3. the general wildlife measures outlined in Schedule 1 are established for the wildlife habitat areas in the attached Schedule A and boundaries contained in the GIS file *twha_bc*;
4. where there is any discrepancy between the wildlife habitat area boundaries as shown in the attached Schedules A and the GIS file *twha_bc*, the boundary as detailed in the GIS file will take precedent. The centre point of the line on the map denoting the wildlife habitat area is what establishes the boundary; and
5. pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan are hereby exempted from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation* for Coastal Tailed frog in the Kalum Forest District.

Schedule 1 – General Wildlife Measures

Access

- No road construction or stream crossings will be established within the core area. Where other options are not practicable, and roads or stream crossings are determined to be necessary for access, an exemption is required from the Minister of Environment or delegate.
- When roads are determined to be necessary, minimize their length and width to alleviate as much as practicable, site disturbance. Reduce groundwater interception in the cut-slope; use sediment-control measures in cut-and-fill slopes (e.g., grass-seeding, armouring ditch lines, and culvert outfalls); deactivate roads but minimize digging and disturbance to adjacent roadside habitat; and minimize site disturbance during road right-of-way clearing, especially in terrain polygons with high sediment transfer potential to natal streams.
- Where stream crossings are required, fall and yard away from, or bridging, all other stream channels (ephemeral or perennial) within the WHA, to reduce channel disturbance and slash loading; and ensure the type of crossing structure and any associated roads are

designed and installed in a way that minimizes impacts to tailed frog in-stream and riparian habitats. Use temporary clear span bridges where practicable.

Harvesting and silviculture

- Do not harvest or salvage timber within the core area or special management zone.

Pesticides

- Do not use pesticides unless an exemption is approved by the Minister of Environment or delegate.

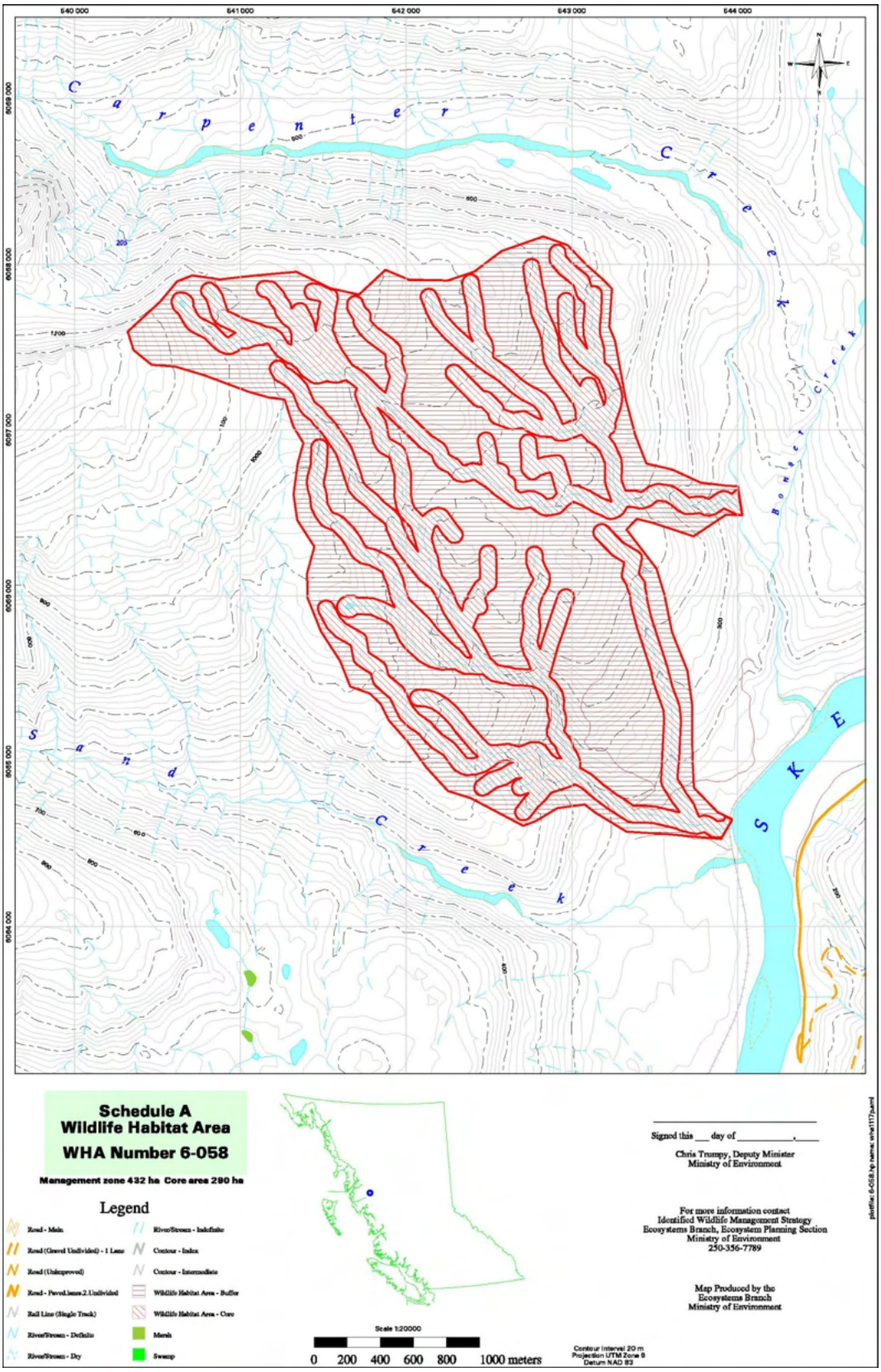


Figure 33. Wildlife Habitat Area 6-058 – Kalum FDU

BRITISH COLUMBIA

ORDER – Wildlife Habitat Areas # 6-060 to 6-067

This order is given under the authority of sections 9(2) and 10(1) of the *Government Actions Regulation* (B.C. Reg. 582/04).

The Deputy Minister of Environment orders that:

1. the wildlife habitat area shown in the map set out in the attached Schedules A (6-060, 6-061, 6-062, 6-063, 6-064, 6-065, 6-066 and 6-067) and boundaries contained in the GIS file *twha_bc* are established;
2. the wildlife habitat area in the attached Schedules A and boundaries contained in the GIS file *twha_bc* are established for Coastal Tailed Frog (*Ascaphus truei*);
3. the general wildlife measures outlined in Schedule 1 are established for the wildlife habitat areas in the attached Schedule A and boundaries contained in the GIS file *twha_bc*;
4. where there is any discrepancy between the wildlife habitat area boundaries as shown in the attached Schedule A and the GIS file *twha_bc*, the boundary as detailed in the GIS file will take precedent. The centre point of the line on the map denoting the wildlife habitat area is what establishes the boundary; and
5. pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan are hereby exempted from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation* for Coastal Tailed frog in the Kalum Forest District.

Schedule 1 – General Wildlife Measures

Access

- No road construction or stream crossings will be established within the core area. Where other options are not practicable, and roads or stream crossings are determined to be necessary for access, an exemption is required from the Minister of Environment or delegate.
- When roads are determined to be necessary, minimize their length and width to alleviate as much as practicable, site disturbance. Reduce groundwater interception in the cut-slope; use sediment-control measures in cut-and-fill slopes (e.g., grass-seeding, armouring ditch lines, and culvert outfalls); deactivate roads but minimize digging and disturbance to adjacent roadside habitat; and minimize site disturbance during road right-of-way clearing, especially in terrain polygons with high sediment transfer potential to natal streams.
- Where stream crossings are required, fall and yard away from, or bridging, all other stream channels (ephemeral or perennial) within the WHA, to reduce channel disturbance and slash loading; and ensure the type of crossing structure and any associated roads are

designed and installed in a way that minimizes impacts to tailed frog in-stream and riparian habitats. Use temporary clear span bridges where practicable.

Harvesting and silviculture

- Do not harvest in the core area or within the gully where the gully extends beyond the core area.
- For the special management zone, develop a spatially explicit management plan for approval by the Minister of Environment or delegate, prior to development, which is consistent with the goals of the general wildlife measures . Use a silviculture system that maintains 70% residual stand volume and attributes of the natural stand structure profile, evenly dispersed, including:
    - 70% of all original diameter classes represented in proportion to the average stand profile for the site series.
    - Rare site series will be retained in greater proportion than they occur in the landscape unit.
    - At least 50% of area will have interior-forest conditions (2 tree lengths defines edge habitat along topographic features such as gullies and bluffs, or 4 tree lengths for clear-cut edges).
    - Connectivity of natural forest along and between streams, and over low heights of land.
    - 70% snags, large green trees, understory plant community, vertical and horizontal structure.
    - coarse woody debris including large-diameter, long logs with horizontal and vertical structure.

- No timber salvage should be carried out.
- Avoid cross-stream yarding.
- Do not use chemical applications (e.g., dust palliative polymer stabilizers and soil binders that can be sprayed within ditch lines).

Pesticides

- Do not use pesticides unless an exemption is approved by the Minister of Environment or delegate.

Signed this 28th day of March, 2006
Chris Trumpy, Deputy Minister
Ministry of Environment

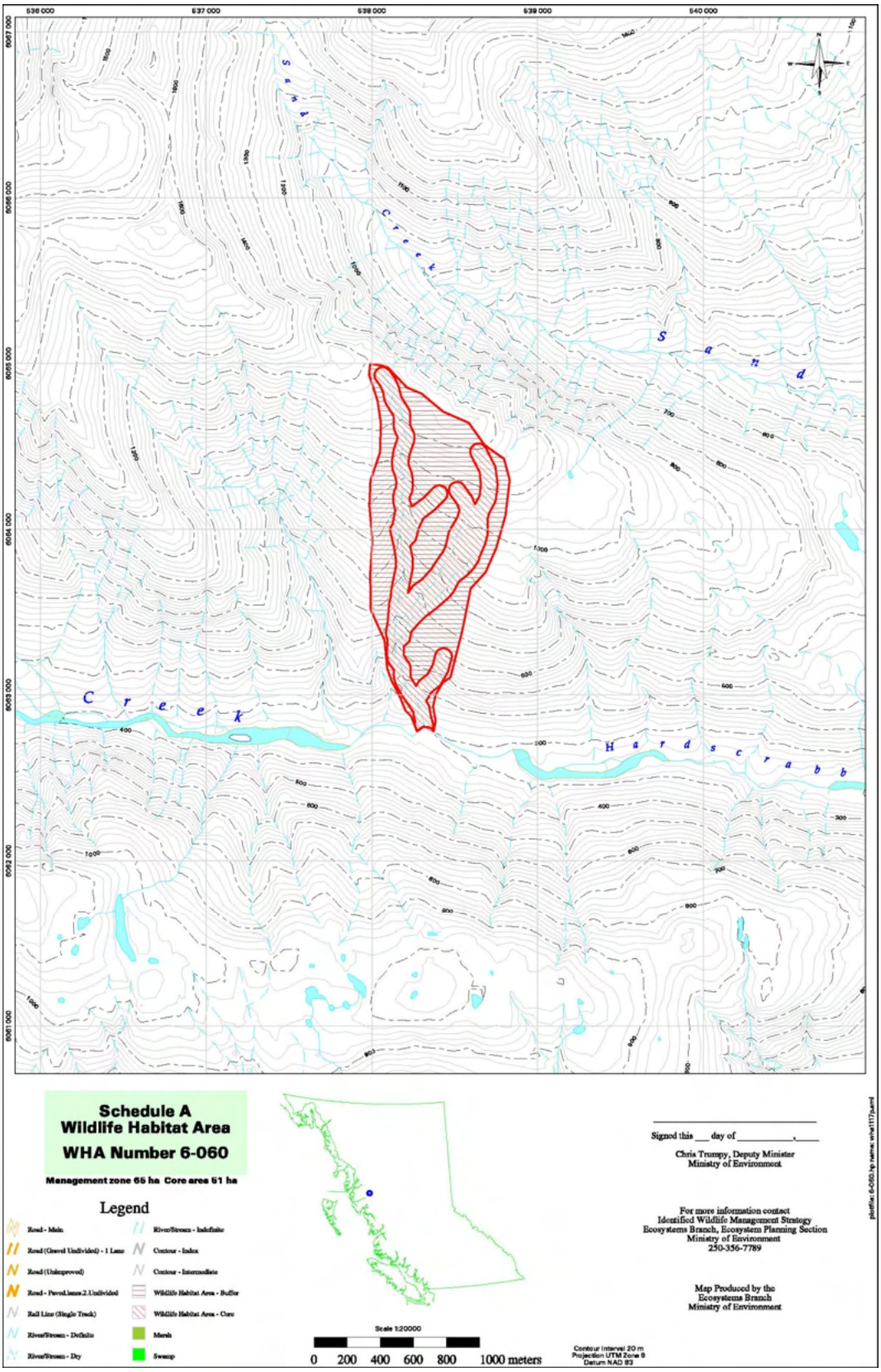


Figure 34. Wildlife Habitat Area 6-060 – Kalum FDU

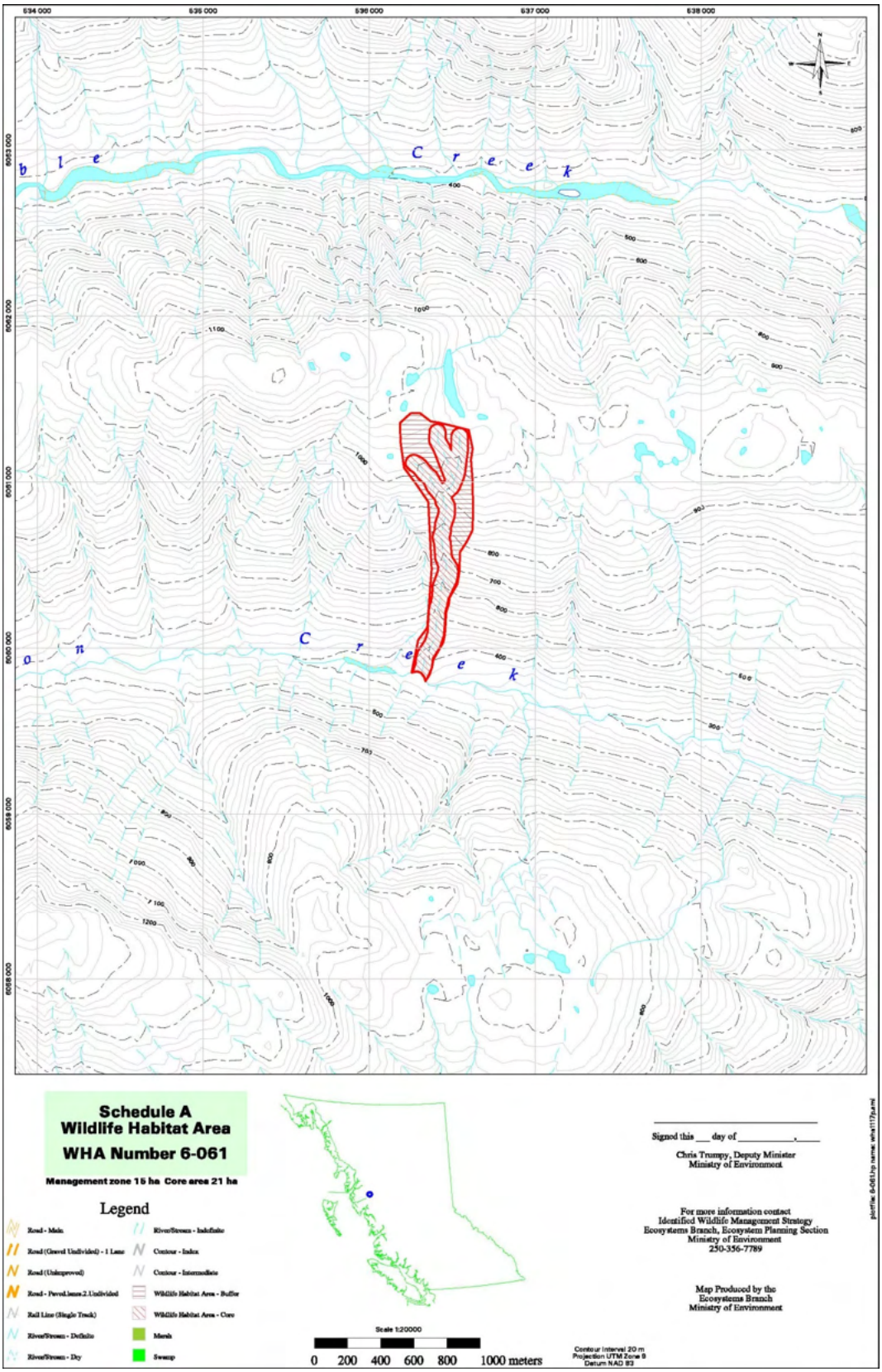


Figure 35. Wildlife Habitat Area 6-061 – Kalum FDU

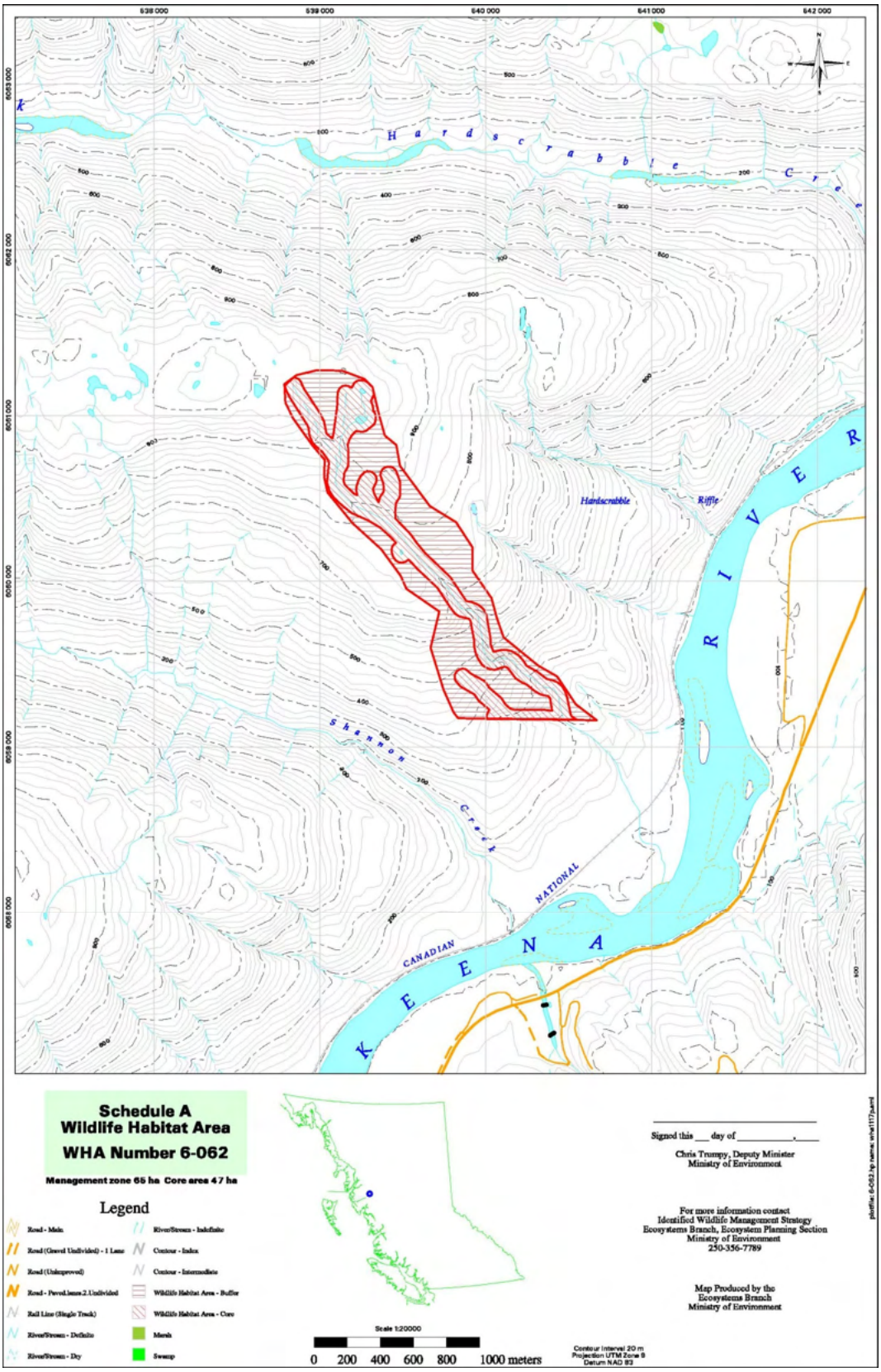


Figure 36. Wildlife Habitat Area 6-062 – Kalum FDU

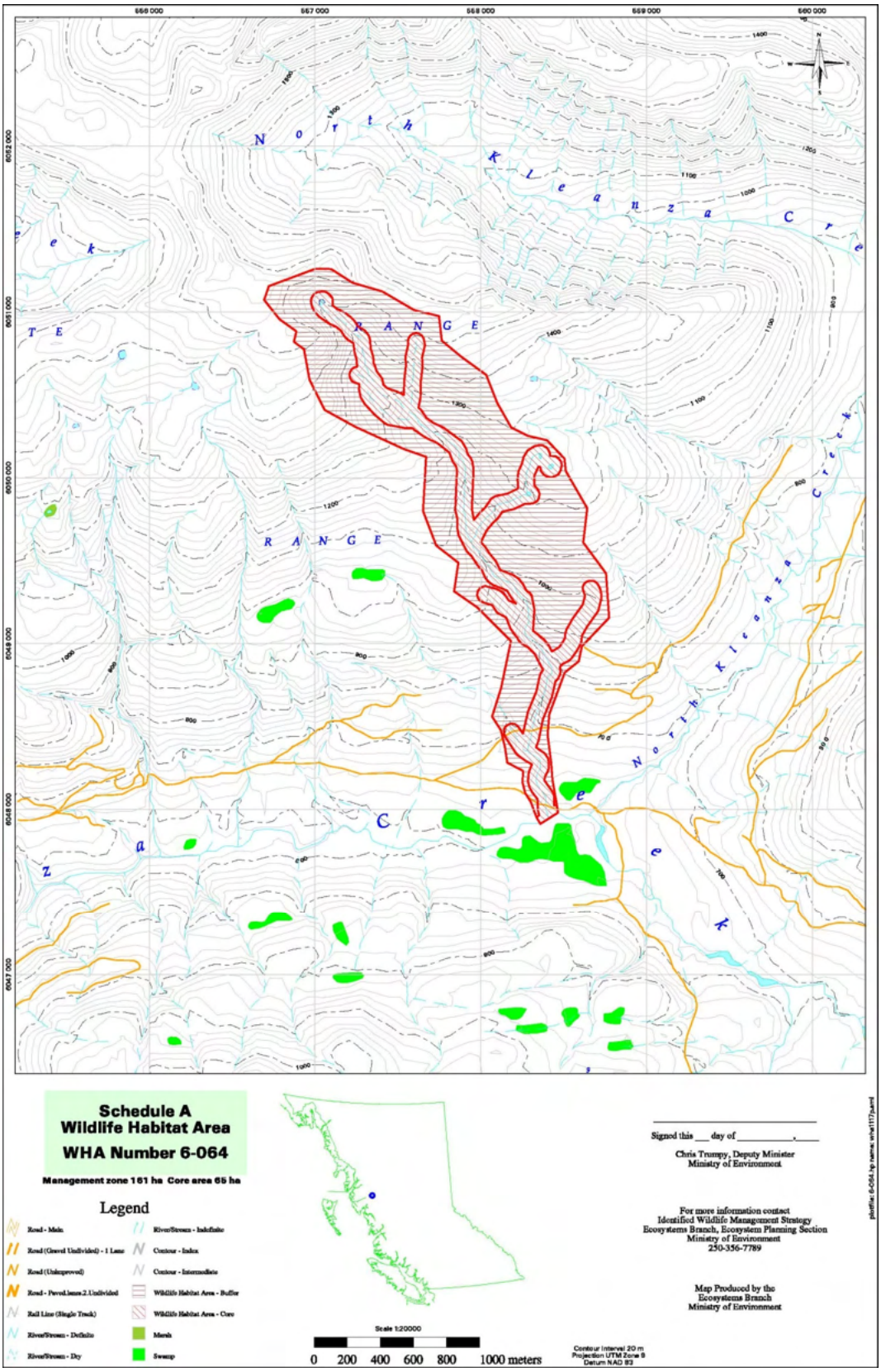


Figure 37. Wildlife Habitat Area 6-064 – Kalum FDU

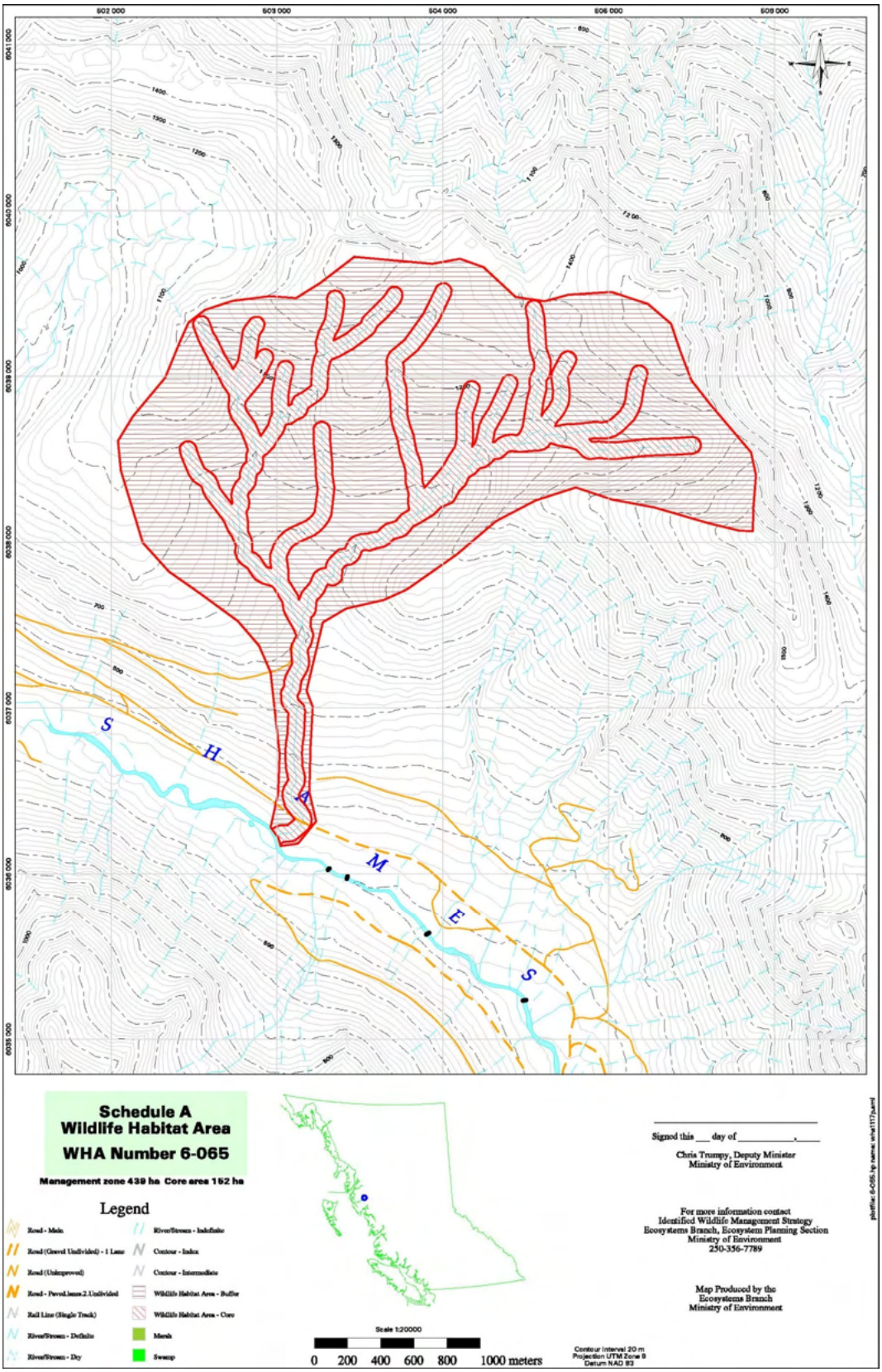


Figure 38. Wildlife Habitat Area 6-065 – Kalum FDU

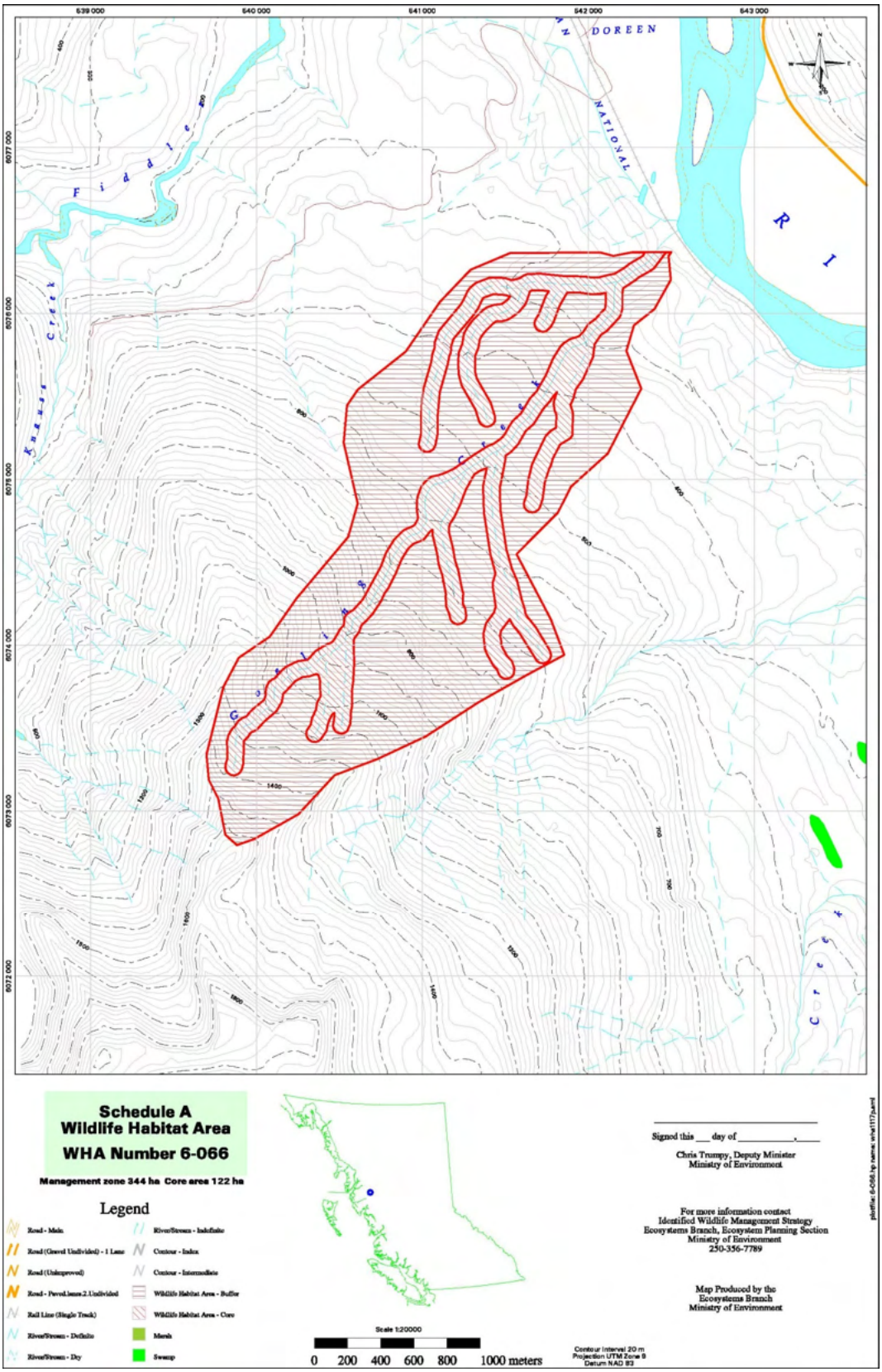


Figure 39. Wildlife Habitat Area 6-066 – Kalum FDU

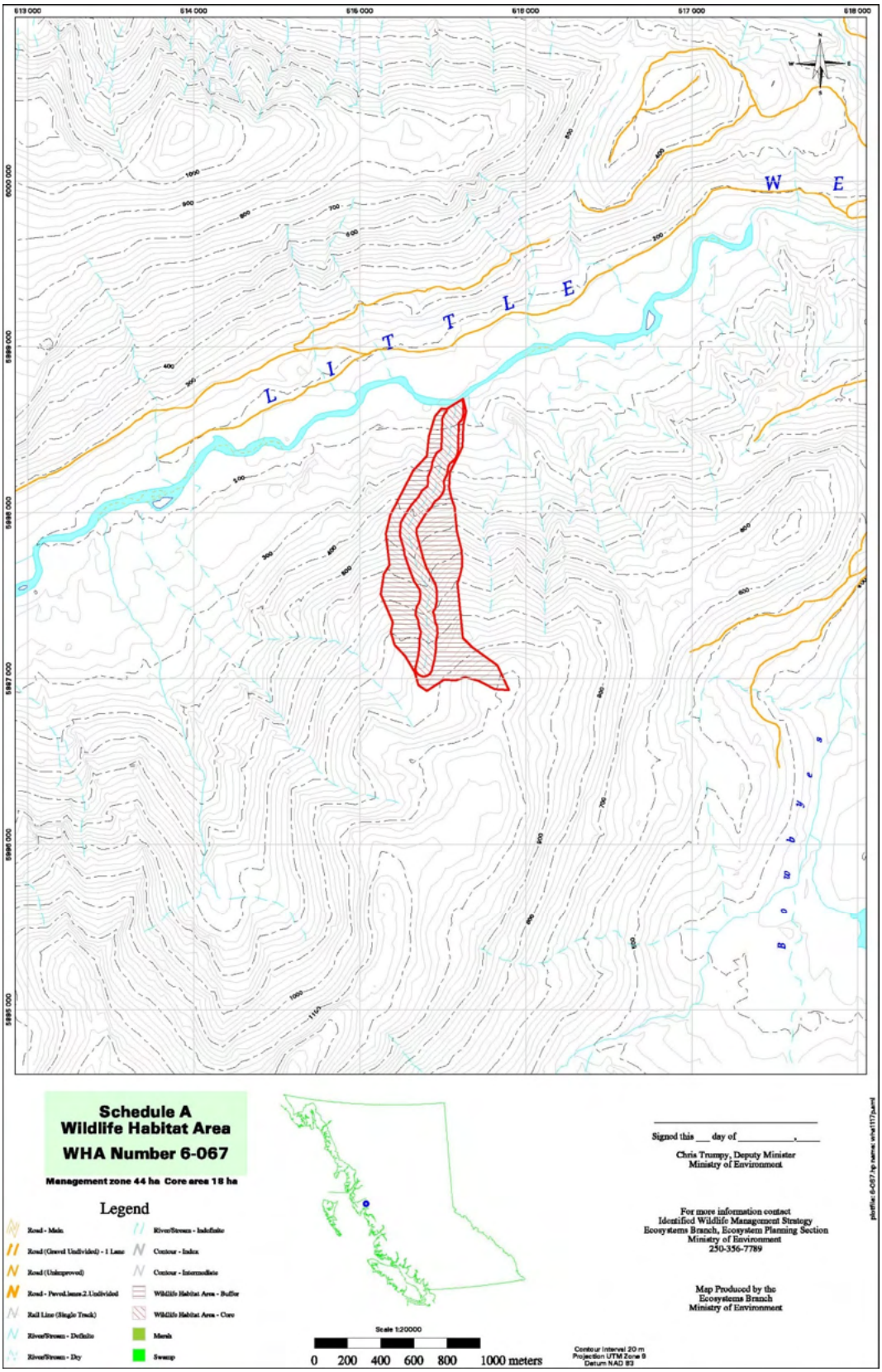


Figure 40. Wildlife Habitat Area 6-067 – Kalum FDU

Ministerial Order
Land Use Objectives Regulation

AMENDMENT
to
Land Use Objectives for the Kalum Sustainable Resource Management Plan (2006) - (Skeena Islands only)

BRITISH COLUMBIA

Ministry of Forests, Lands, Natural Resource Operations and Rural Development

1

PROVINCE OF BRITISH COLUMBIA
Ministry of Forests, Lands, Natural Resource Operations and Rural Development

Ministerial Order – Land Use Objectives Regulation
Amendment to Land Use Objective 10 - Skeena Islands
in the 2006 Kalum Sustainable Resource Management Plan (2006)

Part 1 - Interpretation

1.0 Relationship with the *Forest and Range Practices Act* Objectives

1) Pursuant to Section 93.4 of the *Land Act*, Objective 10 of the Kalum Sustainable Resource Management Plan (2006) Order is cancelled and replaced with the following objective for the purposes of the *Forest and Range Practices Act*. The objective applies to the provincial Crown land portion of the Skeena Islands as shown on the attached Map 6.

2) Any footnote or map referenced in the objective is an integral part of the objective.

3) If there is a discrepancy in the area shown on Map 6 and the spatial information on the legal planning layer of the BC Geographic Warehouse, the spatial information will take precedence

4) This Order takes effect on the date the notice is posted in the Gazette.

5) Pursuant to section 8(2) (b) of the *Forest and Range Practices Act*, the holder of a Forest Stewardship Plan (FSP) must propose and submit for approval amendments to the FSP within one year of the date this order takes effect.

2.0 Definitions

(1) In this order:

A. **Rare plant community complex -** means an area supporting a rare plant community and the nearby representation of the range of successional stages and vegetation. A rare plant community is a high bench Sitka Spruce-Salmonberry (CWHws1/07, CWHvm1/09) and middle bench Black Cottonwood-Red-osier Dogwood (CWHws1/08, CWHvm1/10).

Part 2 – Objectives

Objective 10:

Conserve rare plant community complexes on the Skeena Islands identified on Map 6, according to a), b), c) and d):

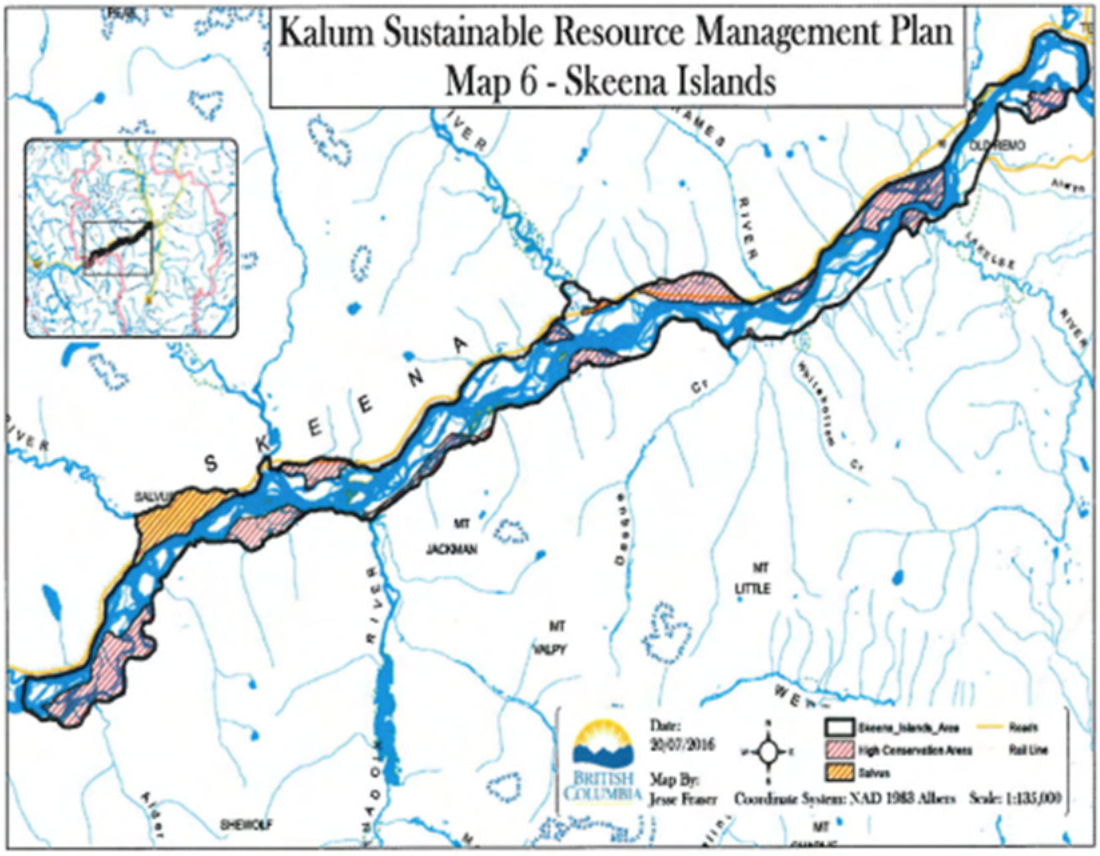
(a) Within the High Conservation Areas[1], retain 100% of the Crown forested land.

(b) Outside the High Conservation Areas, retain a forested, harvest-free 50-metre buffer around all back channels.

(c) Outside the High Conservation Areas, retain a forested, harvest-free 50-metre buffer around coniferous stumps, logs, and snags greater than 50 cm in diameter and around live coniferous trees greater than 50 cm in diameter at breast height.

(d) Only where it is otherwise not practicable and the objective to conserve rare plant community complexes can be achieved, may new roads be constructed within the High Conservation Areas to access timber outside those areas.

[1] For the area identified as "Salvus", government-led research activities, including harvesting for research purposes, is allowed.



Signed this 4 day of Dec, 2017
Eamon O'Donoghue, Regional Executive Director, Skeena Region
Ministry of Forests, Lands, Natural Resource Operations and Rural Development

4

Order Establishing Provincial Non-Spatial Old Growth Objectives

Order

I. Pursuant to section 4(1) of the *Forest Practices Code of British Columbia Act* (Act), the landscape units listed in Appendix 1, Table 1 are established as landscape units.

II. Pursuant to section 4(2) of the Act, part A of this Order establishes landscape unit objectives for the landscape units listed in Appendix 1, Table 1.

III. This Order does not apply to land contained within a woodlot licence, an area contained in a community forest agreement that is less than 600 hectares, or to areas defined as the 'trust area' as per the *Islands Trust Act* with the exception of Gambier and Anvil Island.

A. Biodiversity emphasis and old growth objectives

1. Biodiversity emphasis for landscape units

For the purpose of implementing objective 2 below, biodiversity emphasis is assigned as listed in Appendix 1, Table 1.

2. Old growth objectives

To contribute to the conservation of biodiversity, licensees[1] must maintain old forest by biogeoclimatic variant[2] within each landscape unit according to the age of old forest and the percentage of old forest retention that is specified in Tables 1 through 4 and the assignment of Natural Disturbance Types outlined in Appendix 3, and subject to provisions 5 through 9 below.

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[1] In this Order, "licensee" refers to a party required to prepare a forest development plan under the *Forest Practices Code of British Columbia Act* or a forest stewardship plan under the *Forest and Range Practices Act* with the exception of any agreement holder mentioned in III above.

[2] As approved by the Regional Director of MSRM, see the attached Implementation Policy.

Table 1. Natural Disturbance Type One

Biogeoclimatic Zone	Age of Old Forest	Percent Old Forest Retention in Low Biodiversity Emphasis	Percent Old Forest Retention in Intermediate Biodiversity Emphasis	Percent Old Forest Retention in High Biodiversity Emphasis
CWH[a]	>250yrs	>13	>13	>19
ICH	>250yrs	>13	>13	>19
ESSF	>250yrs	>19	>19	>28
MH	>250yrs	>19	>19	>28

a Some portions of the CWH have a much more frequent disturbance history due to extensive windthrow. Those portions of the CWHvm1, CHWvm2, CWHvh1, and CWHvh2 where wind event occur, should be considered to fall under NDT3.

Table 2. Natural Disturbance Type Two

Biogeoclimatic Zone	Age of Old Forest	Percent Old Forest Retention in Low Biodiversity Emphasis	Percent Old Forest Retention in Intermediate Biodiversity Emphasis	Percent Old Forest Retention in High Biodiversity Emphasis
CWH	>250yrs	>9	>9	>13
CDF	>250yrs	>9	>9	>13
ICH	>250yrs	>9	>9	>13
SBS	>250yrs	>9	>9	>13
ESSF	>250yrs	>9	>9	>13
SWB	>250yrs	>9	>9	>13

Table 3. Natural Disturbance Type Three

Biogeoclimatic Zone	Age of Old Forest	Percent Old Forest Retention in Low Biodiversity Emphasis	Percent Old Forest Retention in Intermediate Biodiversity Emphasis	Percent Old Forest Retention in High Biodiversity Emphasis
BWBS[b]	>100yrs	>13	>13	>19
SBPS	>140yrs	>7	>7	>10
BWBS[c]	>140yrs	>11	>11	>16
SBS	>140yrs	>11	>11	>16
MS	>140yrs	>14	>14	>21
ESSF	>140yrs	>14	>14	>21
ICH	>140yrs	>14	>14	>21
CWH[d]	>140yrs	>11	>11	>16

b BWBS with deciduous prominent

c BWBS with coniferous prominent

d CWH subject to regular extensive wind throw disturbance. See notes under NDT 1 table for a listing of variants.

Table 4. Natural Disturbance Type Four

Biogeoclimatic Zone	Age of Old Forest	Percent Old Forest Retention in Low Biodiversity Emphasis	Percent Old Forest Retention in Intermediate Biodiversity Emphasis	Percent Old Forest Retention in High Biodiversity Emphasis
ICH	>250 yrs	>13	>13	>19
IDF	>250 yrs	>13	>13	>19
PP	>250 yrs	>13	>13	>19

3. Old growth objectives for the Okanagan area

To contribute to the conservation of biodiversity in the Okanagan area[3] licensees must maintain old forest by biogeoclimatic variant within each landscape unit to the amount specified in Appendix 2, Table 1 (Okanagan Old Forest Retention Table), subject to provisions 6-8 below.

4. Old growth objectives for the Merritt area

To contribute to the conservation of biodiversity in the Merritt area[4] licensees must maintain old forest by biogeoclimatic variant within each landscape unit to the amount specified in Appendix 2, Table 2 (Merritt Old Forest Retention Table), subject to provisions 6-8 below.

[3] See Appendix 1 Map 7 Okanagan Timber Supply Area
[4] See Appendix 1 Map 8 Merritt Timber Supply Area

5. Potential reduction in old forest retention in low biodiversity emphasis areas

For landscape units with a low biodiversity emphasis, the old forest retention percent listed in Tables 1-4 may be reduced by up to 2/3, to the extent necessary to address impacts on timber supply.[5]

6. Use of younger forests to meet old forest objectives

In intermediate and high emphasis landscape units where it can be demonstrated that equal or better conservation benefits would result, stands less than the age of old, and preferably mature forest, may contribute to the percentage of old forest retention defined in Tables 1-4.[6]

In the Okanagan and Merritt areas where it can be demonstrated that equal or better conservation benefits would result, younger stands and preferably mature forest, can be used to meet the area requirements listed in Tables 1 and 2, Appendix 2.

7. Recruitment and catastrophic natural disturbances

In landscape units where there is:

a. An immediate recruitment situation due to insufficient old forest in a variant; or

b. An epidemic or catastrophic natural event such as wildfire or insects

A recruitment strategy approved by the Minister of Sustainable Resource Management or his delegate[7] can be used to meet the requirements of Objective 2, 3 and 4.[8]

8. Draft old growth management areas

Where the Minister of Sustainable Resource Management, his delegate, or a licensee or group of licensees has identified draft old growth management areas, the Minister or delegate may specify in writing that these draft old growth management areas meet the intent of this Order[9].

9. Pilot project regulation areas

For the area encompassed by the Fort St John, Riverside and Stillwater pilot project regulations, the Minister of Sustainable Resource Management or his delegate may specify in writing the sections of the approved Sustainable Forest Management Plan[10], or other approved operational plan as required under the pilot regulation which meets the intent of this Order.

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[5] See Implementation Policy for further guidance on reductions in percent retention in low biodiversity emphasis areas.
[6] See Implementation Policy for further technical information regarding the use of younger stands.
[7] Delegate is defined in the delegation memo from the Minister of SRM to regional directors July 2002 Reference: 29048, and as will be amended from time to time.
[8] See Implementation Policy for guidance on recruitment.
[9] This requires that the draft old growth management areas are retained or managed for old forest values.
[10] Approved is defined in section 39 of the Fort St John Pilot Project regulation.

B. Effective date and future orders

This Order comes into effect June 30, 2004.

For the purposes of the *Forest Practices Code of British Columbia Act*, all new forest development plans and all major amendments to forest development plans submitted 4 months after the effective date of this Order must be consistent with the Order.

This Order does not affect Category A cutblocks approved pursuant to the *Forest Practices Code of British Columbia Act* on or before the effective date.

For the purposes of the *Forest and Range Practices Act,* and despite subsection 16(2) of that Act, all forest stewardship plans submitted after the effective date must be consistent with this Order.

When a new order of the Minister of Sustainable Resource Management or delegate establishes old forest objectives, this Order will, on the effective date of the new order, cease to have effect for the area or areas affected by old forest established in the new order.

Where a new order of the Minister of Sustainable Resource Management or delegate establishes old forest objectives for a portion of a landscape unit that is established under this Order, this Order remains in effect for the portion of the landscape unit for which the new order does not establish old forest objectives.

C. Continuous effect of previously established old growth objectives

This Order does not apply to spatially located old growth management areas or non-spatial old growth objectives established in a higher-level plan prior to the effective date of this Order under either section 3 or section 4 of the *Forest Practices Code of British Columbia Act.*

D. Review of the Order

The Minister of Sustainable Resource Management recognizes that new information will emerge regarding the role of old forest in the maintenance of biodiversity, the efficacy of the objectives in this Order in that regard, and the economic and social implications of old forest and biodiversity conservation. The minister therefore will review this Order no later than March 31, 2007 to assess its effectiveness in achieving government's sustainable resource management goals.

The Honourable George Abbott
Minister of Sustainable Resource Management

Appendices to this order not included. Can be located via this URL (https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/land-use-plans-and-objectives/biodiv-hab-mngt/bc_non-spatial_old_growth_fpc_30jun2004.pdf)