

Example of Goals and Strategies

Jack pine-Black Spruce plant community

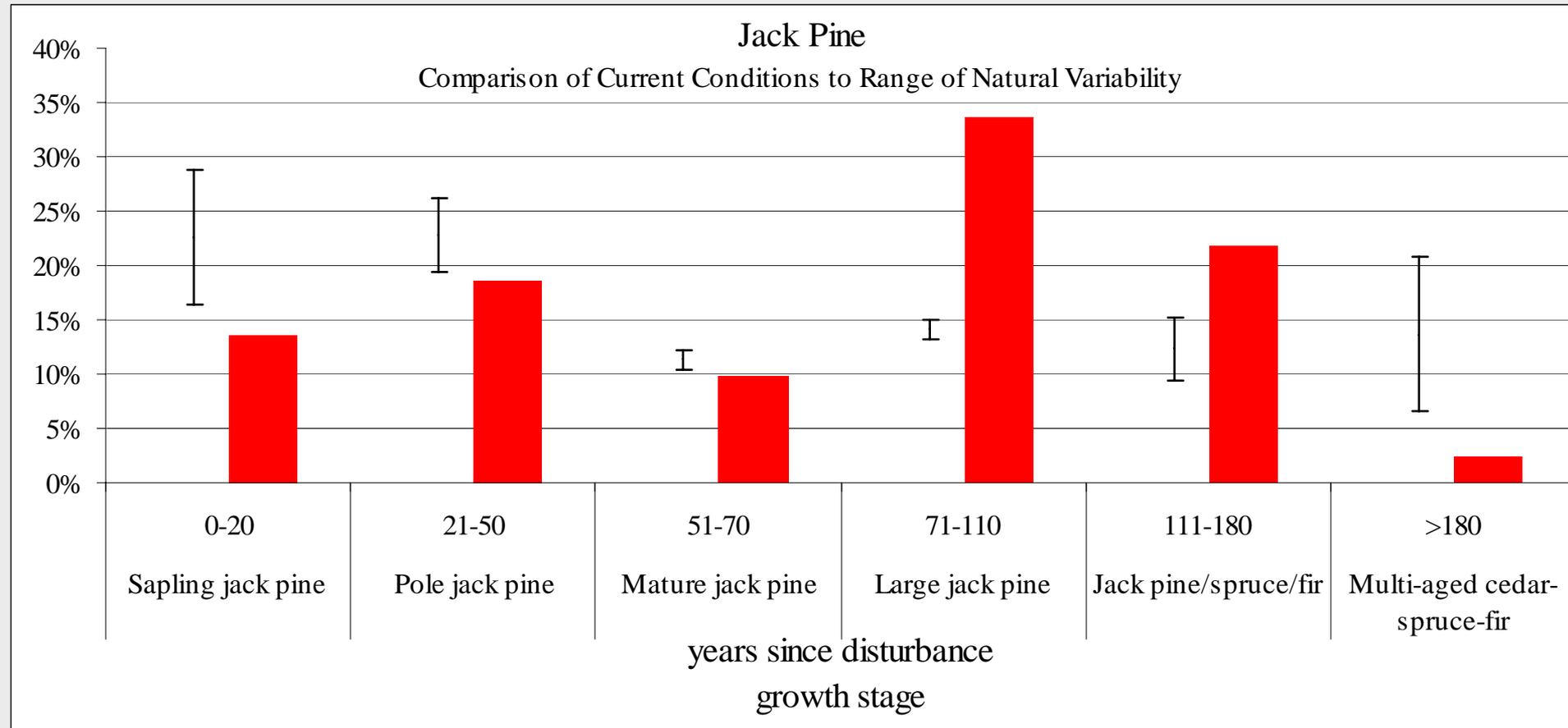
represents 1,069,900 acres
about 21% of the landscape

ownership

Private:	10%
County:	2%
Federal:	26% Outside BWCA 56% BWCA
State:	6%

Jack Pine-Black Spruce

Current Compared to Historical Estimate



Goal

Increase jack pine component throughout the entire plant community

Jack Pine-Black Spruce Strategies

Maintain jack pine composition where it currently exists in areas being treated.

Ecological goals should be accomplished in BWCAW through natural fire if policy allows.

Harvest in the large jack pine, mature jack pine, and pole jack pine growth stages and restore jack pine through a variety of methods as site dictates (seeding, planting, prescribed fire).

“Bottleneck” Analysis

Input-output analysis using IMPLAN model

Estimates the short term (10-20 yr) impacts not the long term impacts or benefits

Assumes operating at full capacity, no change in technology or productivity

Coordination and Implementation

- Look at existing plans to see how they fit with landscape goals
- Highlight opportunities for cooperation and areas of challenge
- Determine how much each landowner can voluntarily contribute toward landscape goals on yearly basis
- Look for ways to cooperate and coordinate on the ground management activities to achieve goals

Monitoring

- Measure at 5 year intervals
- Analyze changes in the landscape
- Report progress toward achieving landscape desired conditions
- Modify goals and strategies as necessary

Superior National Forest Proposed Forest Plan

A Collaborative Approach to
managing Landscapes using
MFRC products



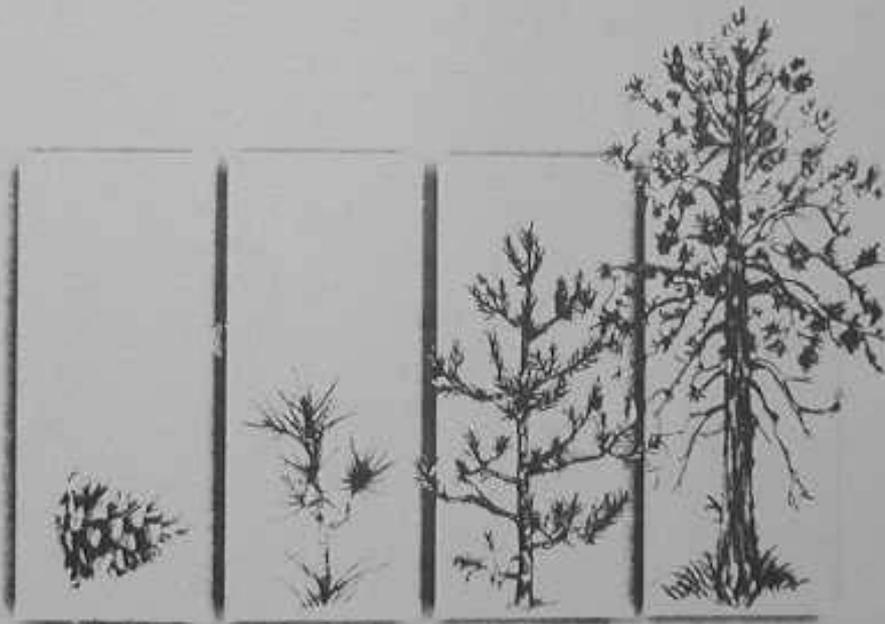


April 2003

Superior National Forest



Proposed Forest Plan



Proposed Revised Forest Plan

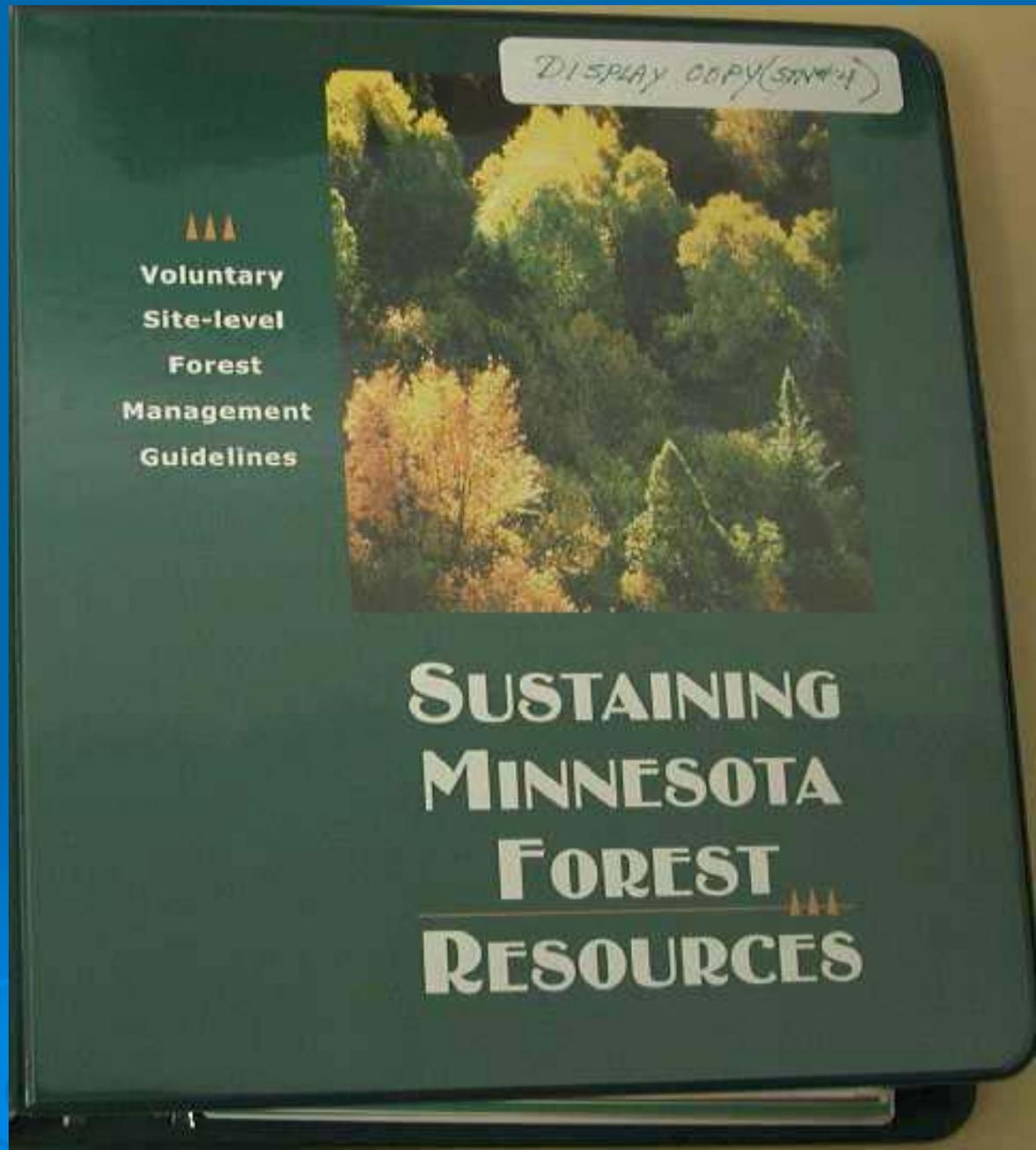
- Utilize MFRC products
- Site-Level Guidelines
- Landscape Ecosystem Approach
- Outcome based
- Desired Conditions & Objectives

MFRC Site- Level Guidelines

Plan direction

“Forest Service
will implement the
MFRC guidelines
when managing
resources on the
Superior National
Forests”

- Some exceptions



Landscape Ecosystems and Forest Plan Revision

- Approach based on a Landscape Ecosystem concept.
- Based analysis on work done MFRC Landscape Assessment Group.
- Considers conditions on all ownerships and provides consistent framework across the landscape.

Desired Condition Comparison

MFRC

- approximates/moves toward the range of variability for plant communities naturally living and reproducing in northeastern Minnesota.

Superior Proposed Plan

- Ecological processes of native veg. communities are restored at multiple landscape scales to provide representation of natural range of distribution & variation

Desired Condition Comparison

MFRC

- has spatial patterns (size and location of openings) that are consistent with the ecology of northeastern Minnesota

Superior Proposed Plan

- Diversity of spatial landscape patterns are restored to conditions more closely emulating patterns that resulted from natural disturbances & other ecological processes.

Desired Condition Comparison

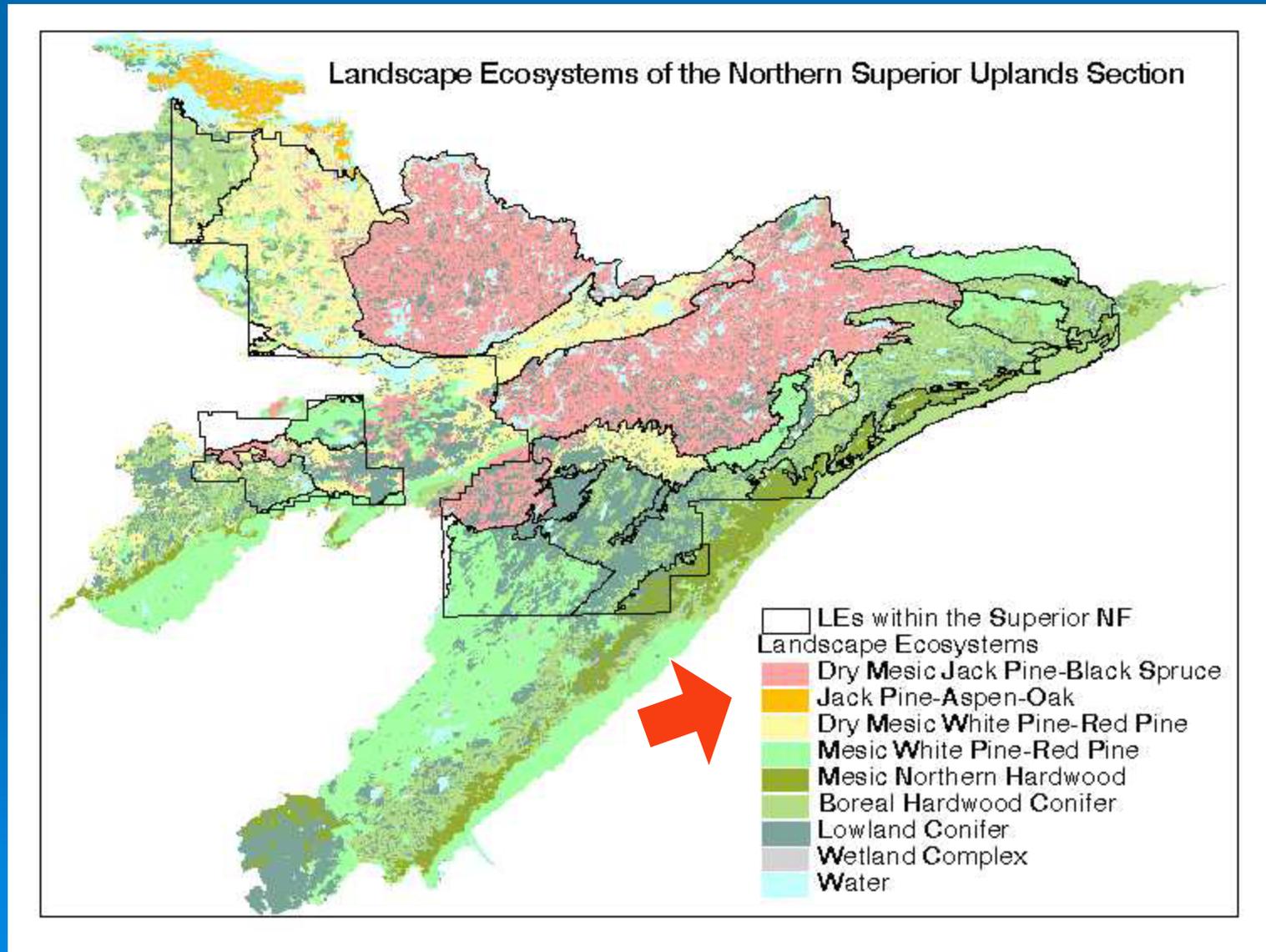
MFRC

provides diverse habitat to maintain natural communities and viable populations (the ability of a wildlife or plant population to maintain sufficient size to persist over time in spite of normal fluctuations in numbers) for the plant and animal species in northeastern Minnesota.

Superior Proposed Plan

- Aquatic & Terrestrial habitats are present in amounts, quality and distribution so that NFS lands
 - Maintain viable populations for all existing native and desired non-native species.
 - Provide representation of full spectrum of habitats and conditions possible for ecosystem function, structure and composition.

Landscape Ecosystem Example



Example: Description of Jack Pine-Black Spruce Ecosystem

- Dry sites, coarse textured soils, thin soils over bedrock
- Jack pine and/or black spruce dominate the canopy (historically)
- Aspen, birch, spruce, red & white pine also part of ecosystem
- Balsam fir usually absent in canopy but present in understory
- Fire is most common stand replacement disturbance
- Stand replacement wind events at very long intervals
- Path of succession depends on disturbance events
- Absence of stand replacing fire allows succession into a multi-aged black spruce and balsam fir climax

How will LE's and RNV be used in Forest Plan Revision?

- **Assess current conditions relative to historic conditions** (Range of Natural Variability)
- **Identify changes needed to attain sustainable management** relative to the condition of vegetation across the landscape and providing for people's needs (Vegetation Objectives and Desired Condition)
- **Evaluate a range of alternatives** in the environmental impact statement (EIS) Select one to guide management towards the desired condition.

Jack Pine Black Spruce Landscape Ecosystem - Context

1.7 million total acres in JP-BS

21% of the N. Superior Uplands Landscape

83% within Superior NF lands

- 56% in BWCA Wilderness
- 26% outside BWCA Wilderness

10% in private lands

6% in State MN DNR Lands

2% in County Forest Lands

Proposed Plan – Management Direction

- Composition Objectives – by forest type
- Age Objectives – by age class
- Tree Species Diversity Objectives

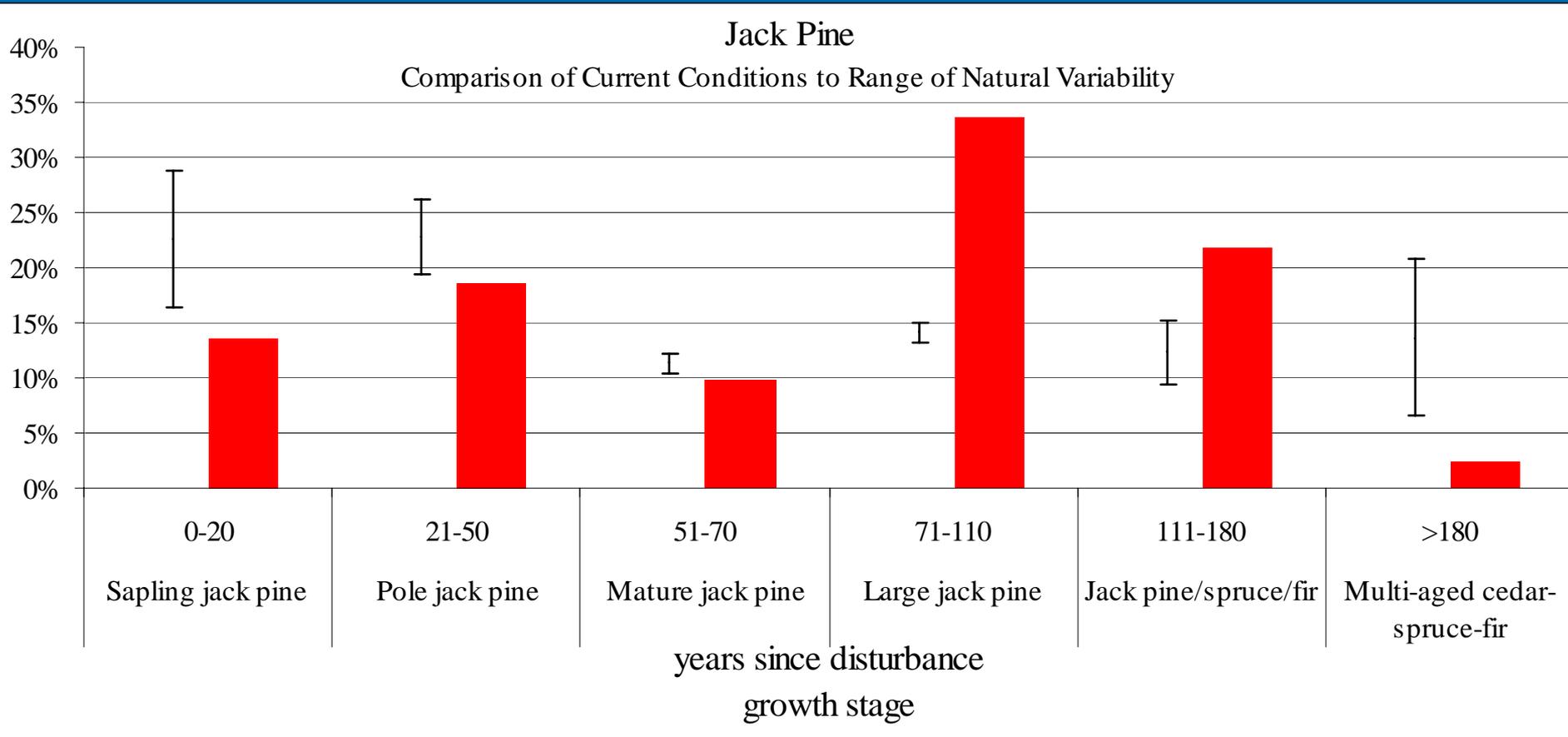
Veg. Composition Objectives for Jack Pine/Black Spruce LE

Forest Type	Existing	Objectives		
		Decade 1	Decade 2	Long-term 100 year goal
Aspen	44%	42%	37%	33%
Jack Pine	24%	28%	32%	45%
Spruce Fir	14%	13%	15%	6%
Red Pine	10%	10%	10%	9%
Paper Birch	5%	5%	5%	5%
White Pine	3%	3%	3%	2%

MFRC Goal - Increase jack pine component throughout the entire plant community

Jack Pine-Black Spruce

Current Compared to Historical Estimate



Goal

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Veg. Age Class Objectives for Jack Pine/Black Spruce LE

Age Class	Existing	Objectives		
		Decade 1	Decade 2	Long-term 100 year goal
0-9	14%	14%	14%	11%
10-49	37%	44%	49%	44% 
50-79	24%	16%	14%	33% 
80-109	24%	21%	17%	8% 
110-179	2%	5%	6%	1% 
180+	0%	0%	0%	3% 

MFRC Strategy – Harvest in Large, Mature and Pole growth stages.
 (CMAI for JP is 50 years on Superior NF.)

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Tree Species Diversity Objectives for Jack Pine/Black Spruce LE

Species	Historical Condition	Existing Condition	Objective
	Percent	Percent	
Jack Pine	28	11	+
Paper Birch	15	14	+
Black Spruce	13	23	-
Tamarack	13	17	M
Balsam Fir	7	1	+
Red Pine	8	18	-
White Spruce	5	4	m/+
White Pine	4	2	+
White Cedar	2	1	+
Red Maple	<1	1	m/-
Lowland Hardwoods	<1	6	m

MFRC Goal - Increase jack pine component throughout the entire plant community

Are we getting there?

- Monitoring to determine progress toward Desired Condition
 - Collaborative monitoring
 - By Landscape Ecosystem
 - Across political and landownership boundaries
 - Use MFRC landscape group as forum to coordinate in management/changes
 - Readily amend plan, if changes needed