

# **Wildfire Threat Mitigation – Residents' Strategy Preferences**

Conner Smith

# Outline of Presentation

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**Why Should I Care?**

**Why Should I Care?**



**Wildfire Threat Mitigation Basics**

**Why Should I Care?**



```
graph TD; A[Why Should I Care?] --> B[Wildfire Threat Mitigation Basics]; B --> C[Analysis];
```

**Wildfire Threat Mitigation Basics**

**Analysis**

**Why Should I Care?**



```
graph TD; A[Why Should I Care?] --> B[Wildfire Threat Mitigation Basics]; B --> C[Analysis]; C --> D[Results];
```

**Wildfire Threat Mitigation Basics**

**Analysis**

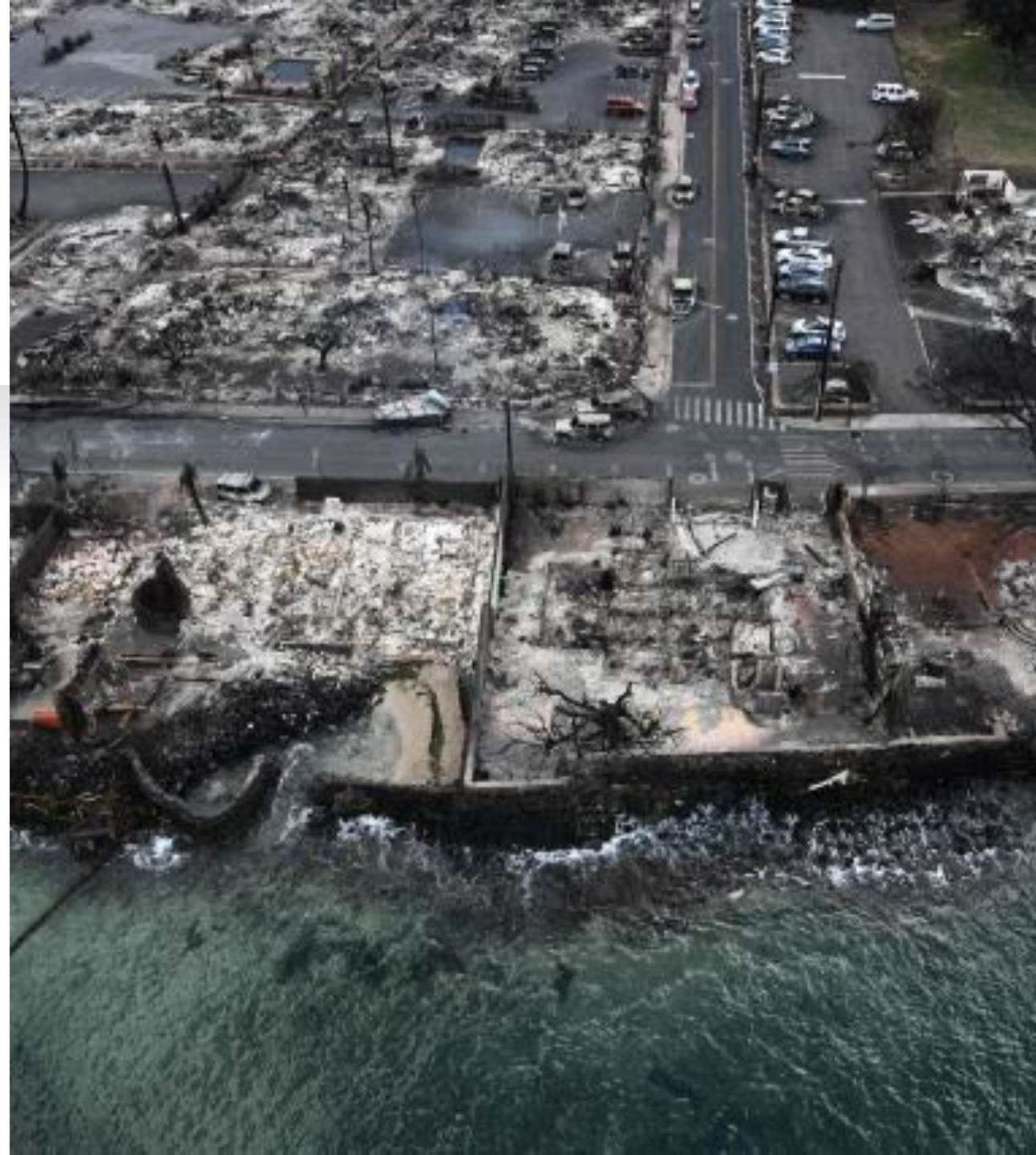
**Results**

# Why Should I Care?

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# “Maui Fire” Maui, 2023

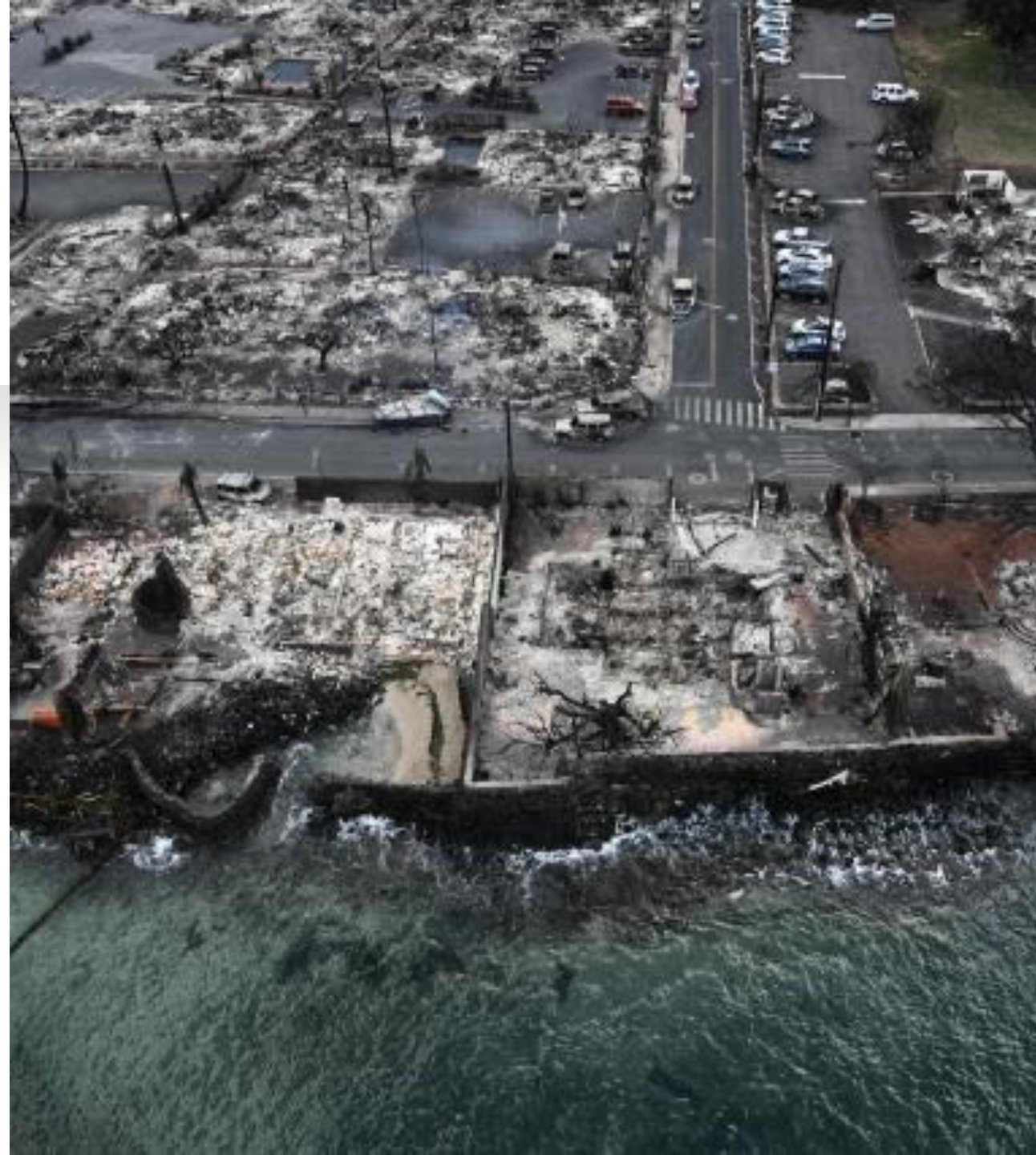
- 102+ deaths, 67+ injured
- 2,800+ structures destroyed
- Direct Cost: \$5,500,000,000





# “Maui Fire” Maui, 2023

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- 2,800+ structures destroyed
- Direct Cost: \$5,500,000,000
- **Total Cost: \$16,000,000,000**



# **“Camp Fire”**

## **Butte County, 2018**

- 85 dead
- 10,344 single family homes destroyed
- 3,695 mobile homes destroyed
- 298 multi-family residences destroyed
- 4,993 other structures destroyed
- Direct Cost: \$12,000,000,000





# “Camp Fire” Butte County, 2018

- 85 dead
- 10,344 single family homes destroyed
- 3,695 mobile homes destroyed
- 298 multi-family residences destroyed
- 4,993 other structures destroyed
- Direct Cost: \$12,000,000,000
- **Total Cost: \$422,000,000,000**



# **“Southern California Fires” Southern California, 2025**

- 30 dead, at least 31 missing
- 18,189 structures destroyed or damaged
- Direct Cost: \$30,000,000,000





# “Southern California Fires” Southern California, 2025

- 30 dead, at least 31 missing
- 18,189 structures destroyed or damaged
- Direct Cost: \$30,000,000,000
- **Total Cost: \$250,000,000,000**



**So, what can we do about it?**

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# Wildfire Threat Mitigation Basics

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**What is the most basic goal of wildfire threat mitigation?**



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**Don't let the important thing catch on fire.**

# Individual Property Scale



# Community Scale





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# Community Scale





# Individual Property Scale



# Community Scale







# Individual Property Scale





**Defensible Space**

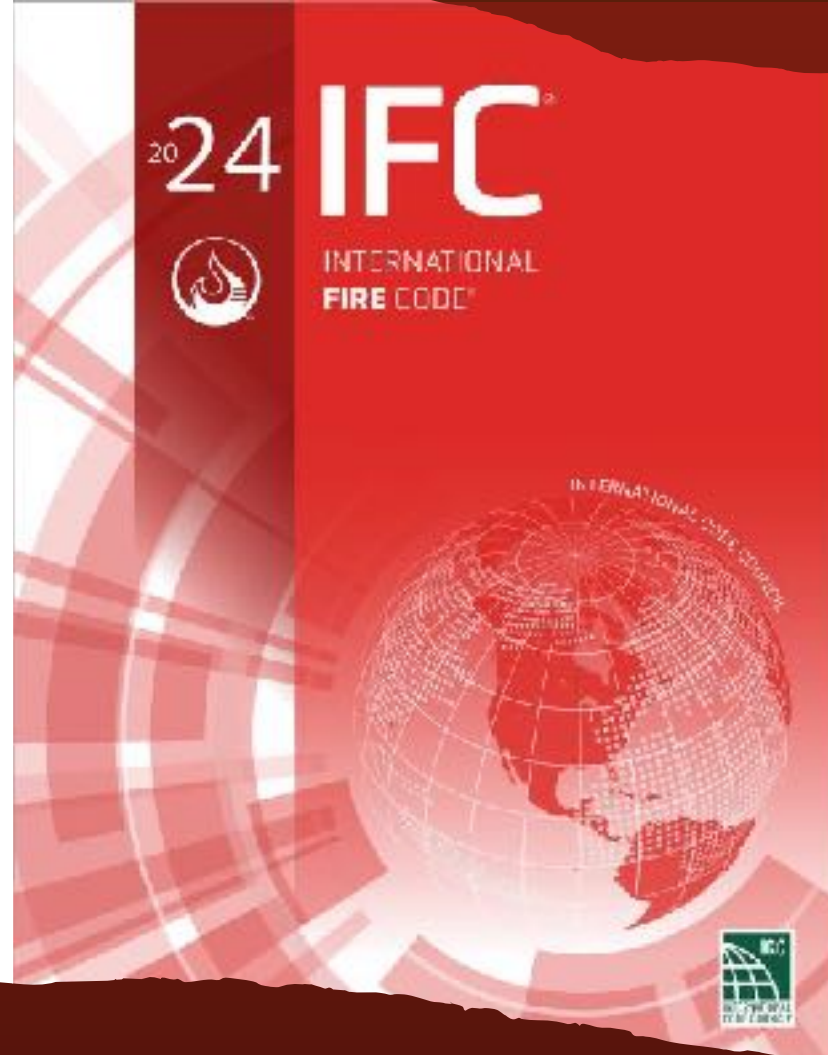
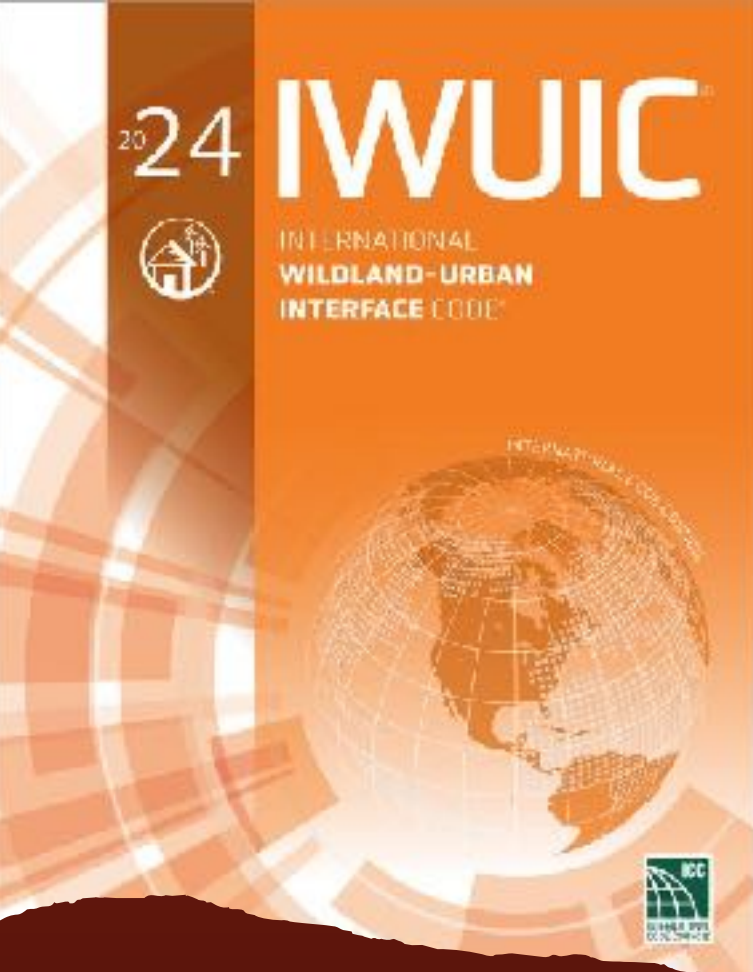




# Design Requirements







## Code Amendments



**These all have limitations**



# Community Scale





# Firebreaks





Thinning







# Prescribed Burns





# Burying Power Lines





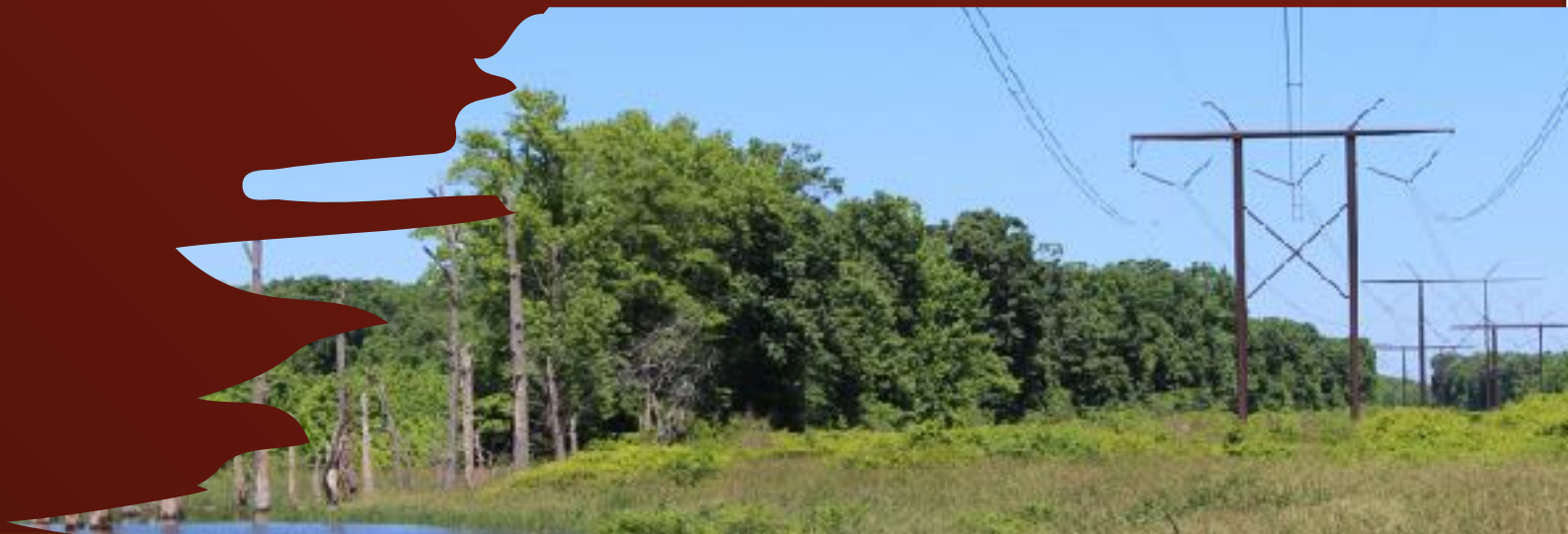


# Road Improvements





# Utility Corridor Clearing





**How do we apply these strategies?**

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# Analysis

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# Research Questions

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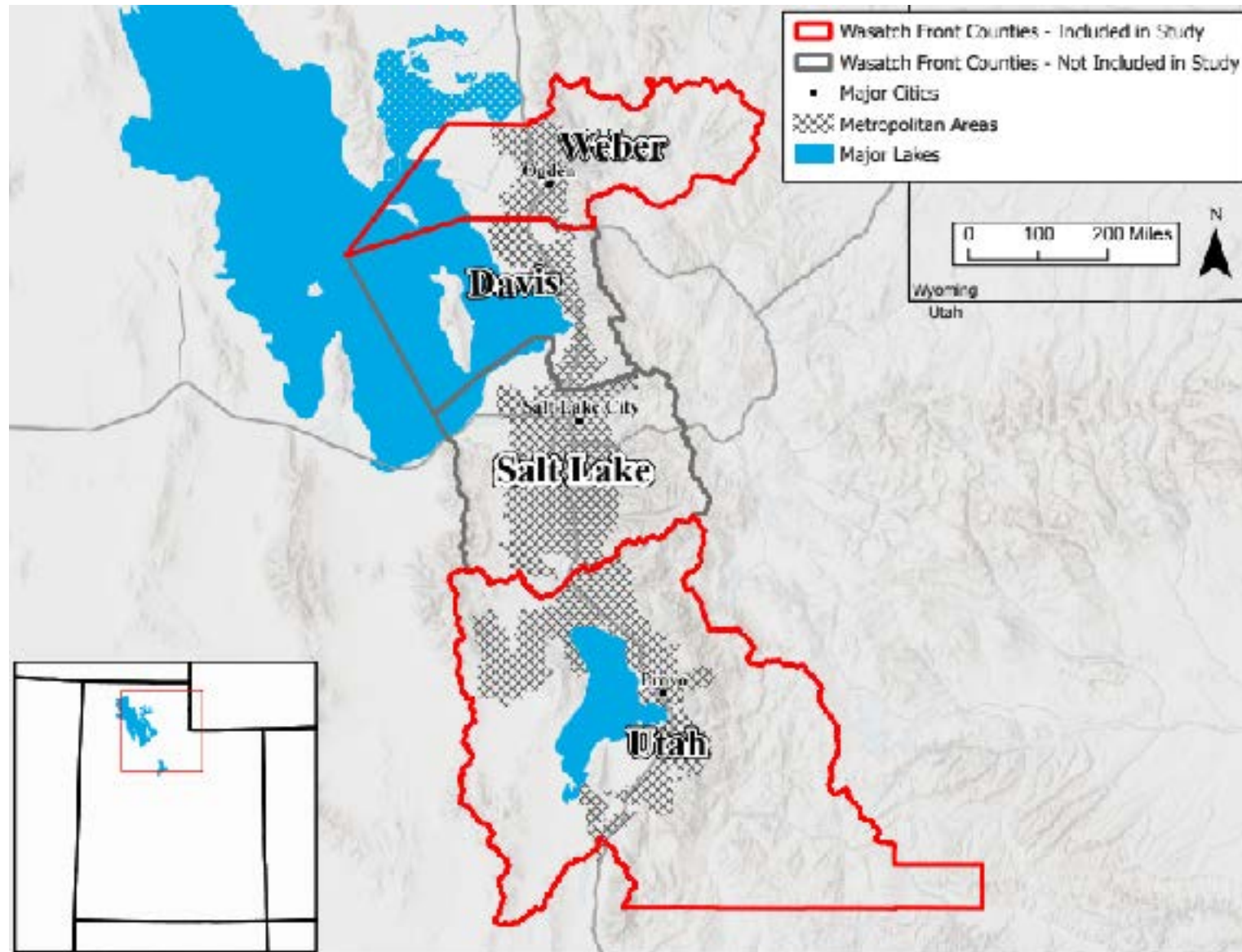
**1. Is there a difference in mitigation strategy preference between those living in high threat areas and no threat areas?**

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- 2. What type of mitigation strategies are most preferred?**
- 3. Are residents correct in their assessment of the threat that wildfire poses to their person, property, and community?**

# General Study Area

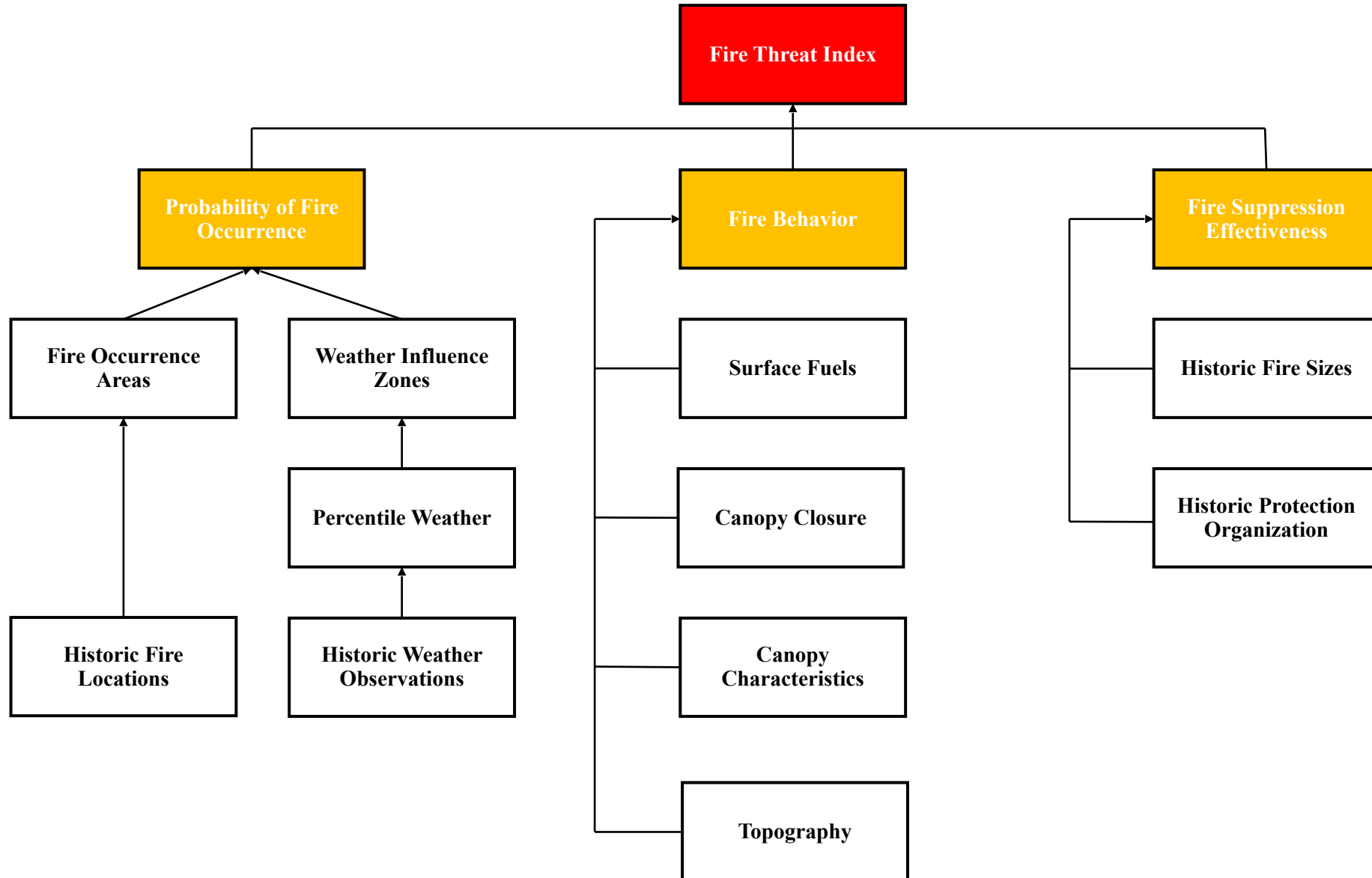
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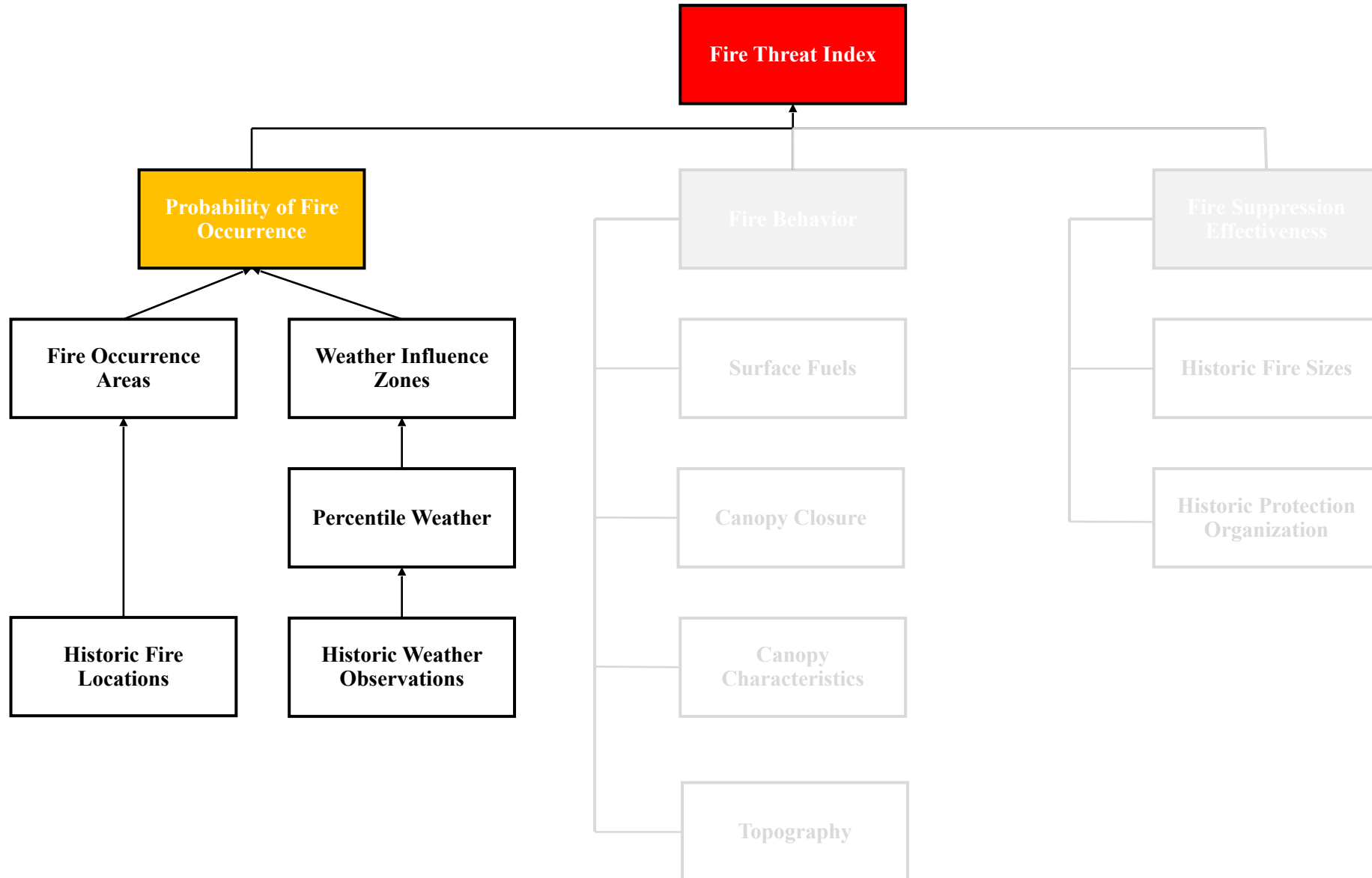


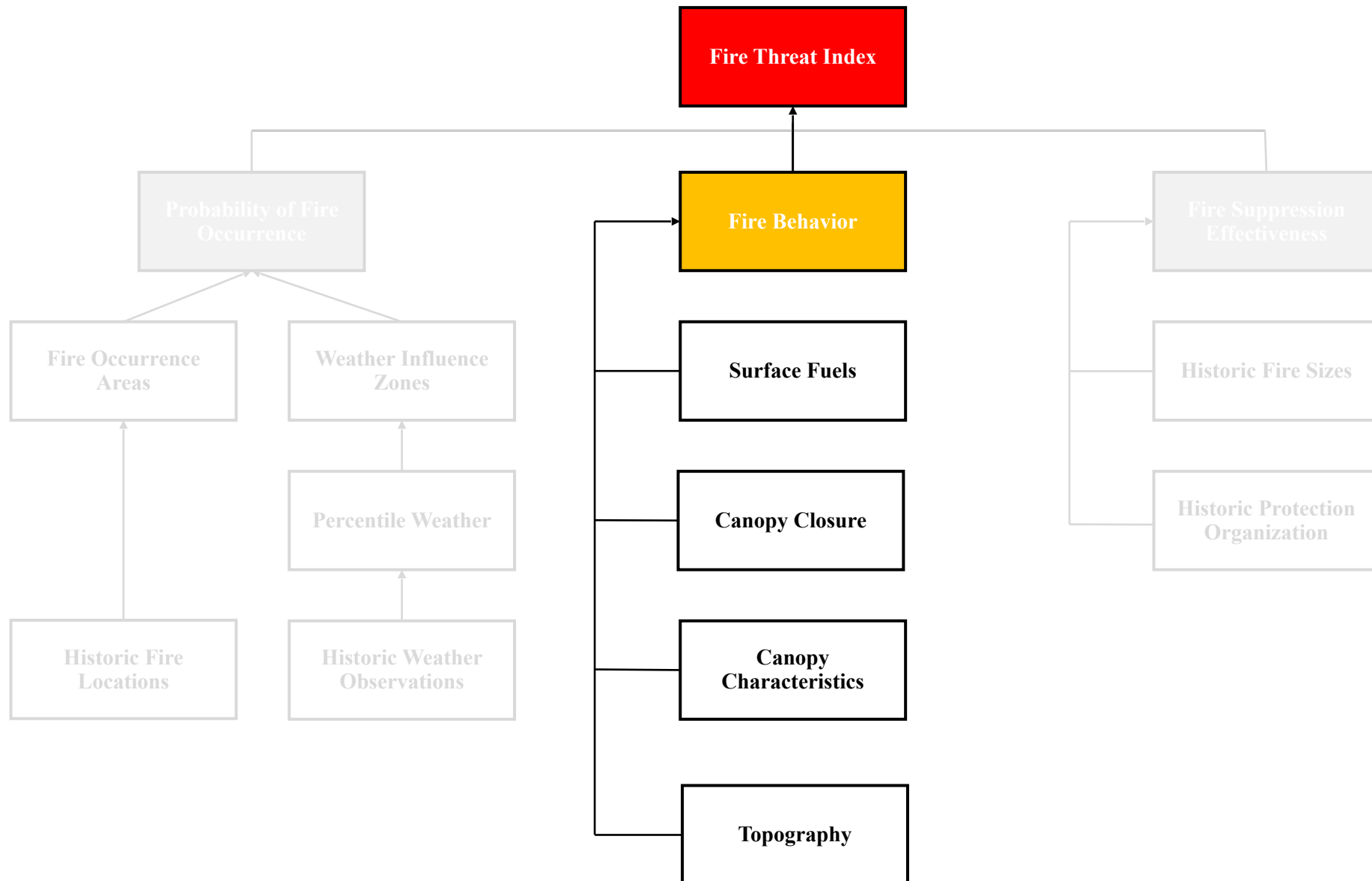


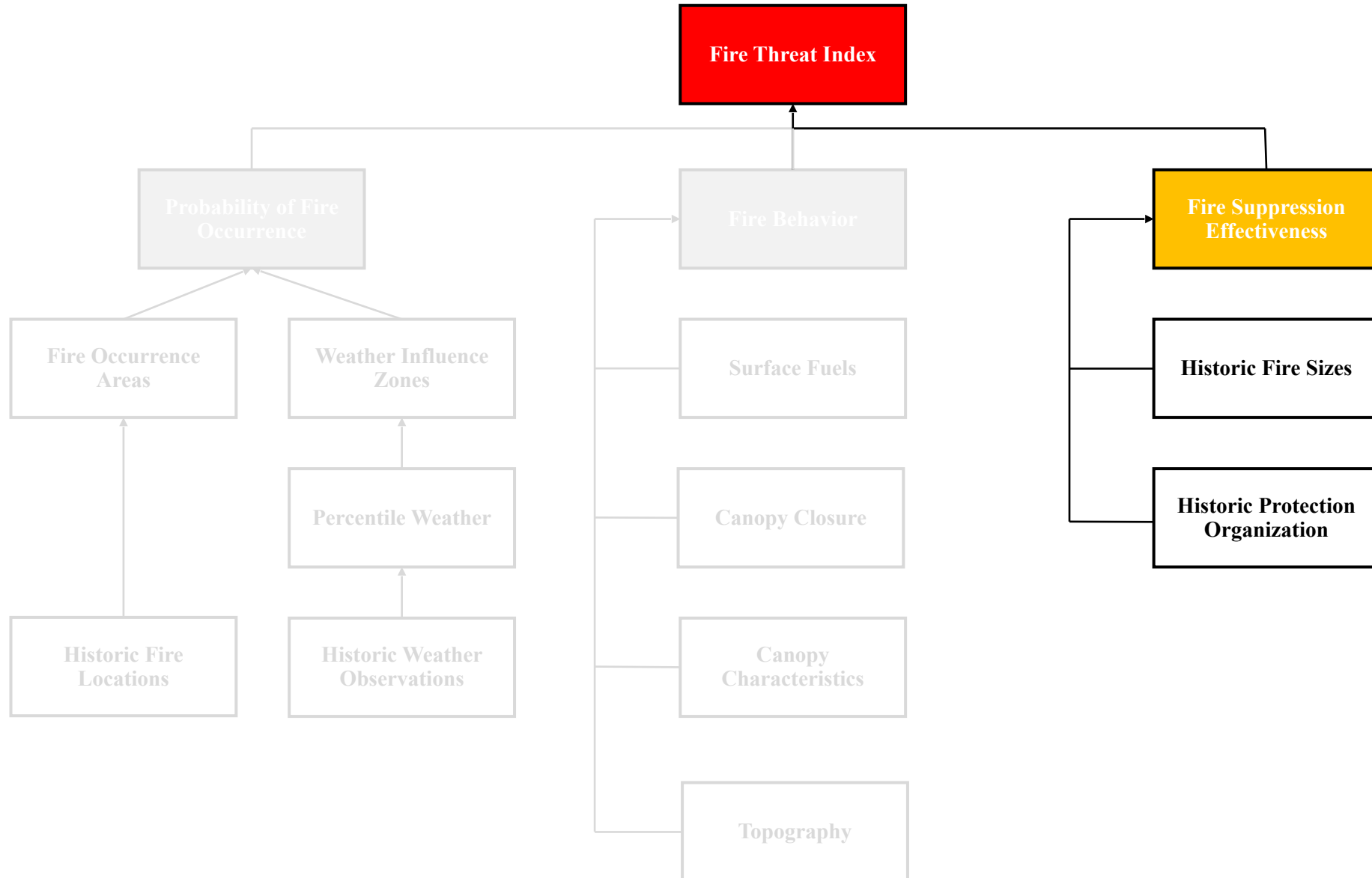
# **Fire Threat Index**

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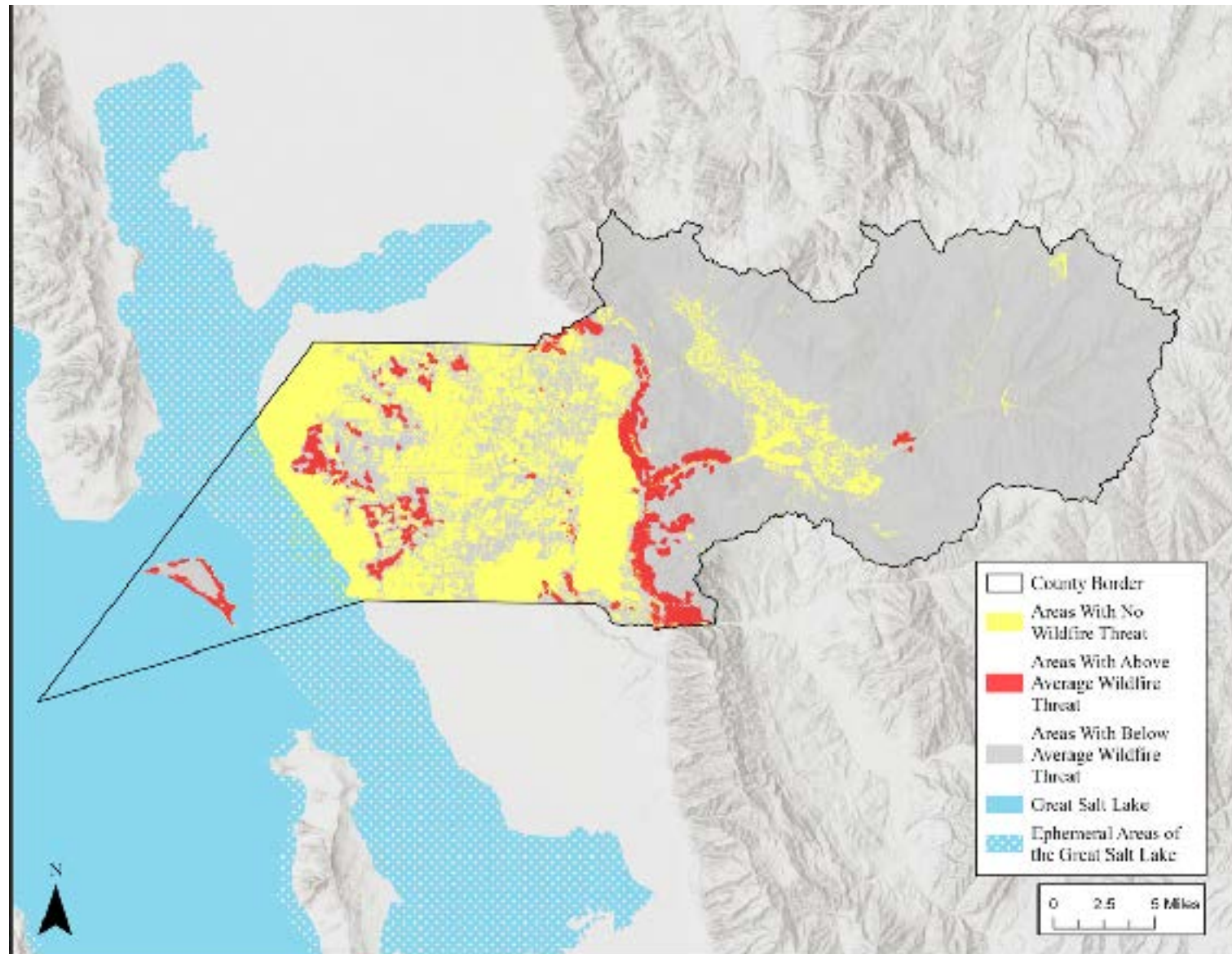


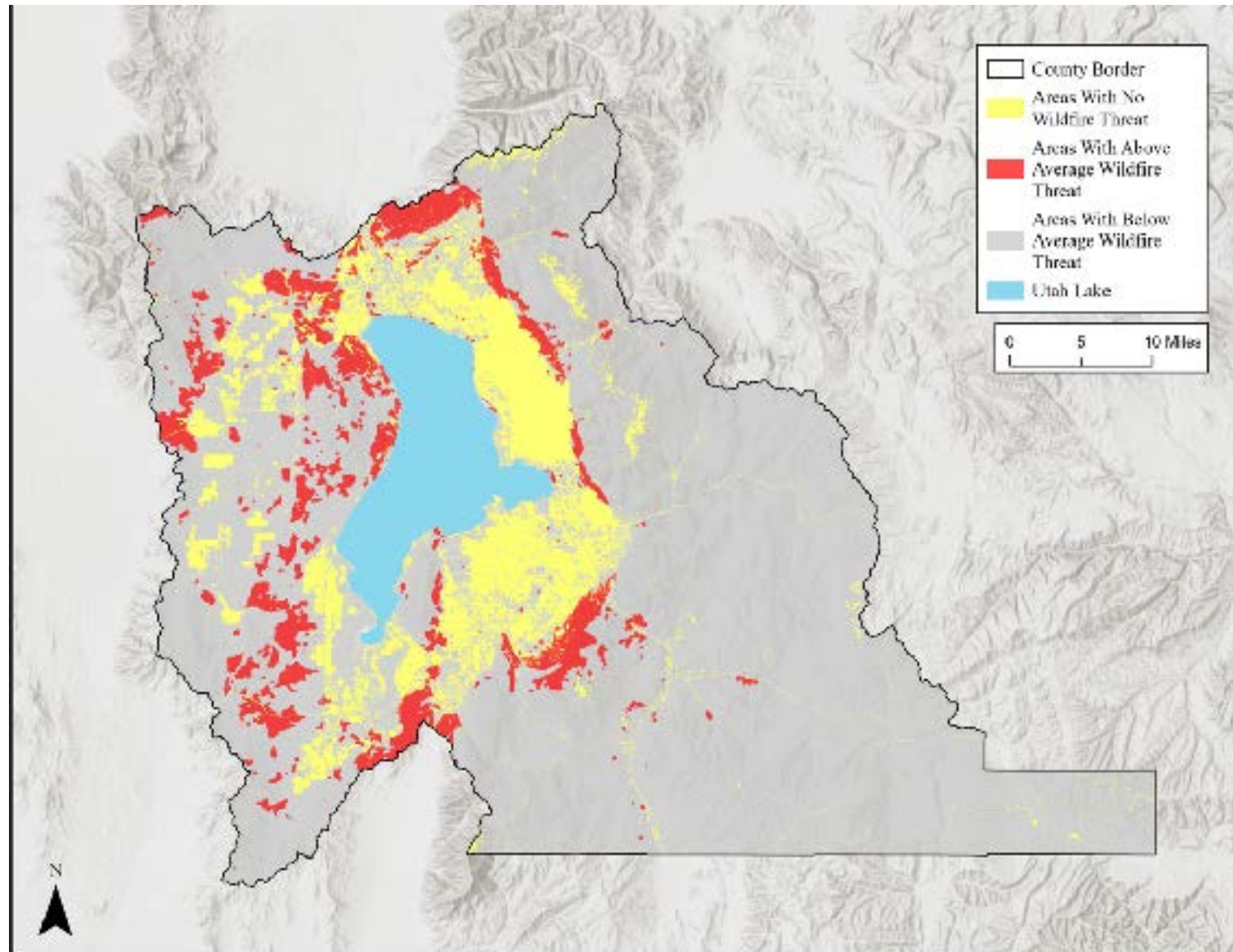


# Refined Study Area

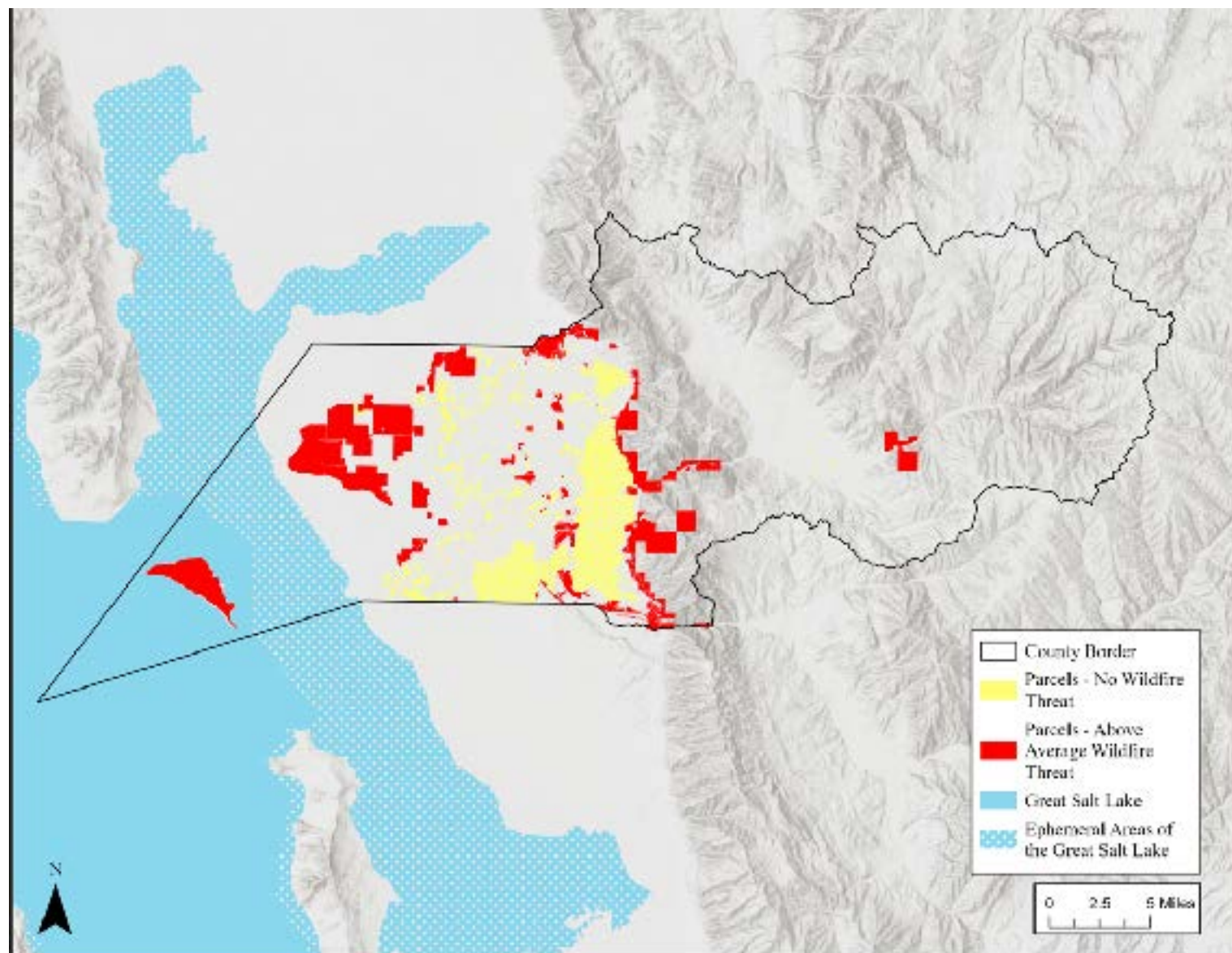
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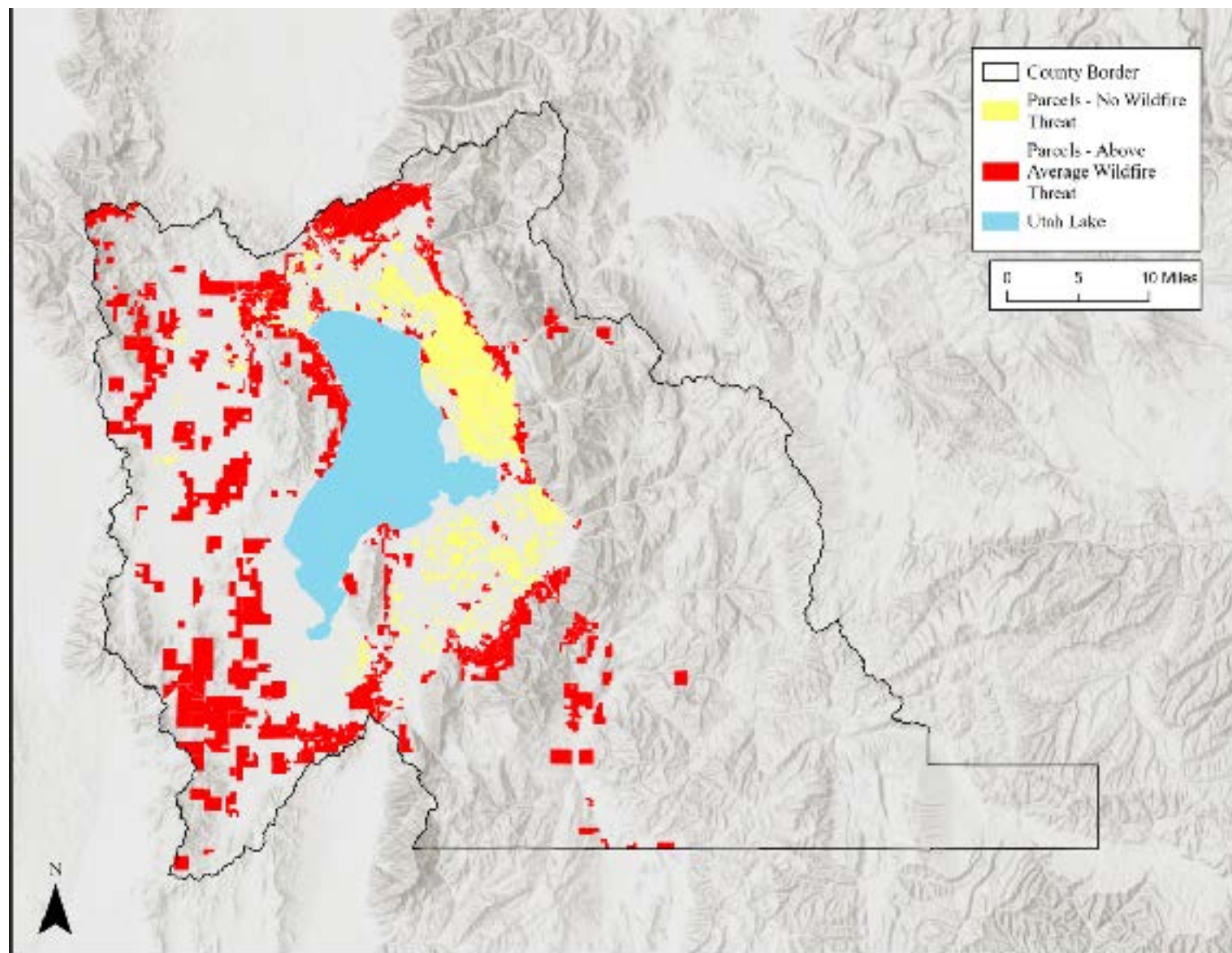












# **Survey – Design Requirements**

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**1. Limited to 5-10 minutes.**



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- 2. Includes a visual component.**

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- 2. Includes a visual component.**
- 3. Includes description of changes.**
- 4. Cover built strategies, not policies.**
- 5. Cover built strategies at the community scale.**
- 6. Collect data on strategy preferences and risk perception.**

# **Survey – Preference Questions**

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Before	After
	
<b>Modifications:</b> None	<b>Modifications:</b> Vegetation, specifically trees and large shrubs, has been removed in a continuous strip

Even if the landscape might not support this method, please indicate to what degree you would oppose/support your community implementing this method.

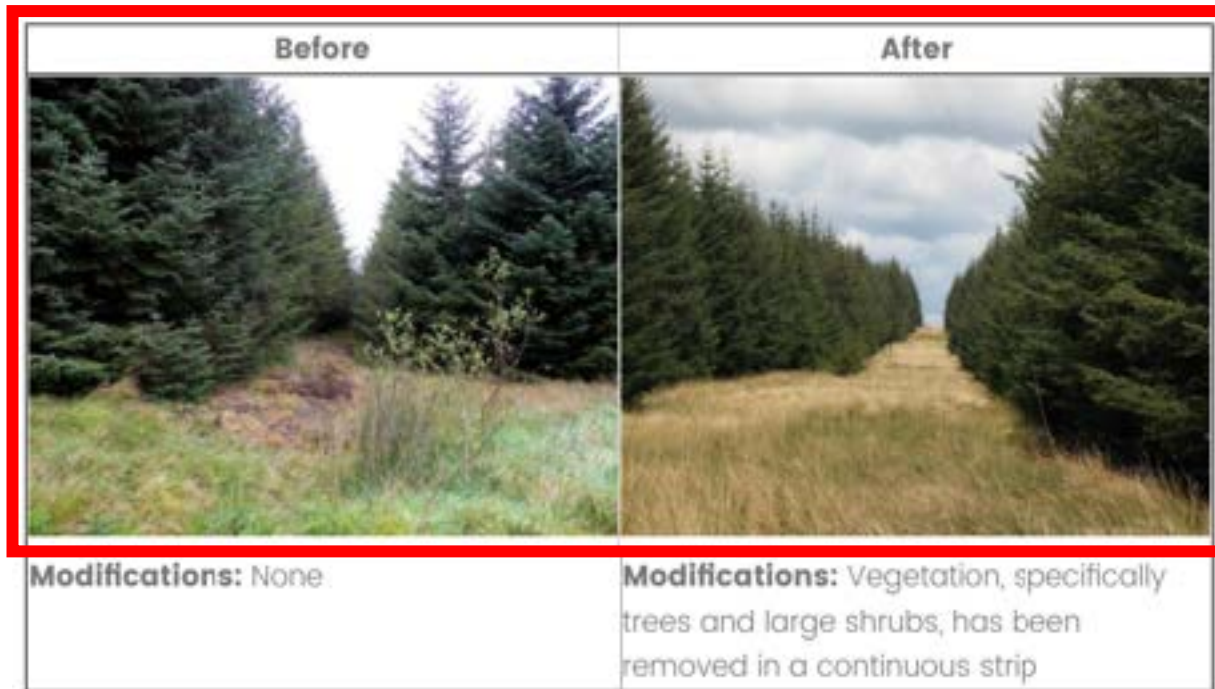
☐ Strongly oppose

☐ Somewhat oppose

☐ Neither oppose/support

☐ Somewhat support

☐ Strongly support



Visual Component

Even if the landscape might not support this method, please indicate to what degree you would oppose/support your community implementing this method.

- ☐ Strongly oppose
- ☐ Somewhat oppose
- ☐ Neither oppose/support
- ☐ Somewhat support
- ☐ Strongly support



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- ☐ Strongly oppose
- ☐ Somewhat oppose
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- ☐ Strongly support

Description of changes

Before	After
	
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Even if the landscape might not support this method, please indicate to what degree you would oppose/support your community implementing this method.

- ☐ Strongly oppose
- ☐ Somewhat oppose
- ☐ Neither oppose/support
- ☐ Somewhat support
- ☐ Strongly support

Likert Scale

# **Survey – Threat Questions**

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Q8

Do you consider wildfires to be a threat to your safety?

- ☐ Yes
- ☐ Somewhat
- ☐ No
- ☐ Not sure

# Responses

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**1. 407 total responses, net response rate of 10.2%**

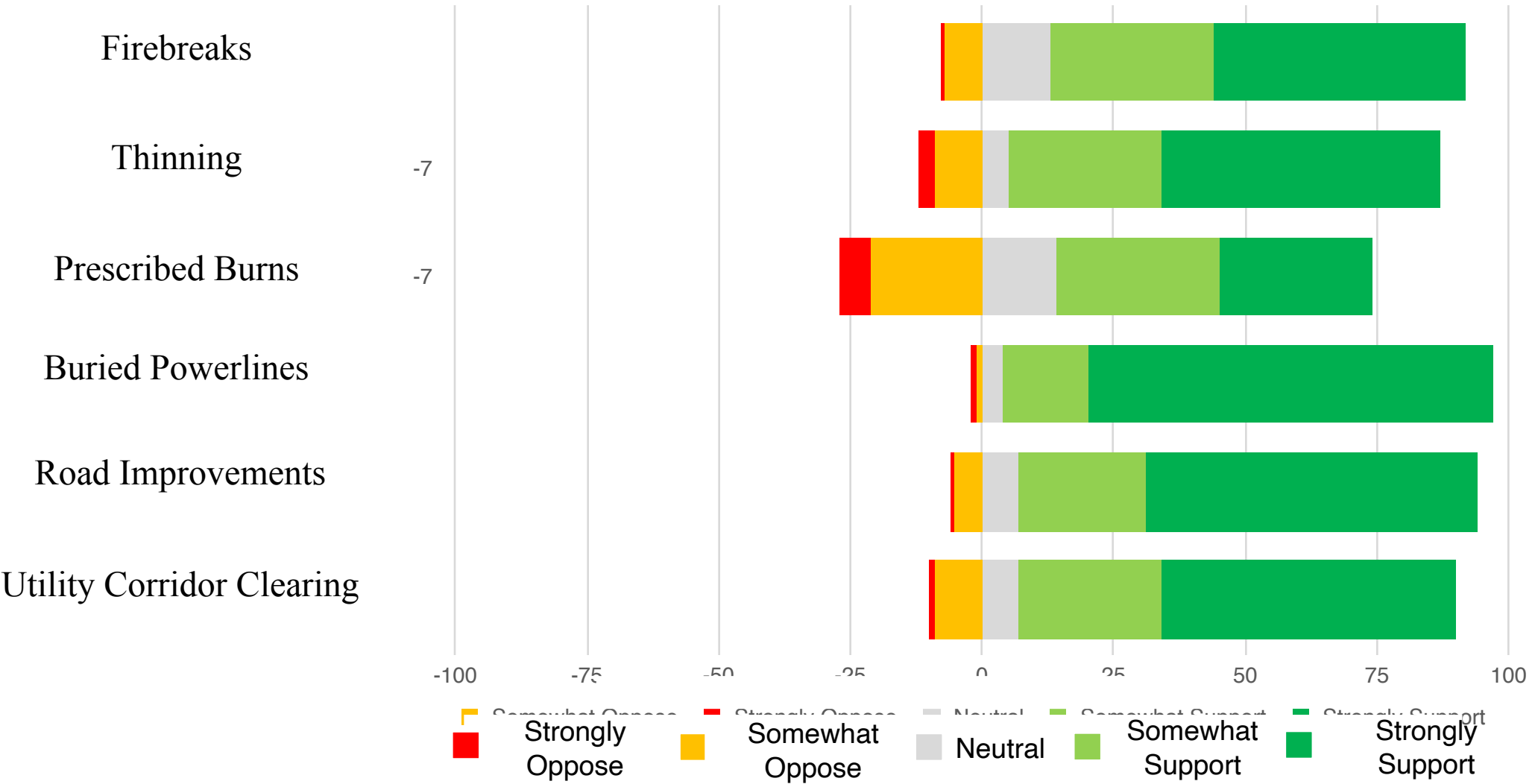


- 1. 407 total responses, net response rate of 10.2%**
- 2. 382 accepted responses, gross response rate of 9.5%**

# Results

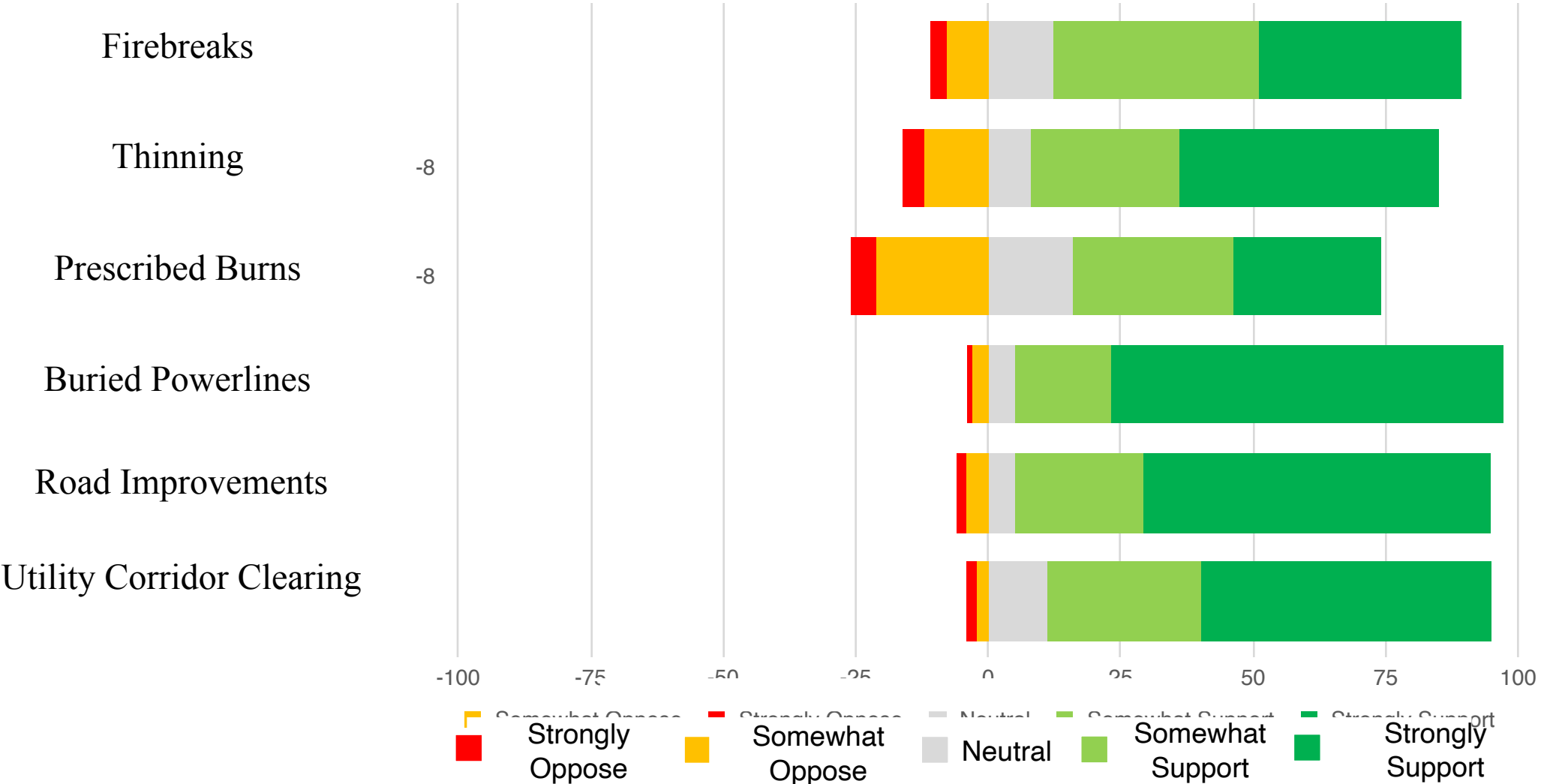
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# Strategy Preferences – Greater than Average Threat

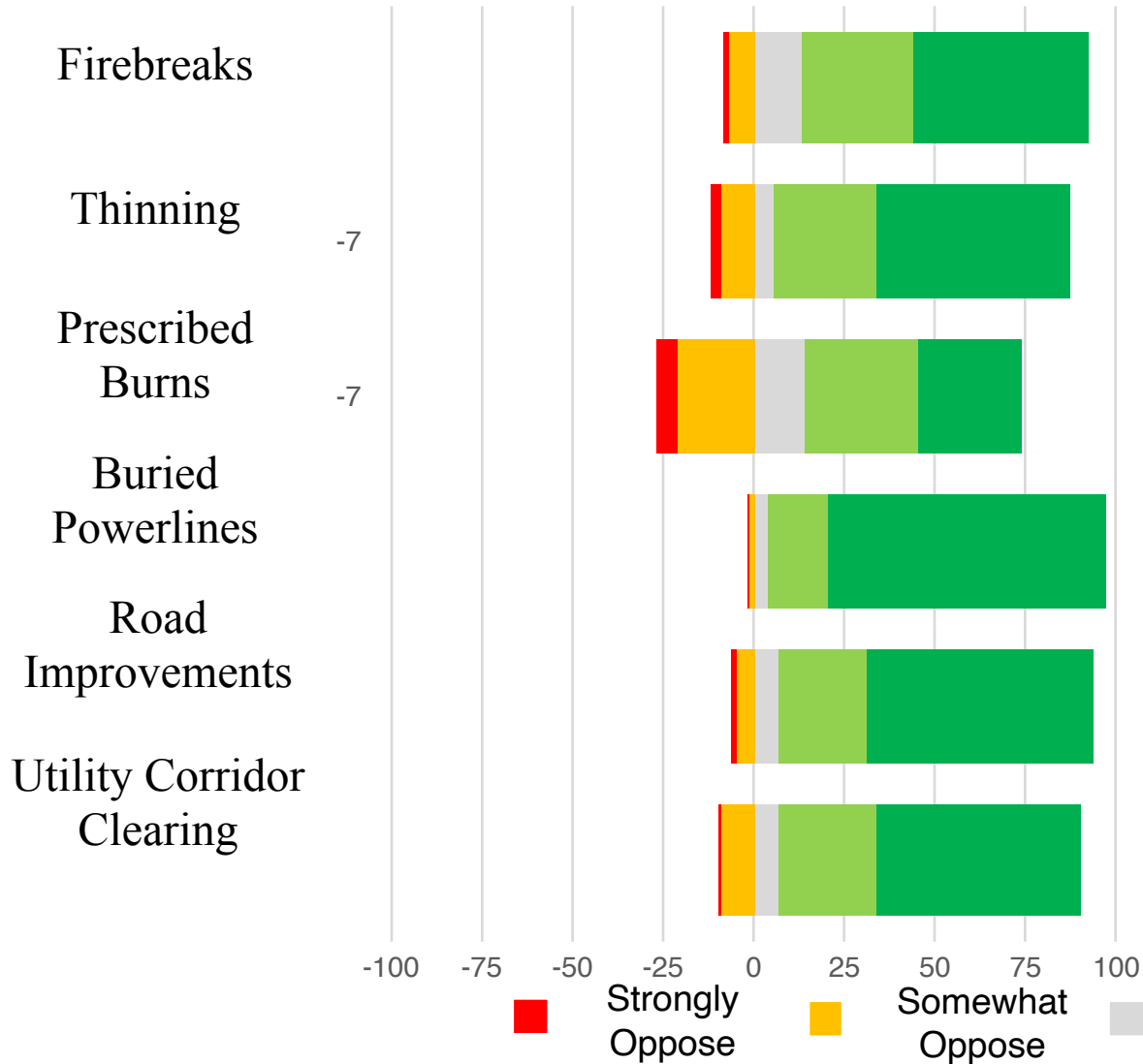




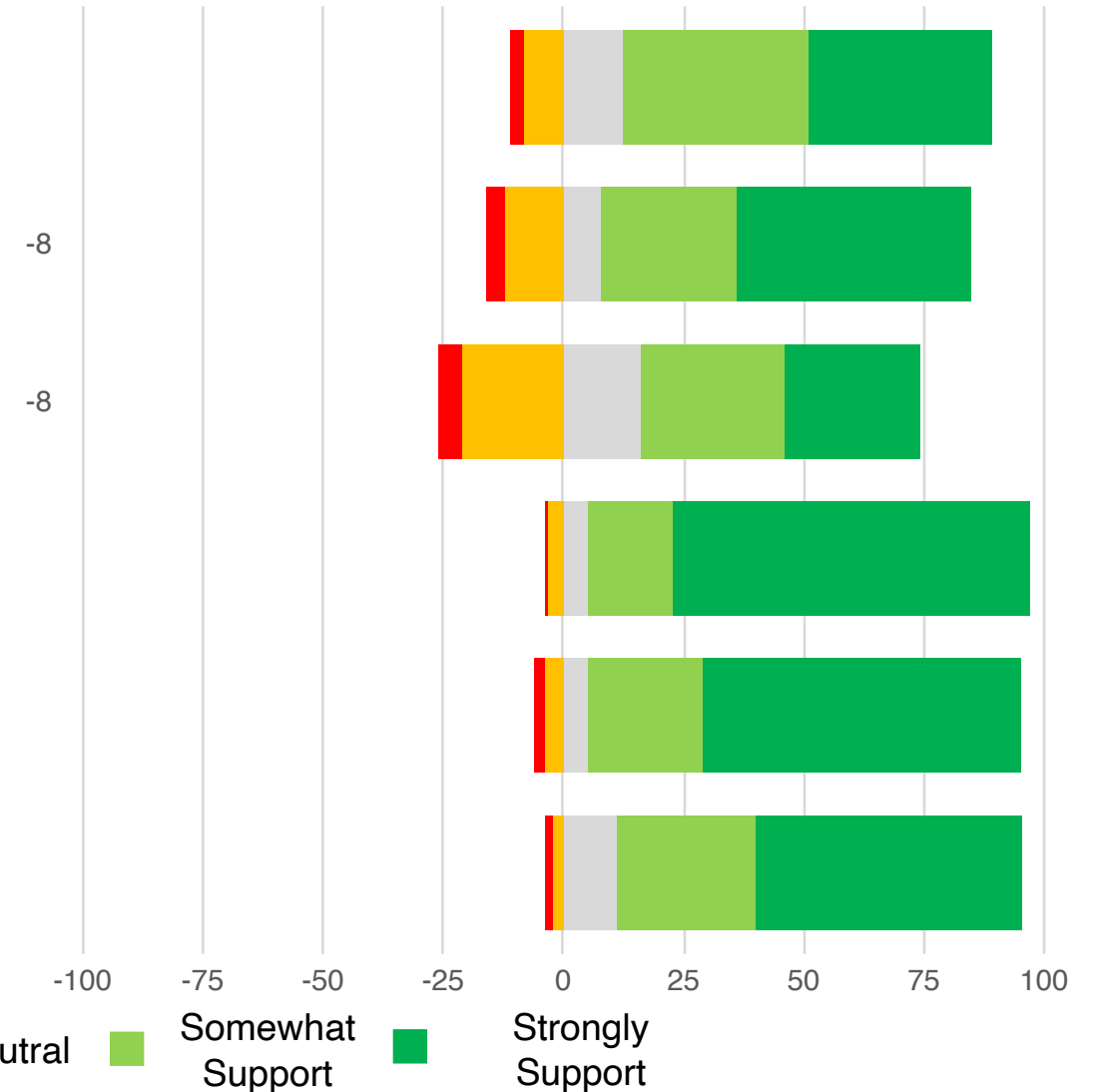
**Strategy Preferences – No Threat**



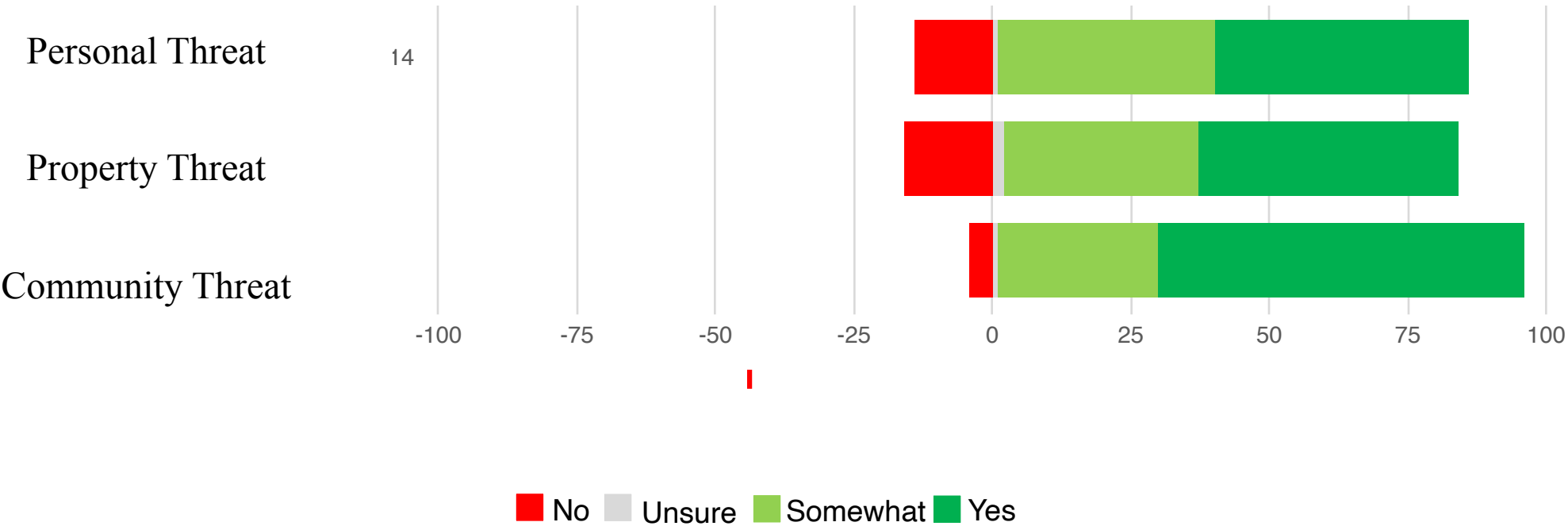
**Strategy Preferences Greater than  
Average Threat**



**Strategy Preferences  
No Threat**

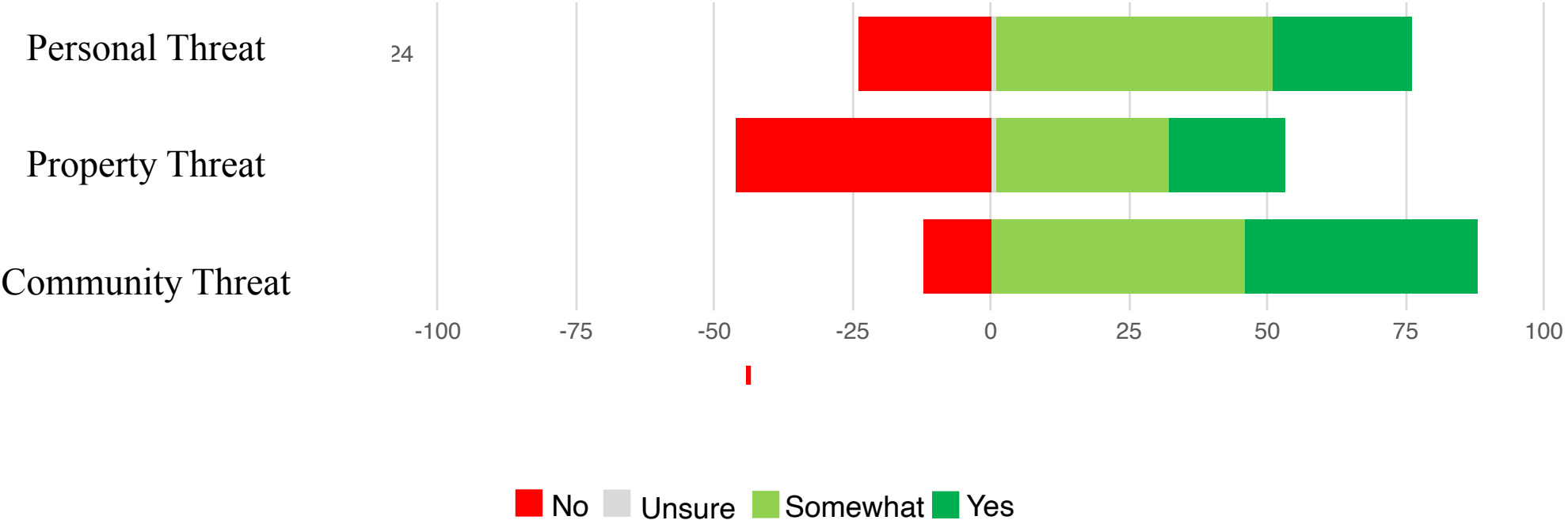


**Threat Perception – Greater than Average Threat**

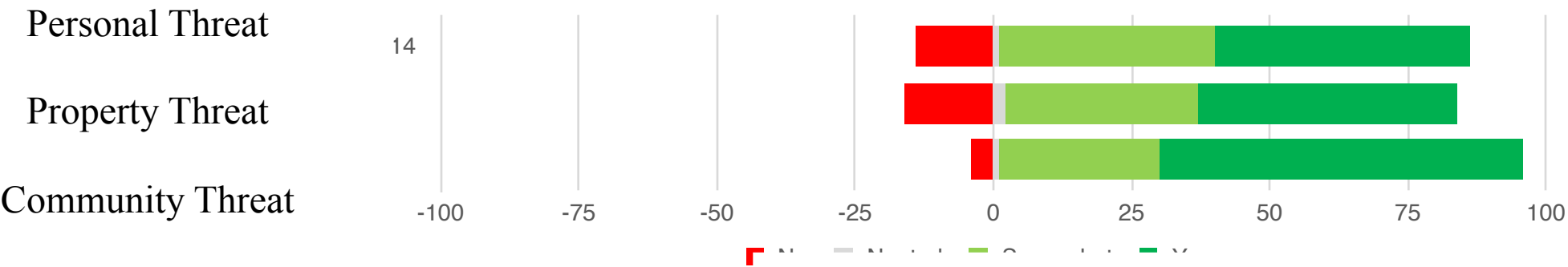




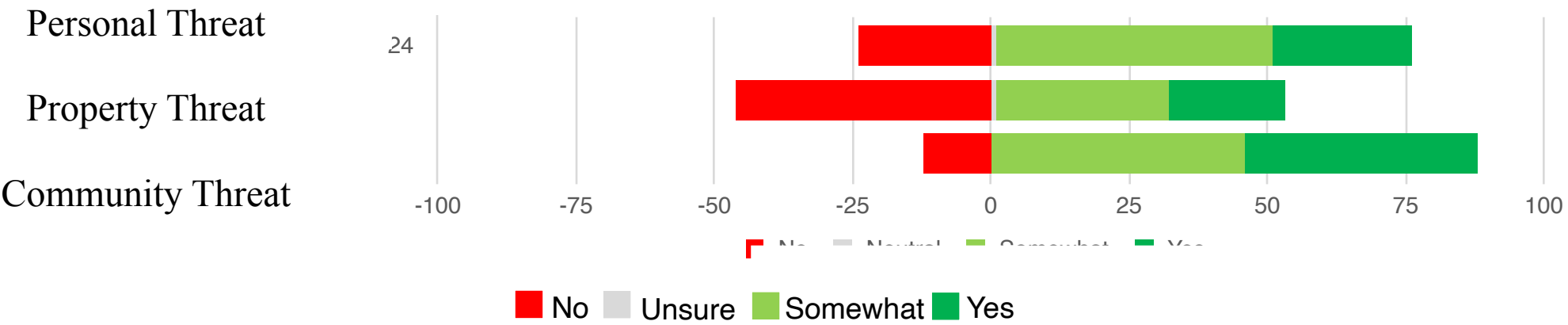
**Threat Perception – No Threat**



# Threat Perception – Greater than Average Threat



# Threat Perception – No Threat



**Is there a difference in mitigation strategy preferences between those living in high threat areas and no threat areas?**

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**Those living in areas that have a high threat and no threat from wildfires align in mitigation strategy preferences.**



**What type of mitigation strategies are most preferred?**

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**Improvements to infrastructure are preferred.**

**Are residents correct in their assessment of the threat that wildfire poses to their person, property, and community?**

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**Residents are generally correct in their assessment of the threat that wildfire poses to their person, property, and community.**



**Thank you all for coming!**