Management implications of forest dynamics, succession, & habitat relationships under differing levels of silviculture

D. MacLean, G. Forbes, K. Frego, M. Roberts, T. Erdle (UNB); M-A. Villard & M. Béland (U. de M.); C. Samson (Parks Can.) ; B. Wagner, J. Wilson (U. Maine); + 13 graduate students

UNB UNIVERSITY OF NEW BRUNSWICK

FUNDY MODEL FOREST NETWORK RÉSEAU DE FORÊTS MODÈLES

Supported by Sustainable Forest Mgmt. Network, J.D. Irving, Ltd., Fundy Model Forest, Alberta SRD, NSERC

IRVING

J.D. Irving, Ltd. Forest Research Advisory Committee

- "*empower the forest manager*" as decision maker
- active partnership of researchers & forest managers
  - regular 2-way communication & 2-way education
- Key elements:
  - managers involved in project selection/ design/ proposal creation
  - company buy-in/ vested interest from the outset
  - capacity to monitor/evaluate research project progress (regular graduate student updates)
  - funding leverage – multiply company research funds
  - requires company research involvement/ effort

Overall project objectives

(a) elucidate successional dynamics and habitat value of 3 key stand types (natural MW, PL, PCT);

(b) evaluate biodiversity indics. & habitat suitability (ground veg., bryophytes, birds, small mammals, American marten, northern flying squirrel);

(c) ecologically-relevant definition of MW based on stand dynamics and habitat relationships;

(d) forest estate modeling of zoning alternatives & bioenergy production capacity, & social, economic, environmental implications

13 Graduate student projects at UNB, UdeM

- PCT & biodiversity
  1. Keri LaFrance. Effects of PCT on herbaceous plants
  2. Amy Witkowski. Effects of PCT on forest bryophytes
  3. Julie Henderson. Effects of PCT on small mammals

- Stand dynamics of MW stands
  4. Luke Amos-Binks. Mixedwood stand dynamics in the Black Brook District from 1946-2006
  5. Amanda Colford. Effects of spruce budworm outbreaks on stand dynamics of balsam fir-TH & red spruce-TH
  6. Bruno Chicoine. Natural regeneration in TH & MW after partial cutting

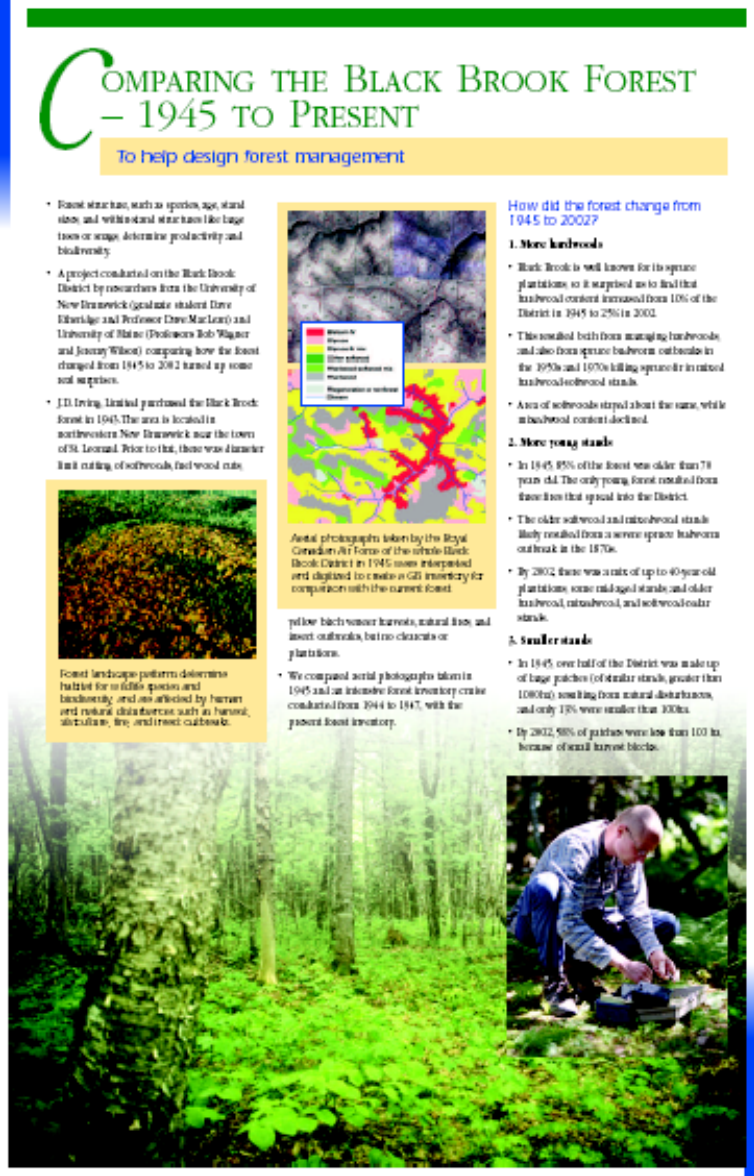
13 Graduate student projects at UNB, UdeM

- **Key stand structures & biodiversity**
  7. Pascale Forget. Influence of stand and landscape structure on American marten
  8. Matt Smith. Effects of fragmentation on northern flying squirrel in southern NB
  9. Aurore Pérot. Density as an indicator of habitat quality
  10. Samuel Haché. Mechanisms underlying Ovenbird response to single-tree selection harvesting
  11. Jean-François Poulin. Brown Creeper response to experimental selection harvesting

- **Effect of alternative zoning allocations**
  12. Chris Ward. Forest zoning scenarios on a Crown license in New Brunswick
  13. Jean-François Carle. Bioenergy production from Crown land in New Brunswick

J.D. Irving, Ltd. communication of results

1. 2-panel, 500 word posters in District offices
   - What's the problem, what was done, what was found, what does is mean?
2. Science Forum for staff
3. "*Irving Forest Research*" Newsletter



COMPARING THE BLACK BROOK FOREST – 1945 TO PRESENT

To help design forest management

How did the forest change from 1945 to 2002?

1. More hardwoods

2. More young stands

3. Smaller stands

Effective industry/researcher partnerships

- Co-funding of projects/ grad students
  - NSERC Industrial Post-graduate Scholarships
- Regular communication – bi-annual meetings
  - Company commitment; 5-6 staff attend
  - Grad student pres. to FRAC – real-world feedback
- Researcher interest/ commitment to making a real-world difference
- Research quality – peer reviewed publications
- Acknowledge research funders:

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Alberta SUSTAINABLE RESOURCE DEVELOPMENT

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