



Restoring an open forest ecosystem in the context of public expectations

Part I: Understanding forest stakeholder attitudes and values

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Lakewood Southeast project (LKSE) background

- ▶ Potential for fires >1000 acres
 - ▶ Suppression, decreased precip, veg density
- ▶ Northern Oconto County Community Wildfire Protection Plan
 - ▶ Four towns within CNNF proclamation boundary (Lakewood, Riverview, Mountain, Townsend)
 - ▶ Low density residential development



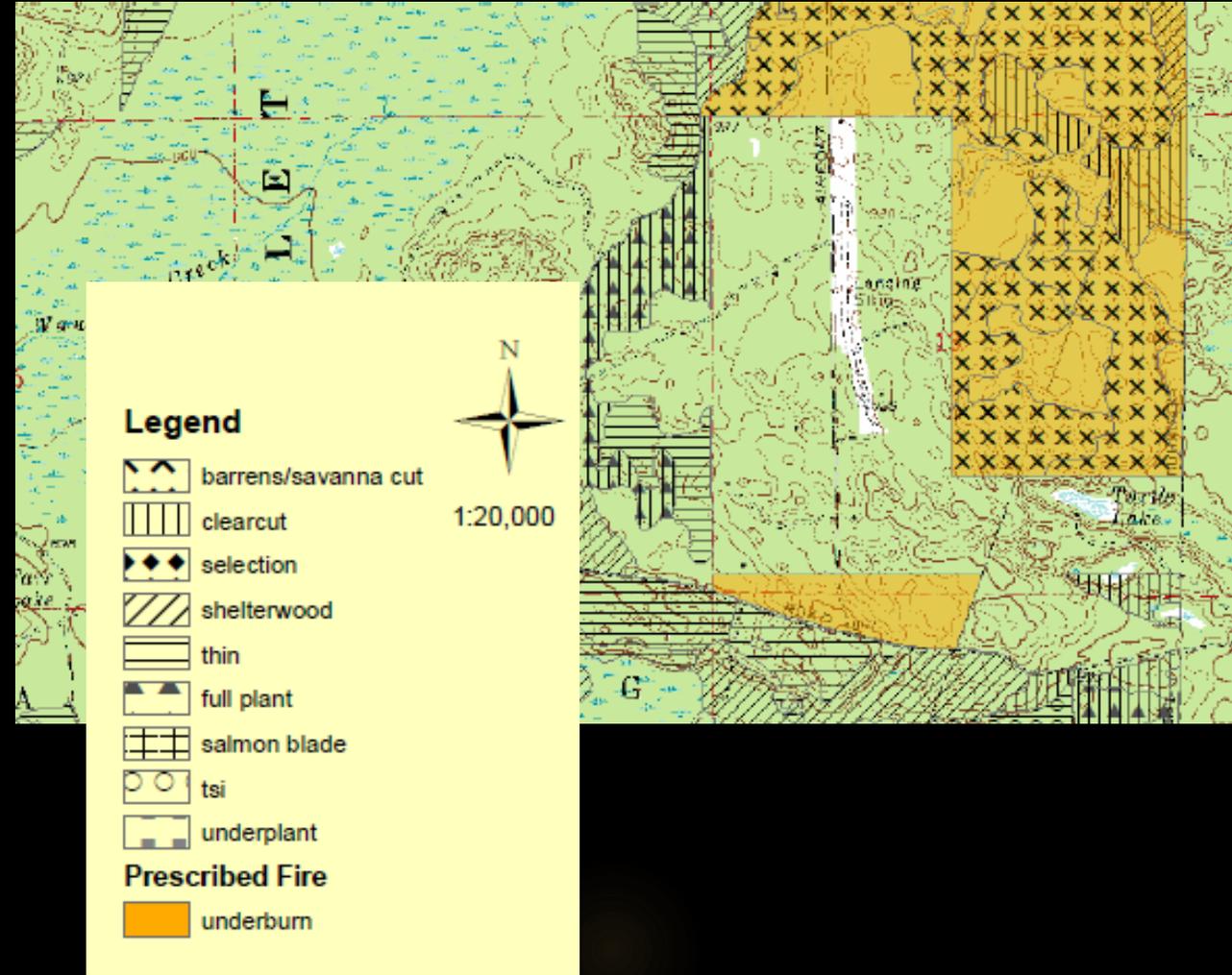
Lakewood Southeast Project timeline

Date



Northern Research Station project background

- Social and ecological aspects of restoration
 - Canopy openness, forest composition effects on fuel loading and fire risk
 - Time post-treatment to shift veg composition/diversity
 - Time post-treatment to impact pollinators
 - **Landowner and visitor responses to restoration, landscape preferences**



Landowner survey

- ▶ 8-page survey
 - ▶ 1,200 landowners within 10- mile radius of LSE area, property larger than ¼ acre
 - ▶ Total sample size 1,169
 - ▶ 4-waves
 - ▶ Response rate – 43%
 - ▶ N = 499

LANDOWNER SURVEY

PROPERTY USE AND GOALS

To gain a better understanding of your opinions about management activities in the Chequamegon-Nicolet National Forest, we would like to know how you use the Chequamegon-Nicolet National Forest and how you manage your own property.

1. Why do you own your property?

Check all that apply

I live here year round, this property is my primary residence.	<input type="checkbox"/>
I own this property because I enjoy the isolated and rural environment it provides.	<input type="checkbox"/>
I own this property because it provides me with recreation and game opportunities (hunting, fishing, hiking).	<input type="checkbox"/>
I own this property because it provides me with additional income.	<input type="checkbox"/>
I own this property because I grew up in the area.	<input type="checkbox"/>
I own this property because my family lives in the area.	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>

2. Which of the following activities occurred on your property within the past 5 years?

Check all that apply

Improved habitat for game species (deer, turkey, etc.)	<input type="checkbox"/>
Improved habitat for non-game species (birds, etc.)	<input type="checkbox"/>
Improved habitat for pollinators (bees, etc.)	<input type="checkbox"/>
Cut or removed trees for sale	<input type="checkbox"/>
Cut or removed trees for personal use	<input type="checkbox"/>
Reduced fire hazards	<input type="checkbox"/>
Improved forest for recreation use	<input type="checkbox"/>
Improved forest for scenic beauty	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>

3. How do you use the forest?

Check all that apply

Hunting	<input type="checkbox"/>	<input type="checkbox"/>
Fishing (for consumption)	<input type="checkbox"/>	<input type="checkbox"/>
Fishing (catch and release)	<input type="checkbox"/>	<input type="checkbox"/>
Non-motorized boating	<input type="checkbox"/>	<input type="checkbox"/>
Motorized boating	<input type="checkbox"/>	<input type="checkbox"/>
ATV	<input type="checkbox"/>	<input type="checkbox"/>
Snowmobiling	<input type="checkbox"/>	<input type="checkbox"/>
Mountain biking	<input type="checkbox"/>	<input type="checkbox"/>
Cross-country skiing	<input type="checkbox"/>	<input type="checkbox"/>
Camping	<input type="checkbox"/>	<input type="checkbox"/>
Hiking	<input type="checkbox"/>	<input type="checkbox"/>
Running	<input type="checkbox"/>	<input type="checkbox"/>
Wildlife/bird watching	<input type="checkbox"/>	<input type="checkbox"/>
Viewing scenery	<input type="checkbox"/>	<input type="checkbox"/>
Picnicking	<input type="checkbox"/>	<input type="checkbox"/>
Mushroom/berry picking	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>

The Chequamegon-Nicolet National Forest

Your personal property

4. Please indicate the likelihood of the following actions occurring on your property within the next 10 years.

	Very Unlikely	Unlikely	No Strong Opinion	Likely	Very Likely	Property is too small to subdivide
Subdivide my property to create multiple lots for sale	<input type="checkbox"/>					
Subdivide my property for children or heirs	<input type="checkbox"/>					
Sell my property	<input type="checkbox"/>					
Give property to my heirs	<input type="checkbox"/>					

5. What future goals do you have for your property?

Feel free to use additional paper if necessary

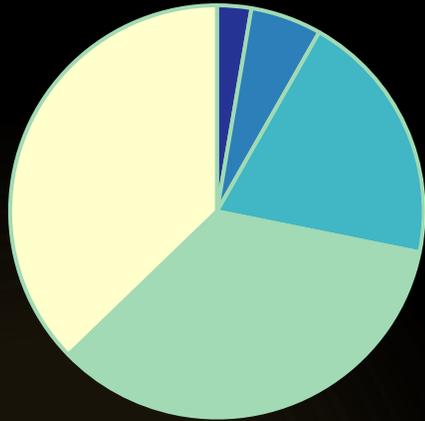
Survey questions

- ▶ Socio-demographics
- ▶ Forest management goal alignment
- ▶ Acceptability and effectiveness of management actions
- ▶ Beliefs about restoration outcomes from the LSE project
- ▶ Trust – Agency, local Forest staff
- ▶ Communication – Forest staff, preferences
- ▶ Recreation participation on Forest
- ▶ Forest values
- ▶ Actions on their own land



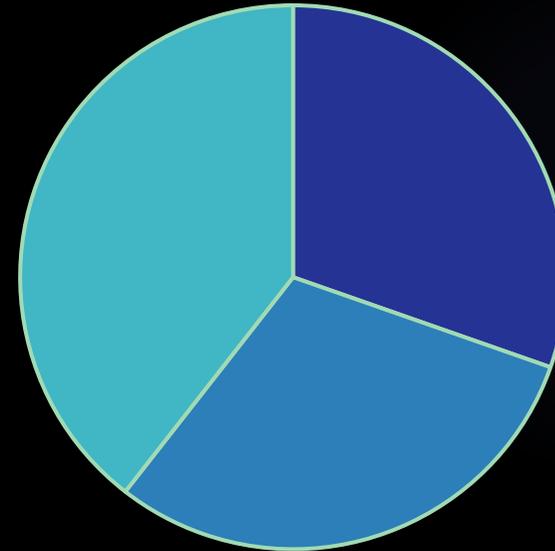
Respondents

Age



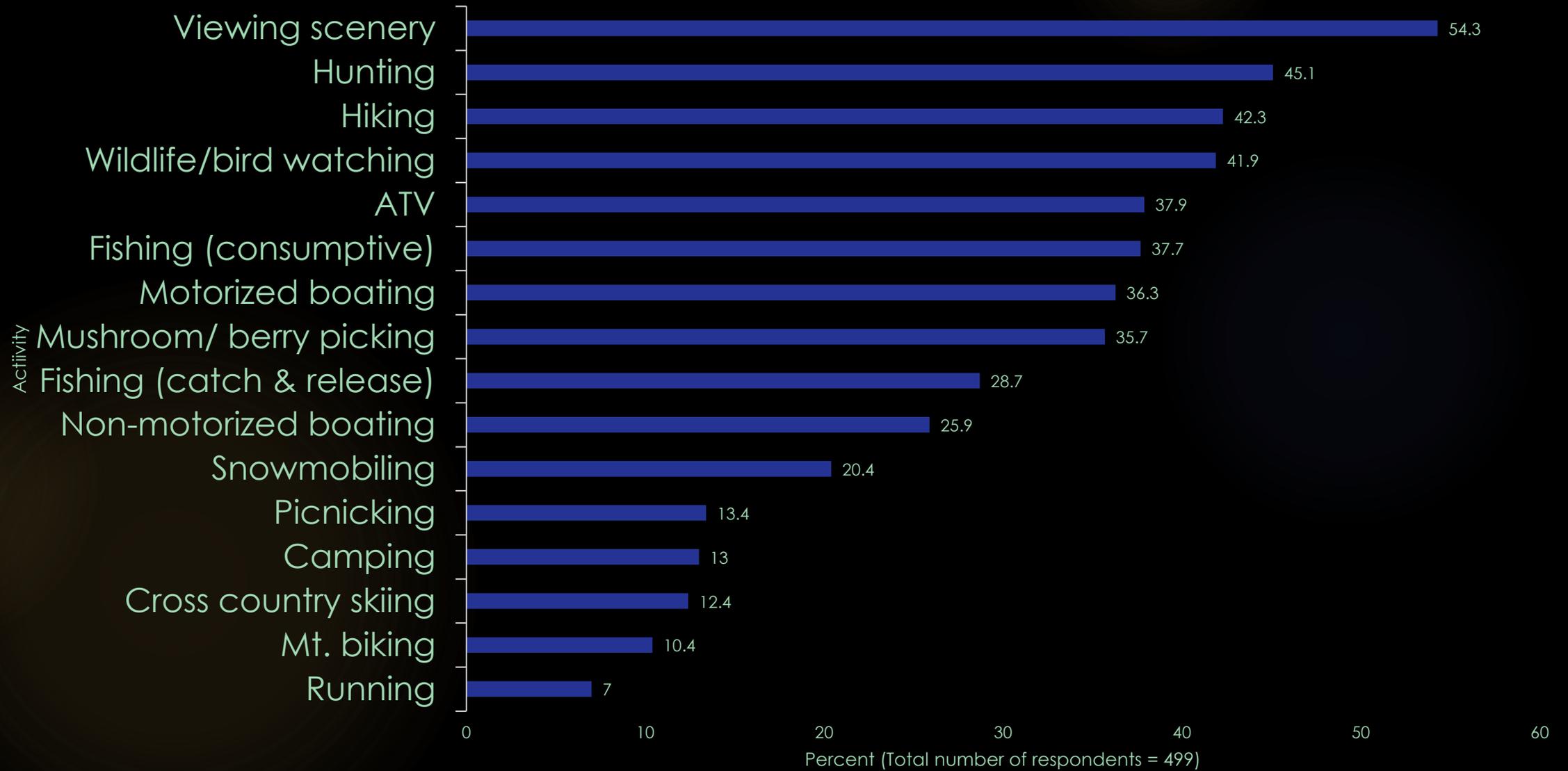
■ 26-35 ■ 36-45 ■ 46-55
■ 56-65 ■ 66>

Years property owned

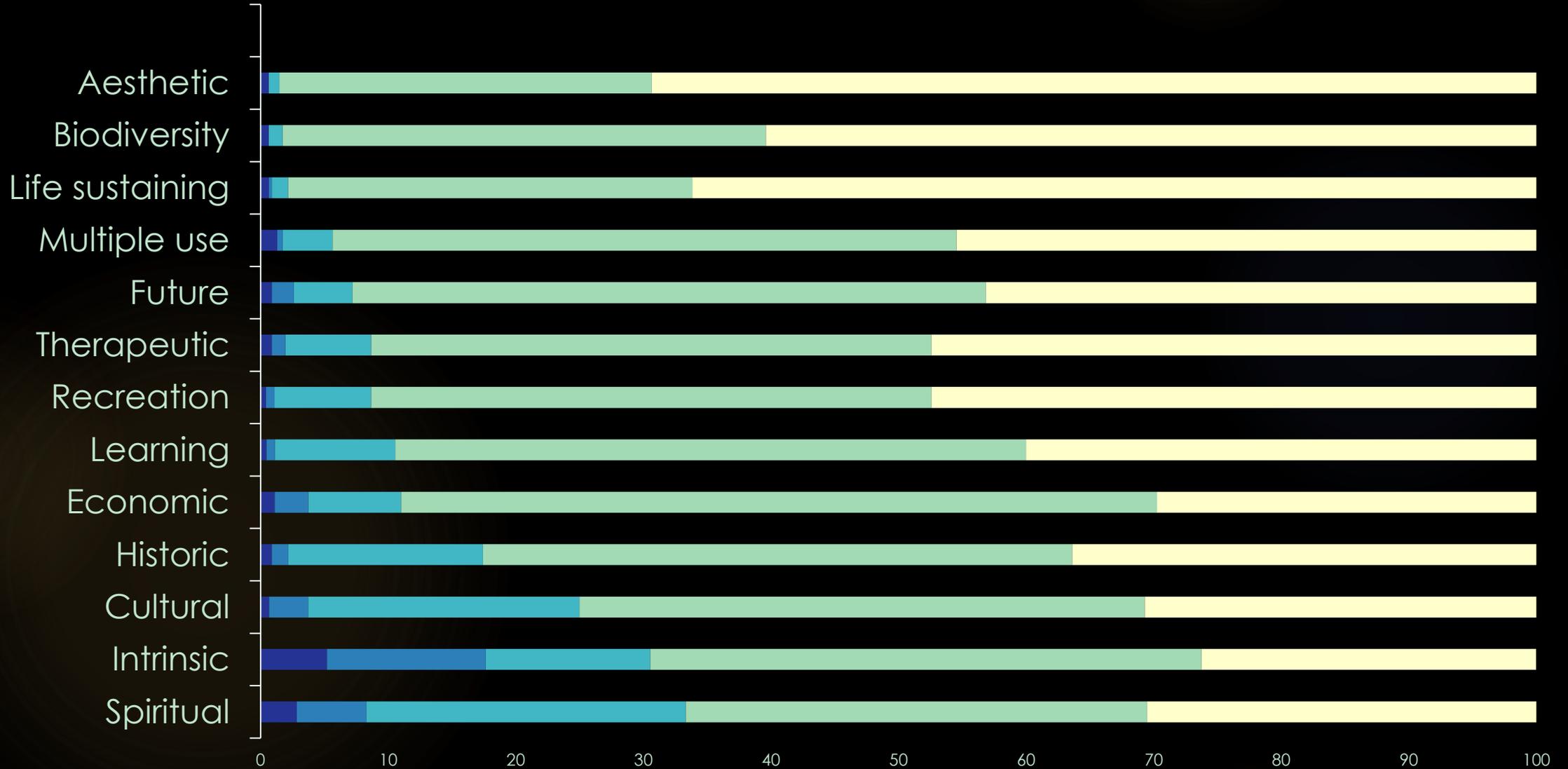


■ Less than 10 ■ 11 to 25 ■ >25

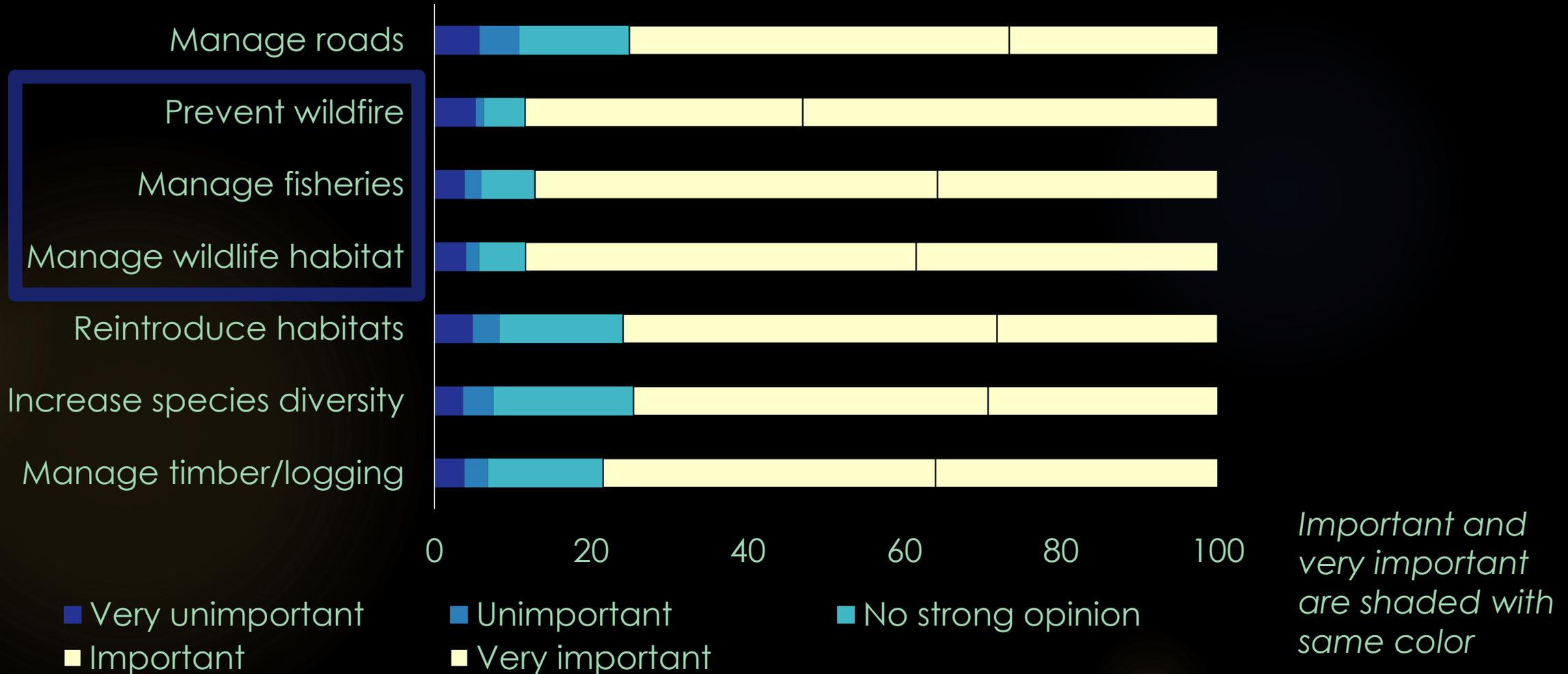
- Men – 302; Women – 111
- 220 with 2 year college degree or more



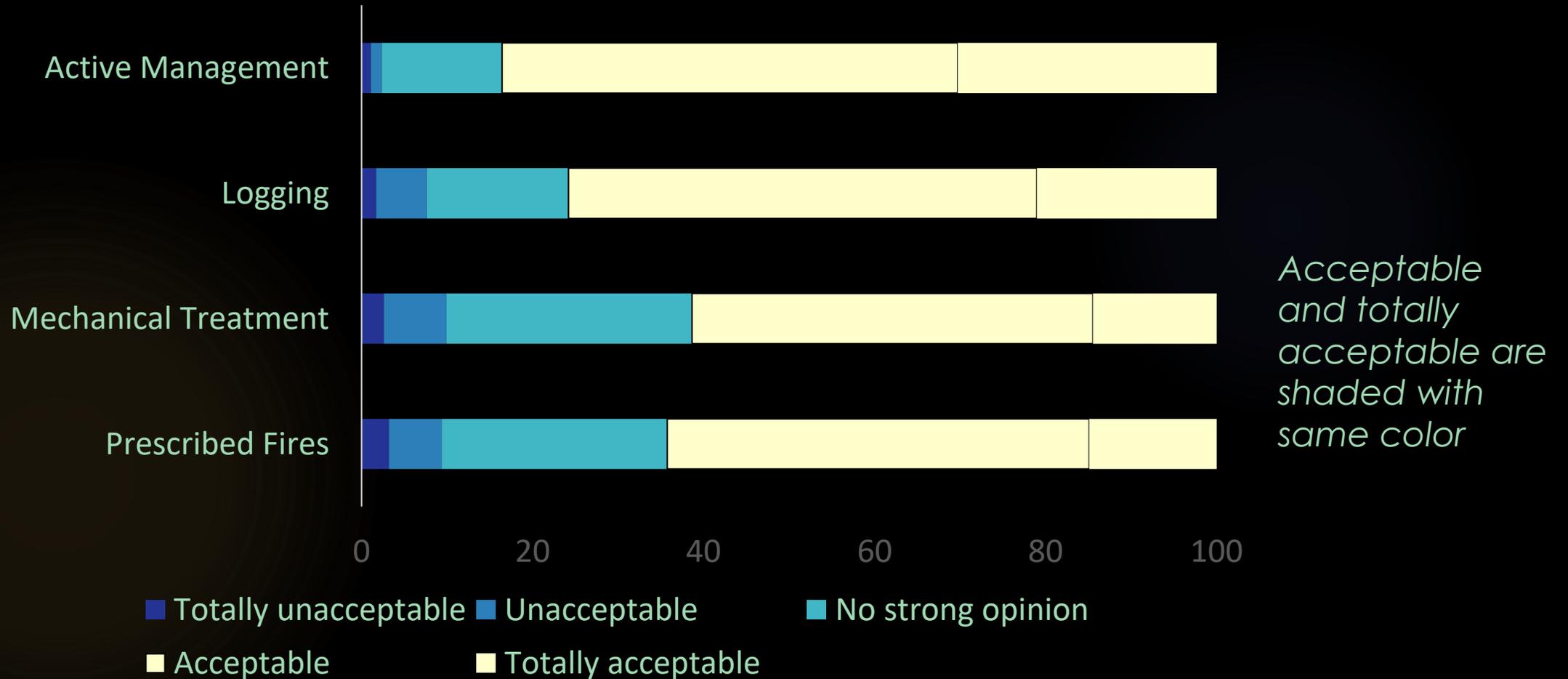
Forest Values



Importance of CNNF management goals

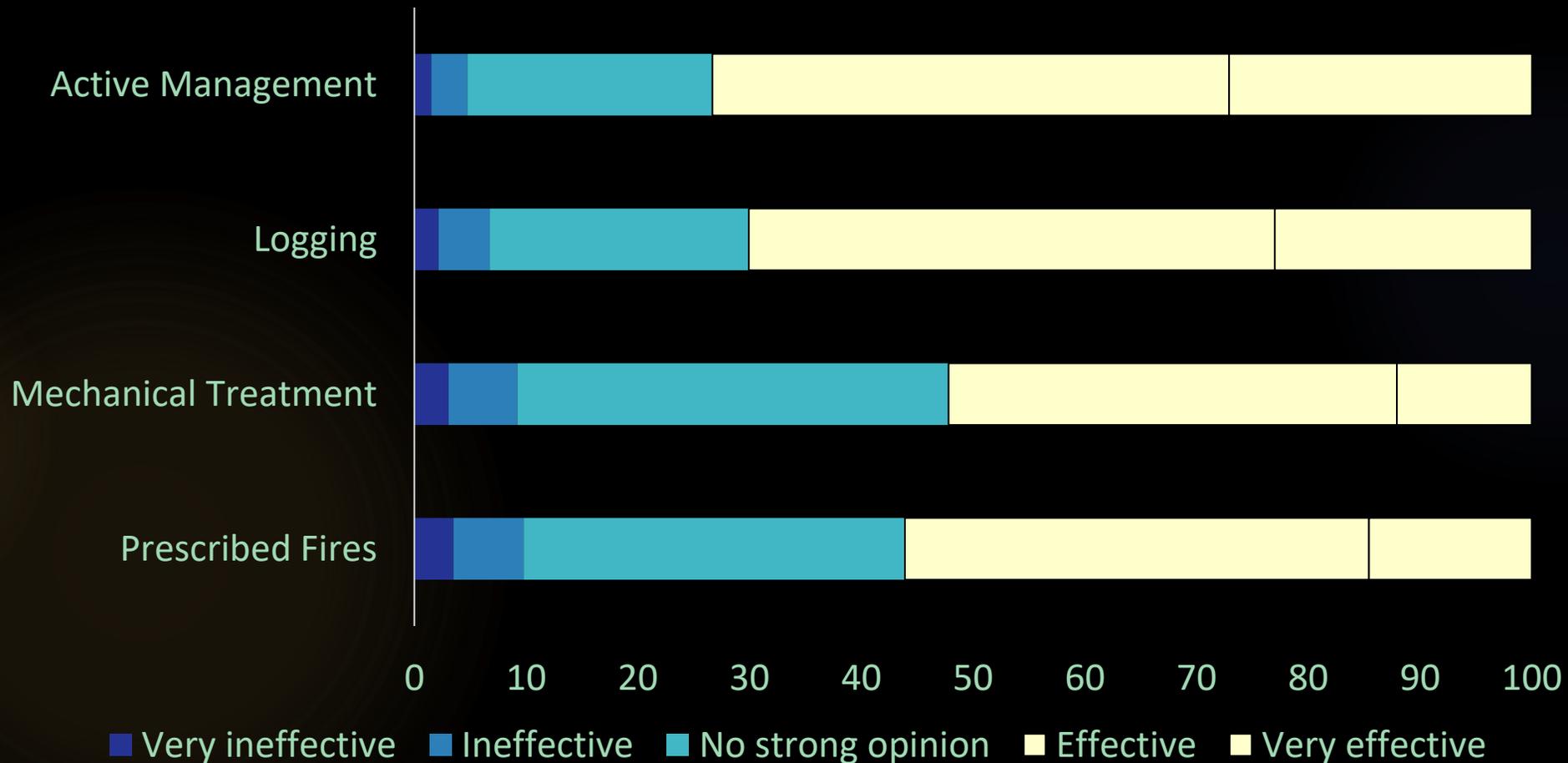


Acceptability of management tools



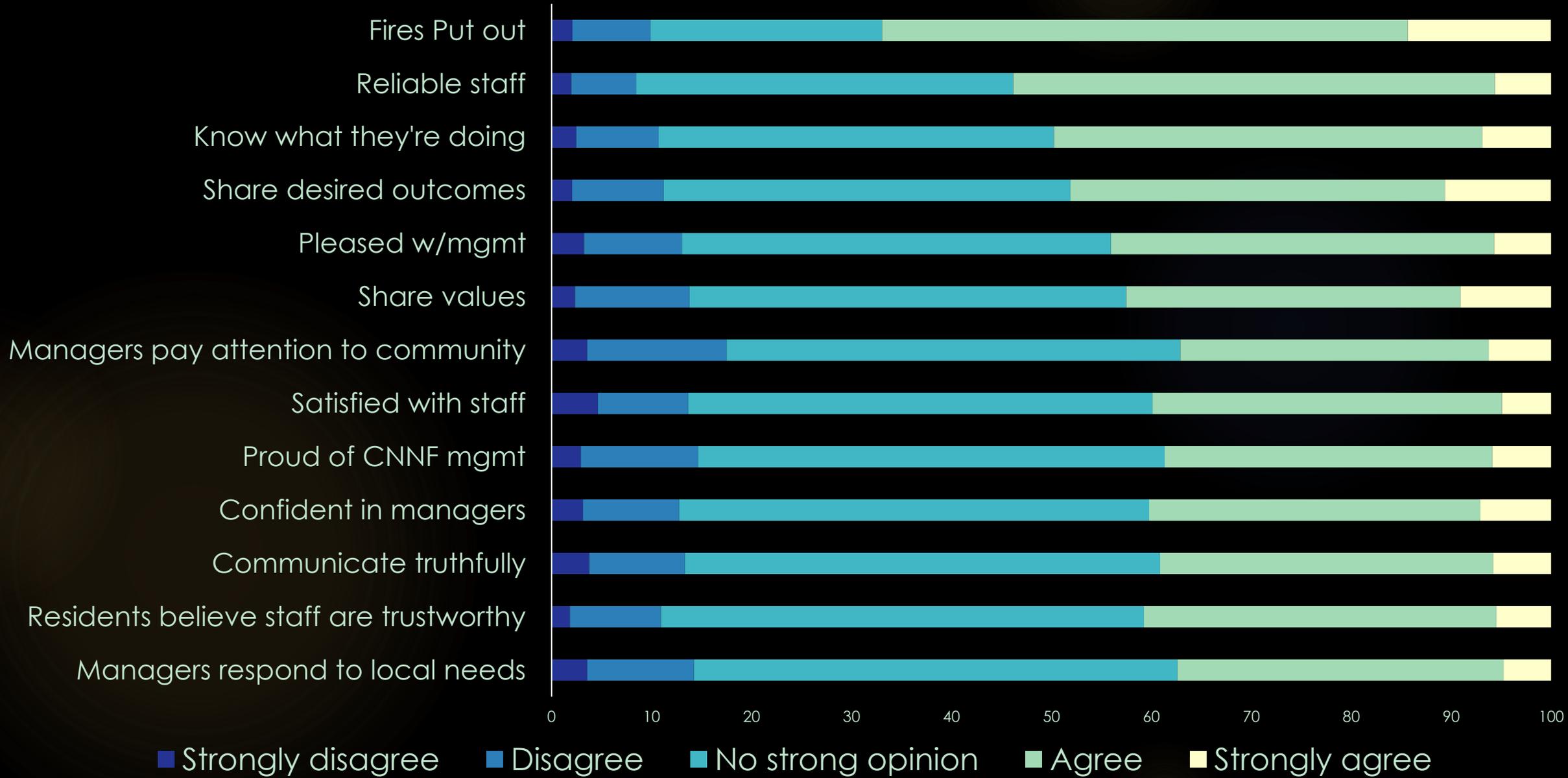
1 = Totally unacceptable and 5 = Totally acceptable

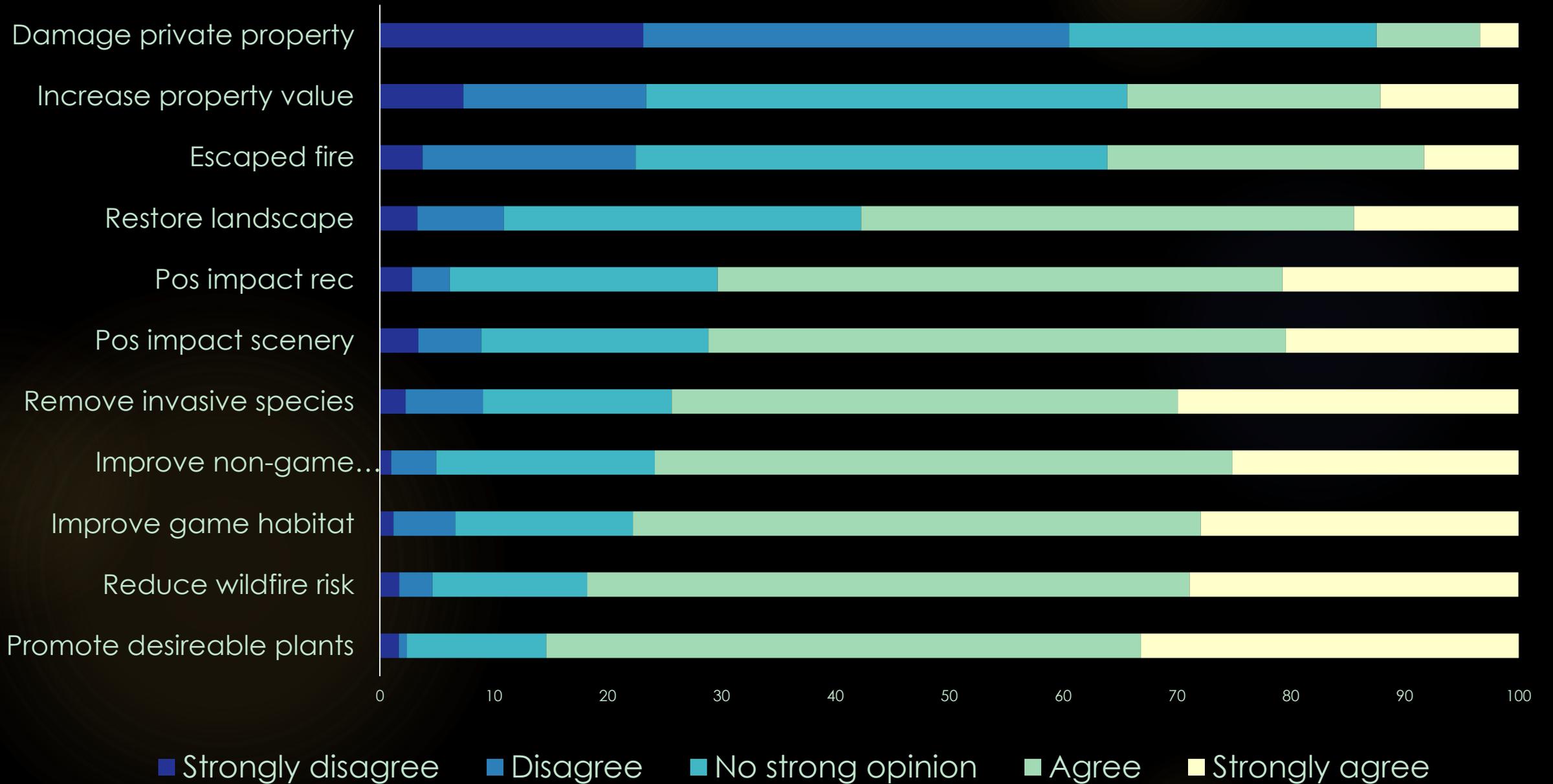
Effectiveness of management tools



1 = very ineffective and 5 = Very effective

Agency and staff trust





Focus Groups

- ▶ 3 focus groups (12 total participants from self-selected survey respondents)
- ▶ Photo elicitation to rate (scale 1-10, low to high) scenes
 - ▶ How much they'd like to live in scene
 - ▶ Level of recreational use scene can provide
 - ▶ Scenic beauty
 - ▶ Overall preference
- ▶ Follow up discussion of why ratings were given



Photo 1 is the densest photo in the gradient of canopy cover and depicts a common landscape in the CNNF.

- Most preferred landscape



Photo 2 is the next photo in the gradient of canopy cover. We selected this photo to display a landscape that has a moderate amount of canopy cover and forest density. Similar to photo 1, this landscape is common in the CNNE.

- 3rd most preferred landscape



Photo 3 was selected because it continues the gradient of canopy cover and varies in amount of open land and closed canopy. This landscape is found in the CNNF.

- 2nd most preferred landscape



Photo 4 illustrates an open landscape with clusters of trees in the foreground. We chose this photo because it portrays an open landscape, but retains clusters of canopy cover. This landscape is not common in the CNNF.

- 4th preferred landscape



Photo 5 shows an extremely open landscape with trees on the horizon that provide no canopy cover. This photo includes the least amount of canopy cover and is an uncommon landscape in the CNNF.

- 5th preferred landscape
- Photos 4 and 5 elicited concerns about
 - Hunting
 - Recreation
 - Activities on personal property
- Least like their own property

Discussion of ratings – Northwoods identity

- ▶ Family connections to area
- ▶ Privacy
- ▶ Familiarity with landscape
- ▶ Northwoods identity strongly related to livability preference, moderately to scenic beauty, mildly to recreation

Discussion of ratings – Visual diversity

- ▶ Openness
- ▶ Strongly related to scenic beauty preference, moderately related to recreation and livability
- ▶ Viewing distance combined with open space and canopy cover was discussed as optimal
- ▶ Preferences for more density

Discussion of ratings – Forest health

- ▶ Wildlife habitat and health – game and non-game
- ▶ Ecosystem processes
- ▶ Disease and pests
- ▶ Strongly related to scenic beauty ratings, moderately to livability

Discussion of ratings – Effective management

- ▶ Discussed regarding livability, scenic beauty, and recreation but not described as strongly impacting landscape preferences
- ▶ Concerned more with influence of politics on forest management
 - ▶ Use of funding and concerns over potential loss of funding in the future
 - ▶ Impact on recreation, livability, and scenic beauty
 - ▶ Landscape transitions from management vs. natural processes

Phase 1 recommendations

- ▶ “No strong opinion” about many survey statements provides opportunities
- ▶ More in-depth study of treatment preferences based on visual impacts

Thank you!

- ▶ John Lampereur, District Silviculturist
- ▶ Lakewood/Laona District staff
- ▶ Focus group participants
- ▶ Survey respondents
- ▶ Deahn Donner-Wright, Brian Sturtevant, Christel Kern, Heather Jensen