



FRPA Policy Assessment

Workshops
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Kathy Hopkins, RPF

Technical Advisor, Climate Change
Ministry of Forests, Lands, and
Natural Resource Operations

**ADAPTING TO
CLIMATE CHANGE**



Today's Objectives

1. Share info on FRPA policy assessment project
 - goals for ecosystem resilience
(conceptual framework)
2. Identify opportunities within the FRPA framework to get more resilience
3. Determine how these opportunities can be operationalized

Message from Executive Sponsor Jim Snetsinger – Chief Forester



Assistant Deputy Minister, BC Ministry of Forests, Lands and Natural Resource Operation.



FRPA Policy Assessment Team

MFLNR Executive Sponsor: Jim Snetsinger, Chief Forester

Project Team (Phase 1 and 2)

***Rob Bowden, Frank Barber, Peter Bradford,
Elizabeth Campbell, **Christine Fletcher**, Evelyn Hamilton
Kathy Hopkins (lead), Rein Kahlke, **Leslie McAuley**,
Don Morgan, Deb McKillop, Ian Miller,
Tom Niemann, James Sandland, Alanya Smith,
Dave Spittlehouse, Ralph Winter and Kristine Weese***



Today in context

Project Overview

- Phased approach
- Aim:
 - set goalposts; define what's wanted; measured steps
- Seek input: 4 workshops:
 - Nanaimo, PG, Creston, Kamloops
- Use results to inform an action plan



Benefits

Of Participating

- Get out in front
- Chance to shape it
- Opportunity for local input

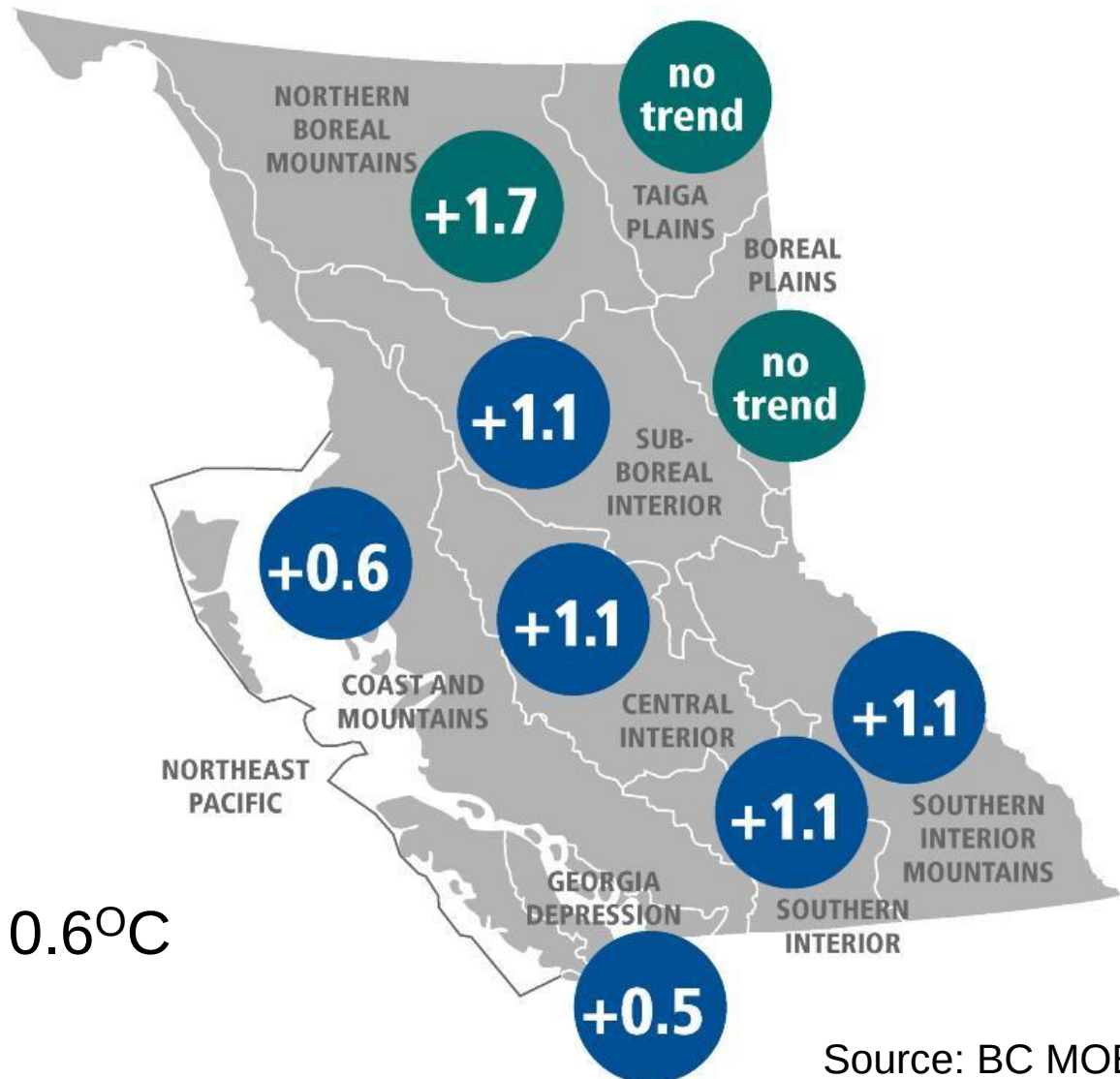
Of Adapting

- Reduce & manage risk
- Diversity can help meet market demand
- Sustainable economic future
- Maintain social licence

BC is warming

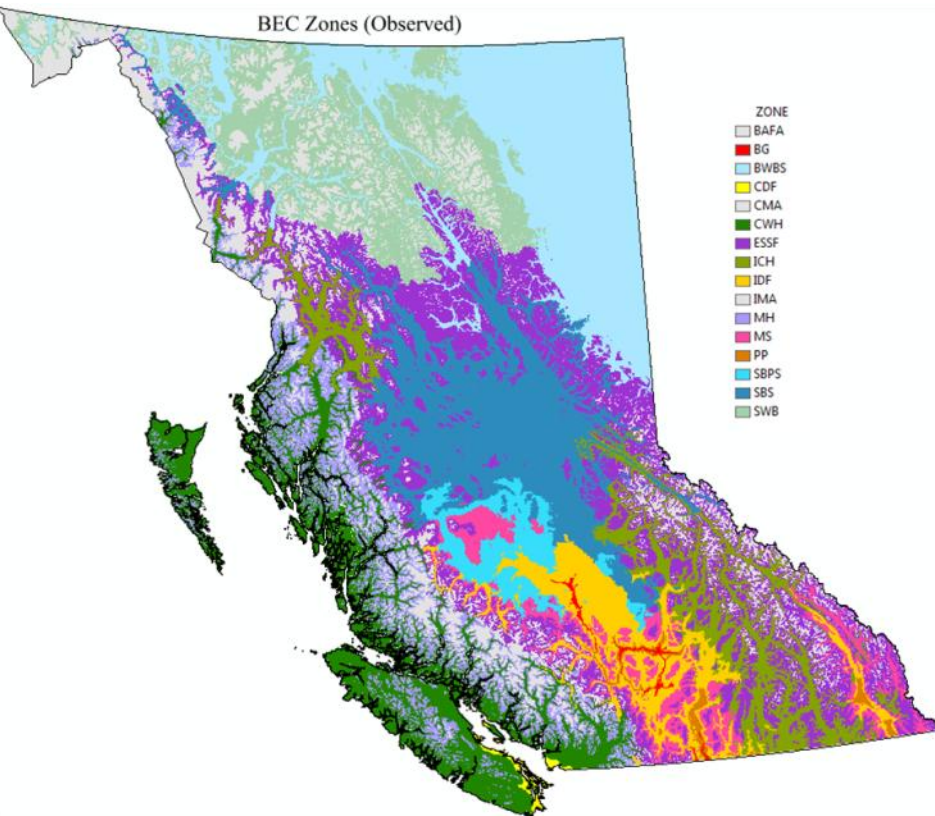
Change in Average Temperature, 1895-1995 (°C/century)

- North warming faster
- Winter warming faster
- Spring coming earlier

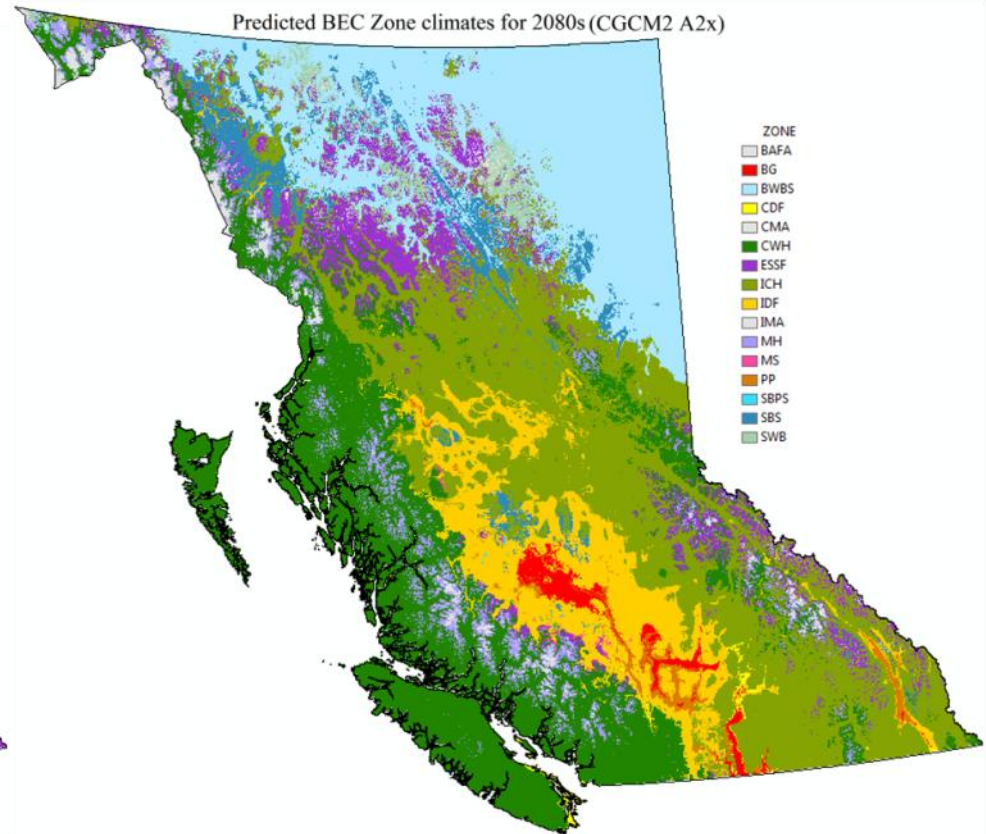


Global increase 0.6°C

BC's Climate is Changing



Observed BEC distribution



Projected Climate Envelopes 2080s
(one possibility)



Purpose of the Project

- To determine whether FRPA *enables, requires or impedes* management actions that foster ecosystem resilience
- To identify opportunities for fostering resilience

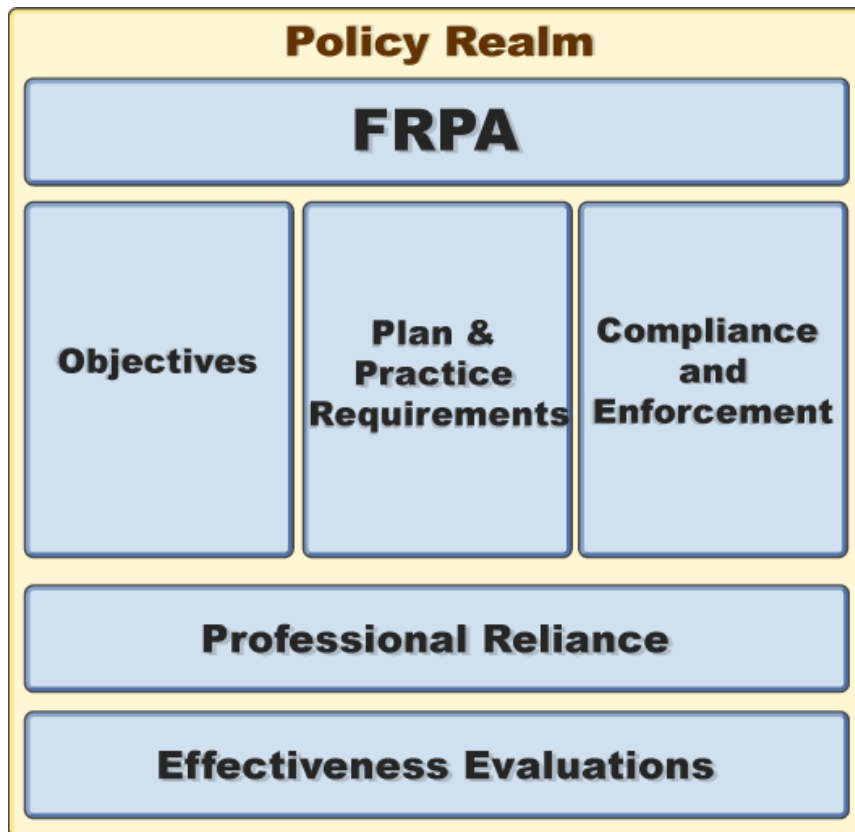
Intended outcome:

- Maintain resilient forest ecosystems & the benefits derived from them
- BC's forests continue to provide the goods and services citizens rely upon.

Scope of FRPA Policy Assessment

Phase 1 and 2

In Scope



Out of Scope

- Softwood Lumber Agreement
- Timber Supply Review
- Appraisal system
- Tenure system
- Inventory
- Etc. etc. etc.



“Related Issues”



FRPA's 11 Values

To Manage and Protect

- Soils
- Water
- Timber (including forest health)
- Forage (and associated plant communities)
- Visual Quality
- Fish
- Wildlife
- Biodiversity
- Recreation Resources
- Resource Features
- Cultural Heritage Resources



Expectations

- Narrow scope
- Limited resources
- Focus on what we can do



Our Starting Point

Foundation: two 2009 reports

- *Ecological Resilience and Complexity (MFR tech report 055)*
- *Vulnerability of Canada's Tree Species to Climate Change (CCFM)*





Characteristics of Resilient Ecosystems

1. Complex
2. Diverse
3. Rich biological legacies
4. Seed & pollen dispersal
4. Multiple representation of values
6. Connectivity
7. Reduced exposure and sensitivity to large scale disturbance

E. Campbell et al (2009) (as summarized by Don Morgan, MFLNRO)



Vulnerability of Canada's Tree Species to Climate Change

Climate is changing faster by an order of magnitude faster than most tree species can migrate or adapt.

Tree species are vulnerable to:

1. Disturbance
2. Maladaptation



Dr. Mark Johnston et al (2009)



Project Approach

Key Questions:

Phase 1

- Does FRPA have the necessary and sufficient provisions to foster ecosystem resilience to climate change? Are there barriers?

Phase 2

- What opportunities exist for the FRPA framework to enhance resilience?
- How could these opportunities be operationalized?



What We Did: Phase 1

A. We summarized:

- Characteristics of resilient ecosystems
- **Potential management options (28)**

to reduce tree species vulnerability to climate change

B. Inferred a desired end result for each potential management option



C. Lumped options into 5 buckets: set goals



What we did: Phase 1 (continued)

- D. Examined the FRPA legislation, regulations and standards
- E. Asked policy experts: *Does FRPA require, enable or impede this management option?*



Phase 1: What We Found

- Most of the 28 potential options apply in BC
- FRPA is silent on many of these adaptation options
- FRPA contains a few requirements, a few barriers, lots of gaps: much flexibility.



Conceptual Framework Roadmap to Resilient Ecosystems

Principles

Goals

Desired Outcomes

Objectives

Opportunities

How to Implement



Proposed Principles to Guide the Outcome

1. An effective response to climate change must consider both the landscape level and the block level
2. Enable success through reliance upon professionals
3. Stand establishment should consider all values and objectives over the landscape and the rotation
4. Favor activities that can produce favorable outcomes for society over a range of potential climatic futures



Phase 2:

Goals and Desired Outcomes

- 1. Keep Pace with a changing climate:**
Managed forest ecosystems that are suited to a changing climate
- 2. Not Reduce Diversity:** Ecosystems and landscapes that are complex and diverse to foster resilience to impacts of climate change
- 3. Protect Resources and Values:** Adequate biological legacies and areas likely to tolerate climate change impacts are maintained



Desired Outcomes cont'd

- 4. Manage Risks:** Reduced climate change impacts and risks over a rotation
- 5. Build Adaptive Capacity:** Increased capacity to apply climate change information, knowledge, and tools in forest management.



Forest and Range Practices Act

FRPA Enablers

- Legislation, regulations and standards
- Government objectives
- Plans (mgmt objectives, results & strategies, alternatives)
- Practice requirements (legal definitions, defaults)
- Administrative guidance (FRPA tests)
- Evaluation and monitoring (FREP protocols)
- Compliance and enforcement
- (Certification)



Ecological Context

Michael Ryan

Research Ecologist, MFLNRO, Kamloops



Example of Opportunities for Goal One

Goal Statement

Keep pace with a changing climate. Managed forest ecosystems that are suited to a changing climate.

Objective 1.1

Forests are planted with stock suitable for future climate

Opportunities for Adaptation

- 1.1 Increase adaptation of trees planted through climate-based seed transfer.
- 1.2 Increase adaptation of planted trees through the use of assisted migration.



Example of how to operationalize an opportunity for Goal One: Keep Pace with a Changing Climate

1. Increase upward elevation seed transfer limits
Amendments to CF Seed Use Standards
2. Limited expansion of western larch species range
Amendments to CF Seed Use Standards
3. Use of *ClimateBC* for decision support
To support recommendations for approval / rejection of alternative requests to CF Standards



Group Exercise 1

Key Questions

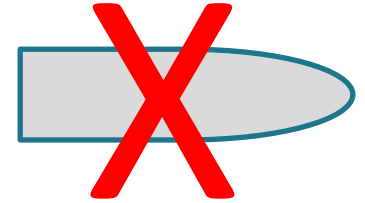
1. What adaptation options are missing?
2. Which of these options present the most promising opportunities?
2. What prevents these opportunities from being implemented now?
3. What levers would be most effective for operationalizing the most promising opportunities identified in #1 above?



Group Exercise 1b

Rank the Opportunities

Proposed Criteria



Will this opportunity:

1. Create a lever towards resilient ecosystems
2. Help reduce or manage risk
3. Be cost effective
4. Be easy to administer

Is it within the scope of FRPA?



Setting the Stage for Exercise 2: Species Diversity Objectives

Forest Health Context - Jennifer Burleigh

- Provincial Entomologist, MFLNRO, Victoria

Species Diversity - Ralph Winter

- Stand Management Officer, MFLNRO, Victoria



Group Exercise 2a

Species Diversity Objectives (notional)

Objective 2.1: Don't reduce tree species diversity

- Reforested stands and landscapes should have no less tree species diversity than that prior to harvest

Obj. 2.2: Ensure adequate stocking in case one species fails

- Reforested stands and landscapes should have sufficient stocking in secondary and/or tertiary species to meet minimum stocking levels for the site

Identify why this objective may not work



Group Exercise 2b

Species Diversity Objectives

- Now that we know the reasons this objective might not work, how *could* it work?



Group Conversation Moving This Forward

Objective:

- What could we do in the short term to adapt BC's forest practices for a changing climate (quick wins)
- What are the **pivotal issues** that need to be addressed to ensure long term success?



Next Steps

Summarize Phase 2 outreach

- What are the opportunities?
- How can they be operationalized?

Report on options to Chief Forester – fall 2011

- Summary to those providing input

Moving forward (Phase 3 onward)

- Chart a course
- Potential policy & tool development



Thanks for your
input!

Our commitment for
follow-up