

Poplar and the *Septoria* fungus



in British Columbia

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Septoria spp. on poplar in North America

Fungus	Native	Occurrence	Host	Impact
<i>Septoria populicola</i>	Western North America	Endemic	<i>P. balsamifera</i> <i>P. trichocarpa</i>	Leaf spots
<i>Septoria musiva</i>	Eastern North America	Endemic	<i>P. deltoides</i>	Leaf spots
<i>Septoria musiva</i>	Eastern North America	Epidemic	Exotic and hybrid <i>Populus</i> spp.	Leaf spots and Cankers

adapted from N. Feau *et al.*, 2010

Damage to Populus by Septoria

Leaf spots



Cankers

HYBRID POPLAR

In 2006 *Septoria musiva* was first recorded on hybrid poplar in BC,

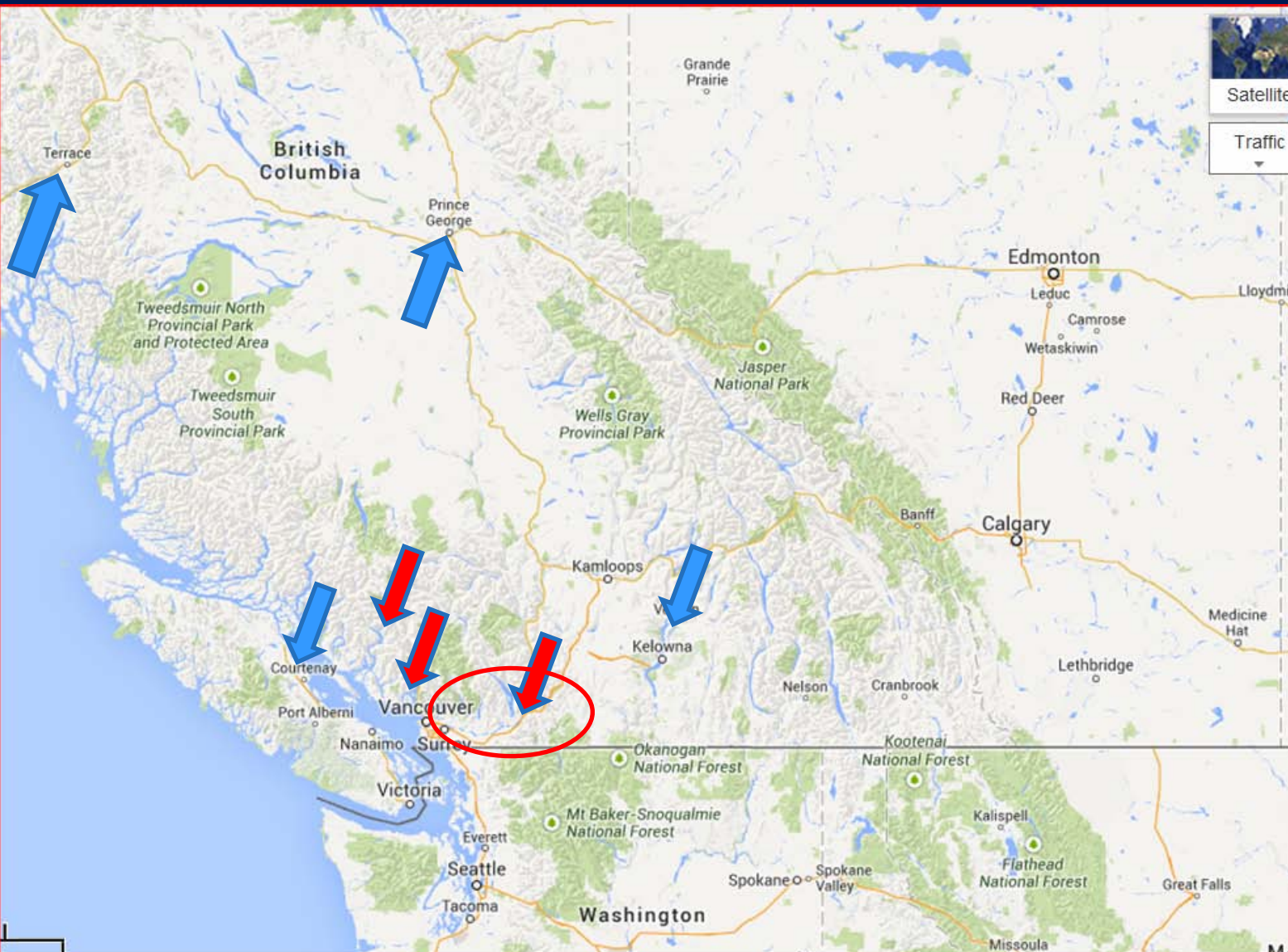
- Isolates from cankered stems
- 458 stems survey, 198 (43%) were cankered, and of these
- 50 cankers were sampled, 22 (44%) cultures were identified as *S. musiva*

(adapted from Callan *et al.*, 2007)

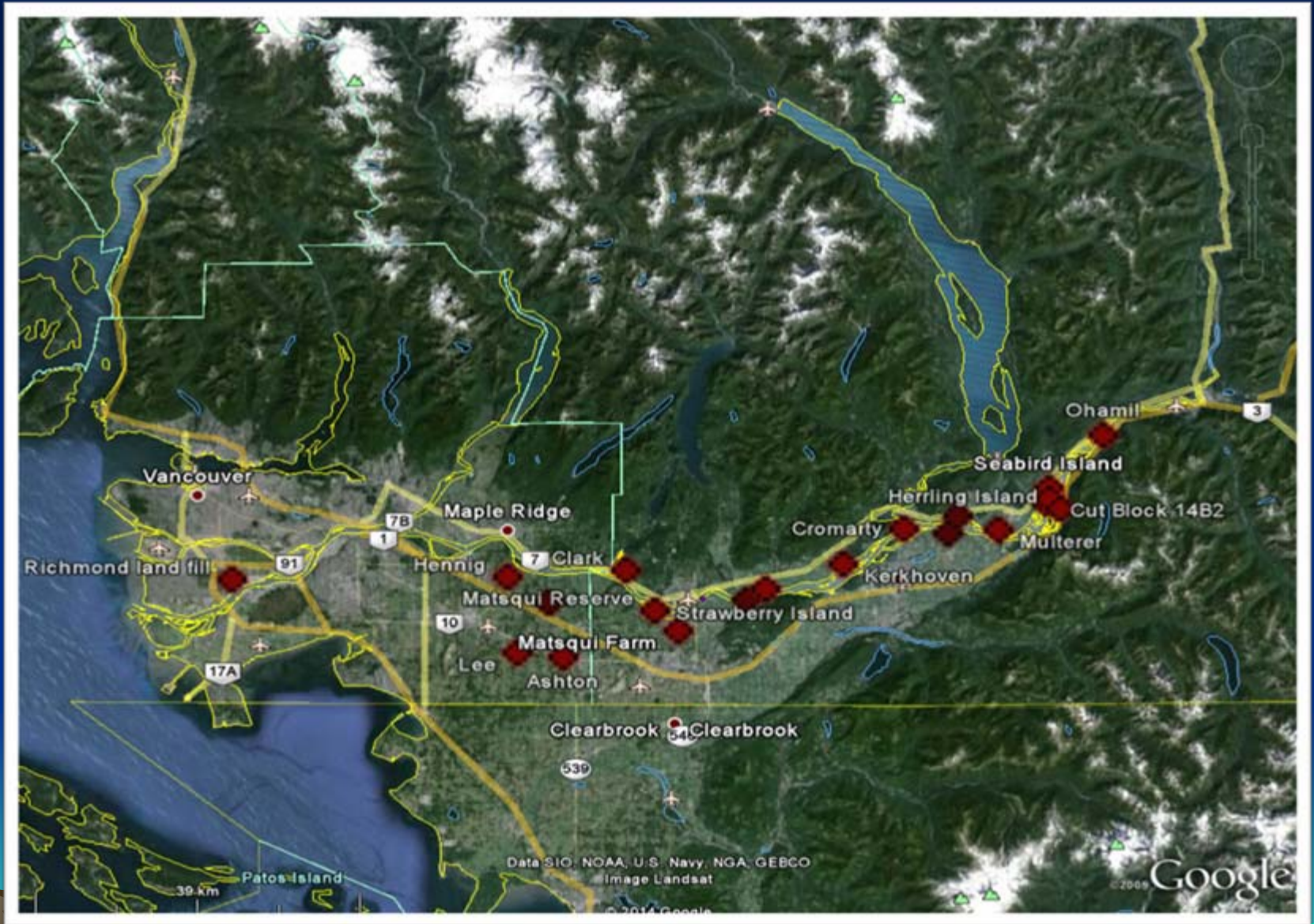
.....but it probably arrived in BC earlier than 2006.

Follow-up survey in 2007

160 canker samples on hybrid poplar were processed;
45 (28%) were positive for *S. musiva*



HYBRID POPLAR



Native *Populus* at risk

P. trichocarpa, (black cottonwood)

- Over 230,000 harvestable hectares in BC,
- Ecologically important (i.e., riparian areas) throughout south-west BC

Survey (2008-2012)

- Roadside, mostly along the Fraser River
- Only foliage collected

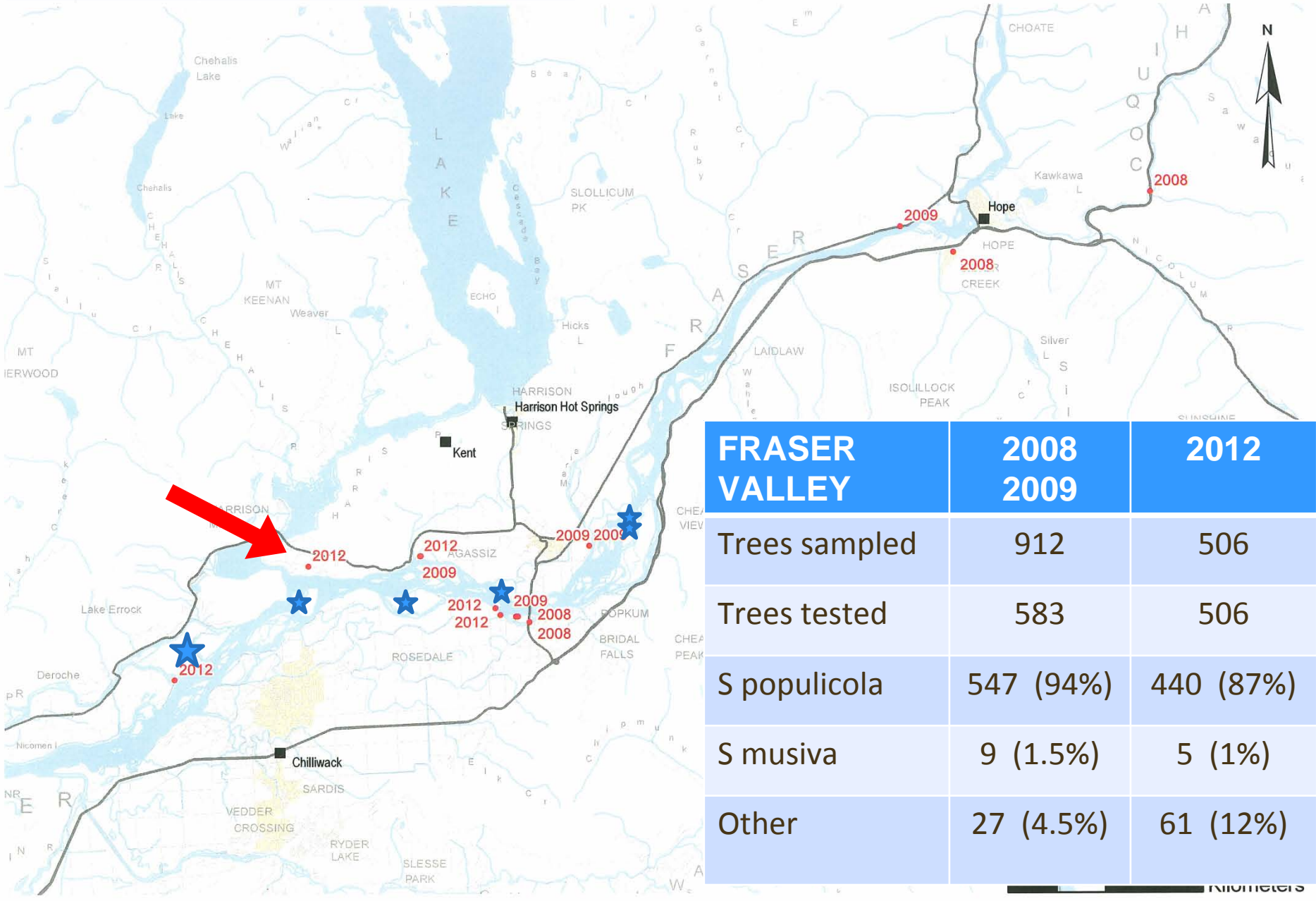


Photo Padmini Herath

Native *Populus* at risk

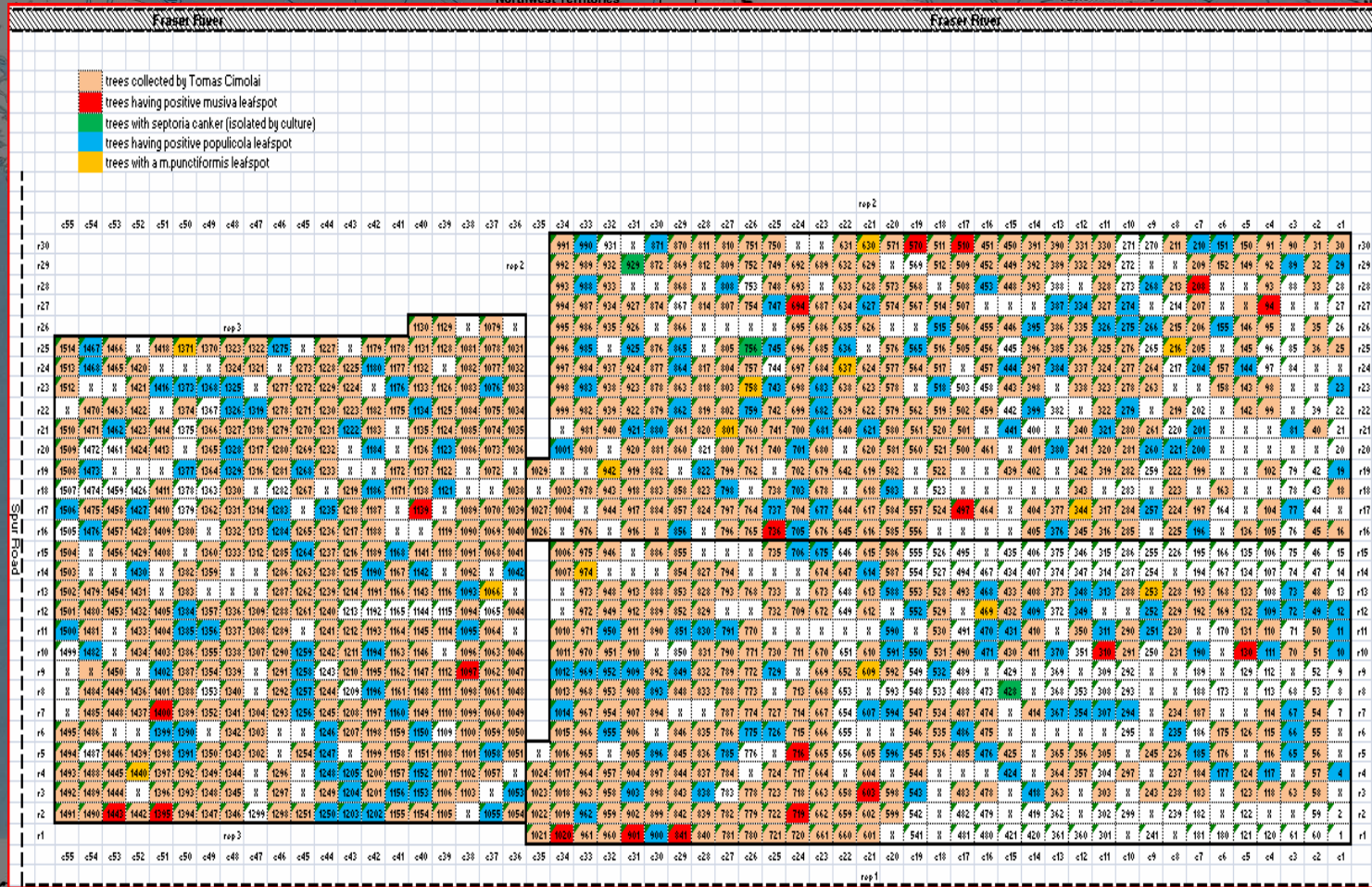
2008 - 4 2009 - 5 2012 - 5

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FRASER VALLEY	2008 2009	2012
Trees sampled	912	506
Trees tested	583	506
<i>S populicola</i>	547 (94%)	440 (87%)
<i>S musiva</i>	9 (1.5%)	5 (1%)
Other	27 (4.5%)	61 (12%)

Native *Populus* at risk



P. Trichocarpa Clone Sites in the Pacific Northwest

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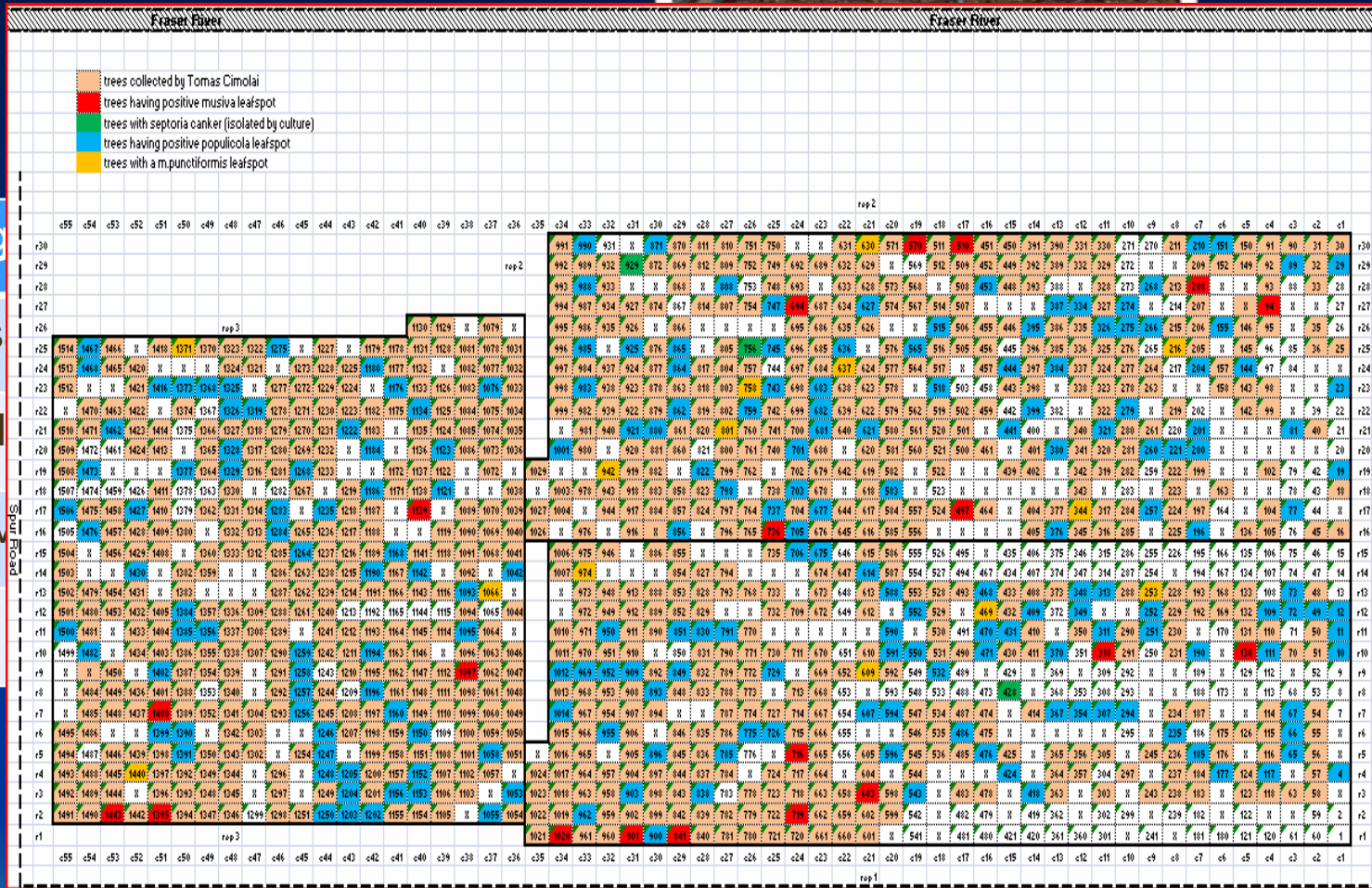
P. Trichocarpa Clone Sites

P. Trichocarpa Clone Sites

0 80 160 320 Kilometers

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Native *Populus* at risk



Cutting
Trees s
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Other

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<i>Septoria musiva</i>	British Columbia	Epidemic ?	Hybrid <i>Populus</i> spp. and <i>P. trichocarpa</i>	Leaf spots and Cankers

adapted from N. Feau *et al.*, 2010

How can the movement of infected *Populus* be stopped?

Federal and Provincial regulations

- None that cover diseases of *Populus*,
however
- BC's Forest and Range Practices Act;
 - Section 27 – “....regulation as a forest health emergency management area.”

Voluntary controls (with what assurances?)

Certification

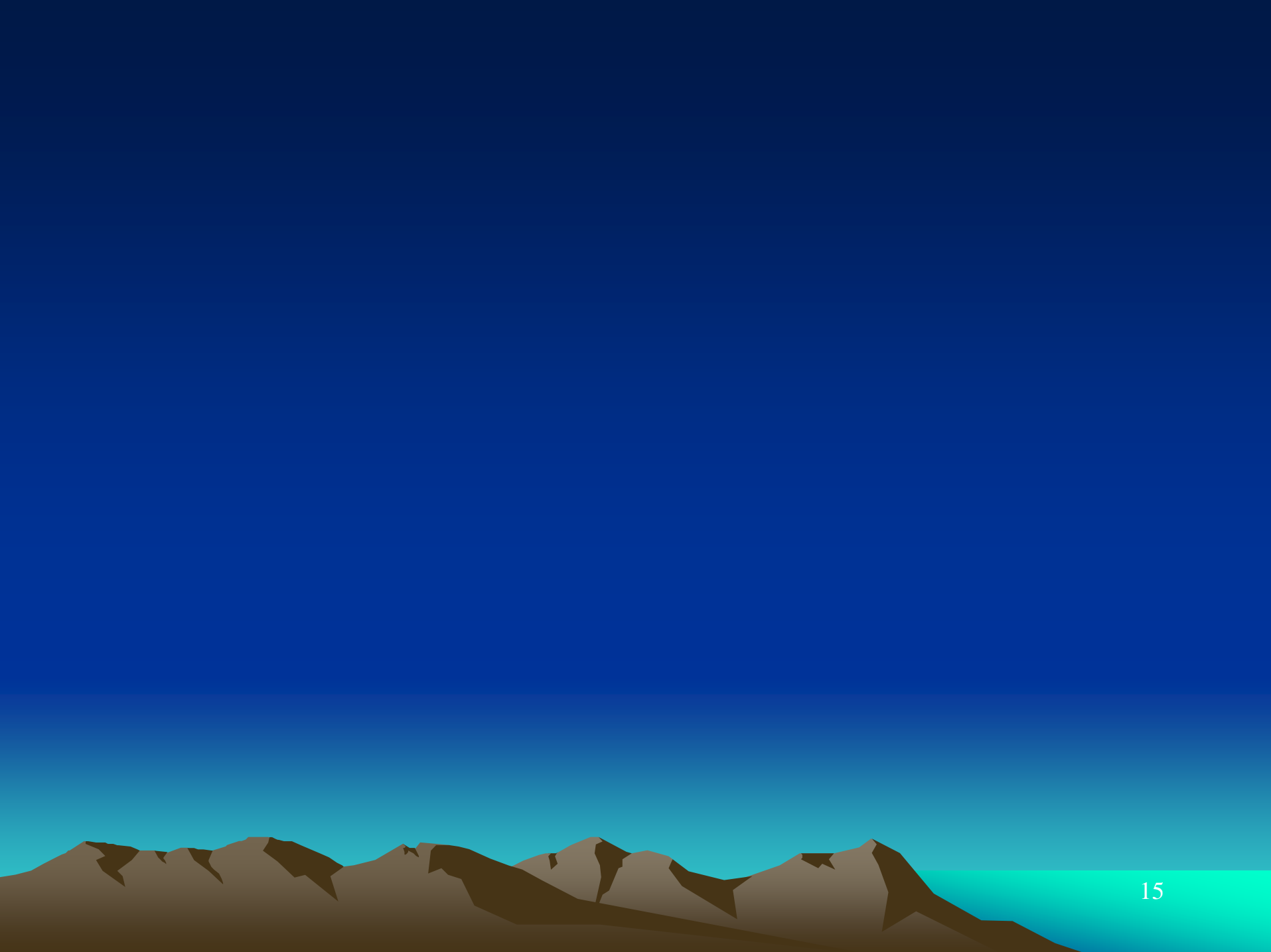
Poplar Council of Canada

Canadian Nursery Certification Institute

MANY THANKS TO:

- C van Oosten – SilviConsult Woody Crops Technology Inc.
- G Abebe, D Carson, K Stenerson – Kruger Forest Products
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R Hamelin – University of British Columbia
- V Joshi, K Sakalauskas – BC Agriculture and Lands
- B Callan – Pacific Forestry Centre, Natural Resources Canada





IN SUMMARY

Need to address the movement of *Populus* cuttings

- Since in BC, *S. musiva* is present on hybrid poplar
 - as leaf spot and cankers
- Since in BC, *S. musiva* is present on *P. trichocarpa*, (*albeit at very small amounts*)
 - as leaf spots and cankers
- Susceptible *P. trichocarpa* occurs throughout BC

The disease cycle of Septoria

WINTER

SUMMER



SPRING

Ascospore discharge
•22C to 26C



Pseudothecia formation
•8C for 60 days