Fire management stocking standards for Selkirk Resource District - Amendment for Golden Wildland Urban Interface Areas

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November 16, 2021

Background

These standards are based on the original WUI standards for South Arrow and Kootenay Lake Timber Supply Areas which in turn was based on the Chief Forester's Guidance document and a collaborative exercise with 2 licencee members and review by additional government experts and Licencee recommendations.

As per the original document the objectives are to:

- Reduce the risk of wildfire within the WUI while protecting social and ecological values;
- Consult widely with local stakeholders to maintain the social license with communities in the WUI;
- Reduce the unit costs of wildfire risk reduction while providing economic benefits and access to timber in the WUI; and
- Develop guidelines for best management practices to align wildfire risk reduction, timber harvesting and biodiversity maintenance.

Application

These stocking standards are designed to achieve fire management objectives as identified in a fire management plan. They would be available for application the 2 km Wildland Urban Interface zone as designated by the BC Wildfire Service. They could also potentially be applied within landscape-level fuel break areas as designated in a landscape-level fire management plan.

The stocking standards for each BEC site series or grouping has been assigned their own unique SSID and can be included in any forest licensee's FSP or WLP. The prescribing forest professional would decide whether to apply the WUI standard on any given harvest site or portions of a harvest site.

The following sections describe the standards to be used for fire management partial cut and even-aged stocking standards.

Post-harvest fuel hazard abatement

Post-harvest logging debris is expected to be carefully managed in all areas where fire management stocking standards are applied. Post-harvest fire hazard must be assessed and abated as required by the Wildfire Act and Regulation as a minimum and ideally to a higher fuel reduction level.

Proposed fire management partial cut (shaded fuel break) stocking standard

Intent and Guidance

There are no changes to the existing WUI partial cut standard other than allowing its application in the Golden TSA. Geographically this standard is currently expanded to include Golden TSA and other area-based tenures within this area. Refer to the original WUI partial cut standards for Arrow and Kootenay Lake for specifications and application recommendations.

These fire management partial cut stocking standards are designed to be applied where sufficient healthy, larger diameter, fire resistant trees (e.g., Lw, Py, Fd, Pw, At, Act, Ep) are present in the pre-harvest stand and can be retained to function effectively as a 'shaded fuel break'.

Proposed fire management even-aged stocking standards

Intent and Guidance

These fire management even-aged stocking standards are designed to be applied in areas that have <12 m^2/ha of basal area of acceptable trees and thus cannot meet the partial cut/ shaded fuel break standard[1]. These areas thus incur a regeneration obligation. To address fire management objectives,

[1] The partial cut (shaded fuel break) fire management standard should be preferentially used wherever pre-harvest.

the even-aged standards promote lower conifer stocking, include deciduous species, and indicate a preference for fire resistant species and consider climate change. The primary focus for treatment in each of the BGC units listed here should be on drier than mesic sites (102, 103, 104 / 02, 03, 04). Standards are provided for 101 and 110 (05, 01, 06) site series as a means of providing ecologically suitable species for these sites when they occur within broader fire treatment areas. The intent is that these site series are not targeted for fuel treatments since in many cases, it will be difficult and costly to prevent regeneration of trees (conifer and broadleaf species) and challenging to meet maximum conifer densities.

Deciduous species have been added to acceptable in these proposed standards. Although deciduous species may often be preferred from a strict fire management perspective, only conifers have been listed here as legally preferred in order to ensure a minimum conifer stocking in all stands. The minimum conifer standard is in place to address forest health and longevity issues associated with deciduous species in our District and to address (modest) timber objectives. Due to the much lower target stocking for these standards, an M-value limits of 4 is set for these standards[2]. Some clumpiness is thus permitted, especially considering that deciduous trees are acceptable this standard.

Spruce, Lodgepole Pine, Cedar, Western White Pine, Sub-alpine fir and Hemlock have been demoted in these standards in recognition of the higher fuel hazards and lower fire resilience associated with these species. While they are often still listed as acceptable on mesic and moist sites, more fire-resistant species such as Py, Fd, and Lw are clearly preferred over Sx, Pli, Pw, Cw, Bl and Hw.

Rationale:

Broadleaf species are included as they are generally less flammable than other coniferous species and as a result may reduce fire behaviour. TSS/MSS have all been lowered by 33-67% the various sites series from non-WUI District standards to reduce future fuel amounts by less trees and ideally wider spaced trees. MITD minimum has been set to 2.0 metres as this should be readily achievable with the much lower stocking and assist with increasing distance between well spaced crop trees and future fire spread. Ideally spacing should be targeted to a higher inter tree distance based on the target planting density if implementing artificial regeneration.

Approach used to modify current default District stocking standards to WUI stocking standards

1. **Start** with designated preferred and acceptable species in the DSE South Columbia Default Stocking Standards (April 2018)- based on existing & new BEC in LMH 71 & supplement and existing WUI standards prepared for South Arrow and Kootenay Lake.
2. **Demote** CW, HW, PLI, BL and SX on all site series listed.
3. **Promote** PY from acceptable to preferred where ecologically suitable.
4. **Add** AT and EP to acceptable on all site series where ecologically suitable. Add ACT to acceptable on 110 and 06 site series. Broadleaf species are included as they are generally less flammable than other coniferous species and as a result may reduce fire behaviour.
5. **Reduce target and minimum stocking** from 1200/ 700/ 600, 1000/ 500/ 400, 800/400/400 and 600/ 400/ 400 to 400/ 250/ 200 sph
6. **Add new requirement** for maximum 800 sph coniferous stocking at FG (i.e., may require conifer spacing prior to FG declaration)
7. **Revise countable conifer methodology** to require counting all conifers >50cm for purposes of assessment of maximum conifer stocking.

[2] A lower M-value could make achievement of these standards impracticable. MITD limits still apply, however.

Fire management even-aged stocking standards

SSID	BGC	Site Series	Preferred species	Acceptable Species	Target WS/ ha	MIN pa	MIN p	*MAX conifer at FG*	M-value	Regen Delay	FG early	FG late	FG Min tree height (m)
1070386	**ICHmk5**	**101**	Fd Lw[1]	Pli Sx Cw At	400	250	200	***800***	4	7	12	20	Lw,Pli,At=2.0 Fd=1.4 Others=1.0
1070387		**102**	Fd	Pli	400	250	200	***800***	4	7	12	20	Pli=1.4 Fd =1.0
1070388		**103**	Fd Lw	Pli	400	250	200	***800***	4	7	12	20	Lw,Pli =2.0 Fd =1.4
1070389		**104**	Fd Lw	Sx[13,28] Pli At Ep	400	250	200	***800***	4	7	12	20	Lw,Pli,At,Ep=2.0 Fd=1.4 Others=1.0
1070390		**110**	Fd[1] Lw[1]	Sx[13,28] Pli At Ep	400	250	200	***800***	4	7	12	20	Lw,Pli,At,Ep=2.0 Fd=1.4 Others=1.0
1070391	**ICHmw1**	**01**	Fd Lw[23]	Cw Sx At Ep	400	250	200	***800***	4	7	12	20	Lw,At,Ep=2.0 Fd=1.4 Others=1.0
1070392		**02**	Fd	Pw[31] Cw[28] Sx[28]	400	250	200	***800***	4	7	12	20	Pli=2.0 Fd,Pw=1.4 Others=1.0
1070393		**03**	Fd Lw	Sx[10,13,28] Pw[31] Pl Cw[28] At Ep	400	250	200	***800***	4	7	12	20	Pli,At,Ep=2.0 Fd,Pw=1.4

													Others=1.0
1070394		**04**	Fd Lw	Cw[28] Sx[28] Pw[31]Pli At Ep	400	250	200	***800***	4	7	12	20	Lw,Pli,At,Ep=2.0 Fd,Pw=1.4 Others=1.0
1070395		**05**	Fd[1,32]	Sx Pli Hw[32] Cw[32] Pw[1,31,32] Bl Act At Ep	400	250	200	***800***	4	7	12	20	Pli,Act,At,Ep=2.0 Fd,Pw=1.4 Others=1.0
1070396		**06**	Fd[9,14] Lw[9,14]	Cw Sx Hw Pw[31] Pli At Act Ep	400	250	200	***800***	4	7	12	20	Lw,Pli,Act,At,Ep=2.0 Fd,Pw=1.4 Others=1.0
1070397	**IDFdk5**	**101**	Fd Lw[32,203]	Pli	400	250	200	***800***	4	7	12	20	Lw,Pli =1.0 Fdi=0.8
1070398		**102, 103**	Fd Py[203]	None	400	250	250	***800***	4	7	12	20	Fd=0.8 Py=0.6
1070399		**104**	Fd Lw[203] Py[9,203]	Pli At	400	250	200	***800***	4	7	12	20	Lw,Pli,At=1.0 Fdi=0.8 Py=0.6
1070400		**110**	Fd[32] Lw[32,203]	Sx Pli Ep At Act	400	250	200	***800***	4	7	12	20	Lw,Pli,Ep,At,Act=1.0 Fdi=0.8 Sx=0.6
1070401	**MSdk**	**101**	Fd[32] Lw[32, 203]	Sx Pli At Ep	400	250	200	***800***	4	7	12	20	Lw,Pli,At,Ep=1.4 Others=0.8
1070402		**102**	Fd Py[14, 203]	Pli	400	250	200	***800***	4	7	12	20	Pli=1.4 Fd=0.8

													Py=0.6
1070403		**103**	Fd Lw[14, 16, 203] Py[14, 203]	Sx[10,13] Pli At	400	250	200	*800*	4	7	12	20	Lw,Pli, At=1.0 Others=0.6
1070404		**105**	Fd Lw[16,203]	Sx Pli At	400	250	200	*800*	4	7	12	20	Lw,Pli,At =1.4 Fd=1.0 Others=0.8
1070405		**110.1**	Fd[32] Lw[16,32,203]	Sx Pli Bl[208] Ep At Act	400	250	200	*800*	4	7	12	20	Lw,Pli,Ep,At,Act =1.4 Others=0.8
1070406		**110.2**	Fd[32] Lw[16,32,203]	Cw Sx Pli Bl[208] Ep At Act	400	250	200	*800*	4	7	12	20	Lw,Pli,EpAt,Act =1.4 Others=0.8

Minimum Inter Tree distance is 2.0 metres for all sites

Crop tree over Brush Height % is 150% for all ICH sites, 125% for all IDF & MS sites

Post maximum density is set at TSS+200 sph as Maximum and MSSpa as minimum

Footnotes for species are as per current Selkirk District Default Stocking Standards

MSdk1 – 104 – No WUI standards developed as there were no ecologically suitable fire resistant species. LMH 71 states this is a relatively rare Site Series. Manage as per default standards.

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Date: 23 Nov 2021