

# **Old Forest Indicators: Literature Review and Expert Survey**

**By**

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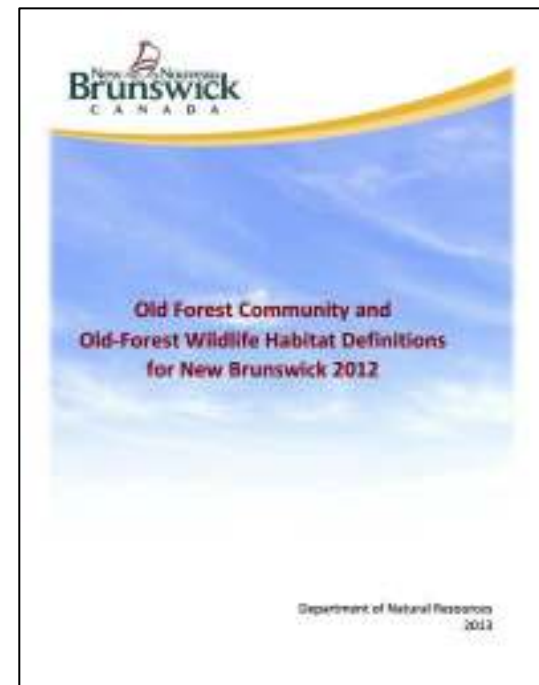


# Project

- Complete literature review of indicators used in New Brunswick forest management policy
- Review scientific literature for additional indicators
- Survey experts and researchers on knowledge of indicators

# Methods

- Reviewed NB's current indicators
  - *Old Forest Community and Old-Forest Wildlife Habitat Definitions for New Brunswick 2012*
  - *Old Forest Thresholds for New Brunswick's Crown Forest 2012*
- Reviewed additional indicators
  - Mainly Eastern NA
  - Some national
  - Some intercontinental
- Surveyed twelve experts



# Results - Ecological Integrity



- Literature: **old forest is more than old trees**
- Old forest definition includes ecological value
- Indicators must capture ecological integrity

# Indicator Types

Three main types of indicators:

- **Structural**
- **Biological**
- **Process**



# Current Indicators

- All biological indicators, measured by structural attributes
- Vertebrate species associated with old forest communities
  - Birds
  - Mammals

# Current Indicators

- Mammals
  - Not widely used
  - Only considered patch-size habitat requirements
- Birds
  - Some presence in literature
  - Cost-effective indicator
  - Many factors affect presence or absence in habitat



# Additional Indicators: Structural

- Most cited type of indicator by literature and experts
- Abundant research available
- Most cited indicators:
  - **Dead wood**
  - **Large trees**
- Additional indicators:
  - **Crown closure**
  - **Canopy gap**
  - **Patch size/ connectivity**





# Additional Indicators: Biological

- Supported less than structural
- Most cited indicators:
  - **Lichens**
  - **Beetles**
- Additional indicators
  - **Herbaceous plants**
  - **Liverworts**
- Field practicality issues



# Discussion - Indicator Limitations

- Indicators are limited by scientific understanding
- “Absence of proof is not proof of absence”
- Dynamic influences
- Employ guilds or assemblages of species

# Further Comments

- Experts caution toward over-analyzing indicators
- Perfect indicators do not exist
- Ample research already exists; more action needed





Questions?