

Rationales for 2023 Survey Procedure Updates

Email taisa.brown@gov.bc.ca if you would like to:

- join the surveyor distribution list
- provide feedback on the survey procedures, field cards, manual, videos, etc.
- learn about the silviculture surveyor accreditation program

A “What’s New 2023” training series is posted on the BC Silviculture Surveys YouTube channel and the BC Silviculture Surveys website.

You can order paper field cards from www.dcv.gov.bc.ca (government clients) or dcvcustomerser@gov.bc.ca/ 1 800 282 7955 (other clients).

Example Labels

Inventory-

Old: Fdi40At30Sx10Bl10Cw10 -13/12-1.4/1.3-21/I-20-12,700(22)

New: Fdi38At30Sx12Bl11Cw9-13/12-1.7/1.6-21/I-20-12,520(22)

Key Changes:

- Record species composition to the nearest 1%
- For single-layer SUs: Base species composition on tree counts by species (excluding germinants).
- For multi-layer SUs: Base species composition on basal area sweeps by species for Layer 1 and tree counts by species (excluding germinants) for Layers 2, 3, and 4.
- Include in-season partial growth in height measurements.
- For height and age measurements, select the tallest, **living** tree (excluding residuals) within the plot for the stratum’s leading and secondary species.

Silviculture-

Old: FG-Fdi56Sx22Bl13Cw9-12-1.2-21/E-920(22)

New: FG-Fdi56Sx22Bl13Cw9-12-1.5-920(22)

Key changes:

- Include in-season partial growth in height measurements.
- Measure height and age on a **representative** WS or FG tree of the stratum’s leading species.
- Site index and source is optional. It is not reported to RESULTS.

Survey Changes

Data Element	Old	New	Rationale
Inventory species composition	Mathematically average and manually adjust ocular estimates to determine species composition.	<p>For single layer SUs: Complete tree counts by species at all plots.</p> <p>For multi-layer SUs: Complete tree counts by species at all plots for Layers 2, 3, and 4. Complete number “in” counts by species at all plots for Layer 1 trees.</p> <p>For single layer SUs or for Layers 2, 3, and 4 for multi-layer SUs: Determine inventory species composition based on tree counts by species for plot-based sampling methods (vector and grid).</p> <p>For multi-layer SUs: Determine inventory species composition based on number “in” by species for plot-based sampling methods (vector and grid) for Layer 1.</p>	<p>-The G&Y program and others (e.g., carbon, wildlife, forest health) requested:</p> <ul style="list-style-type: none"> • Improved precision for the inventory species composition • Spatial and temporal distribution of total stems and species <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> <p>-Species composition for Layer 1 trees is based on basal area in the VRI, not volume.</p> <p>-Species composition for Layer 2 trees is based on density in the VRI, not volume.</p>
Inventory species composition	Roughly average species composition to the nearest 10% . Ex. Hw50Fdc40Cw10	Record inventory species composition to the nearest 1% . 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	Record the total number of live coniferous and broadleaf trees	-Program areas viewed germinants as inconsequential.

	and broadleaf trees within the plot. All trees, regardless of their height, are to be tallied, including germinants.	within the plot. All trees are to be tallied, except germinants. Germinant= ≤5cm natural Optional: Can track ≤5cm naturals in the new “Germinants” field.	-Difficult to identify species of germinants. -Possibly low survival. -Easier to understand how WS numbers could potentially improve if tallied separately. -Create survey efficiencies.
Inventory tree counts	No guidance.	Tree counts by species can be estimated if >50 trees (excluding germinants, all species combined) are in the 3.99m radius plot.	-Reduced impact if accuracy is lower above 10,000sph. -Create survey efficiencies.
Total conifers	Record the total number of live coniferous trees within the plot, including both acceptable and unacceptable quality trees.	Calculate with tree tallies by species.	-Create survey efficiencies.
Total trees	Record the total number of live coniferous and broadleaf trees within the plot, including both acceptable and unacceptable quality trees.	Calculate with tree tallies by species.	-Create survey efficiencies.
Inventory & Silviculture height	Measure height to the last completed year’s growth during the active growing season.	Measure height to the top of the tree, including any partial growth.	-Faster and easier for indeterminate species. -Aligned with remote sensing. -Easier for other program areas to understand.
Inventory height/age	Select a dominant or co-dominant tree of the leading species or secondary species.	Select the tallest, living tree (excluding residuals) in the 3.99m radius plot for the leading and secondary species.	-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.
Silviculture heights/ages	Plot: Select an average well-spaced or free	Plot: Select a representative well-	-Align with common practice. -Align with RESULTS reporting display.

	<p>growing tree from within the plot. Measure and record the total height to the last completed year's growth.</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 not specific to a species.</p>	<p>spaced or free growing tree from within the 3.99m plot for the leading silviculture species. Measure and record the total height, including partial growth. Measure and record the age.</p> <p>Reporting: Submit average of well-spaced or free growing sample heights/ages of the leading silviculture species.</p>	<p>-If linked to a species, silviculture heights can be compared to FG minimum heights and used to project growth.</p>
Silviculture site index	<p>Record the site index of the leading species in the silviculture label.</p>	<p>Stop recording silviculture 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>
Forest health	<p>Regen Delay: BMP to report forest health damage.</p>	<p>Regen Delay: Mandatory to report forest health damage.</p> <ul style="list-style-type: none"> • All plots, all trees. • Free Growing Damage Criteria do not apply. • Well-spaced seedlings can have reportable damage. • Tally all incidences of forest health factors (max 1/tree), except very minor damage (pg.90). 	<p>-Facilitate CBST monitoring.</p> <p>-Increase awareness of survival factors and temporal distribution of damage agents.</p> <p>-Reflect actual stand conditions in RESULTS for G&Y and other program areas.</p>

		<p>BMP: If survival is expected to be poor, do not declare regen delay met off planting.</p> <p>BMP: 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 optional .	Objective codes are mandatory for drought or frost caused replants or fill plants . If applicable, use NG (frost) or ND (drought) for the objective code.	-Meet data needs of CBST team and the Interior Silviculture Subcommittee Drought Working Group