



Transitioning British Columbia To Climate Based Seed Transfer



CBST Seed Selection and Deployment

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*The Ministry of Forests, Lands, Natural Resource Operations and Rural Development Forest Improvement and Research Management Branch is leading the development of a Climate Based Seed Transfer (CBST) system to support forest ecosystem resilience, health, and productivity in a changing climate. On **April 5, 2018** amendments to the Chief Forester's Standards for Seed Use were published to allow the option to use CBST on Crown land reforestation.¹ Implementation of CBST is phased (incremental) with a minimum of 2-3 years currently anticipated for full transition to CBST.*

CBST and the Use of BEC to Represent BC's Climate Space

One of the shortcomings of the geographically-based seed transfer (GBST) system is that it unnecessarily constrains transfers. In the context of climate and genetic suitability, the science supporting CBST has shown this to be true as many seedlots now have expanded seed deployment areas (areas of use). The degree of expansion depends on what climate space the trees occupy and how broad that climate space is within BC. The **BEC unit** (BGC zone, subzone, and variant, where applicable) was chosen as a good ecosystem-based operational representation in which to describe a climate space. Latitude is one of the variables used in the determination of migration distance.

Transitioning from GBST to CBST

The April, 2018 amendments to the Chief Forester's Standards for Seed Use provide for the optional use of CBST. A transition period of a minimum of 2 to 3 years is anticipated (planned) to help mitigate impacts to seed producers, owners (investments) and seed users. The intent is to provide an overlap between the initial introduction of CBST and geographically based seed transfer standards (GBST); until which time CBST is fully supported (policy, information management systems, and decision support tools).

Seed Selection under CBST

Section 7.3 of the Chief Forester Standards for Seed Use states the following: "For the purpose of establishing a stand under section 29 of the Act, a person must select a registered lot, or portion of a registered lot, that, at the time of

¹ On **April 9, 2019**, further amendments were published including minor changes for some species (expansion of CBST Areas of Use).

For more information on CBST:

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>

For more general information:

BC Government, Forest Improvement and Research Management Branch: Tree Seed
<https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed>

FORHTIP.SEEDHELP@gov.bc.ca

selection has a genetic worth of 5 percent or greater for the species and trait that best achieves the forest management objectives of the stand, if...". CBST does not replace or change this requirement.

Seed Selection and Deployment during Transition

During the **transition period** if your goal is to maximize productivity of your site, follow seed selection standards based on policy options in this order of priority:

1. Use CBST seed transfer and Class A seed with the highest genetic gain.
2. Use GBST seed transfer and Class A seed with the highest genetic gain.
3. Use CBST seed transfer and Class B seed.
4. Use GBST seed transfer and Class B seed.

SPAR and the CBST Area of Use Tool

The Seed Planning and Registry (SPAR) system is the primary source (and registry) for seed and vegetative lots registered for use in Crown land reforestation. SPAR is updated as needed to reflect the most recent changes to seed and vegetative lot **CBST Areas of Use** (BEC units associated with suitable seed deployment areas).² Seed deployment areas (CBST AOU) can be viewed on the CBST Area of Use Tool (Figure 1). Use SPAR over the "CBST Tool"³ when searching for suitable lots under CBST for seed and/or seedling request ordering as SPAR reflects 'real time' seed inventory balances and associated cone and seed transactions (e.g. seed withdrawals).

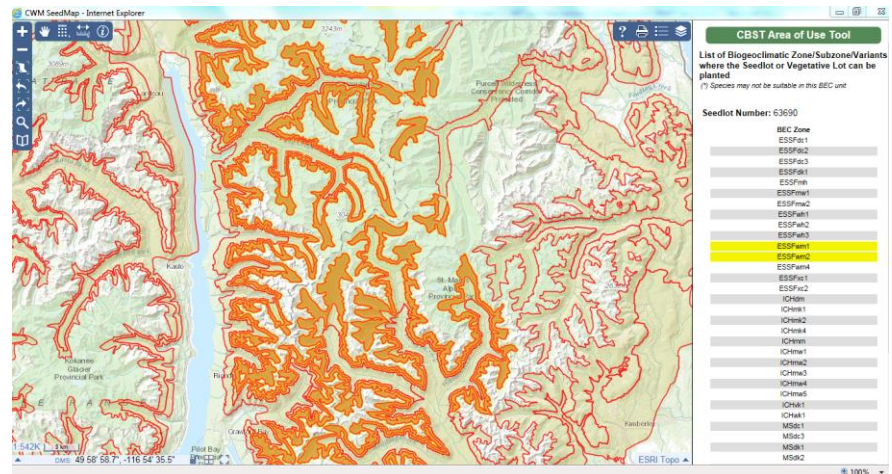


Figure 1: Example (screenshot) of the CBST Area of Use Tool on SPAR.

What is the "CBST Tool"?

The CBST Seedlot Selection Tool (commonly referred to as the **"CBST Tool"**) although refreshed on a regular basis, may not, however, comprise all seed and vegetative lots due to a lag in cone and seed processing (e.g. test) information and/or missing information (e.g. natural stand seedlots without BEC 10 assignments). The CBST Tool is intended as an interim measure (tool) to facilitate the assessment of impacts (CBST as compared with GBST Area of Use) during the transition period.

² As per *Climate Based Seed Transfer (CBST) Areas of Use for British Columbia* (April, 2019 v1)

³ Hosted by Forsite (Forest Management Specialists), Salmon Arm, B.C.