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April 26, 2019

To: Regional Executive Directors, Coast Area
Regional Executive Directors, South Area
Natural District Managers, Coast Area
Natural District Managers, South Area
BCTS Business Area Managers

From: Diane Nicholls, RPF
ADM, Chief Forester

Re: Guidance on the use of hybrid poplar clones for reforestation on Crown land

This guidance is intended to inform decisions on the use of hybrid poplar clones in any aspect of forest management in BC.

Purpose

1. Summarizes the forest health risks regarding the use of hybrid poplar clones in reforestation, and
2. Outlines government expectations on which hybrid poplar clones should be avoided for use in BC, to ensure protection of the natural forest while maintaining an economically valuable supply of hybrid poplar commercial wood fibre.

Context

In 2007, hybrid poplar (*Populus x*) trees in a tenure holder's nursery in the Fraser Valley were confirmed to be infected by the pathogenic fungus *Sphaerulina musiva* (= *Septoria musiva*). This fungus had previously not been reported west of the Rocky Mountains. The fungus causes a disease that manifests as an innocuous foliar blight, but on susceptible hybrid poplar clones the disease can form stem cankers which result in stem defects, breakage and premature mortality.

Monitoring by the ministry since 2008 has determined that the fungus has spread to several plantings of hybrid poplar clones within the Fraser Valley, and also to locations on southern Vancouver Island and the Okanagan. Additional monitoring has found that the fungus can successfully transfer to native poplar, including black cottonwood (*Populus trichocarpa*). Although currently the spread of the fungus to native poplar species has been low, it is known that *Populus trichocarpa* is susceptible to the fungus and it is recognized that continued existence of diseased hybrid poplar can increase the probability of infection of *Populus*

trichocarpa which is an important riparian and flood plain species found throughout the province.

Testing of symptomatic hybrid and native poplar trees reveals that the fungus is similar to populations found in Saskatchewan and the mid-western United States. These analyses suggest that the dissemination of the fungus is associated with anthropogenic activities, such as being transported on cuttings; a risk not previously addressed by forest practitioners in BC.

Risk

Multiple introductions within the province indicate that eradication of this disease is no longer possible, and that active steps will have to be taken to mitigate the risk of the fungus spreading from current and/or future hybrid poplar plantings.

The major risk posed is that indiscriminate planting of hybrid poplar clones for reforestation, pulp and paper production, landscape restoration, habitat remediation, bioremediation, bio-char production, or use in carbon credit projects, could lead to new infection sources being created. If these kinds of stands are planted with disease susceptible clones, they will serve as reservoirs of infection that can threaten adjacent uninfected hybrid plantations or native poplar in riparian and other sensitive areas. The use of susceptible hybrid poplar clones could put the values managed under the *Forest and Range Practices Act* at risk.

Since it is suspected that the fungus can be spread via cuttings, it is imperative to ensure that only clean cuttings are imported, exported or moved within the province. Given that we have an understanding of which specific clones are susceptible to this canker disease, we can mitigate risk of future disease dissemination by selecting against the use of the most susceptible clones.

Guidance on key hybrid clone considerations

Tree breeding and the commercial production of hybrid poplar in other parts of North America have identified clones that are susceptible to *Septoria* canker. Genetic testing of hybrid poplar clones in BC over the last decade has produced similar results. In order to mitigate the risk to native poplar, and commercial native and hybrid poplar plantings, it is incumbent on forest managers to select the best material possible, from both hybrid clones currently in BC, and any imported hybrid poplar clones.

CLONE SELECTION – follow the guidance below

1. HYBRID POPLAR CLONES - CURRENTLY IN BRITISH COLUMBIA

- a) A list of *Septoria* disease susceptible hybrid poplar clones is provided in Appendix 1.
 - i. These clones must not be used in BC in reforestation, habitat remediation, riparian remediation, bioremediation, bio-char production, carbon capture or any other use that relies on the production of hybrid poplar trees.

2. HYBRID POPLAR CLONES - IMPORTATION

- a) Where hybrid poplar clones are imported into BC, none should be those listed in Appendix 1, and choose only the material that is demonstrated to be resistant to *Septoria* canker.

A handwritten signature in purple ink, consisting of a stylized 'D' followed by a series of loops and a long horizontal stroke.

Diane Nicholls, RPF
ADM, Chief Forester

Enclosure: Appendix 1 - list of *Septoria* disease susceptible hybrid poplar clones

Guidance on the use of hybrid poplar clones for reforestation on crown land

Appendix 1

The following hybrid poplar clones should not be used for reforestation in British Columbia due to their demonstrated susceptibility to *Septoria* canker disease. Confirmation of susceptibility is through genomic testing of infected individuals.

Clone designation(s)	Clone lineage
M x T NE41 or OP41 or Androscoggin	<i>Populus maximowiczii</i> x <i>P. trichocarpa</i>
NG 359	<i>Populus nigra</i> x <i>P. grandidentata</i>
NM6 – (Max-5)	<i>Populus nigra</i> x <i>P. maximowiczii</i>
T x D 15-29	<i>Populus trichocarpa</i> x <i>P. deltoides</i>
T x D 20-70	<i>Populus trichocarpa</i> x <i>P. deltoides</i>
T x D 44-143	<i>Populus trichocarpa</i> x <i>P. deltoides</i>
T x D 46-158	<i>Populus trichocarpa</i> x <i>P. deltoides</i>
T x D 47-174	<i>Populus trichocarpa</i> x <i>P. deltoides</i>
T x D 50-349	<i>Populus trichocarpa</i> x <i>P. deltoides</i>
T x D 52-226	<i>Populus trichocarpa</i> x <i>P. deltoides</i>
T x D 53-242	<i>Populus trichocarpa</i> x <i>P. deltoides</i>
T x D 184-411	<i>Populus trichocarpa</i> x <i>P. deltoides</i>
T x D 443-4584	<i>Populus trichocarpa</i> x <i>P. deltoides</i>
T x D DTAC7 or UNAL	<i>Populus trichocarpa</i> x <i>P. deltoides</i>
T x D DTAC8 or BEAUPRE	<i>Populus trichocarpa</i> x <i>P. deltoides</i>
T x M 262-9	<i>Populus trichocarpa</i> x <i>P. maximowiczii</i>
T x M 271-286	<i>Populus trichocarpa</i> x <i>P. maximowiczii</i>
T x M 271-287	<i>Populus trichocarpa</i> x <i>P. maximowiczii</i>
T x M 282-188	<i>Populus trichocarpa</i> x <i>P. maximowiczii</i>
T x M 283-197	<i>Populus trichocarpa</i> x <i>P. maximowiczii</i>
Brooks 6 – (Green Giant)	<i>Populus deltoides</i> x <i>P. petrowskyana</i>
Hill - (FNS 44-55)	<i>Populus deltoides</i> x (<i>P. x petrowskyana</i>)
Northwest	<i>Populus balsamifera</i> x <i>P. deltoides</i>
Walker - (FNS 44-52)	<i>Populus deltoides</i> x (<i>P. x petrowskyana</i>)