



April 5, 2018

Reference: 18157-02

Cliff ID: 238018

To: Forest Tree Seed Users Distribution List
Regional and District Managers, FLNR
Forest Licensees and Silviculture Agreement holders
BCTS Business Area Managers, FLNR

Dear colleagues:

I am pleased to announce that the *Chief Forester's Standards for Seed Use* (Standards) have been amended to enable the option to use Climate Based Seed Transfer (CBST) from this point forward. The amended Standards come into effect after a four month notice period, on August 6, 2018; however, forest licence and silviculture agreement holders may waive the notice period and begin using the amended Standards immediately.

CBST promotes healthy, resilient and productive forests and ecosystems through the matching of seed sources (seedlots) to climatically suitable planting sites. Introduction of CBST is one of the ministry's first climate change adaptation policies to mitigate the impacts of climate change. The attached Information Bulletin, "Transitioning British Columbia to Climate Based Seed Transfer" (Attachment 1) contains more details on CBST. I encourage all seed users to become familiar with CBST, the revised cone collection standards and the option to use climatically suitable seed sources (seedlots) for planting.

In brief, amendments to the Standards (Attachment 2) include:

- The addition of the option to use CBST transfer standards, continue with the current transfer standards ("geographically-based transfer standards"), or use a mix of both;
- New cone collection requirements that align with CBST; and
- Other minor amendments to update references and administrative provisions.

A consolidated version of the *Chief Foresters Standards for Seed Use*, updated to April 6, 2018, is available at: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/tree-seed/legislation-standards/chief_forester_standards.pdf

The introduction of the amended Standards brings an end to the streamlined process for requesting a CBST Alternative, which I introduced in September 2017.

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Information sessions on the amended Standards and related changes to SPAR will be offered by the Forest Improvement and Research Management Branch (FIRMB) staff. FIRMB is also sponsoring updated cone collection workshops over summer 2018. Dates for all sessions will be listed at: www.gov.bc.ca/climatebasedseedtransfer

CBST policy development and stakeholder engagement is ongoing and additional changes to the Standards are expected to be implemented in stages. Future changes that are currently planned will address:

- Removal of the option to use the “Geographically based transfer standards.” This is targeted to be in two years; however, timing will be subject to the results of CBST impact and gap analyses (currently underway); and, additional consultation with stakeholders.;
- Replacement of current seed planning zones / breeding zones with new CBST seed planning /breeding zones. This is expected in 2 to 5 years’ time.
- Implementation, administration and streamlining of the Standards.

Please note that the full extent of climate change adaptation through CBST will be realized at a later date when the climate change informed species selection (CCISS) project advances to implementation.¹ Collaboration efforts between the CBST and CCISS projects will continue to ensure integration and consistency between decision tools and policy realms.

FLNRORD District Managers are requested to forward copies of this letter to local forest licensees and silviculture agreement holders who may not be on the Forest Tree Seed Users Distribution List.

For questions pertaining to the CBST Project or the amended *Chief Foresters Standards for Seed Use* please contact Margot Spence, Tree Seed Policy Officer and CBST project lead (Margot.Spence@gov.bc.ca), at Forest Improvement and Research Management Branch.



Diane Nicholls
Chief Forester

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Shane Berg, Executive Director, CFO
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¹ Until the climate informed tree species selection project advances, the current Reference Guide for FDP Stocking Standards (including the 2014 Update: Climate-change Related Stocking Standards) applies to integrated silviculture strategies and forest stewardship planning (https://www.for.gov.bc.ca/hfp/silviculture/stocking_stds.htm).

Pat Martin, Director, FIRM
Albert Nussbaum, Director, FAIB
Margot Spence, CBST Project Lead, FIRM
Forest Genetics Council of BC
CBST Stakeholders Advisory Group members
CBST Policy Working Group members
Leith MacKenzie, Greg Anderson, Forest Enhancement Society of BC
Christine Gelowitz, Megan Hanacek, ABCFP
Susan Yurkovich, CEO, COFI
Rick Jeffrey, CEO, CFPA

Attachments: 1 - Information Bulletin: Transitioning British Columbia to Climate Based Seed Transfer (April 2018)

2 - Amendments to the *Chief Foresters Standards for Seed Use* (April 6, 2018)

Amendments to the Standards – April 2018

Climate Based Seed Transfer

In accordance with requirements and authorities provided under section 169 of the *Forest and Range Practices Act* (FRPA), section 43 of the *Forest Planning and Practices Regulation* and section 32 of the *Woodlot Licence Planning and Practices Regulation*, the following amendments have been made to the *Chief Forester’s Standards for Seed Use*:

Part 1: DEFINITIONS

The following definitions are added to Part 1:

“**BEC unit**” means the Province of British Columbia’s Biogeoclimatic Ecosystem Classification zone, subzone and variant (where variant is applicable), as published by DataBC at: <https://catalogue.data.gov.bc.ca/dataset/biogeoclimatic-ecosystem-classification-bec-map>, and as amended from time to time;

“**CBST**” means climate based seed transfer;

“**CBST area of use**” means an area of use composed of one or more BEC units where a lot may be planted;

“**Seed BEC unit**” means:

- a) for lots collected from natural stands within BC, the BEC unit of origin for the stand, and,
- b) for lots collected from:
 - i. natural stands located outside of BC,
 - ii. parent trees located within BC; and
 - iii. parent trees located outside of BC,the BEC unit assigned by the Branch;

The following definition in Part 1 is repealed and replaced:

“**Branch**” means Forest Improvement and Research Management Branch of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development;

In Part 1, in the definition of “origin,” paragraph (a) (v) is repealed and replaced by:

- (a) (v) the BEC unit in which the collection area is located;

Part 5: REGISTRATION

The following sections are added to Part 5:

5.1.41 The Branch must assign a Seed BEC unit for lots collected from:

- a) natural stands outside of BC,
- b) parent trees located within BC; and
- c) parent trees located outside of BC.

5.1.42 The Branch must assign or confirm an orchard identification number for lots collected from an orchard or production facility located within or outside BC.

5.1.43 The Branch must make available information assigned in 5.1.41 and 5.1.42, in the Seed Planning and Registry System.

The following section in Part 5 is repealed and replaced by:

5.1.6 The owner of a registered lot, a person authorized to act on that person's behalf, or a person employed by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, may request an amendment to information respecting that lot recorded under section 5.1.3 (b) (ii), if

- a) the person identifies an error in the recorded information and provides information to verify the error, or
- b) the ownership of the lot changes and the person provides information respecting the change in ownership.

The following section in Part 5 is repealed and replaced by:

5.2.1.1 (b) the trees referred to in paragraph (a) must all be located within

- i) a single BEC unit, and
- iii) a collection area with a radius no greater than 8 kilometres.

Section 5.2.1.1 (c) is repealed.

Section 5.2.2.6 (b) is repealed and replaced by:

- b) Sitka spruce (Ss) selected from natural stands within the Georgia Lowlands (GL) Natural Stand Seed Planning Zone and the Maritime (M) Natural Stand Seed Planning Zone, outside of Haida Gwaii, may be included in the same lot.

Part 8: TRANSFER LIMITS FOR REGISTERED LOTS

Part 8 is repealed and replaced by:

8. SEED TRANSFER

8.1 In this Part:

- a) **“area”** means the net area to be reforested referred to in section 29 of the Act;
- b) **“agreement”** means
 - i) a major licence or community forest agreement to which section 29 (1) of the Act applies, or
 - ii) a woodlot licence to which section 29 (3) of the Act applies;
- c) **“fiscal year”** means the period beginning on April 1st of one year and ending on March 31st of the following year;
- d) **“management unit”** means a tree farm licence area or timber supply area;
- e) **“small operator”** means the holder of an agreement with an annual allowable cut of 5,000 cubic metres or less;
- f) **“timber sales licence”** means a timber sales licence to which section 29 (2) of the Act applies.

8.2 General Requirements

- 8.2.1 Seedlings or cuttings must be planted on areas that comply with either the geographically based seed transfer standards described in section 8.3 or the climate based seed transfer standards described in section 8.4.
- 8.2.2 Despite this Part, a person, other than a timber sales manager, who is required to establish a stand under section 29 of the Act is required to ensure that 95 per cent of the combined total of the number of seedlings and the number of cuttings that are planted during each fiscal year, by or on behalf of that person with respect to all agreements held by that person in a single management unit, comply with the requirements of sections 8.3 or 8.4.
- 8.2.3 Despite this Part, a timber sales manager who is required to establish a stand under section 29 of the Act is required to ensure that 95 per cent of the combined total of the number of seedlings and the number of cuttings that are planted during each fiscal year, by or on behalf of the timber sales manager,
 - a) with respect to all timber sale licences located within a single management unit, or
 - b) with respect to a specific timber sales licence, if it is not located within a management unit, comply with the requirements of sections 8.3 or 8.4.

8.3 Requirements that apply if Geographically Based Seed Transfer Standards will be used under 8.2.1

- 8.3.1 Seedlings or cuttings grown from a lot registered as a lot collected from a natural stand within British Columbia must be planted on areas that comply with the transfer limits in Appendix 3 that apply to the lot, based on its species and origin.
- 8.3.2 Seedlings or cuttings grown from a lot registered as a lot collected from untested parent trees within British Columbia must be planted on areas that comply with the transfer limits in Appendix 4 that apply to the lot, based on its species and origin.
- 8.3.3 Seedlings or cuttings grown from a lot registered as a lot collected from a superior provenance must be planted on areas that comply with the transfer limits in Appendix 5 that apply to the lot, based on its species and origin.
- 8.3.4 Seedlings or cuttings grown from a lot registered as a lot collected from tested parent trees within British Columbia must be planted on areas within
 - a) the area of use in Appendix 2, or
 - b) the tested parent tree seed planning zone, or latitude range within a tested parent tree planning zone, and the overlap in elevation ranges,that constitute the origin of the lot.
- 8.3.5 Seedlings or cuttings grown from a lot registered as a custom lot must be planted within
 - a) the tested parent tree seed planning zone referred to in paragraph (e) (i) of the definition of “origin,” and
 - b) the elevation and latitude transfer limits in Appendix 4 that apply to
 - i) the species of the lot, and
 - ii) the natural stand seed planning zone that encompasses the largest proportion of the tested parent tree seed planning zone referred to in paragraph (a), as if this natural stand seed planning zone is the zone of origin referred to in Appendix 4,applied to the weighted mean elevation and weighted mean latitude referred to in paragraph (e) (ii) and (iii) of the definition of “origin.”
- 8.3.6 Seedlings or cuttings grown from a lot registered as a lot collected from
 - a) a natural stand, or

- b) parent trees,
outside of British Columbia must be planted on areas that comply with the transfer limits in Table 6.1 or 6.2 of Appendix 6 that apply to the lot, based on its species and origin.
- 8.3.7 Despite this Part, if a lot collected from parent trees within British Columbia was registered under section 3 of the Tree Cone, Seed and Vegetative Material Regulation, prior to its repeal, a person, at his or her sole discretion, may choose to follow either
 - a) the applicable transfer limits referred to in this Part, or
 - b) the transfer limits that applied to the lot at the time it was registered.
- 8.3.8 Despite this Part, in areas of use within LW1 and LW2 tested parent tree seed planning zones as identified on the Chief Forester's Standards for Seed Use website at:
<https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/legislation-standards/chief-forester-s-standards-for-seed-use>,
 - a) a person, other than a timber sales manager, who is required to establish a stand under section 29 of the Act, may plant up to 10 per cent western larch seedlings, of the combined total of the number of seedlings and the number of cuttings that are planted during each fiscal year, by or on behalf of that person, with respect to all agreements held by that person in a single management unit, and
 - b) a small operator may plant up to 10 percent or 5,000 western larch seedlings, whichever is greater, of the combined total of the number of seedlings and the number of cuttings that are planted during each fiscal year, by or on behalf of that person with respect to that agreement.
- 8.3.9 Despite this Part, a timber sales manager who is required to establish a stand under section 29 of the Act may plant up to 10 per cent western larch seedlings of the combined total of the number of seedlings and the number of cuttings that are planted during each fiscal year, by or on behalf of the timber sales manager,
 - a) with respect to all timber sale licences located within a single management unit, or
 - b) with respect to a specific timber sales licence, if it is not located within a management unit, in areas of use within LW1 and LW2 tested parent tree seed planning zones as identified on the *Chief Forester's Standards for Seed Use* website at:
<https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/legislation-standards/chief-forester-s-standards-for-seed-use>.

8.4 Requirements that apply if Climate Based Seed Transfer Standards will be used under 8.2.1

- 8.4.1 Seedlings or cuttings grown from a registered lot must be planted on the CBST Area of Use identified for the tree species and Seed BEC unit in the "CBST Areas of Use for British Columbia" document located at the *Chief Forester's Standards for Seed Use* website at <https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/legislation-standards/chief-forester-s-standards-for-seed-use>.
- 8.4.2 The Branch must make available "CBST Areas of Use for British Columbia" referenced in 8.4.1, in the Seed Planning and Registry System.

APPENDIX 1 – REGISTRATION INFORMATION

3. Lots collected from natural stands within British Columbia

Section 3.1 is repealed and replaced by:

3.1 Collection area information for lots collected from natural stands, including superior provenances

1. Provenance name of collection area or closest geographic feature identified on a map (e.g., Birch Island)
2. Radius of collection area in kilometres
3. Mean latitude of collection area in degrees, minutes and seconds
4. Mean longitude of collection area in degrees, minutes and seconds
5. Collection area map in digital spatial format
6. Mean, lowest and highest elevation of collection area in metres
7. BEC unit in which collection area is located
8. Natural stand seed planning zone in which collection area is located
9. If the answer to #8 is the Maritime (M) Natural Stand Seed Planning Zone, is collection area on Haida Gwaii, the Mainland or Vancouver Island?

4. Lots collected from parent trees within British Columbia

Paragraph 1 of section 4.2 is repealed and replaced by:

4.2 Seedlots collected from parent trees

1. Name, address, phone number and identification number of the seed orchard at which the lot was collected

Paragraph 1 of section 4.3 is repealed and replaced by:

4.3 Vegetative lots collected from parent trees

1. Name, address, phone number and identification number of the production facility at which the lot was collected

5. Lots collected from outside British Columbia

Paragraph 1 of section 5.2 is repealed and replaced by:

5.2 Seedlots lots collected from parent trees

1. Does the seedlot consist of seeds collected from parent trees located at a seed orchard identified in Table 6.2 of Appendix 6? Yes or No (Identify orchard by orchard identification number, if one has been assigned)

Paragraph 1 of section 5.3 is repealed and replaced by:

5.3 Vegetative lots collected from parent trees

1. Does the vegetative lot consist of vegetative material collected directly from parent trees, or from donor plants grown from seeds collected from parent trees, located in a seed orchard identified in Table 6.2 of Appendix 6? Yes or No (Identify orchard by orchard identification number, if one has been assigned)

APPENDIX 2 – SEED PLANNING ZONES

Appendix 2 is repealed and replaced by:

APPENDIX 2 – SEED PLANNING ZONES

Seed planning zone (SPZ) spatial data may be downloaded or viewed on the DataBC website at: <https://data.gov.bc.ca/> except for tested parent tree seed planning zones LW1 and LW2 which are found at the *Chief Forester's Standards for Seed Use* website at <https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/legislation-standards/chief-forester-s-standards-for-seed-use>

Natural Stand Seed Planning Zones

The seed planning zones for all species of natural stands are identified by the codes and names set out by region in Table 2.1.

Table 2.1 Natural Stand Seed Planning Zones

Region	SPZ Code	SPZ Name
Coast	GL	Georgia Lowlands
	M	Maritime
	SM	Submaritime
Interior	BB	Big Bar
	BLK	Bulkley
	BSH	Bush
	CHL	Chilcotin
	CP	Central Plateau
	CT	Cariboo Transition
	DK	Dease Klappan
	EK	East Kootenay
	FIN	Finlay
	FN	Fort Nelson
	HH	Hudson Hope
	MGR	McGregor
	MIC	Mica
	MRB	Mt. Robson
	NCH	Nechako
	NST	Nass Skeena Transition
	QL	Quesnel Lakes
	SA	Shuswap Adams
	TOA	Thompson Okanagan Arid
TOD	Thompson Okanagan Dry	
WK	West Kootenay	

Tested Parent Tree Seed Planning Zones

The areas of use determined for tested parent trees for use within British Columbia are located within a Tested Parent Tree Seed Planning Zone. The tested parent tree seed planning zones are identified by the codes and names set out in Table 2.2 and Table 2.3.

Tested parent tree areas of use are described at the *Chief Forester's Standards for Seed Use* website at <https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/legislation-standards/chief-forester-s-standards-for-seed-use>

Tested parent tree area of use spatial data (also known as seed planning units) may be downloaded or viewed on the DataBC website at: <https://data.gov.bc.ca/>

Table 2.2 Tested Parent Tree Seed Planning Zones

Species		SPZ Code	SPZ Name
Code	Name		
Cw	Western Redcedar	M	Maritime
Dr	Red Alder	M	Maritime
Fdc	Coastal Douglas-fir	GL	Georgia Lowlands
		M	Maritime
		SM	Submaritime
Fdi	Interior Douglas-fir	CT	Cariboo Transition
		EK	East Kootenay
		NE	Nelson
		PG	Prince George
		QL	Quesnel Lakes
		PGC	Prince George / Cariboo Transition
		QLN	Quesnel Lakes / Nelson
Hw	Western Hemlock	GL	Georgia Lowlands
		M	Maritime
Lw	Western Larch	EK	East Kootenay
		NE	Nelson
		NEK	Nelson / East Kootenay
Pli	Interior Lodgepole Pine	BV	Bulkley Valley
		CP	Central Plateau
		EK	East Kootenay
		NE	Nelson
		PG	Prince George
		TO	Thompson Okanagan
		BVC	Bulkley Valley / Central Plateau
		BVP	Bulkley Valley / Prince George
		CPP	Central Plateau / Prince George
		PGN	Prince George / Nelson
		TON	Thompson Okanagan / Nelson
Pw	Western White Pine	GL	Georgia Lowlands
		M	Maritime
		KQ	Kootenay Quesnel
Py	Ponderosa Pine	SI	Southern Interior

Species		SPZ Code	SPZ Name
Code	Name		
Ss	Sitka Spruce	GL	Georgia Lowlands
		M	Maritime

Table 2.2 Tested Parent Tree Seed Planning Zones

Species		SPZ Code	SPZ Name
Code	Name		
Sx	Interior Spruce (White, Englemann and their hybrids)	BV	Bulkley Valley
		EK	East Kootenay
		NE	Nelson
		PG	Prince George
		PR	Peace River
		TO	Thompson Okanagan
		BVP	Bulkley Valley / Prince George
		NEK	Nelson / East Kootenay
		PGN	Prince George / Nelson
		TON	Thompson Okanagan / Nelson
Yc	Yellow-cedar	M	Maritime

Table 2.3. Tested Parent Tree Seed Planning Zones for Climate Change

Species		SPZ Code	SPZ Name
Code	Name		
Lw	Western Larch	LW1	Lw Climate Change 1
		LW2	Lw Climate Change 2

SUPPORTING INFORMATION:

Information supporting this amendment (i.e. the document “**CBST Areas of Use for British Columbia**” referenced in section 8.4.1), is available on the **Chief Forester’s Standards for Seed Use** website noted below.

EFFECTIVE DATE OF AMENDMENT:

This amendment comes into effect on **August 6, 2018**. The 4-month notification period, required under section 169 of FRPA, may be waived by a person who uses seeds or vegetative material for the purposes of establishing stand under section 29 of the Act in accordance with section 169(4)(c)(ii).

This amendment, together with supporting information, is posted at the **Chief Forester’s Standards for Seed Use** website at: <https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/legislation-standards/chief-forester-s-standards-for-seed-use>.

Questions regarding this amendment can be directed to the Forest Improvement and Research Management Branch, Ministry of Forests, Lands, Natural Resource Operations and Rural Development:

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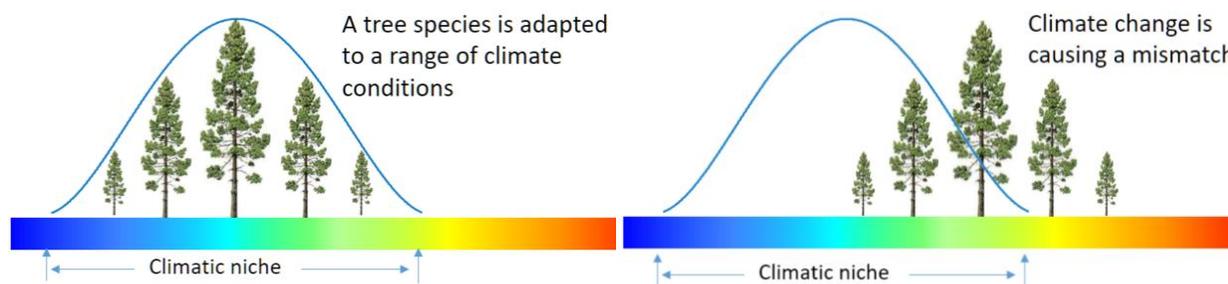
Transitioning British Columbia to Climate-Based Seed Transfer (CBST) – April 2018

This bulletin describes the science, policy, and Seed Planning and Registry (SPAR) system changes implemented to support the option to use Climate Based Seed Transfer to meet silviculture (seed use) obligations in a changing climate. For more information, refer to the Province of British Columbia website for Climate Based Seed Transfer: <https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/seed-planning-use/climate-based-seed-transfer>

Climate Based Seed Transfer

In British Columbia, science-based seed transfer, enabled through forest genetic science and seed use policies and practices, is the foundation of the effective reforestation and genetic adaption of stock planted as part of BC's sustainable forest management system. Climate Based Seed Transfer (CBST) promotes healthy, resilient and productive forests and ecosystems through the matching of seed sources (seedlots) to climatically suitable planting sites (Figure 1). CBST is one of the ministry's first climate change adaptation policies intended to increase the ability of BC's forests and ecosystems to adapt, and respond to the impacts of climate change.

Figure 1 Illustration of climate change impact on forest tree adaptation. Source: Dr. Tongli Wang, UBC



Science Foundation¹

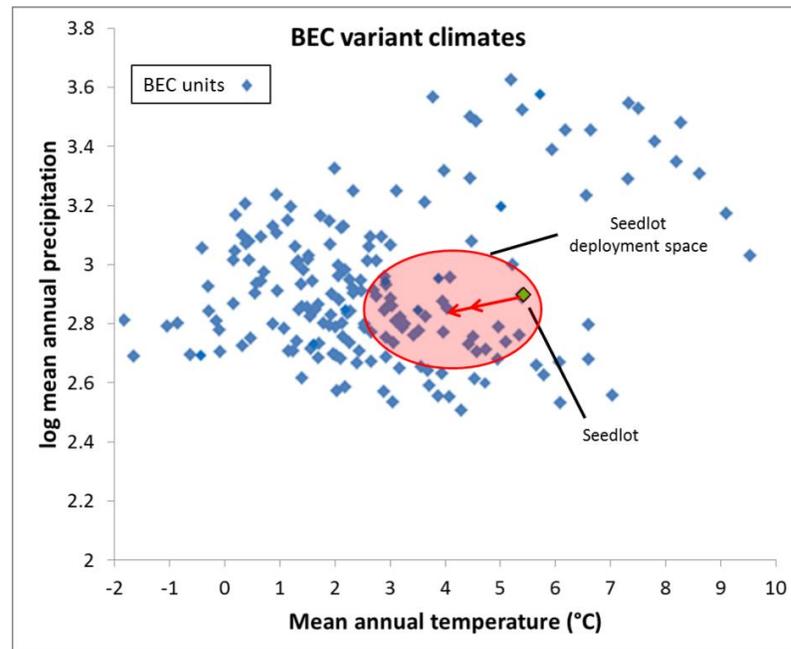
The Province's current seed transfer system uses a geographically-based methodology that limits seed transfers on the basis of longitude, latitude, elevation, and Biogeoclimatic (BGC) zone. The new climate based seed transfer system, with the aid of assisted migration, matches the climate² and latitude of a seed source, as

¹ CBST scientific methodology and approach was developed by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNROD) with assistance from Dr. Tongli Wang at the University of British Columbia (UBC).

² Climate variables matched are: mean annual temperature, mean cold month temperature, summer-winter temperature differential, mean annual precipitation, mean summer precipitation, degree days above 5° C, extreme maximum temperature, and precipitation as snow.

represented by a Biogeoclimatic Ecosystem Classification (BEC) subzone/variant, with the current and near-future climate of a planting site (Figure 2)³.

Figure 2 Migration of a two variate climate space (represented by BEC variants). Source: Dr Greg O’Neill, FLNRORD



CBST is primarily designed to catch up with past climate change (1940s – 2016) or “adaptation lag” future climate change projected forward only 15 years on the coast and 20 years in the interior (a representative quarter harvest age rotation). This conservative approach is aimed at balancing the need for adaptation (in a changing climate) without compromising plantation establishment. Updates to CBST pertaining to foundational and baseline data sets (transfer functions, BEC, Climate BC) will be planned and scheduled appropriately as new information becomes available.

Amendments to the Standards

The *Chief Forester’s Standards for Seed Use* (Standards) have been amended to enable the option to use Climate Based Seed Transfer (CBST) when planning for, selecting and using seed for Crown land reforestation. The amended Standards come into effect after the four month notice period, on August 6, 2018. Forest licence and silviculture agreement holders may waive the notice period and begin using the amended Standards from this point forward.

A consolidated version of the *Chief Foresters Standards for Seed Use*, updated to April 6, 2018, is available at: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/tree-seed/legislation-standards/chief_forester_standards.pdf

³ See, O’Neill G, Wang, T, Ukrainetz N, et al. Technical Report 099 - *A proposed Climate-based Seed Transfer System for British Columbia*

Policy Implementation - A Phased Approach

Initially, seed users will have two options to choose from, including the existing (geographically based) transfer standards or the new CBST standards. Both options will be available during a “transition period” which will end with the removal of the option to use the geographically based transfer standards. A two year transition period is currently planned.

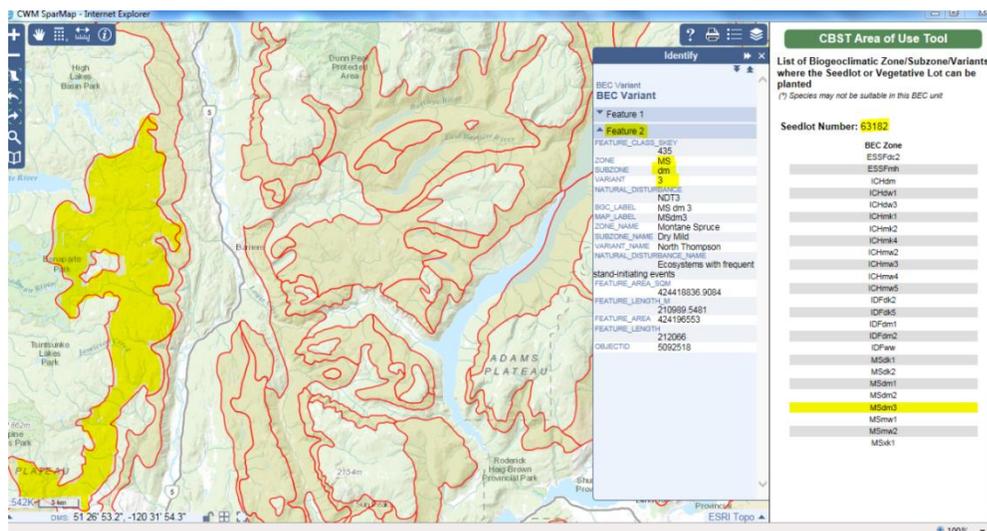
Tree species and seed selection:

Under Forest and Range Practices Act (FRPA), species selection is supported by the Reference Guide for Forest Development Stocking Standards⁴, as determined and approved in a Forest Stewardship Plan (FSP). Given this approach, unless it is decided that species should be migrated out of their current range, assisted migration under CBST will continue to limit seed transfer to those areas considered suitable (for the near future climate) within a species’ range and distribution.

Seed Planning and Registry system:

The Seed Planning and Registry (SPAR) system has been enhanced to incorporate CBST amendments to the Standards. These changes enable seed users to search for, view, and select, climatically suitable seed sources (seedlots) to meet silviculture obligations and reforestation needs in a changing climate. Seed users may view CBST Areas of Use as either a list of suitable BEC variants (derived from the Seed BEC unit) or as a map (Figure 3).

Figure 3 Example of a map using the CBST Area of Use Tool. (Source: Seed Planning and Registry System)



Extension and Training

To learn more about CBST, information sessions (online and in person) will be provided by the Forest Improvement and Research Management Branch (FIRMB). These information sessions will cover recent amendments to the Standards including the option to use CBST for seed transfer, new cone collection

⁴ https://www.for.gov.bc.ca/hfp/silviculture/stocking_stdts.htm

standards; and, related changes to the Seed Planning and Registry (SPAR) system. Cone collection workshops (sponsored by FIRMB), including information on CBST seed planning and collection, are also planned over the coming months (summer 2018). For more information and session dates see: www.gov.bc.ca/climatebasedseedtransfer.

Next Steps

CBST policy development and stakeholder engagement is ongoing and additional changes are expected to be implemented in stages. Currently, a GIS-based CBST impact assessment and gap analysis is underway to help identify potential seed shortages and gaps in addition to new opportunities (e.g. new seed sources moving into areas where not previously deployable). Future changes currently planned will address:

- Removal of the option to use the “Geographically based transfer standards.” This is targeted to be in two years (2020); however, timing will be subject to the results of CBST impact and gap analyses (currently underway); orchard/breeding program realignment, and, additional consultation with stakeholders;
- Replacement of current seed planning zones / breeding zones with new CBST seed planning /breeding zones. This is expected in 2 to 5 years’ time; and,
- Implementation, administration and streamlining of the Standards (including SPAR and RESULTS enhancements).

Please note that the full extent of climate change adaptation through CBST will be realized at a later date when the climate change informed species selection (CCISS) project advances to implementation.⁵ Collaboration efforts between the CBST and CCISS projects will continue to ensure integration and consistency between decision tools and policy realms.

For More Information

Questions regarding this bulletin can be directed to the Forest Improvement and Research Management Branch, Ministry of Forests, Lands, Natural Resource Operations and Rural Development:

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Climate Based Seed Transfer: www.gov.bc.ca/climatebasedseedtransfer

Chief Forester’s Standards for Seed Use:

<https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/legislation-standards/chief-forester-s-standards-for-seed-use>

⁵ Until the climate informed tree species selection project advances, the current Reference Guide for FDP Stocking Standards (including the 2014 Update: Climate-change Related Stocking Standards) applies to integrated silviculture strategies and forest stewardship planning (https://www.for.gov.bc.ca/hfp/silviculture/stocking_stds.htm).