

ROCKY MT	NAME	BGC		Regeneration Guide							Free Growing Guide				Post Spacing			
STOCKING		Classification		Species		Stocking			Min Intertree Distance	Regen Delay (Max yrs)	Assessment		Min. Height		Tree Height	Min	Max	
STANDARD		Zone/S	Series	Conifer		Target	MIN pa	MIN p			Earliest	Latest	Species	Ht	To Brush			
ID NUMBER				Preferred (p)	Acceptable (a)	(well-spaced/ha)			(yrs)	(yrs)	(m)	(min%)						
1000900	UWROF1	ESSI	02	Fd ^{9,14} Lw ^{9,14} PI	Se Pa ³¹ BI	U8		76 ^{U10}	U20	2.0 ⁷⁴	-	2	20	PI,Lw Fd Others	1.2 0.8 0.6	125	76	400 ^{U14}
1000907	UWROF2	ICHr	02	Fd PI	Sx ^{10,13} Py ^{9,14}	U8		76 ^{U10}	U20	2.0 ⁷⁴	-	2	20	PI Fd Others	1.4 1.0 0.8	125	76	400 ^{U14}
1000806	UWRMF1	IDFd Note ^{U18}	01	Fd ³² Lw ³² Py	PI ^{10,13,73}		1000	500	400	2.0	7	12	20	PI, Lw Fd Py	1.0 0.8 0.6	125	500	2000 ^{U14}
1000911	UWROF3	IDFd Note ^{U19}	01	Fd ³² Lw ³² Py	PI ^{10,13}	U8		76 ^{U10}	U20	2.0 ⁷⁴	-	2	20	PI, Lw Fd Py	0.5 0.5 0.5	125	76	400 ^{U14}
1000914	UWROR1	IDFd	02	Fd ²⁷ Py Lw ^{10,13}		U9		0 ^{U10}	U20	2.0 ⁷⁴	-	2	20	Lw,Fd,Py	0.5	125	0	75 ^{U14}
1000915	UWROR2	IDFd	03	Fd ²⁷ Py Lw ^{10,13}	PI ^{10,13}	U9		0 ^{U10}	U20	2.0 ⁷⁴	-	2	20	PI, Lw Fd Py	0.5 0.5 0.5	125	0	75 ^{U14}
1000897	UWRMF2	IDFd	04	Fd ³² Lw ³² PI Sx	Py		1000	500	400	2.0	7	12	20	PI, Lw Fd Others	1.4 1.0 0.8	125	500	2000 ^{U14}
1000898	UWRMF3	IDFd	05	PI Sx Fd ^{1,32} Lw ^{1,32}			1000	500	400	2.0	7	12	20	PI, Lw Fd Sx	1.0 0.8 0.6	125	500	2000 ^{U14}
1000899	UWRMF4	IDFd Note ^{U15}	07	Sx ¹ Fd ^{1,32} Lw ^{1,32}	PI ¹		1000	500	400	2.0	4	9	20	PI, Lw Fd Sx	1.0 0.8 0.6	125	500	2000 ^{U14}
1000912	UWROF4	MSd	03	Fd Lw PI	Sx	U8		76 ^{U10}	U20	2.0 ⁷⁴	-	2	20	PI,Lw Others	1.4 0.6	125	76	400 ^{U14}
1000916	UWROR3	PPdl	01	Py Fd ^{27,32}	Lw ^{10,23,32} PI ²³	U9		0 ^{U10}	U20	2.0 ⁷⁴	-	2	20	All	0.5	125	0	75 ^{U14}
1000917	UWROR4	PPdl	02a	Py Fd ^{27,32}		U9		0 ^{U10}	U20	2.0 ⁷⁴	-	2	20	All	0.5	125	0	75 ^{U14}
1000918	UWROR5	PPdl	02b	Py Fd ^{27,32}		U9		0 ^{U10}	U20	2.0 ⁷⁴	-	2	20	All	0.5	125	0	75 ^{U14}
1000913	UWROF5	PPdl	03 04	Fd ³² Py ¹ Sx ²⁸	Lw PI ²³	U8		76 ^{U10}	U20	2.0 ⁷⁴	-	2	20	All	0.5	125	76	400 ^{U14}

Definitions

Conifer Tree Species

"Ba" means amabilis fir;
"Bg" means grand fir;
"Bl" means subalpine fir;
"Bp" means noble fir;
"Cw" means western red cedar;
"Fd" means Douglas-fir;
"Hm" means mountain hemlock;
"Hw" means western hemlock;
"Lt" means tamarack;
"Lw" means western larch;
"Pa" means whitebark pine;
"Pl" means lodgepole pine;
"Pw" means white pine;
"Py" means ponderosa pine;
"Sb" means black spruce;
"Se" means Engelmann spruce;
"Ss" means Sitka spruce;
"Sw" means white spruce;
"Sx" means hybrid spruce or interior spruce;
"Sxs" means hybrid Sitka spruce;
"Sxw" means hybrid white spruce;
"Yc" means yellow cedar.

Broadleaf Tree Species

"Acb" means balsam poplar;
"Act" means black cottonwood;
"At" means trembling aspen;
"Dr" means red alder;
"Ep" means common paper birch;
"Mb" means bigleaf maple;
"Qg" means garry oak;
"Ra" means arbutus;

"Biogeoclimatic unit" or "BGC classification" means the zone, subzone, variant and site series described in the most recent field guide published by the Ministry of Forests for the identification and interpretation of ecosystems, as applicable to a harvested area.

"MIN or Min" means minimum.
"MAX or Max" means maximum

#	Footnote
1	elevated microsites are preferred
2	suitable on thick forest floors
3	restricted to coarse-textured soils
4	restricted to medium-textured soils
5	footnote retired
6	restricted to nutrient-very-poor sites
7	restricted to nutrient-medium sites
8	restricted to steep slopes
9	restricted to southerly aspects
10	restricted to northerly aspects
11	restricted to crest slope positions
12	suitable on cold air drainage sites
13	restricted to upper elevations of biogeoclimatic unit

#	Footnote
17	restricted to western portion of biogeoclimatic unit in region
18	restricted to eastern portion of biogeoclimatic unit
19	Not applicable to the Rocky Mountain Forest District.
20	Not applicable to the Rocky Mountain Forest District.
21	Not applicable to the Rocky Mountain Forest District.
22	Not applicable to the Rocky Mountain Forest District.
23	restricted to trial use
24	suitable (as a major species) in wetter portion of biogeoclimatic unit
25	Not applicable to the Rocky Mountain Forest District.
26	Not applicable to the Rocky Mountain Forest District.
27	partial canopy cover required for successful establishment
28	limited by moisture deficit
29	risk of heavy browsing by moose
30	risk of porcupine damage
31	risk of white pine blister rust
32	limited by growing-season frosts
33	footnote retired and replaced with footnote 'a'
34	risk of snow damage
35	risk of weevil damage
36	Not applicable to the Rocky Mountain Forest District.
37	risk of heart rots
38	footnote retired
39	avoid exposed and windy sites
40	risk of redheart
41	limited by poorly drained soils
42	restricted to fresh soil moisture regimes
43	Not applicable to the Rocky Mountain Forest District.
44	Not applicable to the Rocky Mountain Forest District.
45	Not applicable to the Rocky Mountain Forest District.
46	Not applicable to the Rocky Mountain Forest District.
47	risk of balsam wooly adelgid
48	risk of heavy browsing by deer
49	applies only to rust resistant, planted stock.
50	restricted to sites where the species occurs as a major species in a pre-harvest, natural stand
51	restricted to areas with proven PI performance
52	restricted to sheltered microsites with deep soil
53	minor component
54	risk of unsuccessful release of advance regeneration
55	acceptable in sx-sm portion of site series

#	<u>Broadleaf Management Constraints</u>
a	productive, reliable, and feasible regeneration option
b	limited in productivity, reliability and/or feasibility

#	<u>Localized Footnotes</u>
56	Footnotes 56 - 68 are not applicable to the Rocky Mountain Forest District.
69	Species is restricted to upper elevations when used in the southern portion of the biogeoclimatic unit.
70	Can be considered as "preferred species" on sites where low risk of snow damage is expected.
71	Can be considered as "preferred species" on sites where Armillaria is a serious concern.
72	Can be considered as "preferred species" on frost prone sites (footnote #1 then applies).

Footnote

74

Layer 1 trees may be tallied regardless of spacing providing they meet free-growing damage criteria.

75 For the purposes of free growing and regeneration survey standards, minimum horizontal intertree distance (MITD) is 2.0 m or greater for trees to be considered well-spaced. A reduced MITD of 1.7 metres may be used to facilitate selection of superior planting microsites when sites have:

- Dispersed occurrence of standing water
- Dispersed occurrence of bedrock outcrops
- Mechanical site preparation (including: mounding, disc trenching)
- Root disease problems
- Conditions where obstacle planting for snow creep is necessary.

In any instance where the MITD is reduced below 2.0m, the specific reason will be identified in the site plan and a map showing stratum location and boundaries will be attached to the site plan. (These items will be appended to the site plan when the conditions justifying use of reduced MITD have been identified.) The area where conditions justify reduced MITD will be stratified separately. One hectare will be the minimum stratum size. Planting will be conducted to target levels. The reduced MITD applies to planted trees only.

14 restricted to lower elevations of biogeoclimatic unit
15 restricted to northern portion of biogeoclimatic unit in region
16 restricted to southern portion of biogeoclimatic unit in region

73 Can be considered as "preferred species" on sites where a low risk of damage from forest health factors (in particular; stem rusts, gall rust, and *Petrova albicapitana*) is present.

UWR Footnotes

N1 Rotational harvest entries using clearcut or light overstorey shelterwood. Manage for timber, ungulate winter range and approximately two decades of interim rangeland values per rotation.

N2 Maintain connectivity of retention forest and OGMA's through managed forest and open forest ecosystems. Provide winter forest cover for ungulates.

N3 Periodic entries of burning, thinning and partial cutting to maintain open forest conditions and rangeland values.

N4 Provide connectivity between Open Range areas. Provide ungulate travel corridors between winter range and winter forest cover.

N5 Periodic harvesting, prescribed burning and/or thinning to maintain open range condition, enhancing existing or potential bunchgrass sites.

N6 Maintain connectivity of rangelands.

N7 Inventory and periodic burns.

U8 As stated on the UWR Order; the stocking range is 76-400 trees/hectare which must include 20-50 trees of the largest 1/3 of existing diameter range.

U9 As stated on the UWR Order; the stocking range is 5-75 trees/hectare which must include 5-20 trees of the largest 1/3 of the existing diameter range.

U10 KBLUP assumes at the landscape level Open Forest will contribute 50% of maximum timber benefits and 50% of maximum forage benefits and that Open Range contributes 10% timber benefits and 90% forage benefits. Targets of 250 stems/hectare for Open Forest and 20 stems/hectare for Open Range approximate the 50% and 10% timber contribution. It is recognized that to accomplish UWR forage objectives and subject to footnote U14, the range of stocking may vary for Open Forest from 76 to 400 stems/ha and that Open Range may vary from 0 to 75 stems/ha.

N11 10% max.

N12 40% max.

N13 80% max.

U14 Provincial Max Density Standards and Section 8 of UWR Orders U-4-006, U-4-008 are used where applicable.

U15 IDfM2 07 is not in UWR order. (In UWR objectives it is expected to be managed as Riparian Area.)

U16 PPdh2 04 is Open Forest in the UWR order but is not considered part of timber harvesting base, no standard is applied.

U17 Standard applies only where Fd is the leading species.

U18 Applies >1000 metres except in LUs 132, 135, and 138 where normal Managed Forest standards apply.

U19 Applies <1000 metres except in LUs 132, 135, and 138 where normal Managed Forest standards apply.

U20 These stocking standards do not over-ride the stand structure and forest cover requirements contained in the Ungulate Winter Range Orders for the Cranbrook and Invermere TSAs. Refer to these documents when designing and harvesting UWR/NDT4 openings.