

## **DRAFT- What's New in Silviculture Surveys - 2022**

The survey and reporting changes listed below are **recommended**, but still considered optional for the 2022 field season. They will become mandatory on **April 1<sup>st</sup>, 2023**, when the RESULTS Information Submission Specifications ([RISS](#)) documents are updated.

SNAP and SAP, two common data collection applications, will accommodate all the new changes for this field season, beginning **April 1<sup>st</sup>, 2022**.

If placing an order for paper plot cards, you will need to specify your preferred version (2020 or 2022).

Please engage with your data software provider to determine if updates are necessary due to the new survey standards and data requirements.

### **Example Labels**

#### Inventory-

Old: Ac40Fdi30Sx20Bl10-13/12-1.7/1.6-18/M-19-9850(22)

New: Ac44Fdi32Sx19Bl5-13/12-2.0/1.8-18/M-19-9500(22)

#### Key Changes:

- Species composition is recorded to the nearest 1%
- Species composition is based on tree counts by species for grid and vector sampling methods
- Tree counts exclude germinants
- Heights include in-season partial growth
- Heights/ages are based on the tallest, healthy tree in the plot

#### Silviculture-

Old: FG-Fdi56Sx22Bl13Cw9-12-2.4-21/E-920(20)

New: FG-Fdi56Sx22Bl13Cw9-13-3.6-920(20)

#### Key changes:

- Site index is optional
- Average height and age are based on the leading species (ex. Fdi)
- Height includes in-season partial growth

## Survey Changes

Data Element	Old	New	Rationale
Inventory species composition	Mathematically average and manually adjust <b>ocular estimates</b> to determine species composition.	<p>Complete tree counts by species at all plots.</p> <p>Determine inventory species composition based <b>on tree counts by species</b> for plot-based sampling methods (vector and grid).</p>	<p>-The G&amp;Y program and others (eg. carbon, wildlife, forest health) requested:</p> <ul style="list-style-type: none"> <li>• Improved precision for the inventory species composition</li> <li>• Spatial and temporal distribution of total stems and species</li> </ul> <p>-The program areas were concerned about rounding (nearest 10%), the precision standard (20%), and the use of ocular estimates.</p> <p>-The program areas and the OCF statistician recommended basing species composition on tree counts by species at each plot.</p> <p>-Tree counts by species at each plot removes observer bias, makes sampling repeatable, and prevents the overestimation of minor species and underestimation of smaller trees.</p> <p>-Tree counts by species facilitates post-processing of data to capture spatial distribution of total stems and species through measures of dispersion.</p>
Inventory species composition	Roughly average species composition to the <b>nearest 10%</b> . Ex. Hw50Fdc40Cw10	Record inventory species composition to the <b>nearest 1%</b> . Ex. Hw55Fdc37Cw8 Note: Capped at 10 species.	<p>-Improve precision.</p> <p>-Capture minor species.</p>
Inventory tree counts	Record the total number of live commercial coniferous and broadleaf trees within the plot. All trees, regardless of their height,	Record the total number of live coniferous and broadleaf trees within the plot. All trees are to be tallied, <b>except germinants</b> .	<p>-Program areas viewed germinants as inconsequential.</p> <p>-Difficult to identify species of germinants.</p> <p>-Possibly low survival.</p> <p>-Easier to understand how WS numbers could potentially improve if tallied separately.</p>

	are to be tallied, <b>including germinants.</b>	<b>Germinant= 1-year old tree under 10cm</b>  <b>Optional:</b> Can track 1-year old trees under 10cm in the “germinant” plot card field.	-Create survey efficiencies.
Inventory tree counts	No guidance.	Tree counts by species can be <b>estimated</b> if >50 trees (excluding germinants, all species combined) are in the 3.99m radius plot.	-Above 10,000sph, there is a reduced impact if accuracy is lower. -Create survey efficiencies.
Total conifers	<b>Record</b> the total number of live coniferous trees within the plot, including both acceptable and unacceptable quality trees.	<b>Calculate</b> with tree tallies by species.	-Create survey efficiencies.
Total trees	<b>Record</b> the total number of live coniferous and broadleaf trees within the plot, including both acceptable and unacceptable quality trees.	<b>Calculate</b> with tree tallies by species.	-Create survey efficiencies.
Inventory & Silviculture height	Measure height to the <b>last completed</b> year’s growth during the active growing season.	Measure height to the <b>top</b> of the tree, <b>including any partial growth.</b>	-Faster and easier for indeterminate species. -Aligned with remote sensing. -Easier for other program areas to understand.
Inventory height/age	Select a <b>dominant or co-dominant tree</b> of the leading species or secondary species.	Select the <b>tallest, healthy</b> tree in the 3.99m radius plot for the leading and secondary species. Exclude seed trees or retention. Healthy = Must meet current forest health damage criteria and advanced regeneration acceptability criteria	-More repeatable. -Prevents confusion when a leading or secondary species is not dominant/co-dominant. -Prevents the misconception that the inventory label is reflective of dominant/co-dominant trees.

<p>Silviculture heights/ages</p>	<p>Plot: Select an <b>average</b> well-spaced or free growing tree from within the plot. Measure and record the total height to the <b>last completed year's growth</b>.</p> <p>Reporting: Submit average of well spaced or free growing sample heights/ages. This value is meant to be representative of all preferred and acceptable WSTs or FGTs. It is <b>not specific to a species</b>.</p>	<p>Plot: Select an average well-spaced or free growing tree from within the plot for the <b>leading</b> silviculture species. Measure and record the total height, <b>including partial growth</b>. Measure and record the age.</p> <p>Reporting: Submit average of well-spaced or free growing sample heights/ages of the <b>leading</b> silviculture species.</p>	<p>-Align with RESULTS reporting display. -If linked to a species, silviculture heights can be compared to FG minimum heights and used to project growth. -Align with common practice.</p>
<p>Silviculture site index</p>	<p><b>Record</b> the site index of the leading species in the <b>silviculture label</b>.</p>	<p><b>Stop</b> recording <b>silviculture</b> site index.</p>	<p>-Silviculture SI is not transferred to RESULTS.</p> <p>NOTE: SI is reported to RESULTS for the polygon component. It pulls the inventory SI. This will remain a mandatory reporting requirement.</p>
<p>Forest health</p>	<p>Regen Delay: <b>BMP*</b> to report forest health damage.</p>	<p>Regen Delay: <b>Mandatory</b> to report forest health damage.</p> <ul style="list-style-type: none"> <li>• All plots, all trees.</li> <li>• Report most severe forest health agent applicable to each tree.</li> <li>• Free Growing Damage Criteria will not apply.</li> <li>• Tally all incidences of forest health factors.</li> </ul>	<p>-Increase awareness of survival factors and temporal distribution of damage agents. -Reflect actual stand conditions in RESULTS for G&amp;Y and other program areas. -Facilitate CBST monitoring.</p>

		<p><b>BMP*</b>: If survival is expected to be poor, do not declare regen delay met off planting.</p> <p><b>BMP*</b>: Complete a forest cover submission if the attributes of the forest cover inventory significantly change.</p>	
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\*BMP= best management practice

### Reporting

	Old	New	Rationale
Objectives	Objective codes are <b>optional</b> .	Objective codes are <b>mandatory</b> for <b>drought or frost caused replants</b> .  If applicable, use NG (frost) or ND (drought) for the objective code.	-Requested by the Interior Silviculture Subcommittee Drought Working Group

### Upcoming Professional Development Opportunities

The Forest Science, Planning and Practices Branch will be creating videos covering:

- Silviculture Survey Training
- Forest Health ID and Damage Criteria
- Free Growing Working Group (FGWG)
- Interior Broadleaf Working Group (IBWG)

There will be a detailed “What’s New 2022” video explaining the above changes and why they are necessary.

The videos will be advertised on the Silviculture Surveys website and through various email distribution lists.

**If you’d like to sign up for the surveys email distribution list or provide feedback on the above changes, please email: [taisa.brown@gov.bc.ca](mailto:taisa.brown@gov.bc.ca)**