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# Septage Composting in Canada and the Northern United States

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October 13, 2005



# INTRODUCTION

- Ontario Nutrient Management Act, moving towards banning land application of untreated septage
- Study – engineering, design, operation, performance, costs and regulatory issues surrounding the use of composting process and septage treatment lagoons



## OBJECTIVE

- Prepare Two Reports
  - Comprehensive Technical Resource Report
  - Design Brief
- Reports to be used by the MOE, consultants, staff at small rural municipalities and septage haulers to allow them to examine the feasibility of septage composting



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# OUTLINE

- Why we selected New Brunswick and Maine?
- Site Visits
- Questions
- Recap



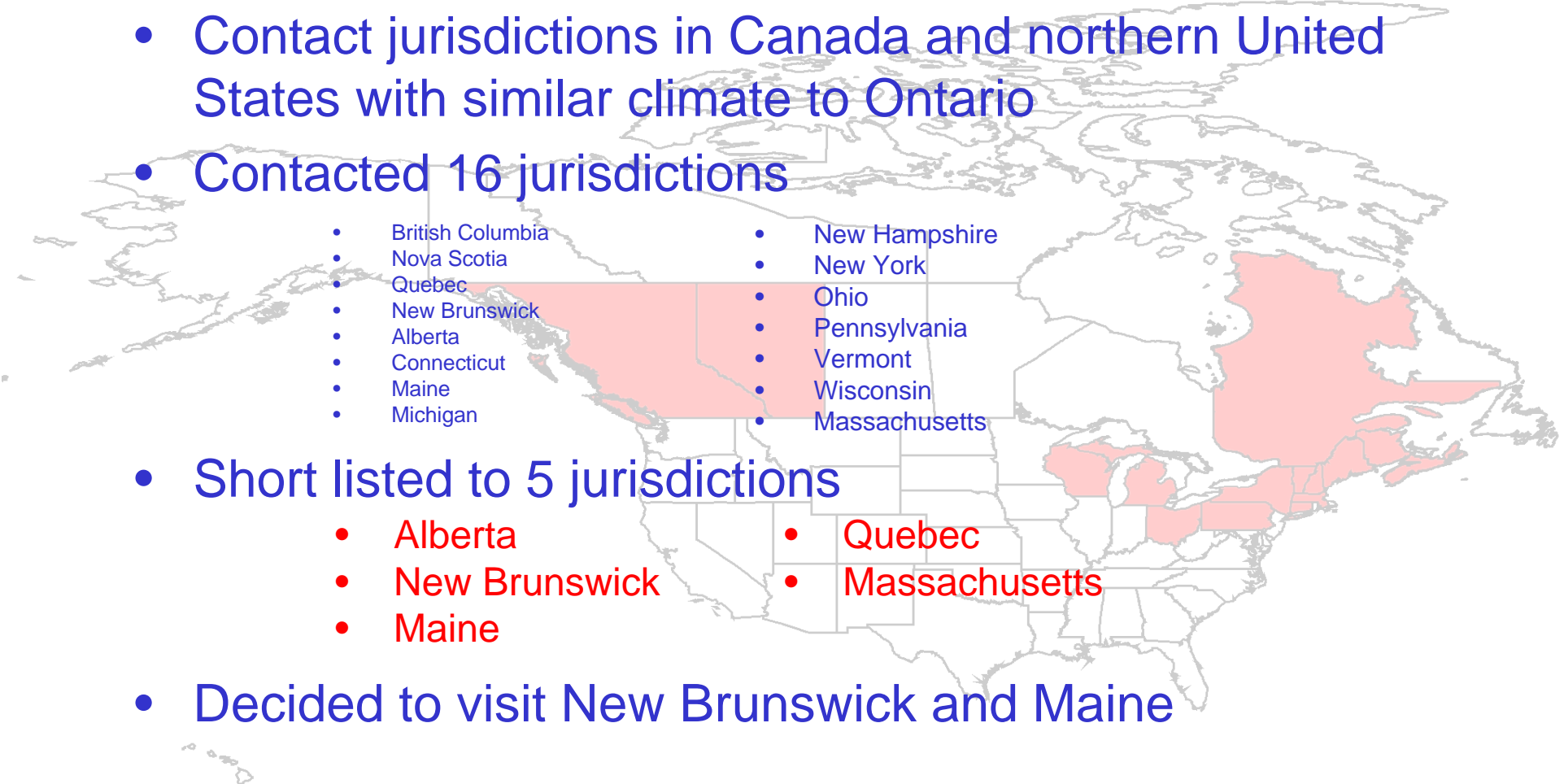
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# PRELIMINARY DATA COLLECTION

- Contact jurisdictions in Canada and northern United States with similar climate to Ontario

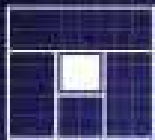
- Contacted 16 jurisdictions

- 
- A map of North America showing the United States and Canada. Jurisdictions that were contacted are highlighted in light red. These include British Columbia, Nova Scotia, Quebec, New Brunswick, Alberta, Connecticut, Maine, Michigan, New Hampshire, New York, Ohio, Pennsylvania, Vermont, Wisconsin, and Massachusetts. The jurisdictions that were short-listed are highlighted in a darker red: Alberta, Quebec, and Massachusetts.
- British Columbia
  - Nova Scotia
  - Quebec
  - New Brunswick
  - Alberta
  - Connecticut
  - Maine
  - Michigan
  - New Hampshire
  - New York
  - Ohio
  - Pennsylvania
  - Vermont
  - Wisconsin
  - Massachusetts

- Short listed to 5 jurisdictions

- Alberta
- New Brunswick
- Maine
- Quebec
- Massachusetts

- Decided to visit New Brunswick and Maine



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## SITE VISITS – NEW BRUNSWICK

- Clean Earth Dewatering Facilities in St. John and Fredericton.
- Envirem Compost Facility in Fredericton
- Maritime Soil in St. John
- Greater Moncton Sewerage Commission – Compost Facility
- New Brunswick Environment



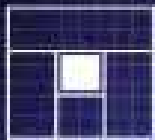
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# SITE VISITS – NEW BRUNSWICK CLEAN EARTH

- Processed 2.5 million gallons in 2005, 5 million gallons in 2004

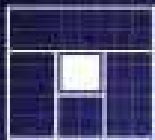


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# SITE VISITS – NEW BRUNSWICK CLEAN EARTH



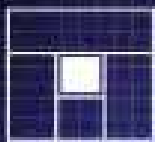
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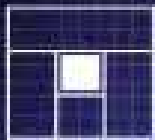
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# SITE VISITS – NEW BRUNSWICK ENVIREM - FREDERICTON

- Operate 8 facilities in New Brunswick and Nova Scotia
- Compost 400,000 tonnes of material per year
- 5,000 tonnes of septage 15,000 tonnes of biosolids (30,000 to 50,000 tonnes per year)

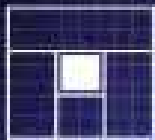


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# SITE VISITS – NEW BRUNSWICK ENVIREM -FREDERICTON



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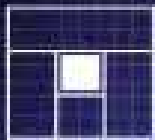
# SITE VISITS – NEW BRUNSWICK MARITIME SOIL – ST. JOHN

- 10-15 tonnes of septage per week
- 30-60 tonnes of biosolids per week





# SITE VISITS – NEW BRUNSWICK MARITIME SOIL –ST. JOHN



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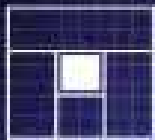
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# SITE VISITS – NEW BRUNSWICK GREATER MONCTON – COMPOST FACILITY

- Being built to handle biosolids and septage (approximately 10,000 tonnes)



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# SITE VISITS – NEW BRUNSWICK GREATER MONCTON – COMPOST FACILITY



## NEW BRUNSWICK DEPARTMENT OF ENVIRONMENT

- Met with Angele Spencer and Michael Sprague
- New Brunswick is going to adopt new CCME guidelines
- Setting up a stakeholder group to discuss changes
  - Add groundwater, surface water and storm water management requirements
  - Better documentation of off-site impacts
  - Want to add feedstock testing
  - April 2006



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## SITE VISITS – MAINE

- Interstate Septage - Rockland
- Tri-City Septage - Augusta
- Kingfield Municipal Facility - Kingfield
- Innovative Earth Solutions - Plymouth



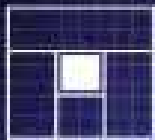
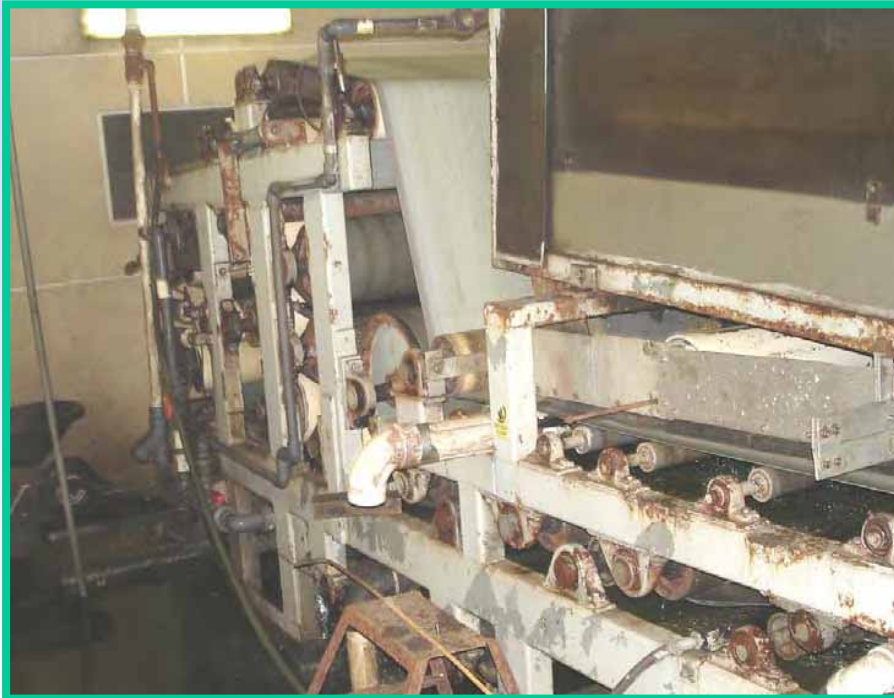
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# SITE VISITS – MAINE INTERSTATE SEPTAGE - ROCKLAND

- First Septage Composting facility in the United States (1993)
- Process 3 to 3.5 million gallons per year.



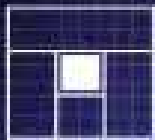
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## SITE VISITS – MAINE INTERSTATE SEPTAGE - ROCKLAND

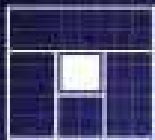


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## SITE VISITS – MAINE INTERSTATE SEPTAGE - ROCKLAND



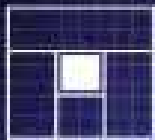
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# SITE VISITS – MAINE TRI-CITY SEPTIC - AUGUSTA

- Process approximately 5 million gallons per year
- Composting is cheaper than land application

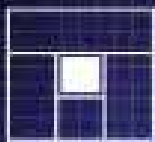


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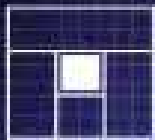


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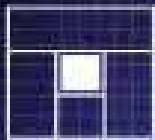




# SITE VISITS – MAINE TRI-CITY SEPTIC - AUGUSTA



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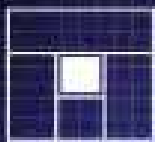
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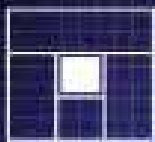


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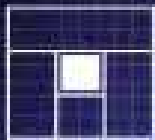
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# SITE VISITS – MAINE KINGFIELD MUNICIPAL FACILITY

- Process approximately 200,000 to 300,000 gallons per year



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# SITE VISITS – MAINE KINGFIELD MUNICIPAL FACILITY



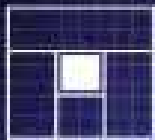
# SITE VISITS – MAINE KINGFIELD MUNICIPAL FACILITY





# SITE VISITS – MAINE INNOVATIVE EARTH SOLUTIONS - PLYMOUTH

- 3.5 to 4 million gallons of septage per year
- 39,000 yards of biosolids per year
- Both in vessel composting and N-VIRO process



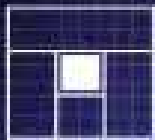
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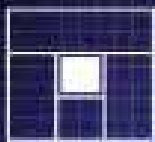


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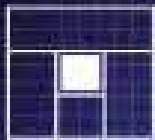


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# QUESTIONS



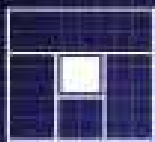
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# Composting ... an Art ... or a Science



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