

– South Area – Williams Lake, Quesnel and 100 Mile TSA's (SBPSmk, SBPSdc, SBSdw1, SBSdw2, IDFdk3, and IDFdk1 only) Alternative FG Guidance

Acceptable alternative FG guidance, applied using a new survey procedure, is presented in this section for the following subzones/variants in the Williams Lake, 100 Mile, and Quesnel TSA's:

- **SBPSmk, SBPSdc, SBSdw1, SBSdw2, IDFdk3, and IDFdk1**

This alternative FG guidance (described in Figure 5) may be applied **only on sites where there has been NO previous brushing or broadleaf tree spacing activity.**

The alternative FG guidance and survey procedure were developed by the Cariboo Region silviculture research section. All BEC subzones/variants and site series included in this section represent ecosystems where research and/or expert opinion have been used to revise thresholds for broadleaf retention to levels that are more biologically appropriate to conifer tolerances (and not in conflict with conifer growth objectives) than those used in previous guidelines. The new survey procedure is intended to simplify the current approach by eliminating the "potential free growing tree" concept.

Significant changes to individual FG criteria used in the previous standard South Area guidelines are:

- The **Conifer/Brush Ratio** expressed as a percentage has been replaced with a **Brush/Conifer Ratio** expressed as a decimal. In the former guidelines, conifers meeting the Conifer/Brush Ratio had to be 150% or 125% (depending on BEC variant) taller than surrounding vegetation within a 1-m cylinder. With the new Brush/Conifer Ratio, broadleaf trees must be > 1.25 times the height of pine or > 1.5 times the height of other conifer species before they are counted as occupying quadrants within the 1-m cylinder or as countable stems.
- Previously, only one quadrant within the 1-m cylinder was allowed to be occupied by overtopping broadleaf trees. Now, 0, 1, or 2-adjacent quadrants are allowed to be occupied (2-opposite quadrants, 3 quadrants, and 4 quadrants are not acceptable).
- Allowable numbers of countable broadleaves have been adjusted, but are now assessed within a 1.8 m radius of individual crop conifers rather than within the 3.99 m plot (as described below).

Using the new survey procedure (presented in Figure 5):

- Well-spaced trees are still selected in a 3.99 m plot using the same spacing, preferred or acceptable species, minimum height, and damage criteria used in the standard guidelines.
- Test #1 regarding overtopping Shrub and Herb vegetation is unchanged.
- The new survey procedure uses a “**neighbourhood concept**” as opposed to the “**potentially FG concept**” used in other Decision Keys in this Appendix. There are two tests included in the new survey procedure, and a well-spaced tree must meet **BOTH** criteria to be FG:
 - Occupied Quadrant Test – within a 1.0 m radius around each crop conifer, the number of quadrants occupied by broadleaf vegetation exceeding the new **Brush/Conifer Ratio** is assessed. It is allowable for 0, 1 or 2-adjacent quadrants to be occupied. It is not acceptable for 2-opposite quadrants, 3 quadrants, or 4 quadrants to be occupied.

- Countable Broadleaf Test – within a 1.8 m radius around each crop conifer, the number of countable broadleaf stems is tallied and must not exceed allowable densities (as defined by BEC subzone/variant, site series, and conifer species). **The 1.8 m radius is measured horizontally outward from the conifer stem-centre at a height of 20 cm above ground.**
 - Making judgement calls for broadleaf trees at the periphery of the 1.8 m radius:
 - For single broadleaf (At, Ep, Act) stems: the stem is considered to be "in" when its centre at ground level is visually judged, based on the horizontally held plot cord or tape, to fall within the 1.8 m radius.
 - For broadleaf clumps, the number of countable stems is defined as described in Section 3.4.2.5, Figure 6c. For At stems that fork above the ground, the stem is considered to be "in" if the centre of the fork is visually judged, based on the horizontally held plot cord or tape, to fall within the 1.8 m radius.
 - For Ep clumps originating from cut stumps, the clump is considered to be "in" if the centre of the cut stump is visually judged, based on the horizontally held plot cord or tape, to fall within the 1.8 m radius. The number of countable stems in the clump is defined in Section 3.4.2.5 Table 1a.
 - Countable broadleaf trees within 1.8 m of well-spaced conifers may fall outside the 3.99 m plot radius, and a single countable broadleaf tree may affect the status of more than one crop conifer where the 1.8 m radius circles overlap.
- If a well-spaced conifer meets **BOTH** the quadrant test and the countable broadleaf test it is FG. If it fails either test, it is **NOT** FG. A decision as to FG or not FG can therefore be made quickly, on a tree-by-tree basis.

Explanatory notes

- With the new survey procedure, countable broadleaves are assessed only within a 1.8 m radius of each candidate well-spaced conifer. They are not assessed in the 3.99 m plot and there are no "potentially free growing trees". This eliminates the problem of having a clump of broadleaf trees on one side of the plot resulting in failure of trees as much as 7-8 m away.
- A 1.8 m radius circle covers approximately 10 m² and six well-spaced 1.8 m circles occupy approximately the same area as a 3.99 m plot (Figure 6).

IMPORTANT: It is advisable for survey contractors to receive training prior to using the alternate FG guidance and the new survey procedure described in Section A 13.3.1.

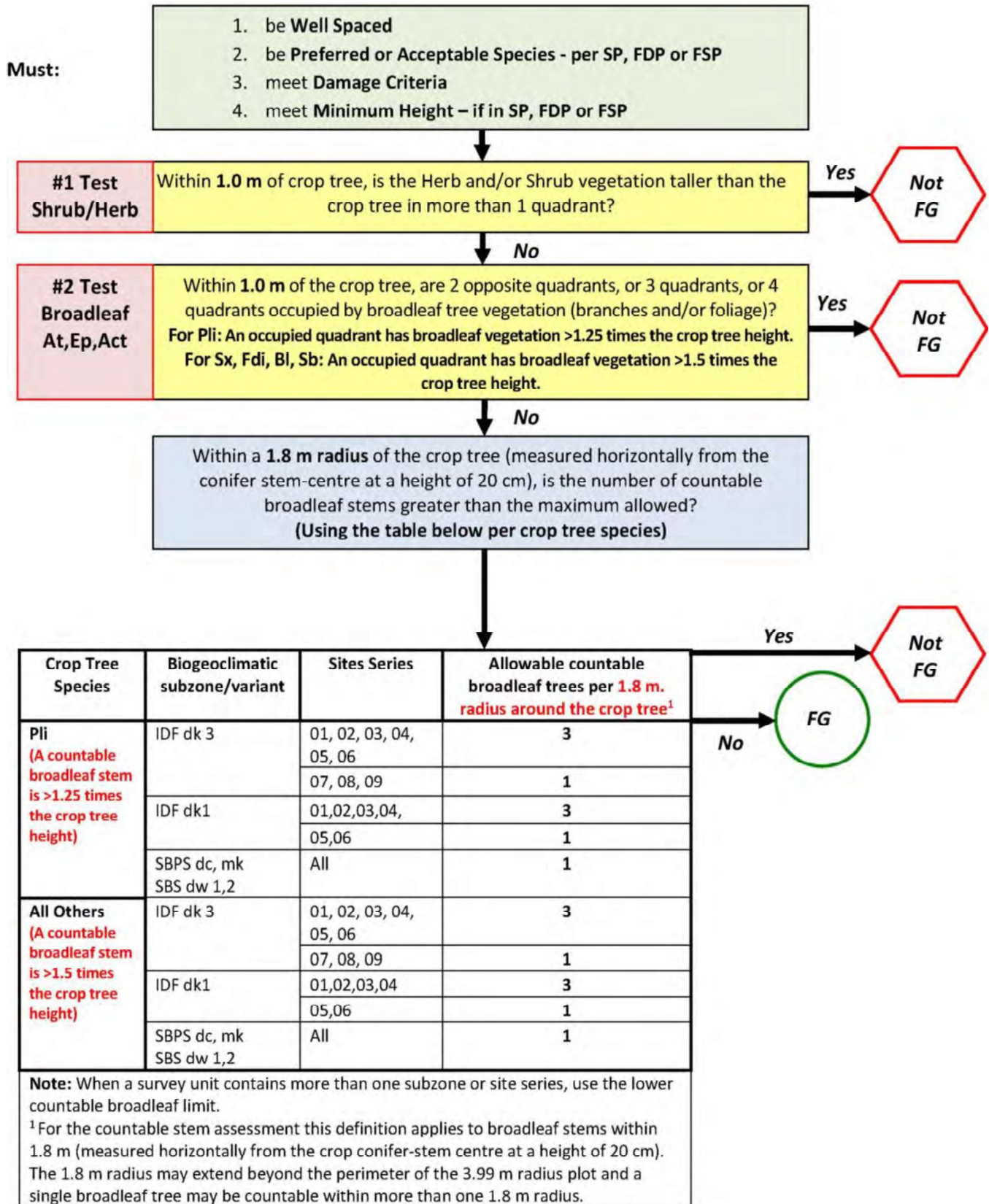


Figure 5: Williams Lake, Quesnel, and 100 Mile TSAs Vegetation Competition Decision Key for a Free Growing Crop Tree using alternative guidelines for SBPSmk, SBPSdc, SBSdw1, SBSdw2, IDFdk3, and IDFdk1 (only on sites where there has been NO previous brushing or broadleaf tree spacing activity).

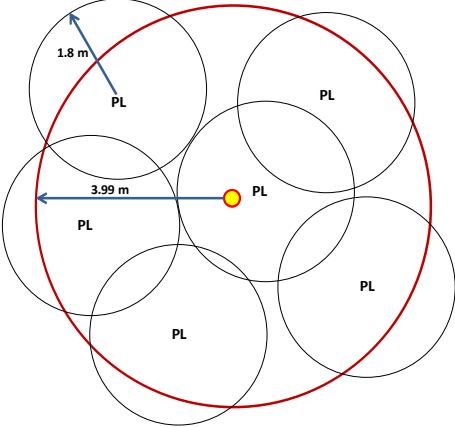


Figure 6: Example of what six 1.8 m radius neighborhoods around well-spaced trees in a 3.99 m radius plot look like.