





- temperature could increase by 4.2°C and annual
- adapted<sup>2,3</sup>.
- successfully regenerating Ontario's forests.

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Note: NPV (\$/ha) Diversity for White Pine for Seed Procurement (red circle:North Bay)



Local Replantation	Seed Procurement	Seed Deployment
North Bay (46.3 <sup>0</sup> N, -79.45 <sup>0</sup> W)	42.29 <sup>0</sup> N, -83.20 <sup>0</sup> W	44.04 <sup>0</sup> N, -83.79 <sup>0</sup> W
50	50	45
421	465	366
<b>887</b>	1009	<b>951</b>
Hearst (49.7 <sup>0</sup> N, -83.67 <sup>0</sup> W)	45.38 <sup>0</sup> N, -93.20 <sup>0</sup> W	51.13 <sup>0</sup> N, -74.20 <sup>0</sup> W
55	55	55
104	111	105
	10	70

Note: NPV (\$/ha) Diversity for White Pine for Seed Deployment (red circle:North Bay)





# Take-home message

 Forest investors could benefit from alternative seed strategies

- > They could gain additional \$17/ha for black spruce and \$122/ha for white pine from sourcing seed from a specific location (*i.e.*, seed procurement).
- > Replanting black spruce and white pine at a alternative planting site (*i.e.*, seed deployment) could achieve a NPV that is \$2/ha higher for black spruce and \$64/ha higher for white pine than local replantation.
- Under climate change, local seed is no longer ideal
  - Most suitable seed source for both species is from a relative southern region.
  - Highest yield for black spruce occurs at a region with mean annual temperature of 4-6<sup>o</sup>C.
  - White pine grows best at a location with mean annual temperature of  $12^{0}$ C.

## References

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