

Managing Minnesota's Carbon Stocks

Minnesota Terrestrial Carbon Sequestration Initiative

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What / Who we are

- § Interdisciplinary research and public policy forum on terrestrial sequestration opportunities in Minnesota
- § Government, agriculture, forestry, conservation, business, UMN representatives and researchers
- § Funding from UMN Initiative for Renewable Energy and Environment, Xcel Energy Foundation, MN Dept of Agriculture, USDA-NRCS, Blandin Foundation, State of Minnesota

Initiative Goals

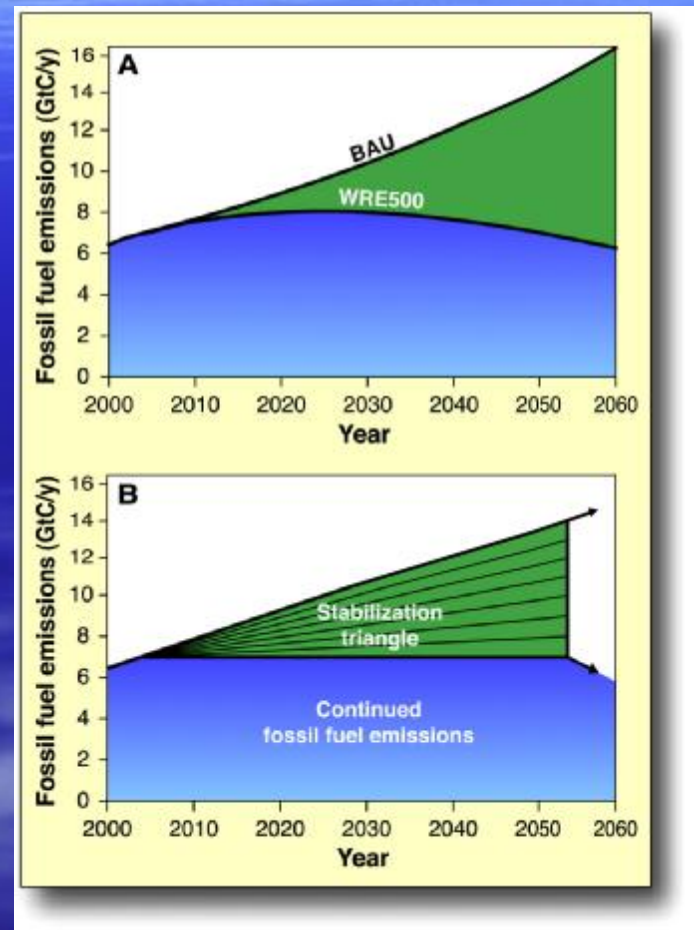
- § Develop and disseminate information about biological sequestration in Minnesota forest, agricultural, and conservation lands:
 - Build scientific foundation for sequestration practices;
 - Promote positive environmental co-benefits;
 - Support sustainable economic development

Minnesota GHG goals (2007)

- § Reduce MN carbon dioxide emissions by 15% by 2015; 30% by 2025; and 80% by 2050.
- § Develop options across all sectors
- § **Minnesota Climate Change Advisory Group** recommends Governor 50+ strategies for transportation, electricity, waste management, and land use

Stabilization Wedges

- § Pacala and Socolow (2003): ramping up existing technologies to stabilize CO₂ levels by 2050
- § What is the “terrestrial sequestration” wedge in Minnesota?



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Scenarios

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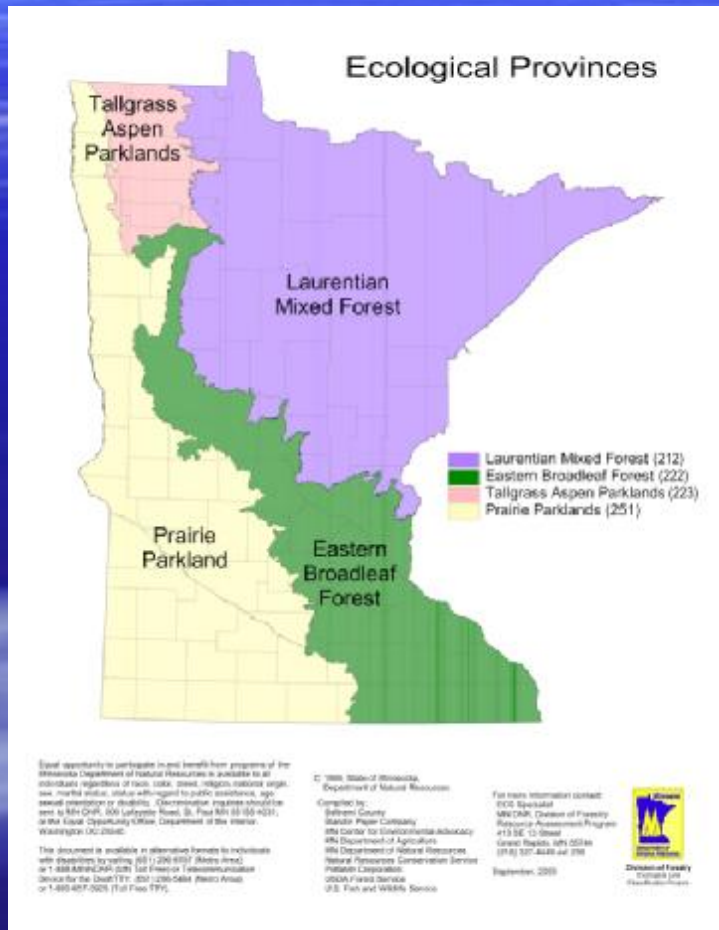
Findings and Recommendations

§ 6-12% wedge of 2025 reduction targets

§ First steps to get there:

- Protect existing carbon sinks: peatlands and forests
- Incorporate high confidence practices into existing programs
- Invest in R & D to improve confidence of public, investors, policymakers

Eco-regional Plan



- § Red River Valley
- § Northeast Forests
- § Transition Hardwoods, including Driftless Area
- § West Central and SW Prairies
- § Urban / Suburban

Northeast Minnesota

- § Woody biofuel production
- § Management of abandoned and under-utilized pasture and hayland
- § Enhanced stocking in forests and shrublands
- § Ecological restoration of public forests
- § *What else?*

How finance ramp up?

- § Traditional government and NGO conservation programs
- § Cap and trade program w/offsets
 - Pro: Rising demand and market for regulated sectors
 - Con: Difficult accounting regime (leakage & impermanence); controversy about offsets deflecting attention from emission reduction
- § Cap & Trade wo/offsets: Auction carbon “allowances” to emitters and use proceeds to finance terrestrial sequestration practices
 - Pro: Reduced accounting concerns and offset controversy
 - Con: Opposition from large emitters to auction
- § MN Carbon Fund
 - Pro: Potentially greater flexibility in targeting voluntary market
 - Con: To be determined

<http://wrc.umn.edu/outreach/carbon/>

Thanks very much!