Climate Based Seed Transfer Policy and Implementation

Oct 17, 2018
"Connections through Seed"

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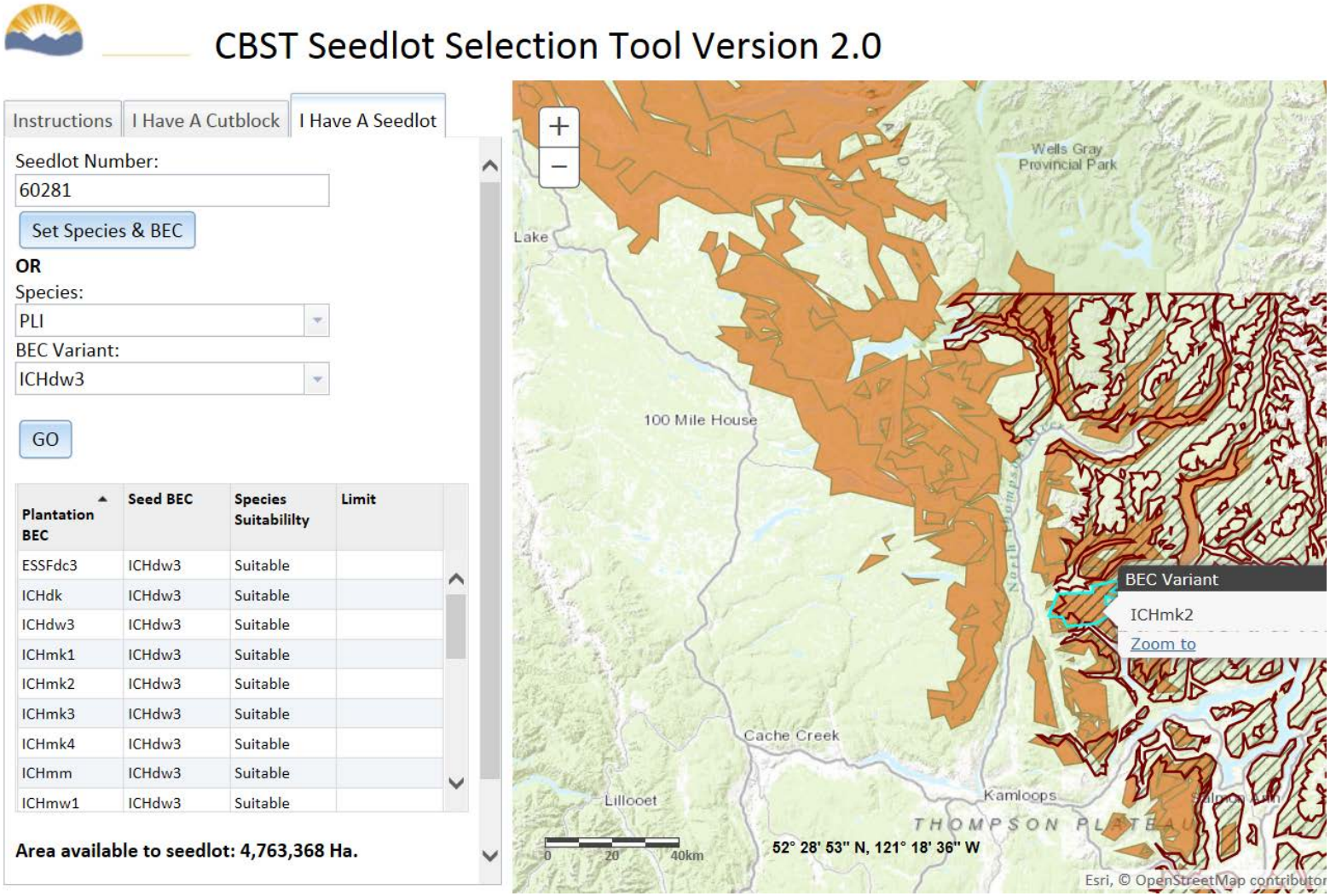
Forest Improvement and Research Management Branch

All that science was built into a CBST Seedlot Selection Tool - for testing and demonstration



The CBST seed deployment area (i.e. CBST Area of Use) comprises the **orange** areas marked on the map. The current seed deployment area (or Area of Use) is marked in the **brick red** colour.

What about the **risks** of introducing CBST as policy?

- Doing nothing about climate change is a higher risk
  - Losses from increased wildfire and pests
  - Loss of productivity through maladaptation
- Using CBST mitigates the impacts of climate change and reduces risk
  - We are currently planting into sites that are too warm for the seed
  - With CBST, we will be planting into sites that are slightly colder (in anticipation of ongoing climate change)
  - CBST takes a conservative approach - focusing more on catching up with climate change to date, rather than projecting too far into the future

Policy Approaches

- Chose to use an overlap period with current standards and optional CBST implementation
- In the Interim, introduced a fast tracked “CBST Alternatives process” where the FIRM Director (delegated by Chief Forester) could approve submissions that used the CBST Tool
- 2017/18 Interim Results:
  - 5.22 M seedlings (1.9%) under approved CBST alternatives
  - 62% requested by major licensees, 9% BCTS and 29% FFT
  - 74% Class A; 26% Class B

Chief Forester's Standards for Seed Use

- Formally amended April 5, 2018, came into effect August 6, 2018
- Option to use CBST standards, continue with Geographically Based Seed Transfer standards (GBST) or use a mix of both
- New cone collection requirements that align with CBST
- Other minor amendments to update reference and administrative provisions

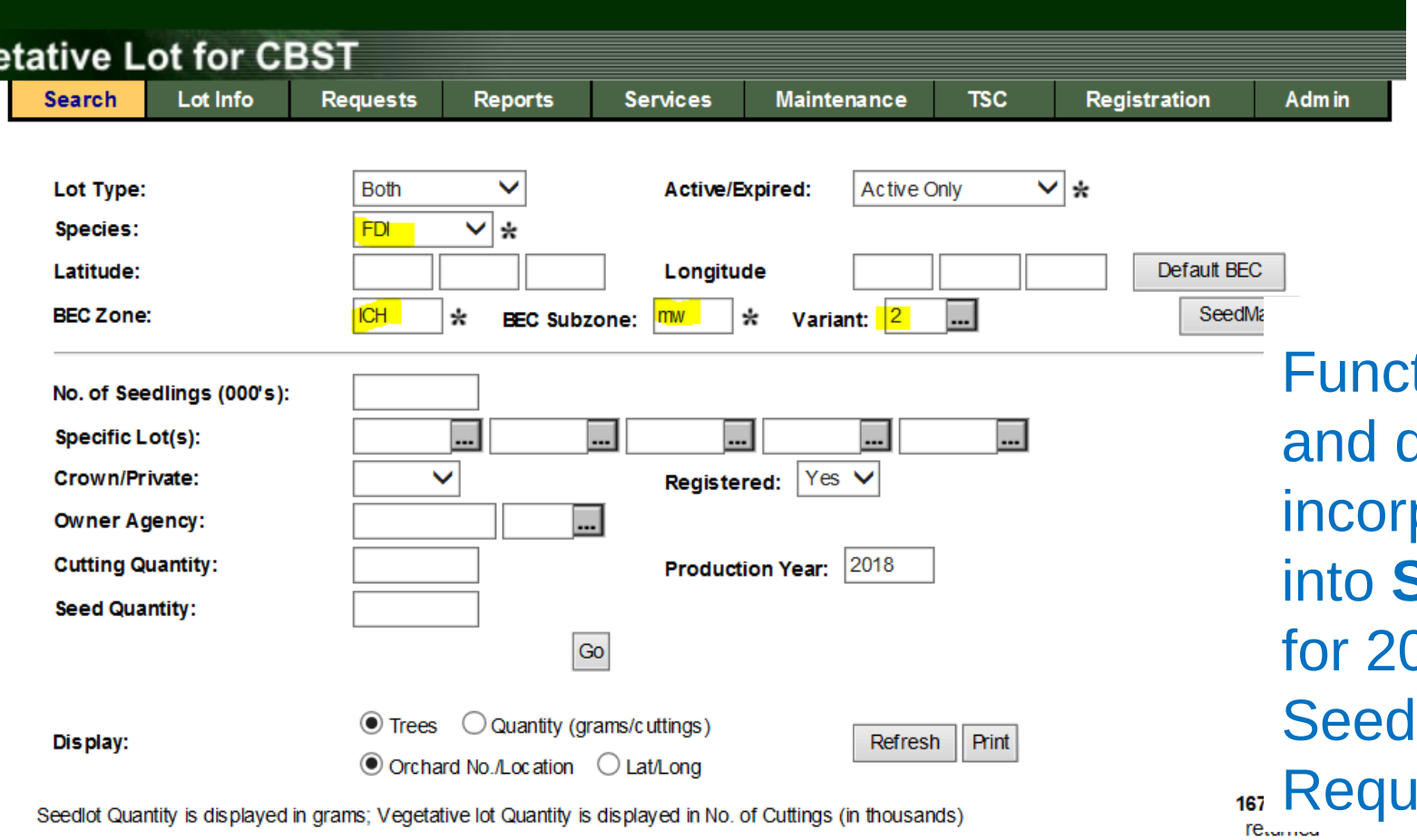
https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/legislation-standards/chief-forester-s-standards-for-seed-use

New Cone Collection Standards

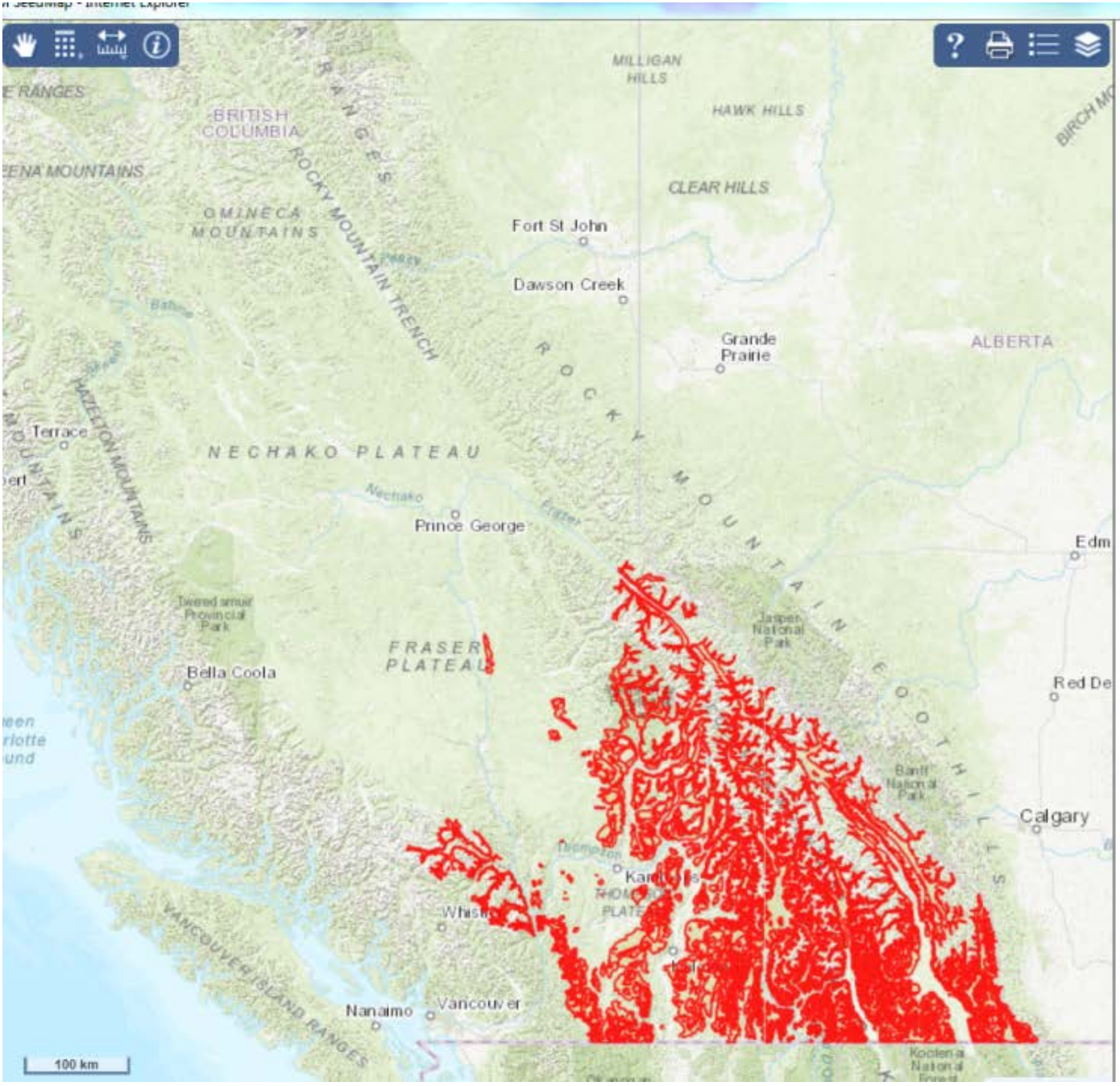
- New requirements came into effect August 6, 2018 **with no transition period.**
- Seed now required to be collected from a single BEC variant (and seed collection area to be mapped in SPAR).

Why?

- Maintain identity of seed source for future transfer limits
- Create a “CBST area of use” (based on BEC variants)
- Reduce the likelihood of increasing inventories that can not be used after the CBST transition period.



Functionality and data incorporated into **SPAR** – for 2019 Seedling Requests



CBST Area of Use Tool

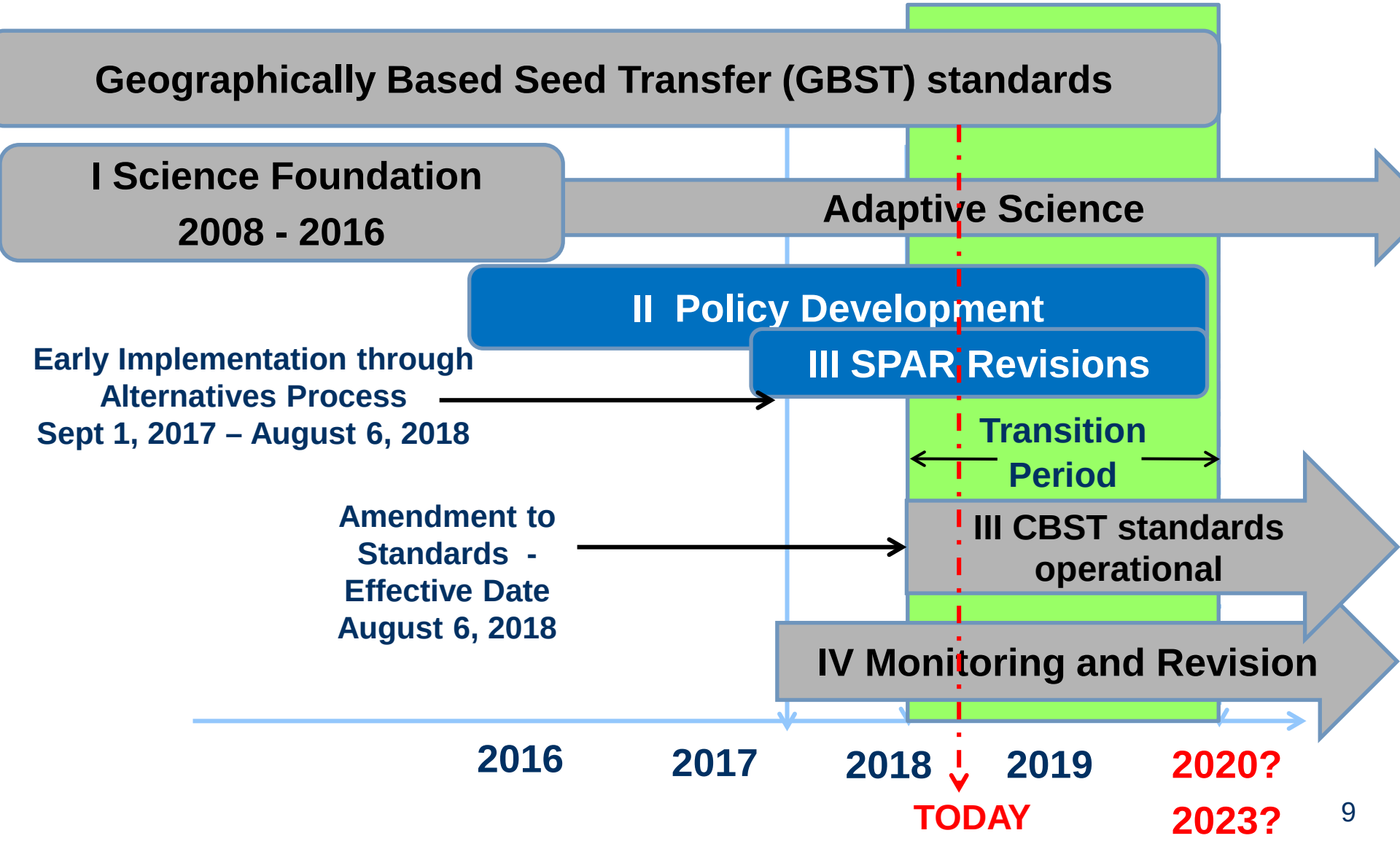
List of Biogeoclimatic Zone/Subzone/Variant where the Seedlot or Vegetative Lot can be planted

(*) Species may not be suitable in this BEC unit

Seedlot Number: 63690

BEC Zone
ESSFdc1
ESSFdc2
ESSFdc3
ESSFdk1
ESSFmh
ESSFmw1
ESSFmw2
ESSFwh1
ESSFwh2
ESSFwh3
ESSFwm1
ESSFwm2
ESSFwm4
ESSFxc1
ESSFxc2
ICHdm
ICHmk1
ICHmk2
ICHmk4
ICHmm
ICHmw1
ICHmw2
ICHmw3
ICHmw4
ICHmw5
ICHvk1
ICHwk1
MSdc1
MSdc3
MSdk1
MSdk2
MSdm1
MSdm2
MSdm3

CBST Policy Timeline



The Transition Period

- GBST standards will be removed as an option at end of transition period
- Opportunity to use up seed that may not be useable under CBST
- Chief Forester signaled a 2 year transition
- Gap analysis in process - combined with planned updates (further shifts to Areas of Use) current thinking is 3 (or 4?) years.

CBST Impact Assessment and Gap Analysis

- To what degree does CBST impact seed use, investments, and assets, including:
  - Seed Users
  - Seed Owners; and
  - Seed Producers?
- How are CBST impacts characterized compared to previous deployability of a seed lot (losses, gains)?
- What are the opportunities (e.g. new seed sources moving in)?
- Where are the gaps in CBST coverage? (in the short and long term)?
- What do we do about “orphans”? Seedlots with no where to plant, or BEC variants with no seed source?

Options to address Class A deficits

- In the transition period, use GBST transfer standards
- Use A Class seed from the BEC variant with the highest genetic suitability match - POLICY OPTION
- Use A Class seed from US (if it exists, is available and can be registered for use in BC)
- A new Orchard with parents from drier and warmer BECvars (BC or US) could be established.
- Infuse existing orchards with drier warmer parents.
- Use B Class seed (BC or US)

Seed Supply Planning under CBST

- Overlaps in deployment between interim planning units are substantive.
- Check deployment BECvars, inventory and orchard forecasts before considering collections (new SPAR report available)
- Keep collections to under 2 to 5 years supply.
- Plant Wizard and Phoenix (licencee planning tools) are being updated to include CBST
- Expect new or modified orchards in 5 to 10 years.

See, Ministry of Forests, Lands, Natural Resource Operations and Rural Development, **Tree Seed** and **CBST** webpages,

www.gov.bc.ca/climatebasedseedtransfer

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