



2018 - 2019 Webinar Series - December 12, 2018

Landowner Attitudes toward Prescribed Fire on the Chequamegon- Nicolet National Forest (CNNF)

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***PURDUE UNIVERSITY

Audio will start at 2 PM Eastern / 1 PM Central.

This webinar is listen only – to ask questions please use the chat box in lower right of screen.

Hello!

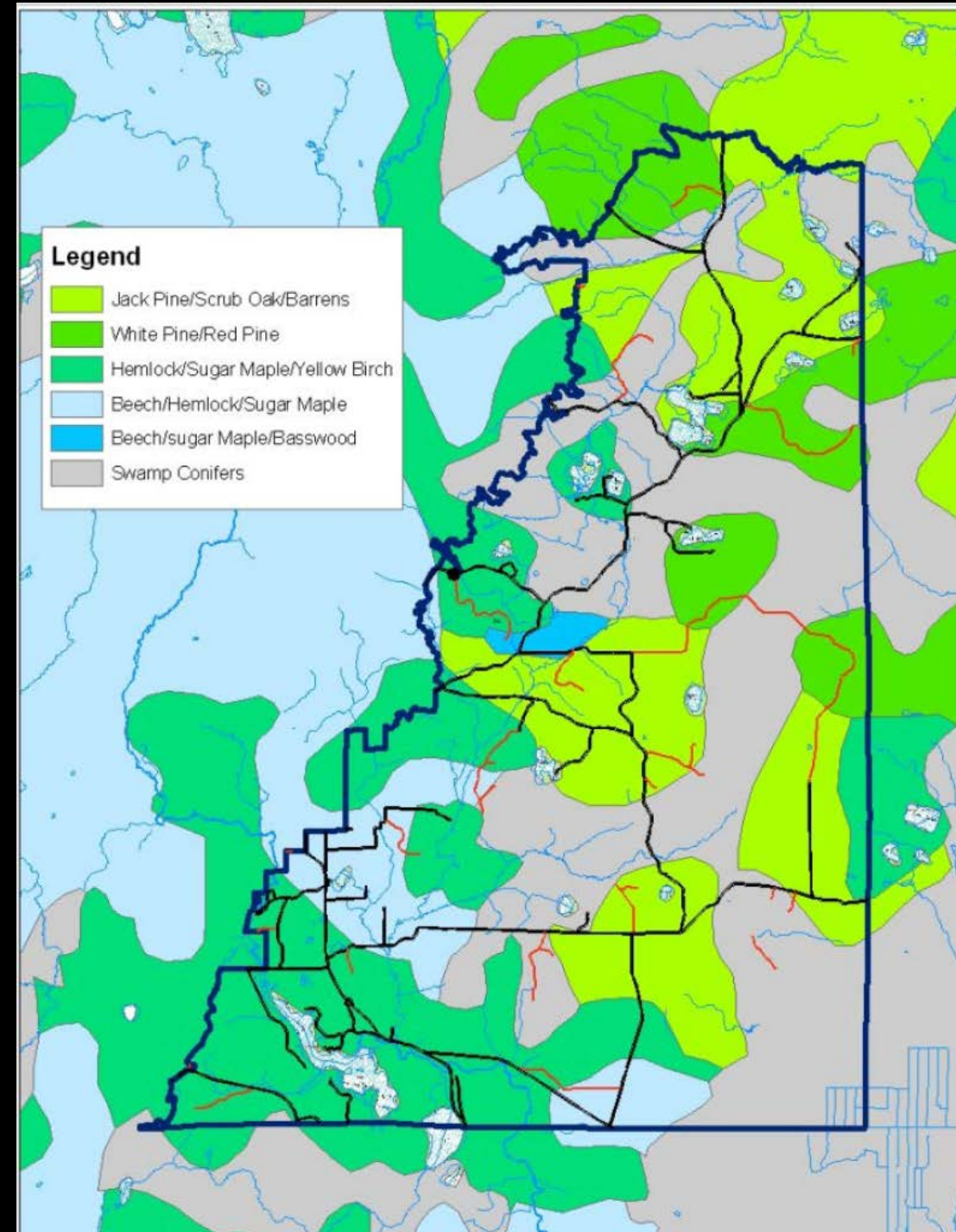
- ▶ USFS Northern Research Station since February 2015
- ▶ Faculty, extension at University of Wisconsin – Stevens Point
- ▶ Collaborative/cross-boundary resource management
- ▶ Conservation behaviors from individual to collective level
- ▶ Family Forest Research Center



CNNF project background

- ▶ 2013 - USFS Lakewood Southeast (LSE) project on CNNF
- ▶ ~37,000 acres near Lakewood, WI
 - ▶ Forest composition, diversity, age class, stocking levels
 - ▶ Rare/altered communities (pine barrens) due to fire suppression
 - ▶ Terrestrial and aquatic wildlife habitat
 - ▶ Fuels reduction
 - ▶ Road management
- ▶ Historical composition - Jack pine/scrub oak/barrens

Image clipped from Lampereur (2013) veg report



CNNF project 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)



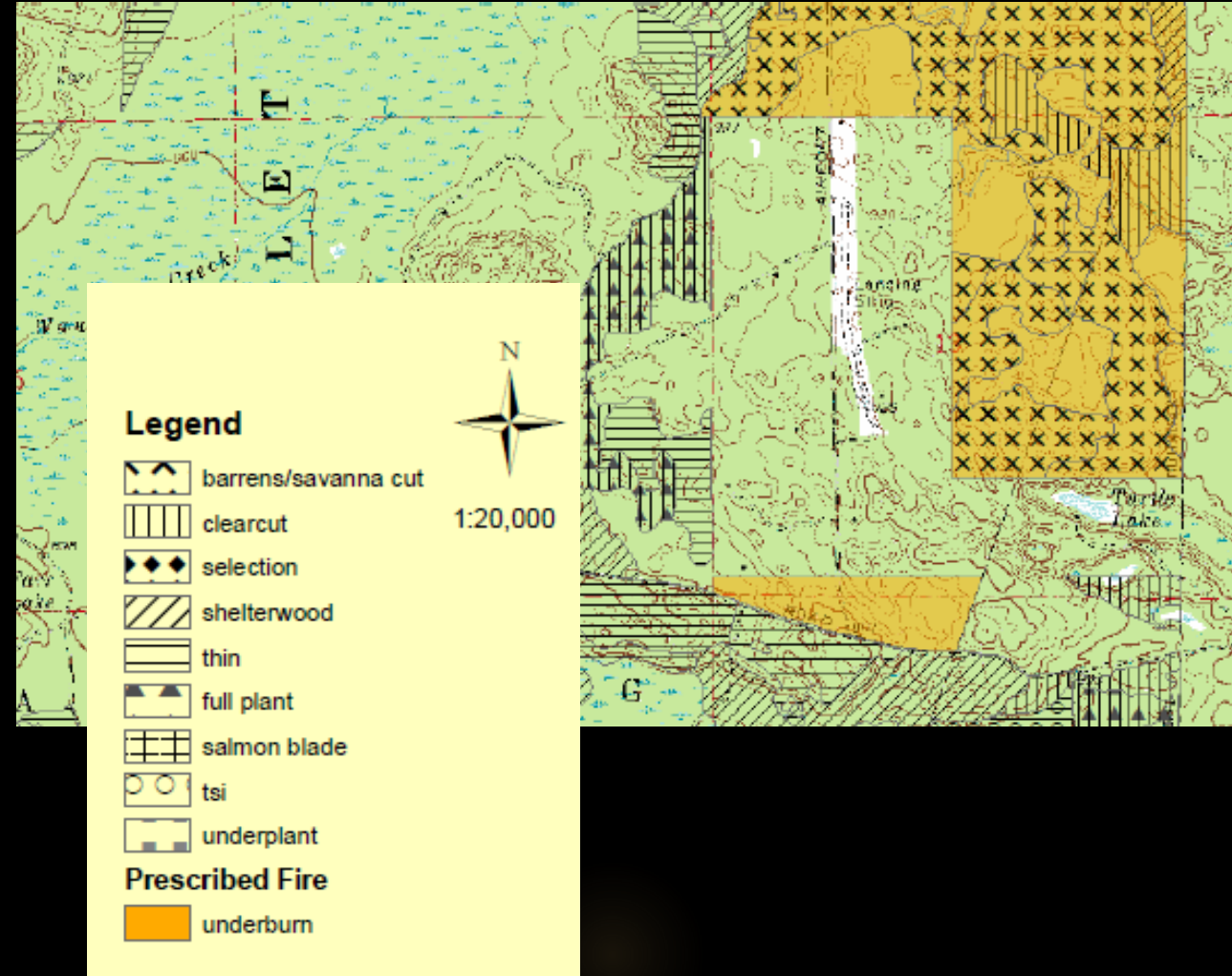
Riverview

<https://www.fs.usda.gov/detail/cnnf/news-events/?cid=STELPRD3809360>

<http://www.us-data.org/wi/disaster/fire/peshtigo-18/1.html>

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



Acceptability of forest management practices



- ▶ Risk perceptions
- ▶ Perceived efficacy of practices
- ▶ Goal alignment
- ▶ Trust, confidence in agency, managers

Landowner survey

- ▶ Understand landowner attitudes about
 - ▶ landscape restoration
 - ▶ management actions needed
- ▶ Fire, harvest – significant landscape change
- ▶ 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 <u>primary residence</u> .	<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

	The Chequamegon-Nicolet National Forest	Your personal property
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"/>

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 likely too small to subdivide
Subdivide my property to create multiple lots for sale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subdivide my property for children or heirs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sell my property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Give property to my heirs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Feel free to use additional paper if necessary

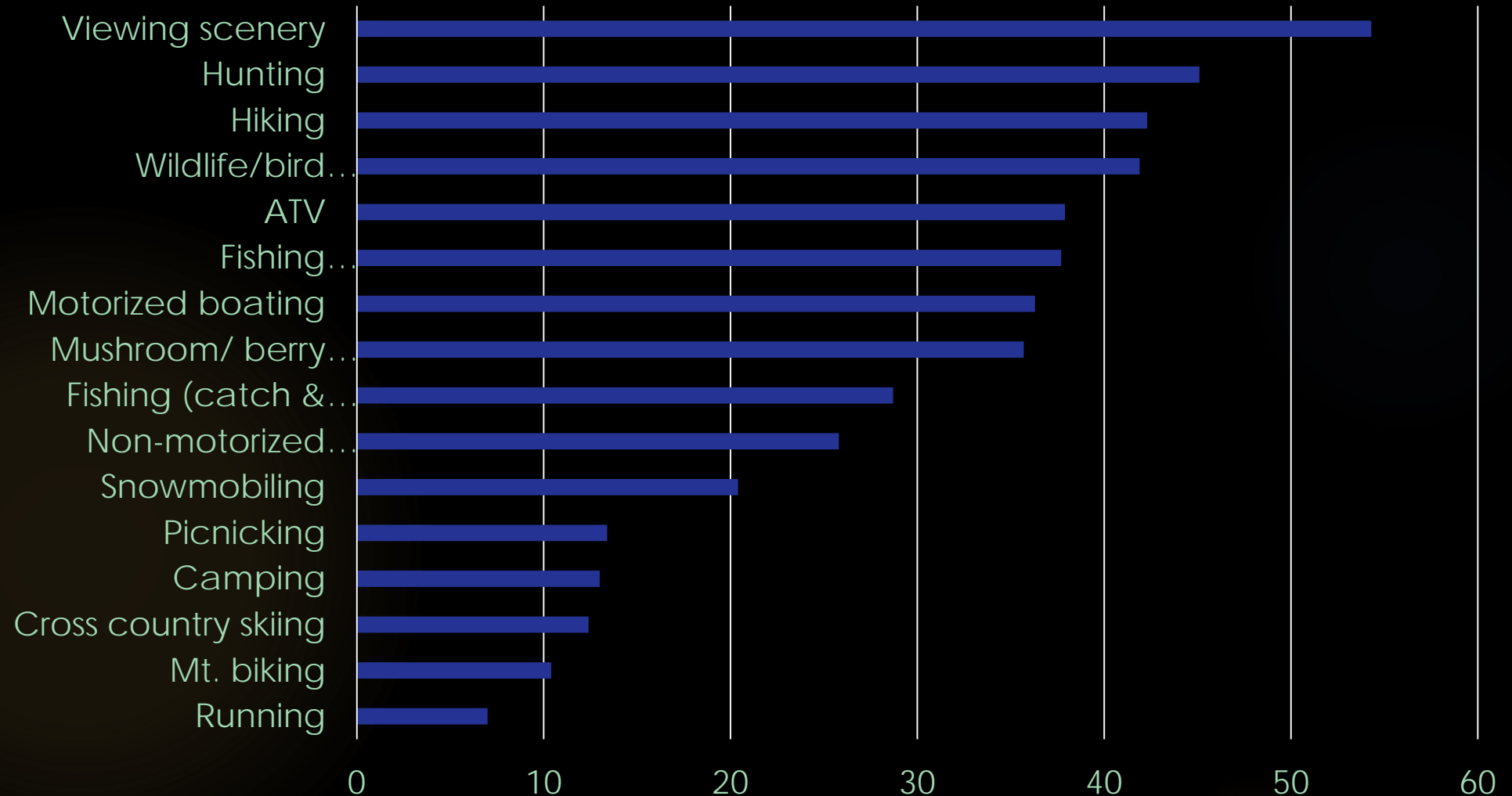
Please turn page to continue survey

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*

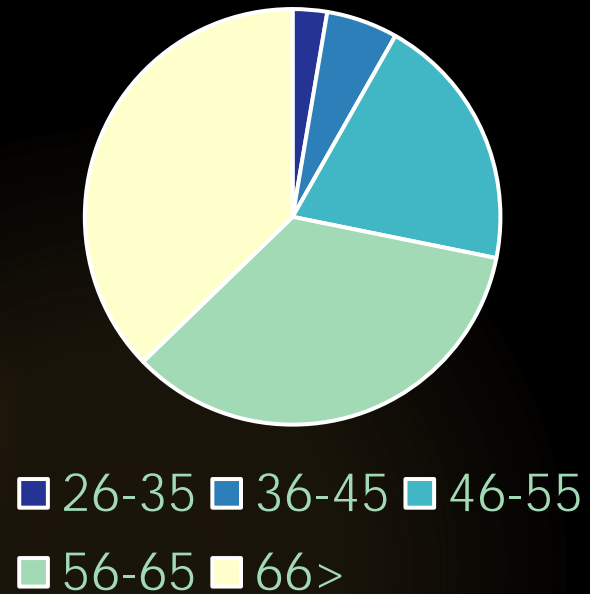


Respondents

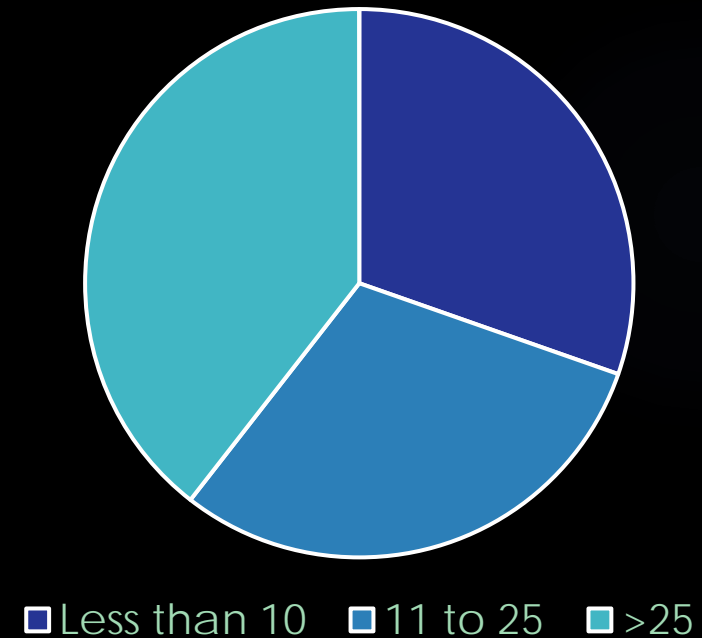


Respondents

Age

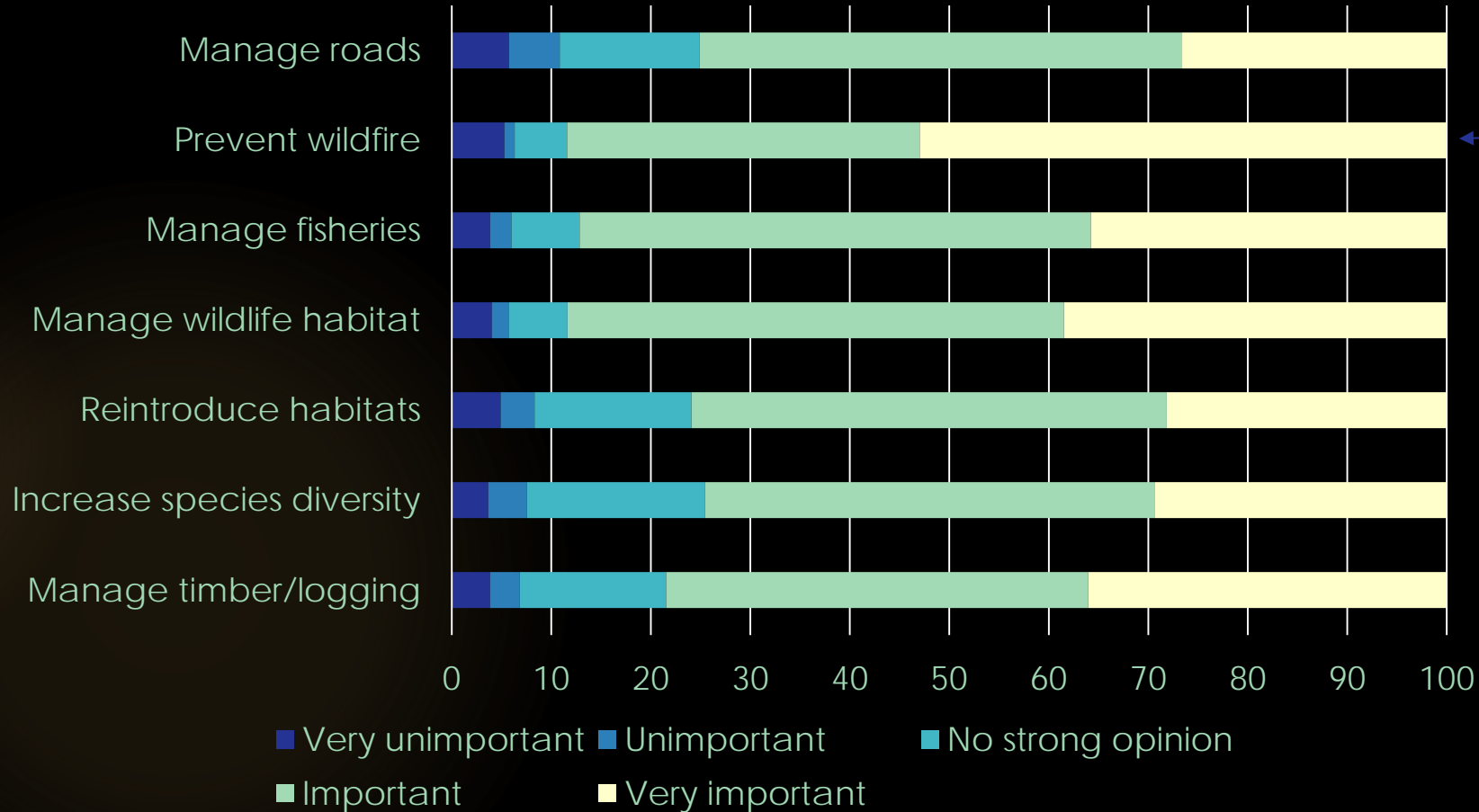


Years property owned



- Male – 302; female – 111
- 220 with at least 2 year college degree

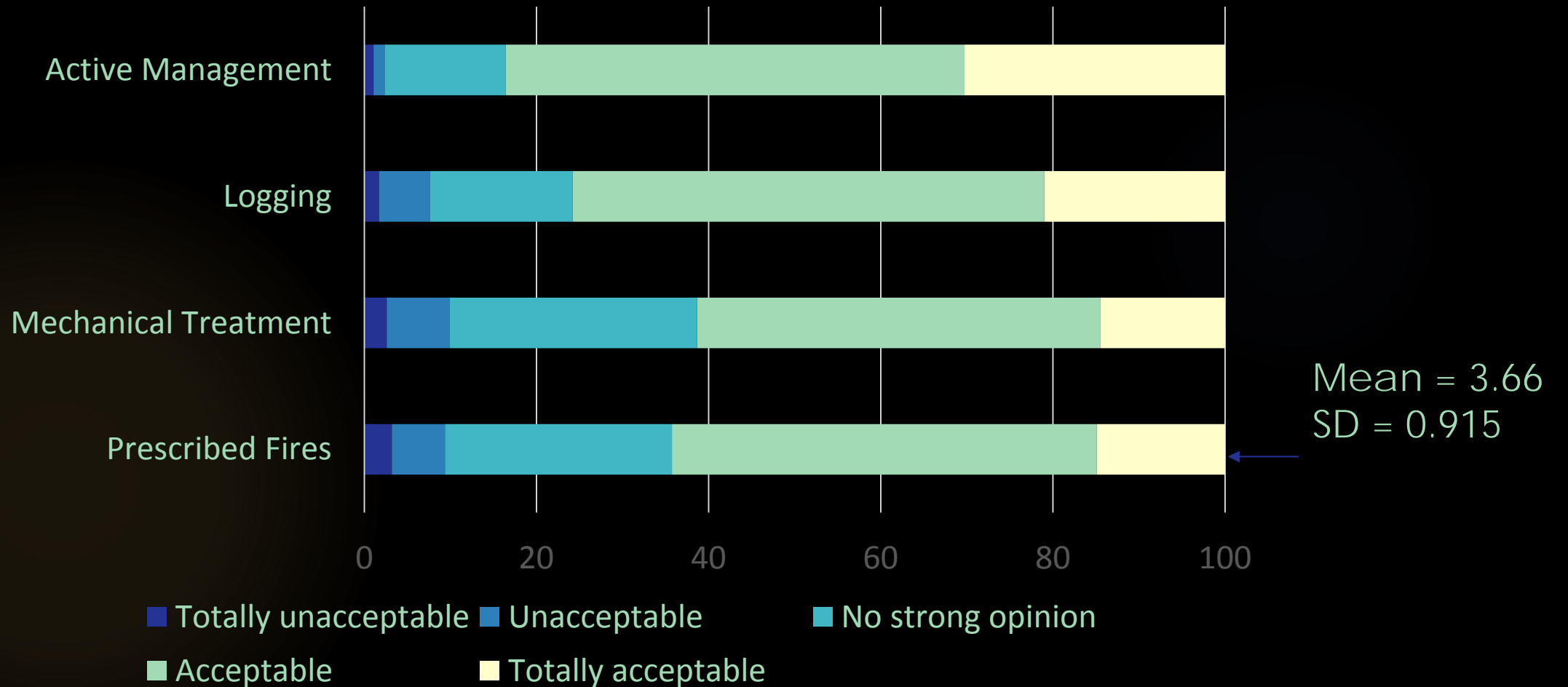
How important are the management goals of the CNNF to you?



Mean = 3.93
SD=0.85

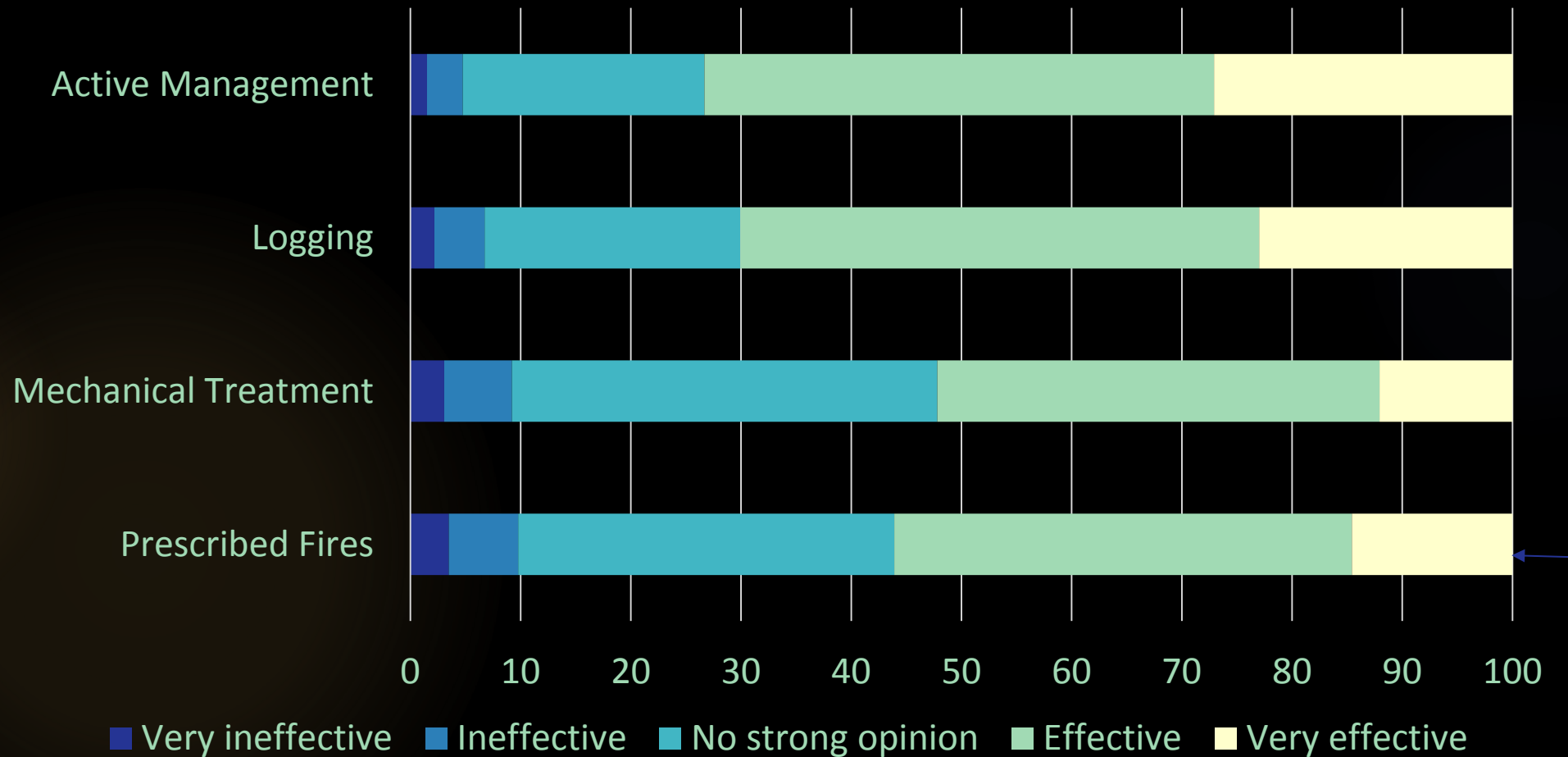
1 = very unimportant and 5 = very important

Acceptability of management tools



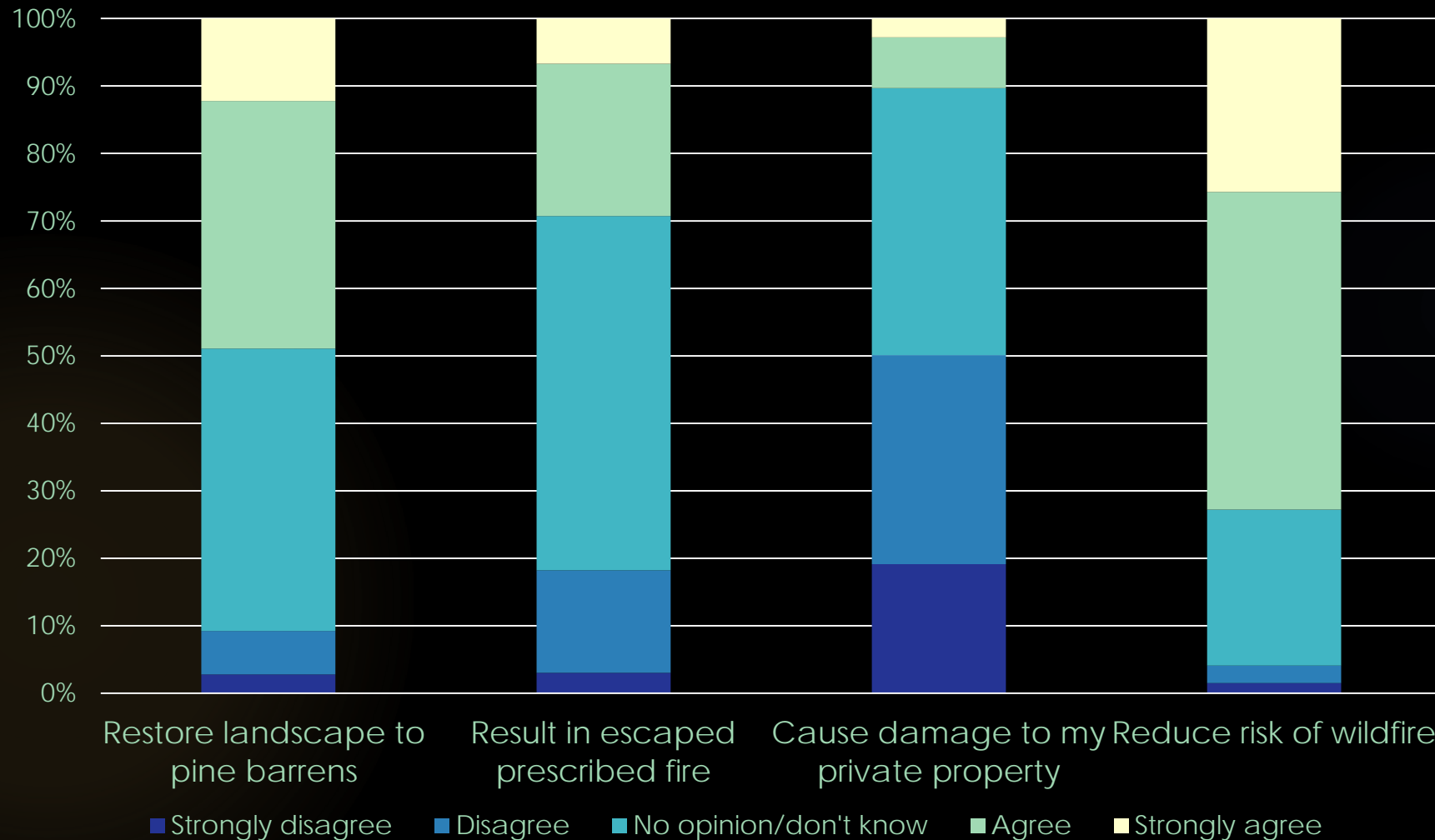
1 = Totally unacceptable and 5 = Totally acceptable

Effectiveness of management practices

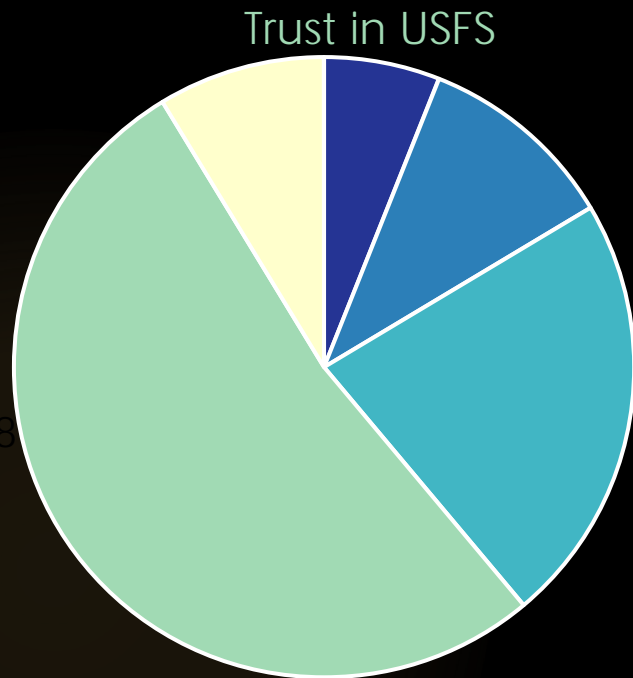


1 = very ineffective and 5 = Very effective

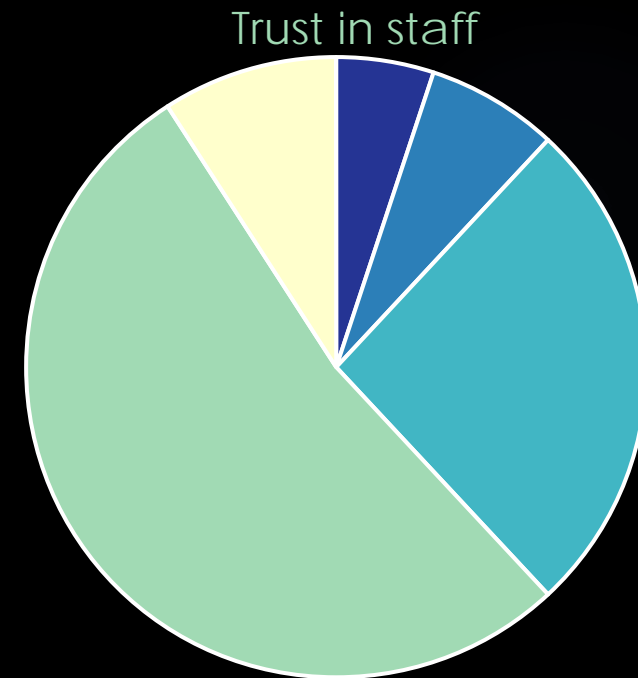
Beliefs regarding restoration outcomes



Trust agency, staff to make proper decisions regarding the use of prescribed fire



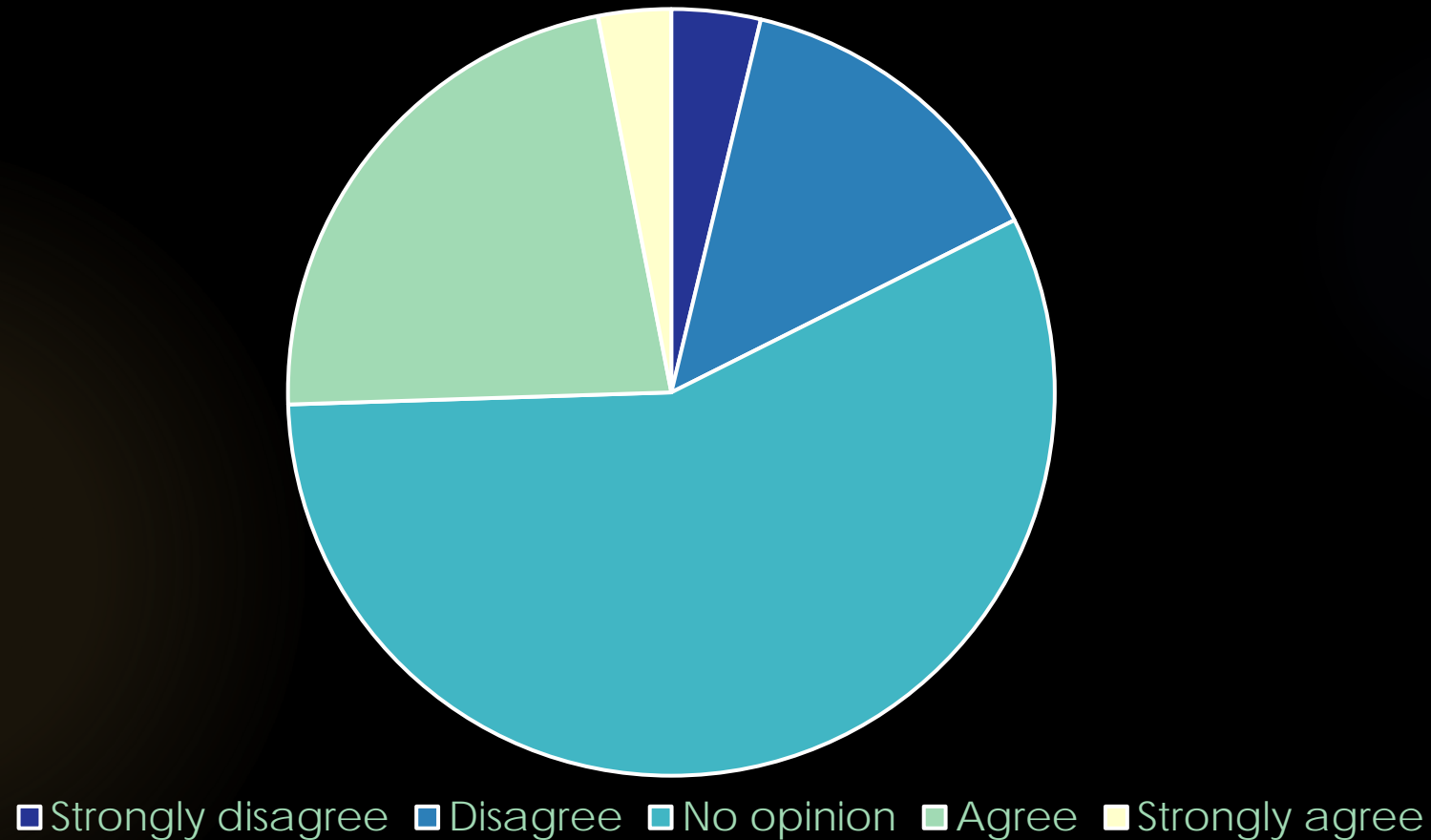
Strongly disagree Disagree
No strong opinion Agree
Strongly agree



Strongly disagree Disagree
No strong opinion Agree
Strongly agree

Mean = 3.47
Std. Dev. = .998

USFS provides public with clear and understandable information regarding the use of prescribed fires...



What predicts acceptance of prescribed fire?

<i>Survey Item</i>	Hyp.	Actual	t, p
Outcome: Will result in restored pine barrens	+	+	2.35, 0.019
Outcome: Will result in escaped prescribed fire	-	NS	
Outcome: Will result in property damage	-	NS	
Outcome: Will result in reduced wildfire risk	+	NS	
Goal alignment: prevent wildfire	+	NS	
Prescribed fire effective	+	+	14.18, 0.000
Trust agency to use prescribed fire	+	+	3.39, 0.001
Trust local staff to use prescribed fire	+	NS	
Agency provides clear information about prescribed fire	+	NS	
College degree (2, 4, graduate)	+	+	2.69, 0.007
Years owned (<10,11-25,>25)	-	NS	

- ▶ 4 predictors explained 64% of the variance (adjusted $R^2 = .64$, $F(12,311) = 48.26$, $p < .000$)

Discussion

- ▶ Respondents rather homogenous
- ▶ Prescribed fire generally acceptable
- ▶ Predictors of acceptability:
 - ▶ General beliefs about restoration outcome rather than risk
 - ▶ Belief about effectiveness
 - ▶ Trust in agency
 - ▶ Education levels



Dunbar Barrens, WI Oct. 2017, photo by Paul Gobster

Discussion

- ▶ “No strong opinion” about many survey statements provides opportunities
- ▶ More in-depth study of treatment preferences based on visual impacts
 - ▶ Overstory removal
 - ▶ Understory burning and mastication
 - ▶ Time since treatment

Thank you!

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

Lake States Fire Science Consortium

A JFSP KNOWLEDGE EXCHANGE CONSORTIUM



2018 - 2019 Webinar Series
January 17, 2019

LSFSC intern projects from 2018:

Seasonal Burning to Improve Management for Brushland-Dependent Species

and

Effects of fire restoration in pine woodlands on the culturally important species:
lowbush and velvetleaf blueberry (*Vaccinium angustifolium* and *V. myrtilloides*)