



Future Forests: Opportunities for Biofuels

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Outline



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- ◆ Dynamics of Provincial Timber Supply
- ◆ How bioenergy fits in.
 - BC trends
 - Wood Pellets
- ◆ Conclusion

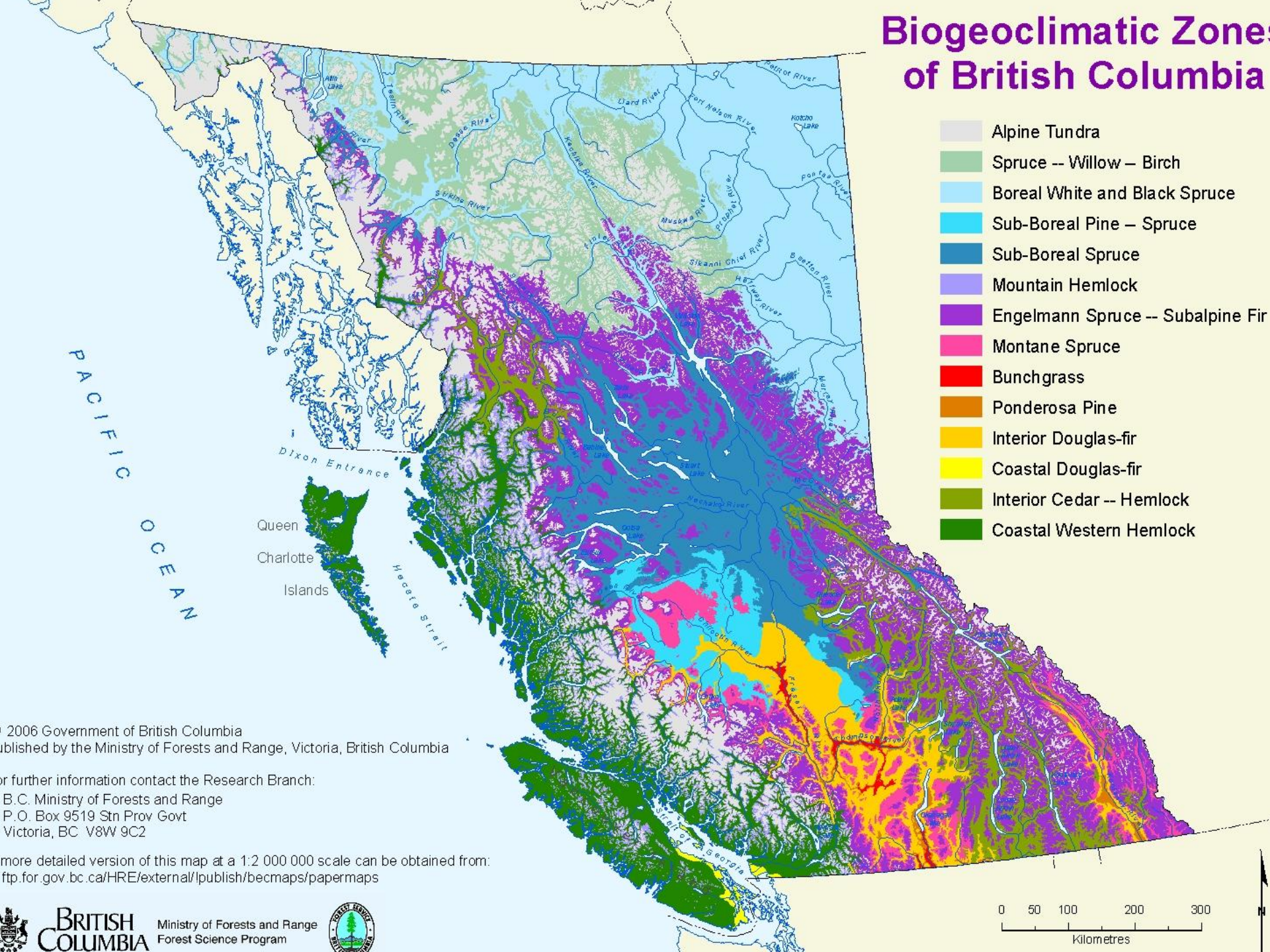


BC Context



- Forest 
- Non-Forest 
- Alpine 
- Urban 
- Agriculture 

Biogeoclimatic Zones of British Columbia



- Alpine Tundra
- Spruce -- Willow -- Birch
- Boreal White and Black Spruce
- Sub-Boreal Pine -- Spruce
- Sub-Boreal Spruce
- Mountain Hemlock
- Engelmann Spruce -- Subalpine Fir
- Montane Spruce
- Bunchgrass
- Ponderosa Pine
- Interior Douglas-fir
- Coastal Douglas-fir
- Interior Cedar -- Hemlock
- Coastal Western Hemlock

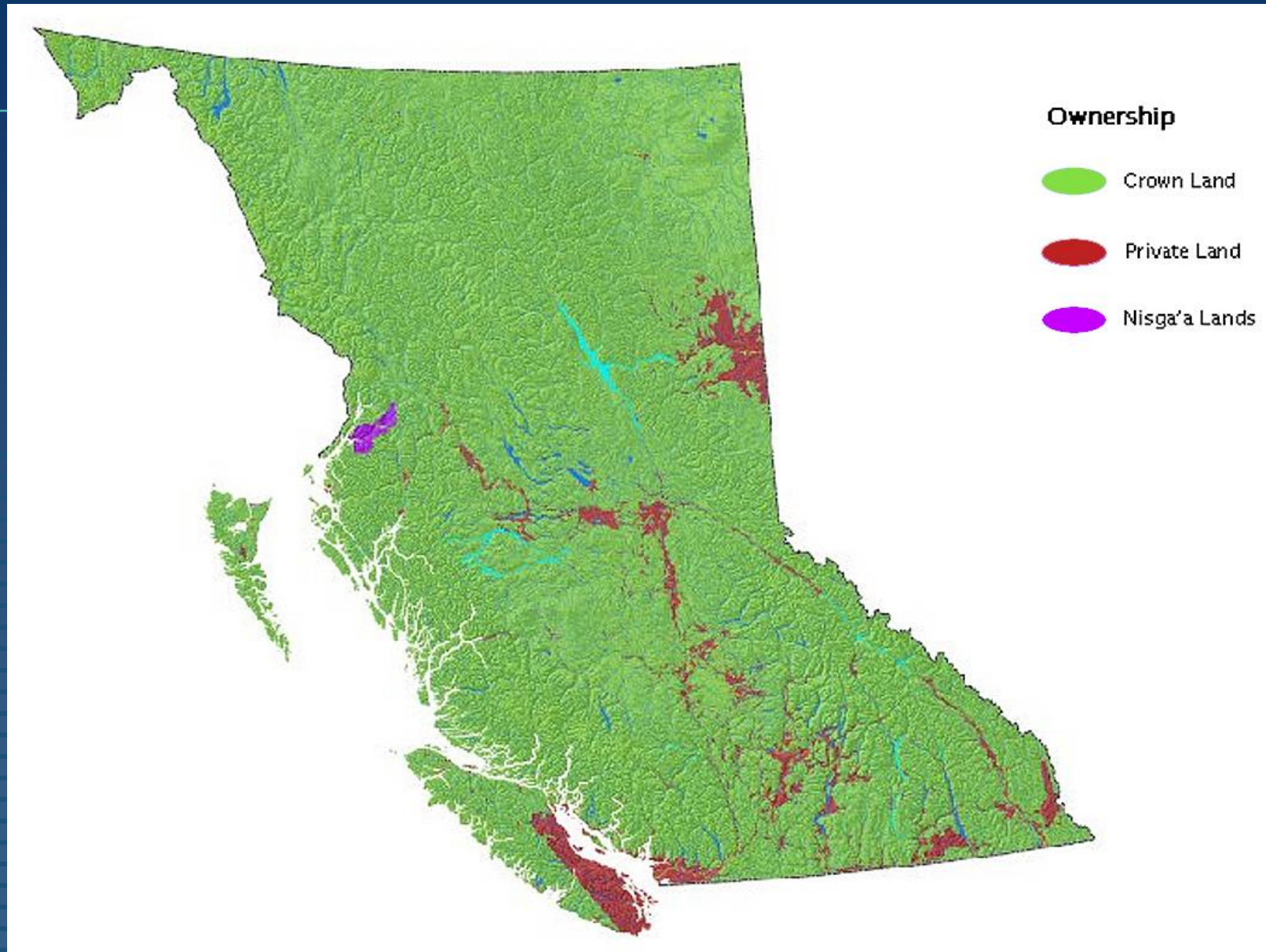
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A more detailed version of this map at a 1:2 000 000 scale can be obtained from:
<http://for.gov.bc.ca/HRE/external/publish/becmaps/papermaps>

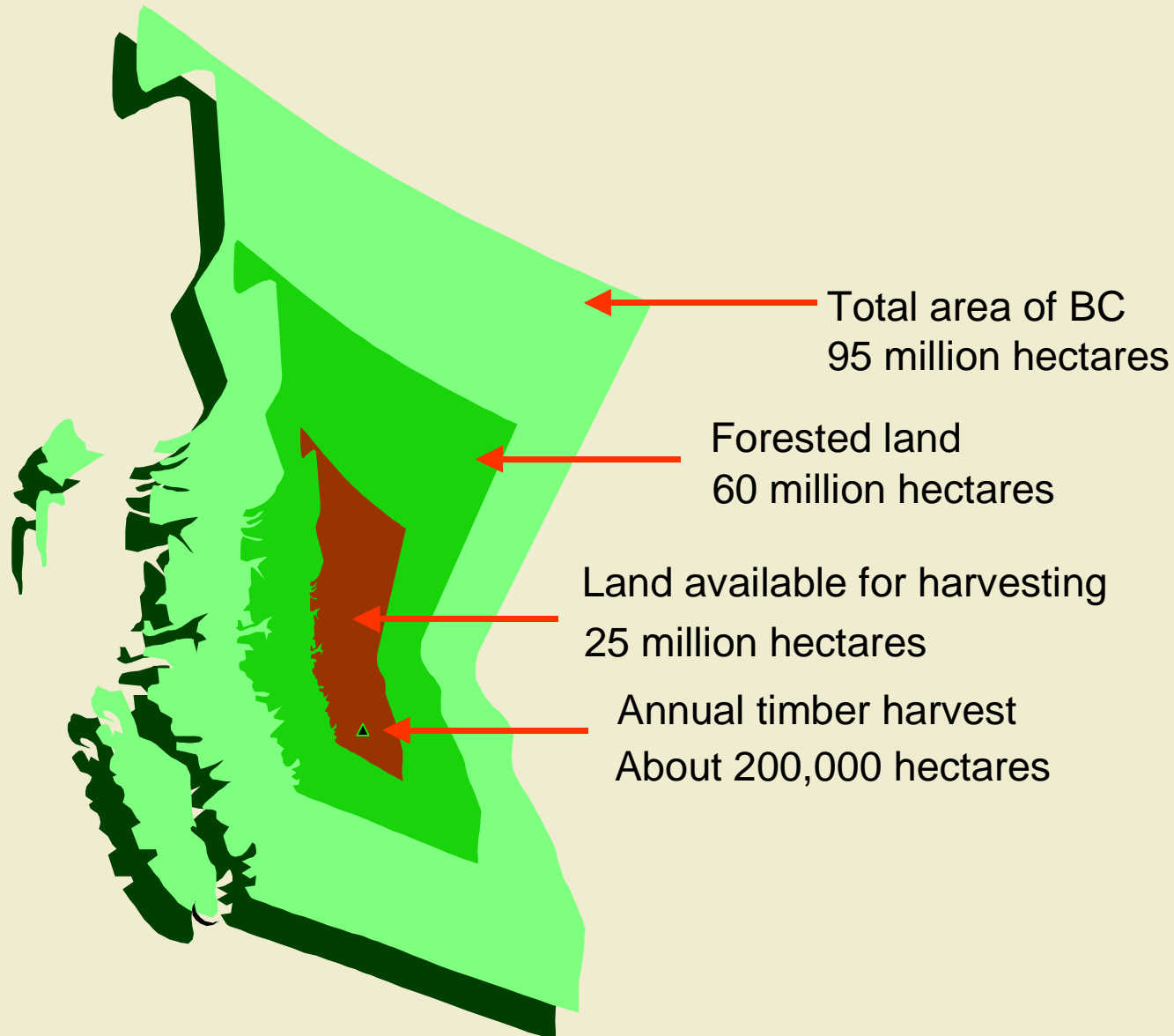


BC Context





BC Context





Chief Forester's Role



◆ Sustainably Manage BC's Public Forests for:

- Quality Forest Products
- Fibre for Pulp and Bioenergy
- Ecosystem services such as carbon sequestration, biodiversity and water



Chief Forester's Role



◆ Ensure Management Practices Evolve to Reflect:

- Climate Change
- Mountain Pine Beetle Impacts
- Existing and New Products
- Ecosystem Services



Climate Change

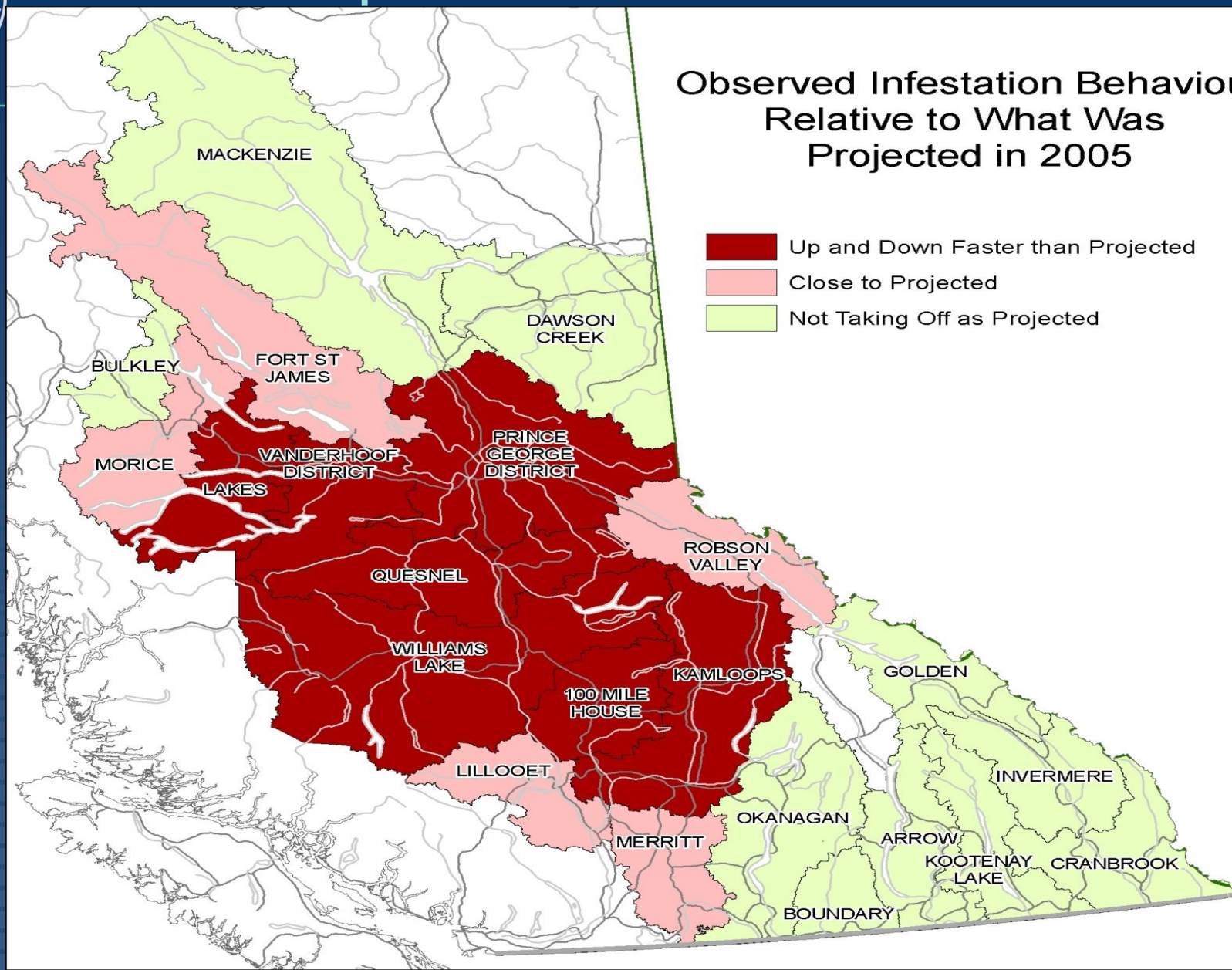


Predicting and Monitoring Climate Change

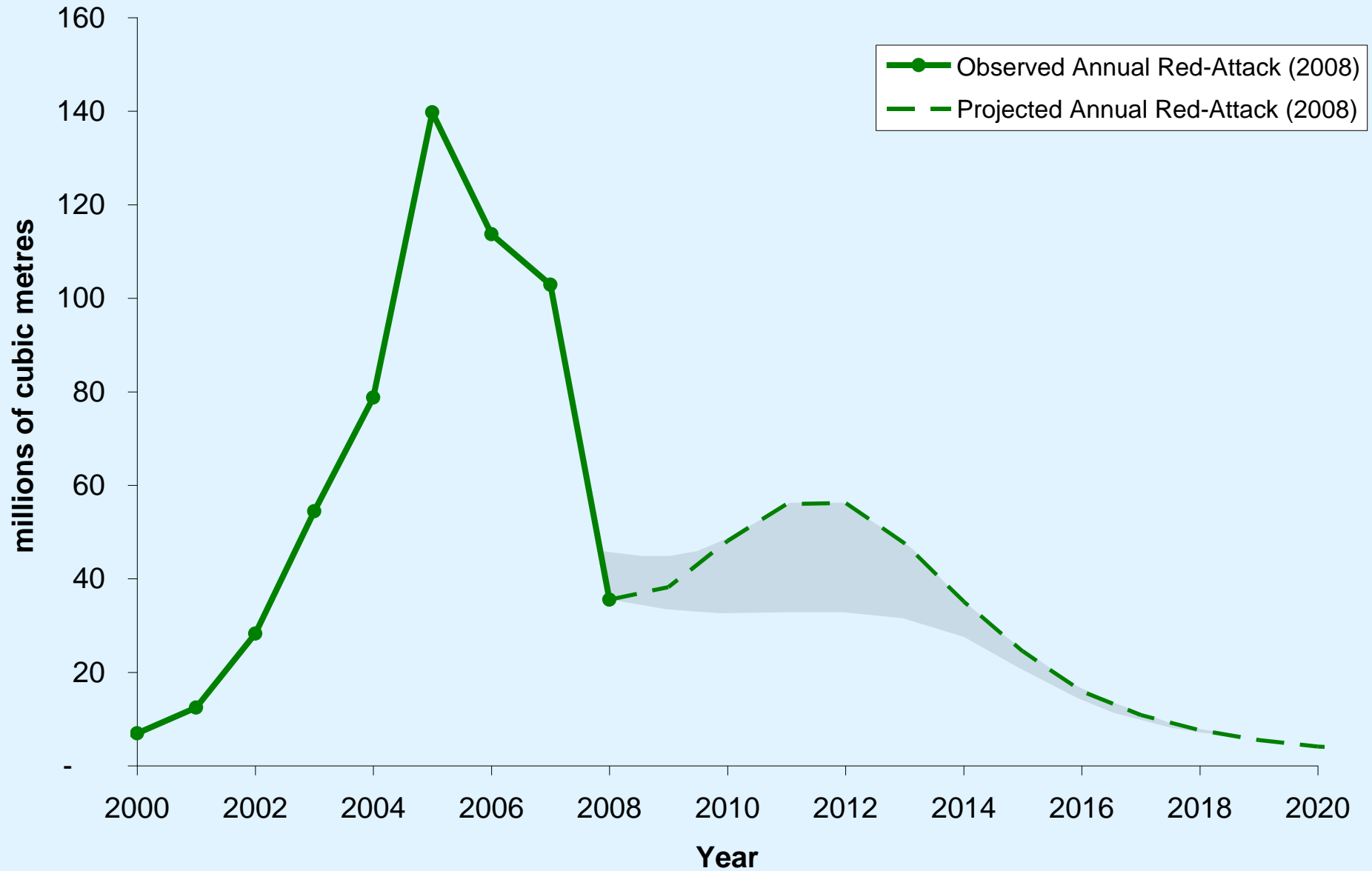


MPB Impacts

Observed Infestation Behaviour Relative to What Was Projected in 2005



Provincial Annual MPB Kill within THLB





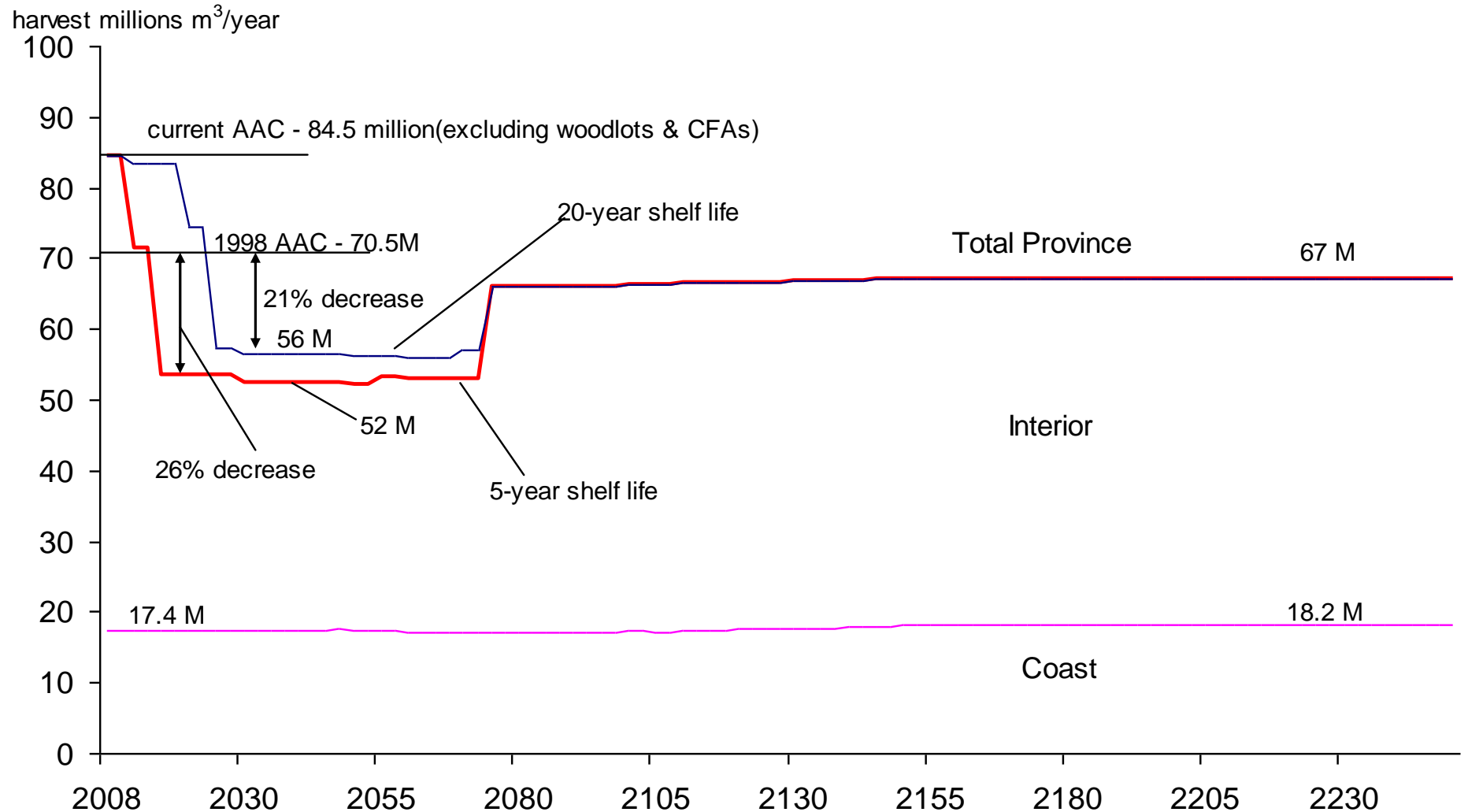
Current Thinking - Sawlog Shelf-life



- ◆ *Initial estimates of sawlog shelf-life, stands would be harvestable for 4 to 8 years*
- ◆ *Based on current information (research and experience) sawlog shelf-life estimates revised to 8 to 12 years*
- ◆ *Synergies between bioenergy and lumber producers could extend shelf-life for sawlog producers further*
- ◆ *Even with the revision of Shelf-life many MPB stands will remain unharvested without the addition of new fibre users*



Dynamics of Provincial Timber Supply Projection





How Bioenergy fits in

- ◆ If managed appropriately, a bioenergy sector can help address both the impacts of Climate Change and MPB
- ◆ Many products are being made from MPB killed timber
- ◆ However, additional opportunities to harvest dead, dry pine should remain into the 2020s
- ◆ This fibre provides a short-term opportunity to generate bioenergy
- ◆ Longer-term biomass feedstocks will be provided by, green residuals, short-rotation crops, and additional forest health mortality due to Climate Change



Bioenergy - Current Status

- ◆ Wood Pellet demand is to expected to grow because:
 - The energy price of pellets well below fossil fuels
 - Increasing trend world wide for the substitution of fossil fuel with biomass
- ◆ A significant demand for biomass to heat commercial green houses has emerged
- ◆ In Cascades District alone 8 grinders are now operating to provide hog fuel to various industrial and commercial customers
- ◆ The first phase of BC Hydro's Bioenergy Call resulted in the selection of four biomass projects to proceed.



Bioenergy - Current Status





Bioenergy – Other Opportunities



- ◆ Demand for residential biomass heating systems is expected to grow as other energy sources become more expensive.
- ◆ Recent Fed Gov announcement of \$1 Billion for pulp sector to improve energy production will create more bioenergy capacity



Conclusion



- ◆ Managing BC's forests sustainable is becoming increasingly complex
- ◆ To be successful, management practices need to integrate evolving social, economic and environmental values
- ◆ We are on the cusp of some exciting changes
- ◆ Bioenergy has great potential to become a significant component of BCs management framework