FOOTHILLS MODEL FOREST NATURAL DISTURBANCE PROGRAM

One Important Thread in the Web of Sustainable Forest Management

Building Blocks of Sustainable Forest Management

- Adaptive management — FMF Adaptive Forest Management Program
- Develop monitoring systems — FMF Local Level Indicators Program; FMF Provincial Biodiversity Monitoring Program
- Maintain sustainable wood supply — Management Planning Systems; FMF Growth and Yield Program
- Maintain biodiversity through an understanding of resident species and functions — Habitat suitability models; FMF Grizzly Bear Program; FMF Harlequin Ducks; FMF Fish and Watershed Program; FMF Caribou Program
- Recognize unique values & places — FMF Fish and Watershed Program
- Maintain sustainable communities & cultures — FMF Social Science Program; FMF Enhanced Aboriginal Initiative
- Educate — Public Involvement; FMF Communications and Outreach
- Maintain biodiversity through an understanding of natural patterns — FMF Natural Disturbance Program

Establish natural baselines
Scenario planning modeling
Impacts on yield and allowable cut levels
Species responses to patterns
Riparian disturbance management
Public feedback
Public involvement
Posters
Research Series
Media Coverage
Symposia

Tools

- Tool: Demonstration Areas
- Tool: Designing Decision-Support Tools
- Tool: Floating Reserves
- Tool: Computer Simulations
- Tool: Dedicated Workshops
- Tool: Quicknotes, Reports, Presentations, Tours

A Web of Understanding

The Foothills Model Forest Natural Disturbance Program (NDP) is designed to be fully integrated with other FMF theme areas towards the ultimate goal of developing knowledge, tools, and techniques in support of sustainable forest management. While much of the work currently focuses on research, the program goals reach well beyond. The example here demonstrates not only how the various individual research projects within the NDP integrate with each other (lower arc), but also how the answers from research are related back to practical, operational questions that are also part of the program (second from bottom arc). The program ultimately relies on the other FMF theme areas for answers.

Key:
Green = Current FMF theme areas
Red = Current FMF NDP tools

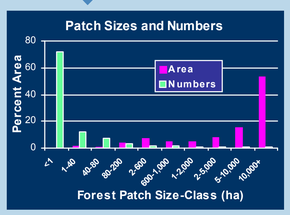
Practical Questions

- What are the "natural" patterns of this landscape?
- What is the NRV concept all about?
- What is the pattern of interest, and what does it really mean?
- Is it practical, cost-effective, and socially acceptable to emulate this particular natural pattern?
- Does it conflict with existing policies, expectations, and objectives?
- What are the biological impacts of emulating or not emulating this pattern?
- How do we integrate some or all of this into planning?
- Are there other benefits of knowing about "natural" patterns?

Current Natural Disturbance Research Projects

- Mountain Pine Beetle
- Edge Architecture
- Fire Frequencies
- Fine-Scale Residual Heterogeneity
- Woody Debris
- Fire Return Intervals
- Riparian Disturbance Dynamics
- Seral-Stage Distributions
- Fire Edge Controls
- Island Remnants
- Fire Event and Patch Sizes
- Fire Event Patterns

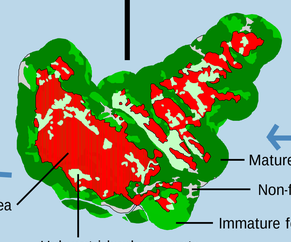
What is the natural patch size distribution?



What is the relationship between patches and disturbance events?

Patches cluster to form "events"

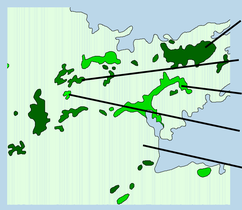
What is burnt within an event?

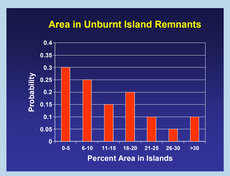


Do fire edges follow specific stand boundaries or fuel-types?

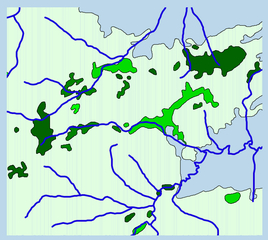
Mature forest
Immature forest
Non-forested

What is the natural range of area and types of remnant islands?





Are island locations or types related to biotic or abiotic features?



Natural Disturbance Program Partners:
Alberta Sustainable Resource Development, Weldwood of Canada (Hinton Division), Alberta Newsprint Company, Jasper National Park, Foothills Model Forest

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