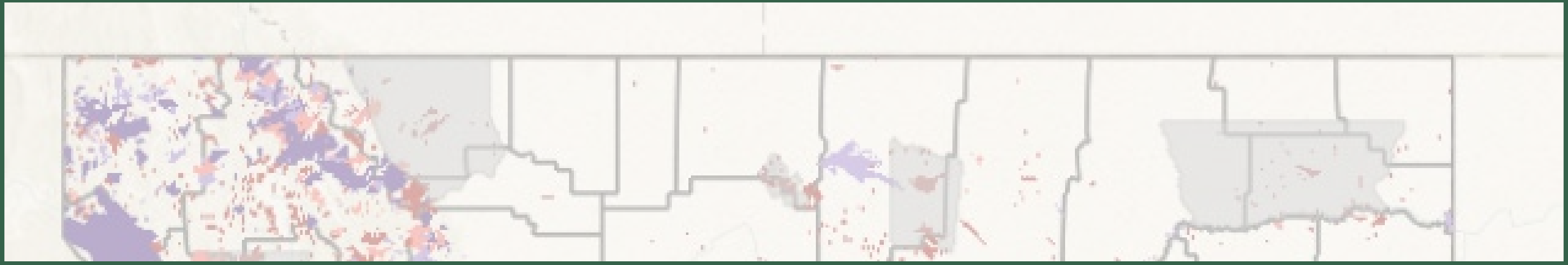
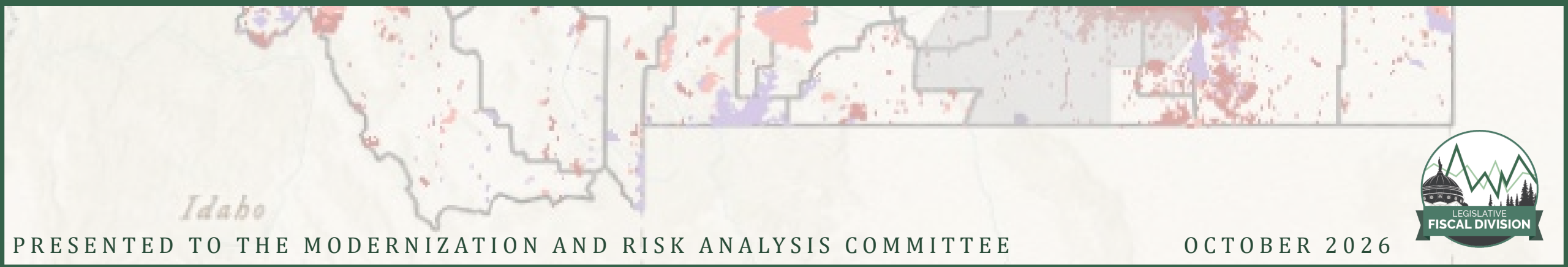


LEGISLATIVE FISCAL DIVISION

Wildfire Cost Data Tool
Updates, Improvements, and Future Direction

ALICE HECHT, LFD



PRESENTED TO THE MODERNIZATION AND RISK ANALYSIS COMMITTEE

OCTOBER 2026

TIMELINE

I

Spring 2024
Project Begins: gather data, meet with experts, research, data work

II

October 2024
Version 1 Model presented to MARA

Formed a Foundational Dataset for Questions & Further Analysis

III

October 2025
Fire model updated and prototype of fire specific costs presented to MARA

Added in Basic Cost Analysis

IV

May 2026
Updated model, improved load speed and accessibility, preliminary new data

Faster Loading Version with More Detailed Cost Analysis

V

October 2026
Collecting legislative feedback & questions
Updated model in external validation phase (Pew Charitable Trusts)

Summary of Preliminary Observations

From the Updated Wildfire Model

5 Preliminary Observations from Updated Model

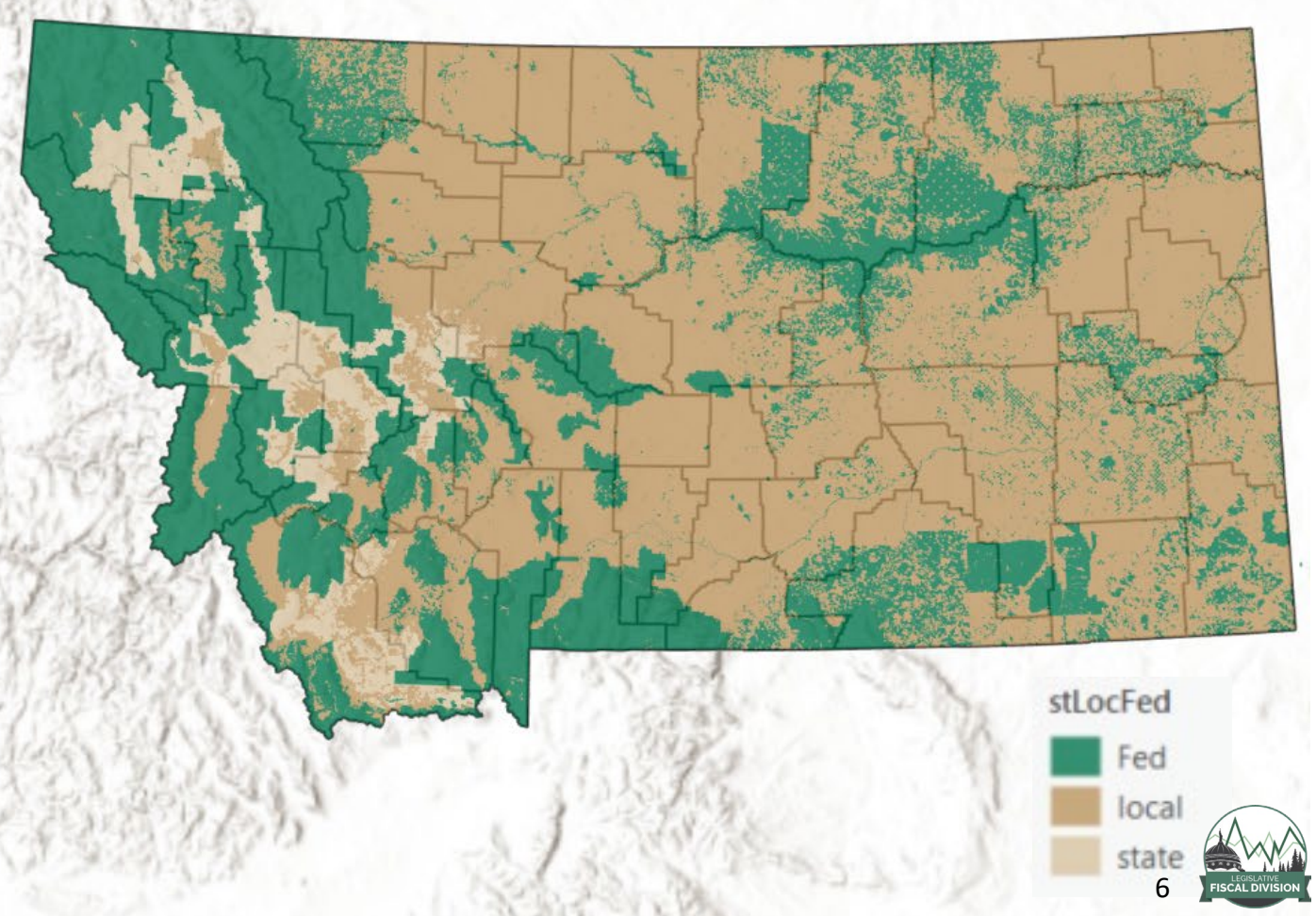
1. **History of Wildfires in Montana**
   - ◊ Annual acres burned decreasing slightly
2. **State and Major Incident Suppression Costs**
   - ◊ Average annual state suppression costs are increasing. Major incidents with structure loss do not seem to be associated with higher suppression cost.
3. **State and Federal Fuel Treatments**
   - ◊ Mitigation projects are relatively small but are carried out in strategic areas. Are such projects associated with lower suppression costs?
4. **Wildfire Hazard Potential and Cost: Measure from the U.S. Forest Service Fire Modeling Institute**
   - ◊ In the past five years (2021-2025), 4.1% of acres burned were in areas of “Very High” wildfire hazard potential but made up 32% of total state cost.
5. **Structure Loss by Fuel Type**
   - ◊ In the past five years, more structures have been lost to grass fires than any other known fuel type. Structures are being lost in fires with lower suppression costs.

Background Information

State & Federal Responsibility, the "Wildfire Hazard Potential" Product, & the Montana Fire Suppression Fund

BACKGROUND
Responsibility for Fire Suppression

FED	33,531,688	35.64%
LOCAL	55,465,605	58.95%
STATE	5,089,481	5.41%
TOTAL ACRES	94,086,774	



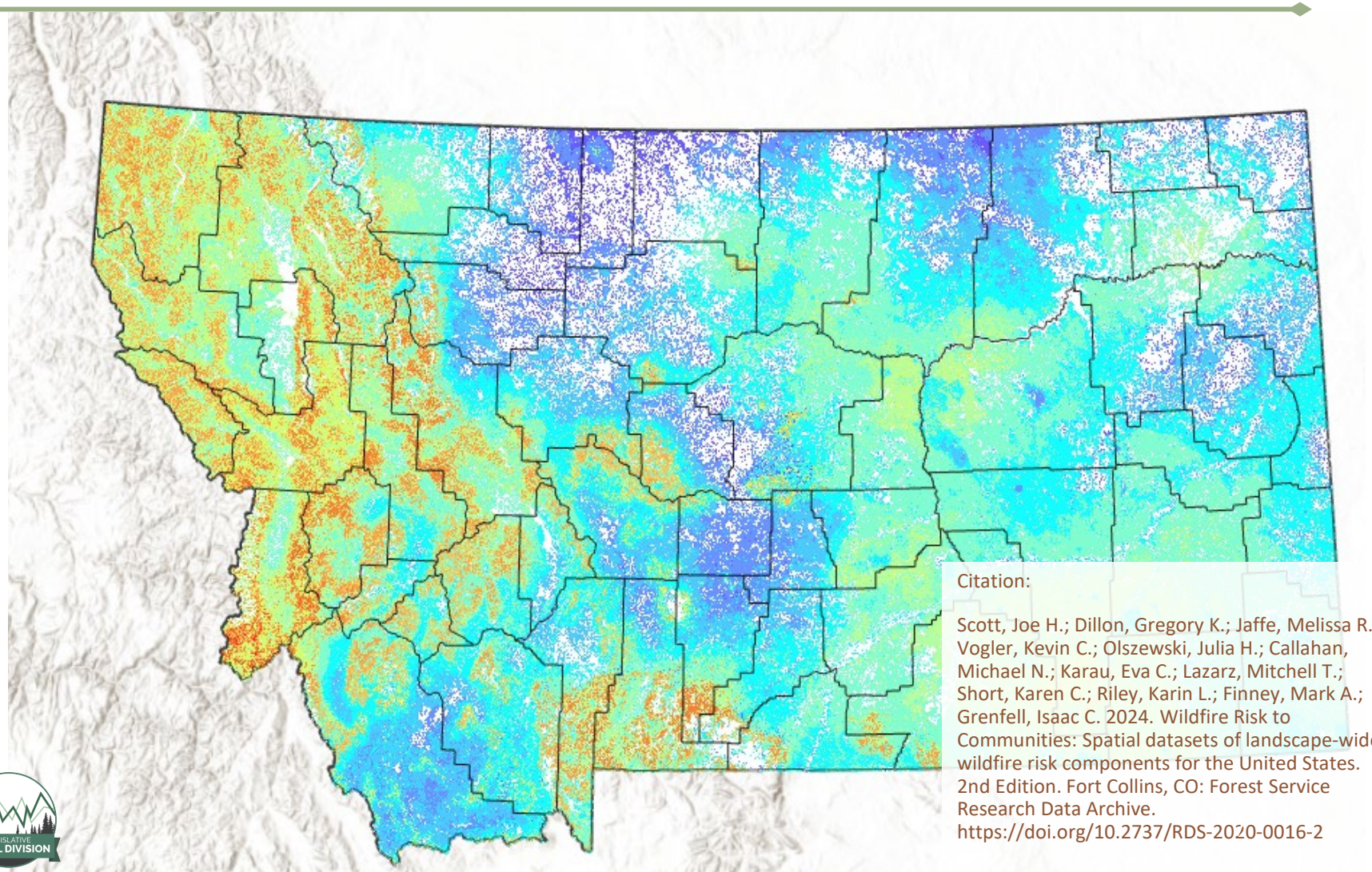
BACKGROUND
Wildfire Hazard Potential (WHP)
Data from the U.S. Forest Service Modeling Institute

Index Of Several Factors:

- Probability of wildfires
- Severity of wildfires
- Fire modeling results
- Historical fire locations
- Data on fuels and vegetation

Intended Use

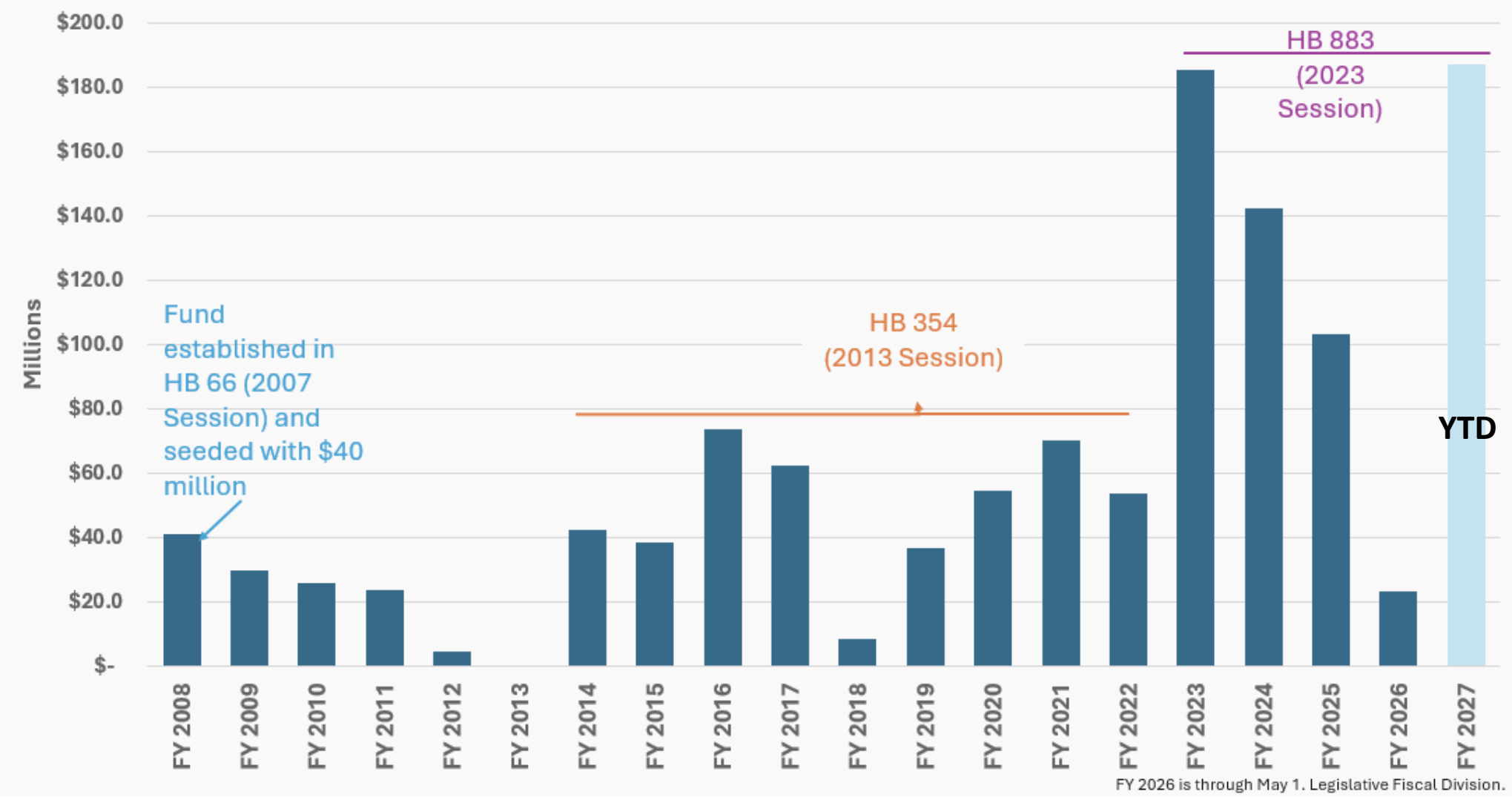
- Depict the relative potential for high-intensity wildfire that may be difficult to manage to prioritize fuel treatments



Citation:

Scott, Joe H.; Dillon, Gregory K.; Jaffe, Melissa R.; Vogler, Kevin C.; Olszewski, Julia H.; Callahan, Michael N.; Karau, Eva C.; Lazarz, Mitchell T.; Short, Karen C.; Riley, Karin L.; Finney, Mark A.; Grenfell, Isaac C. 2024. Wildfire Risk to Communities: Spatial datasets of landscape-wide wildfire risk components for the United States. 2nd Edition. Fort Collins, CO: Forest Service Research Data Archive. https://doi.org/10.2737/RDS-2020-0016-2

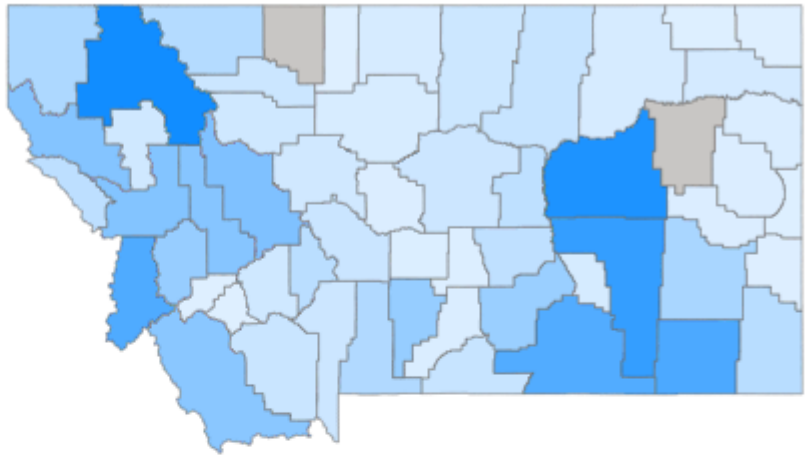
BACKGROUND
Montana Fire Suppression State Special Revenue Account



5 Preliminary Observations

History of Wildfires in Montana

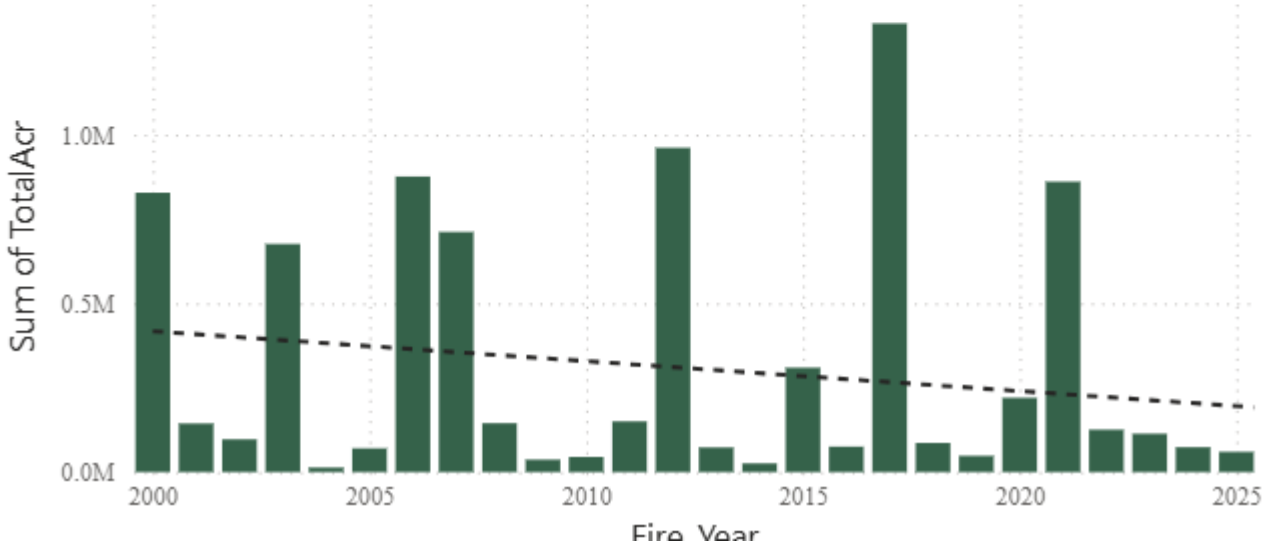
Acres Burned by County



Average Annual Acres Burned

302,155

Acres Burned by Year



Observation 1:

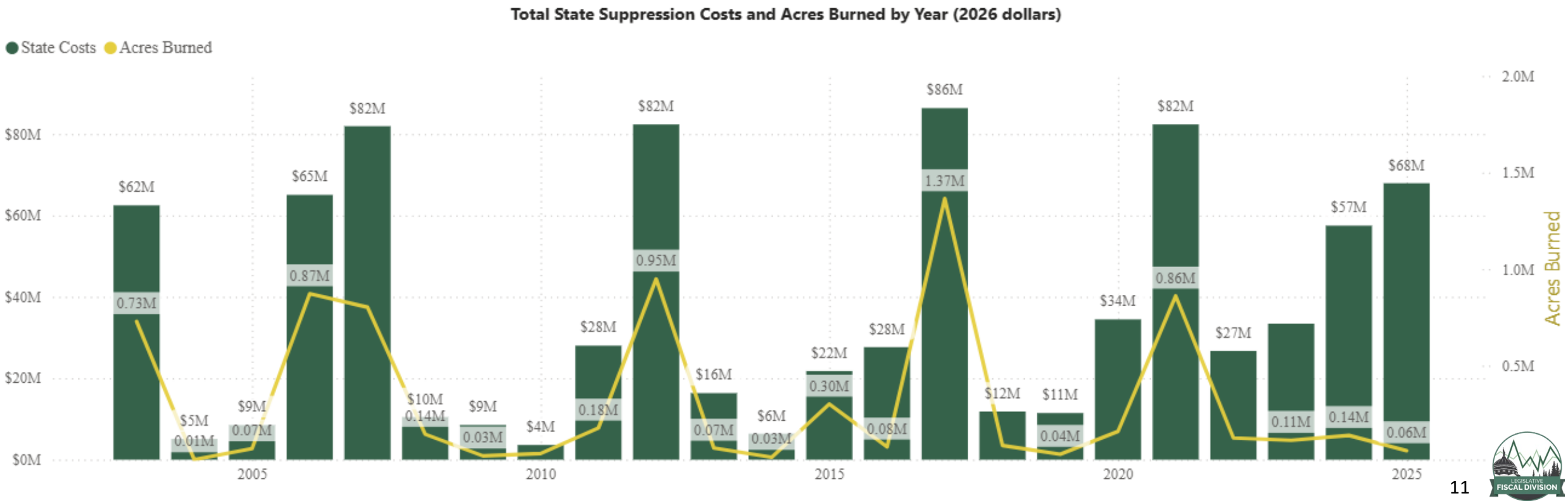
Average annual acres burned decreasing slightly since 2000.

Currently, the longest stretch without an above average year this century. Current year total: 177,000 acres

State Suppression Cost

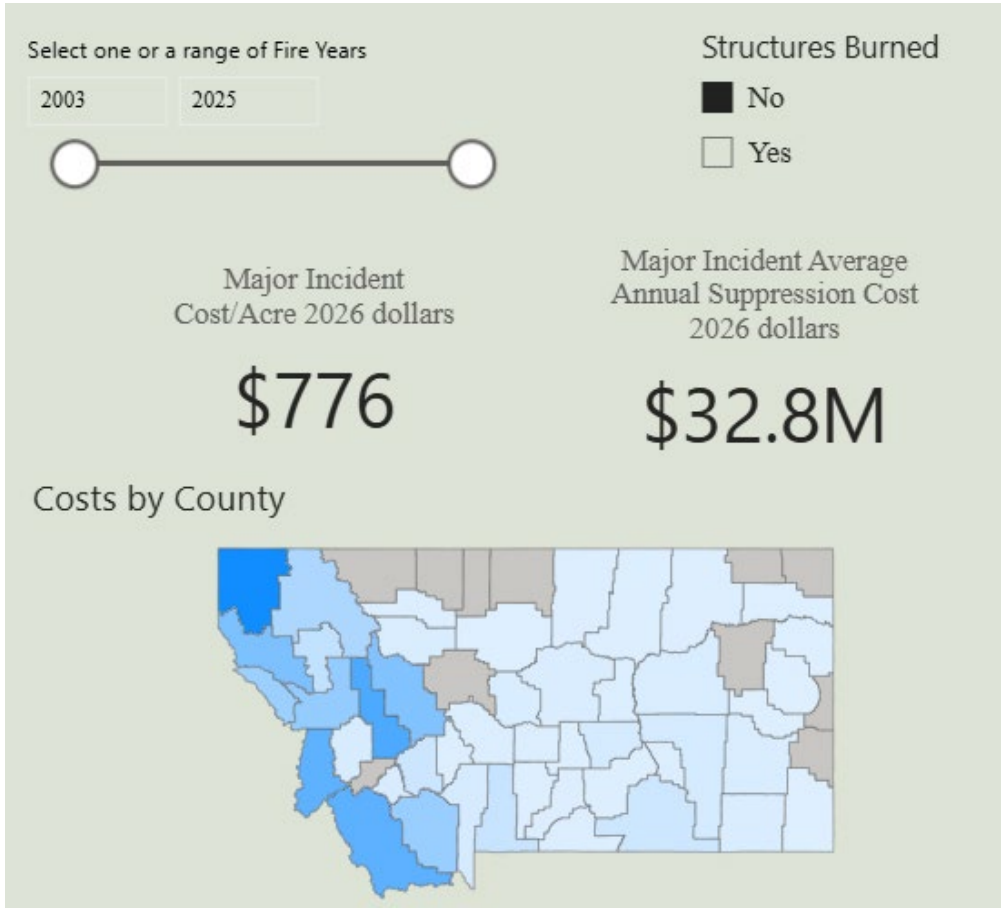
Observation 2:

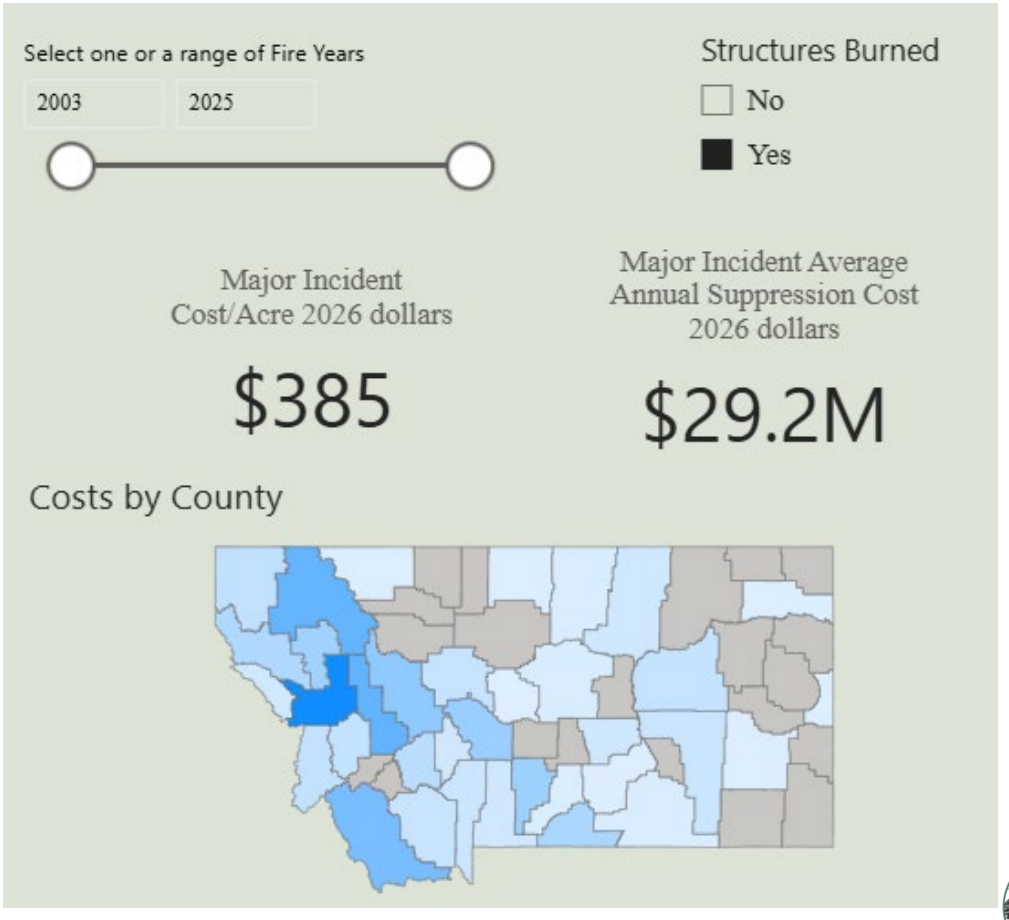
In recent years, state suppression costs are increasing (with fewer acres burned).



Major Incident Suppression Cost

Observation 2: Structure loss does not seem to be associated with higher suppression cost





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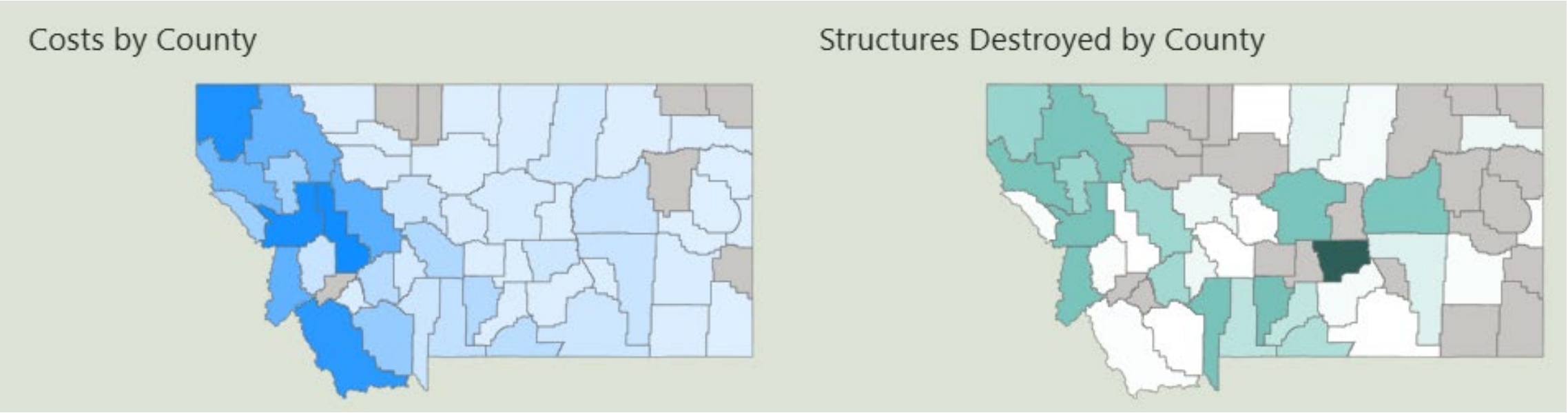
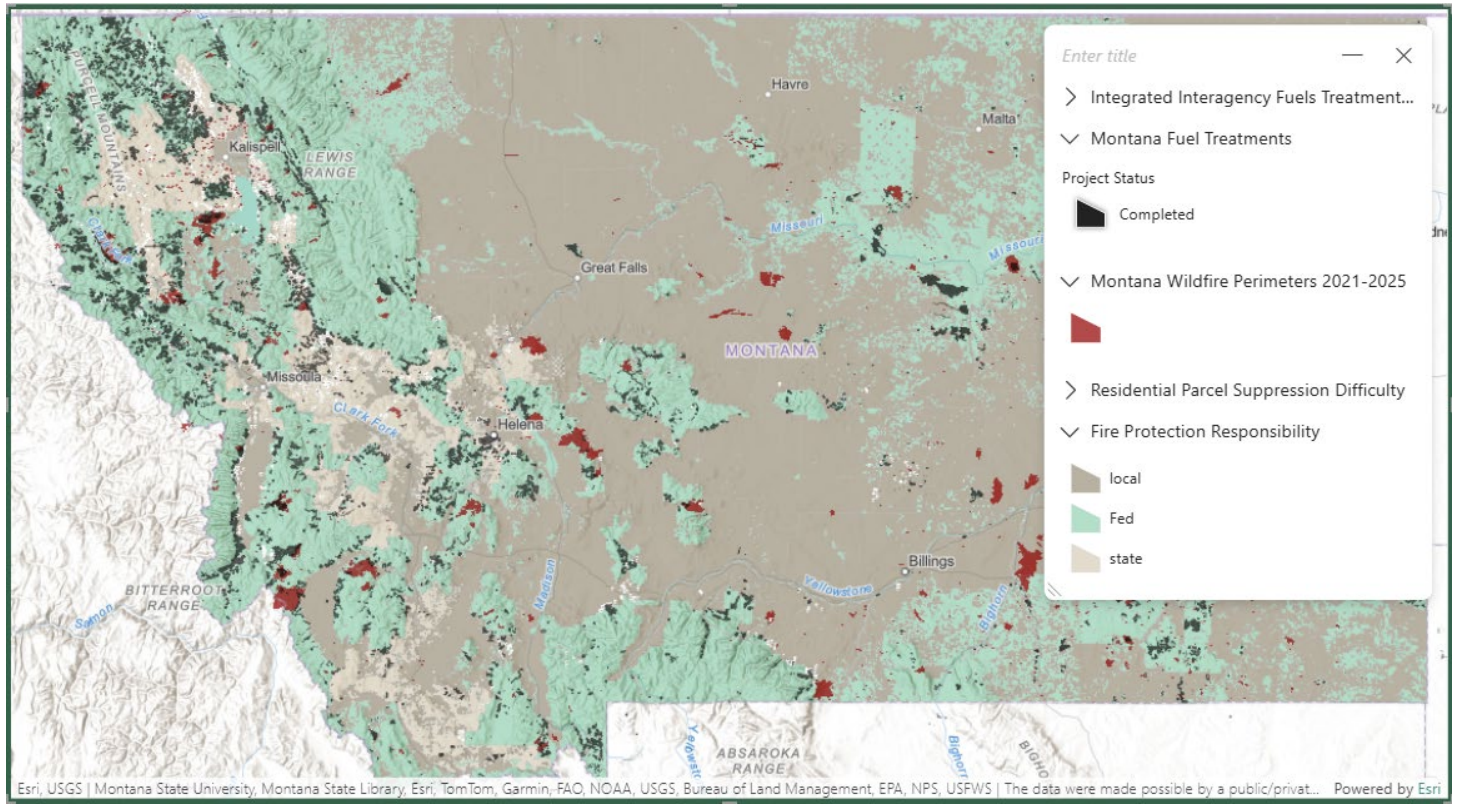


State & Federal Mitigation Projects

Research Question: Are mitigation projects associated with lower suppression costs?

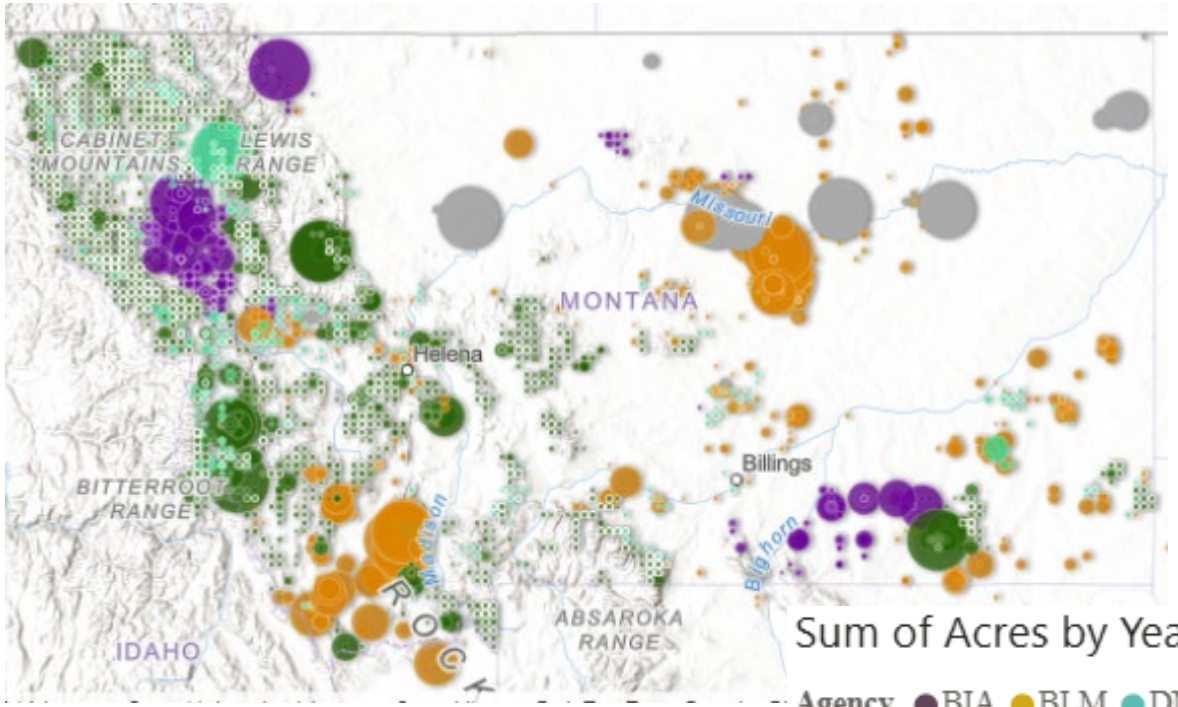


Observation 3:

Mitigation projects are relatively small, but strategic

State & Federal Mitigation Projects

Research Question: Are mitigation projects associated with lower suppression costs?



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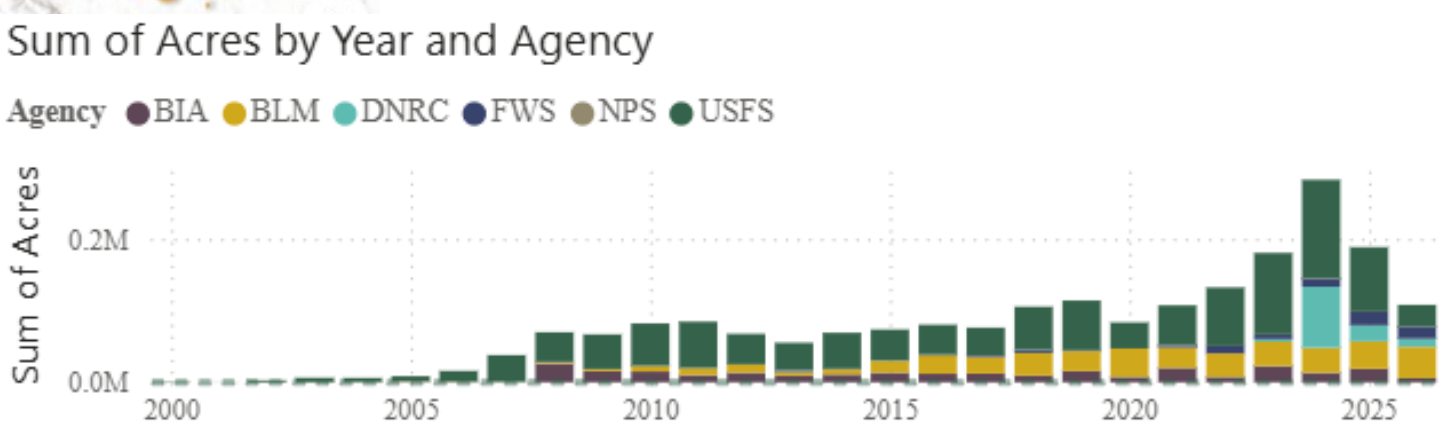

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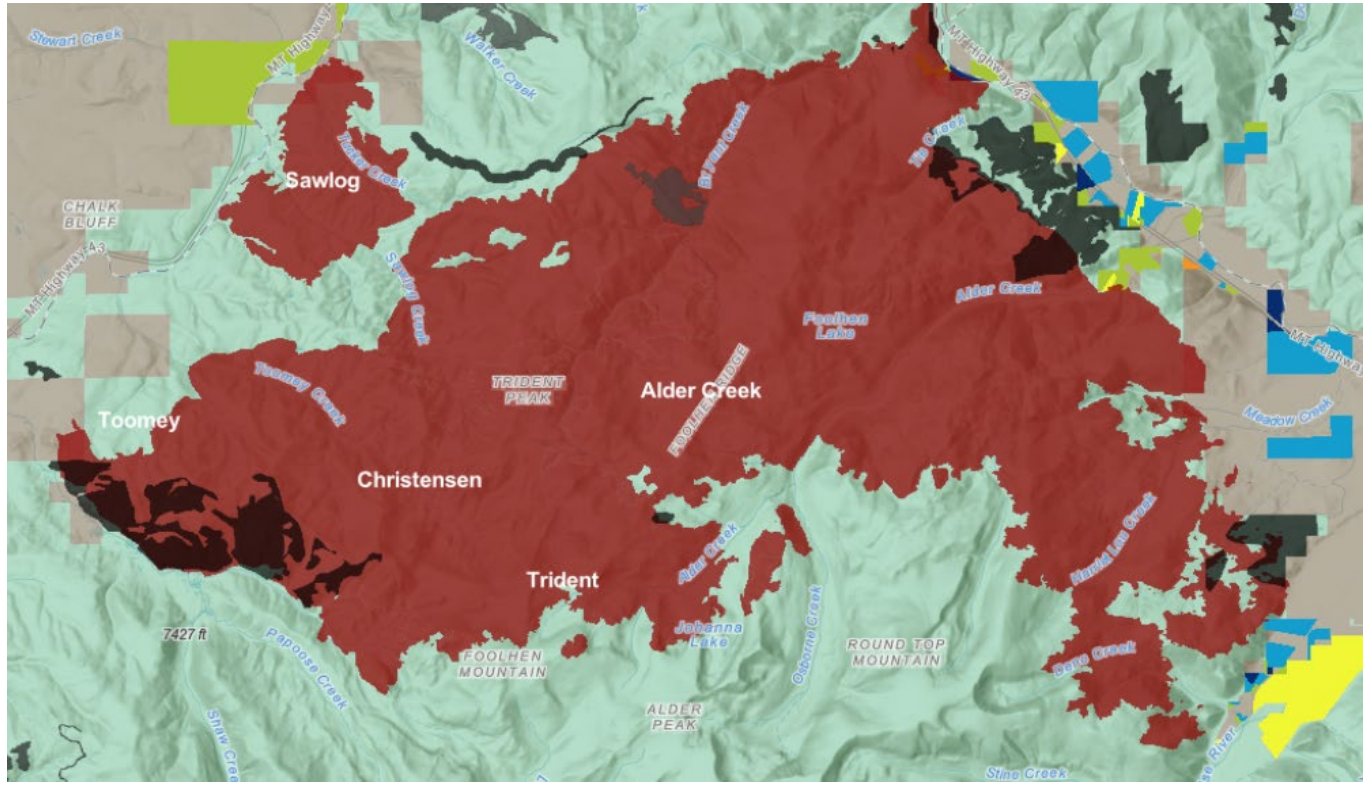
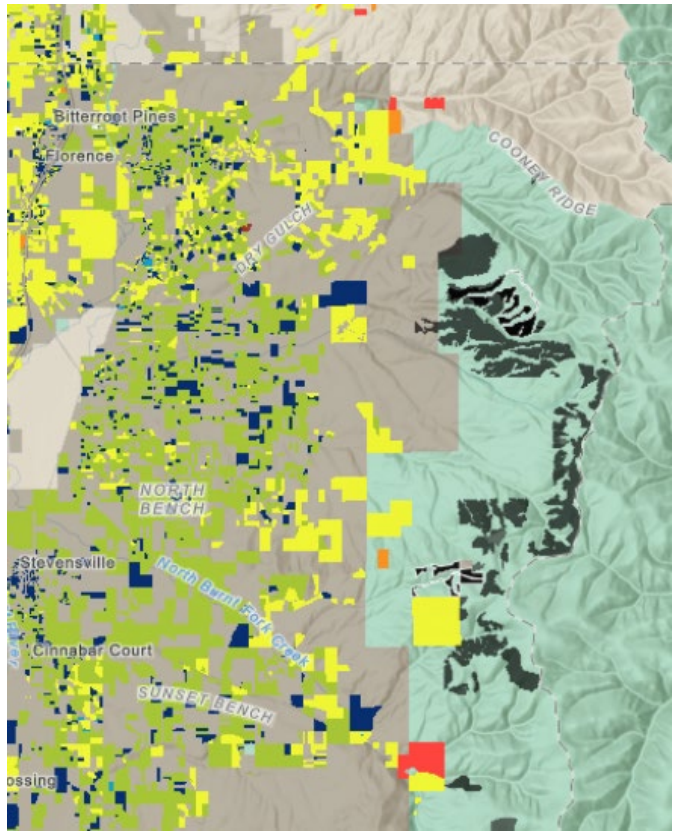
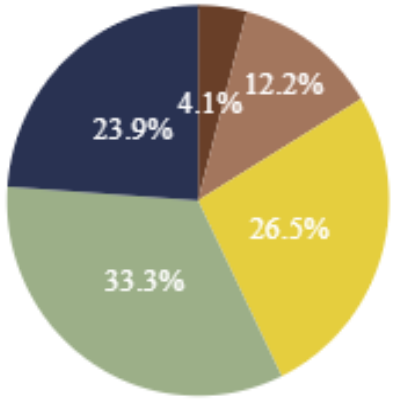


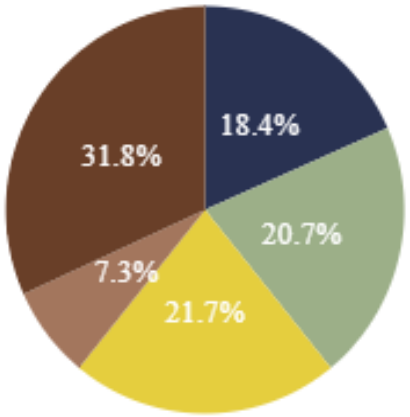


Wildfire Hazard Potential (WHP) & Cost

Acres Burned by Wildfire Hazard Potential



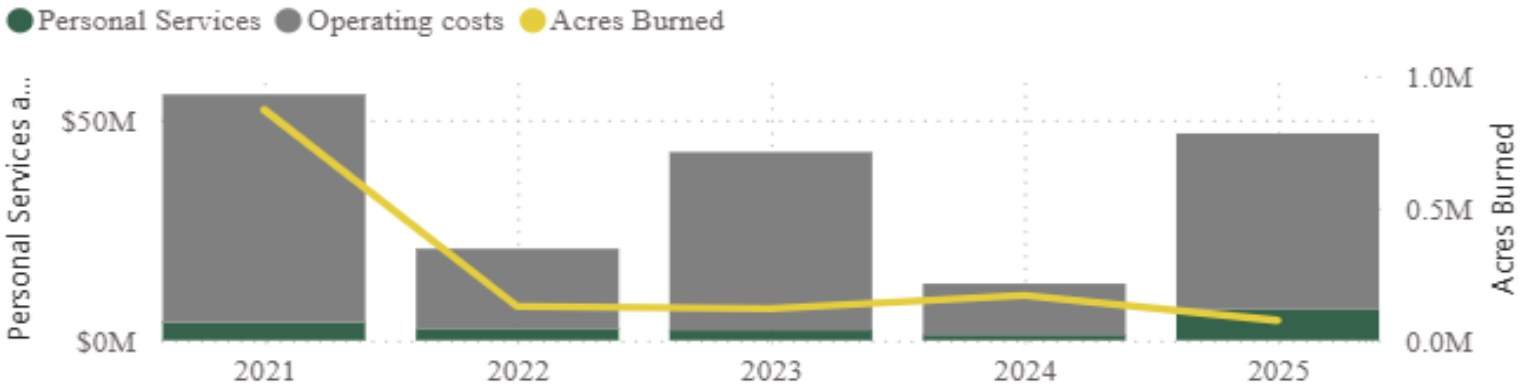
Total State Costs by Wildfire Hazard Potential



WHP Legend

- Very High
- High
- Moderate
- Low
- Very Low

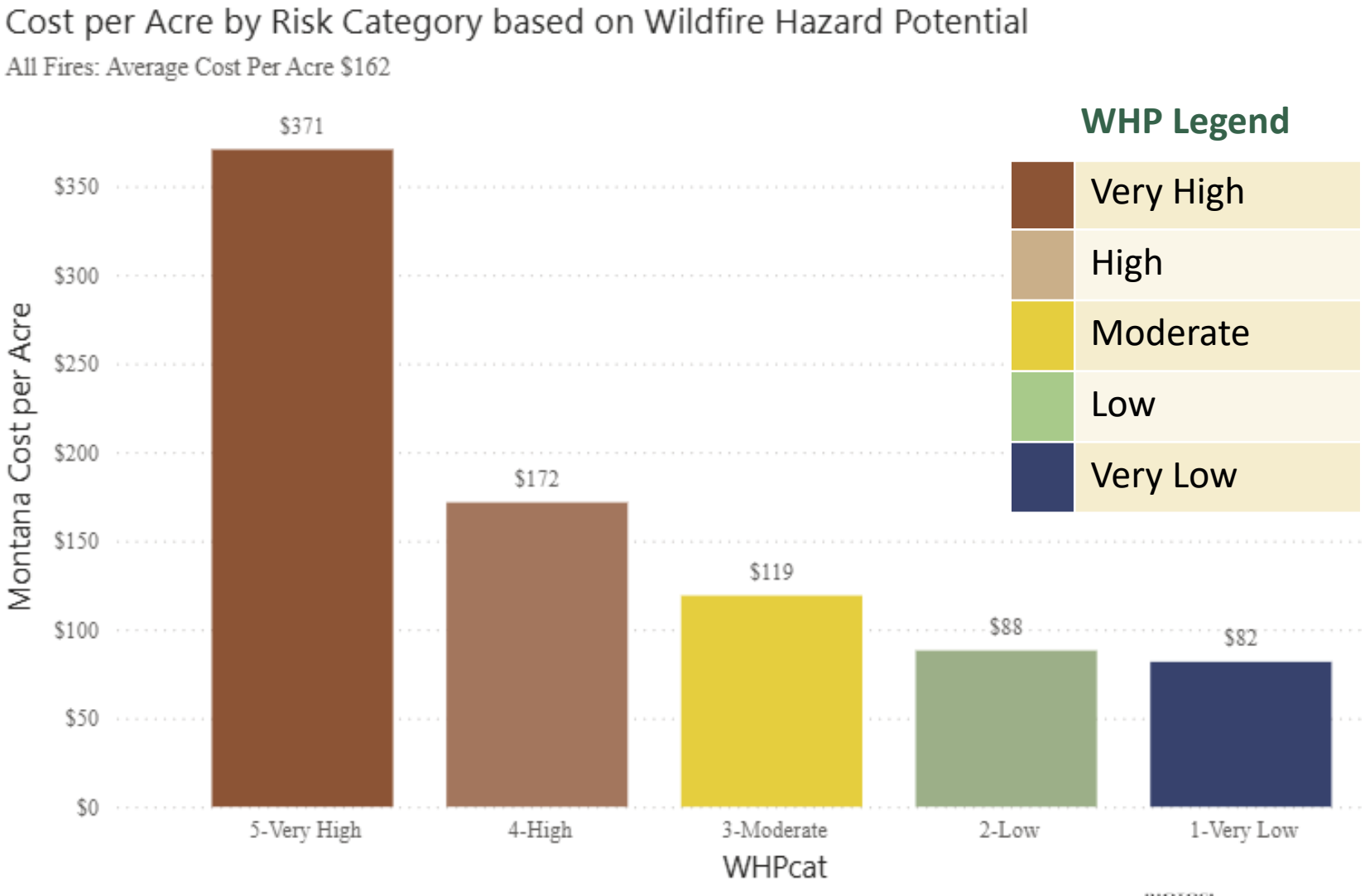
State Costs and Acres Burned by Year



Observation 4:

In the past 5 years, 4.1% of acres burned were in areas of "Very High" WHP, but made up 32% of state cost

Wildfire Hazard Potential (WHP) & Cost



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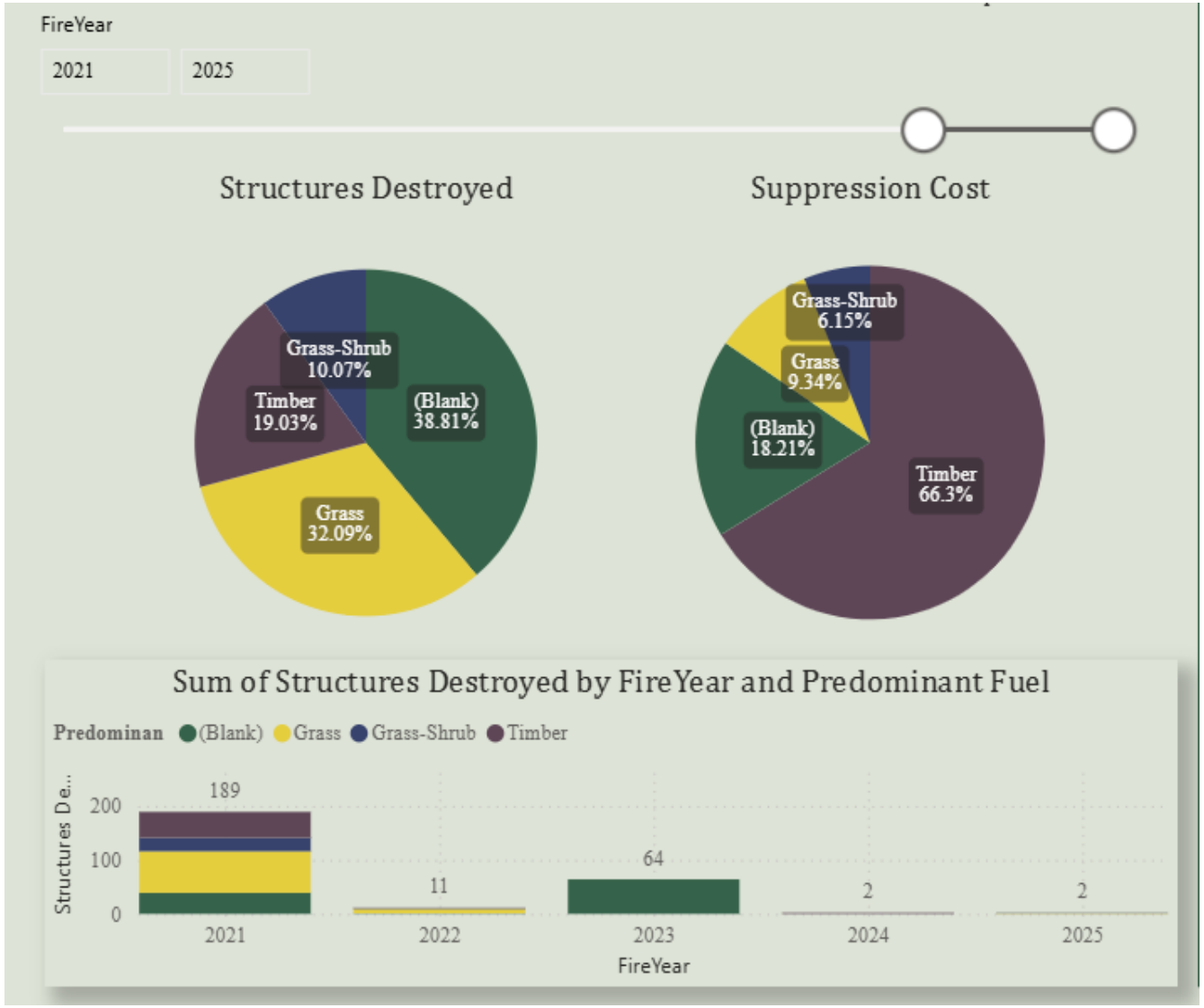
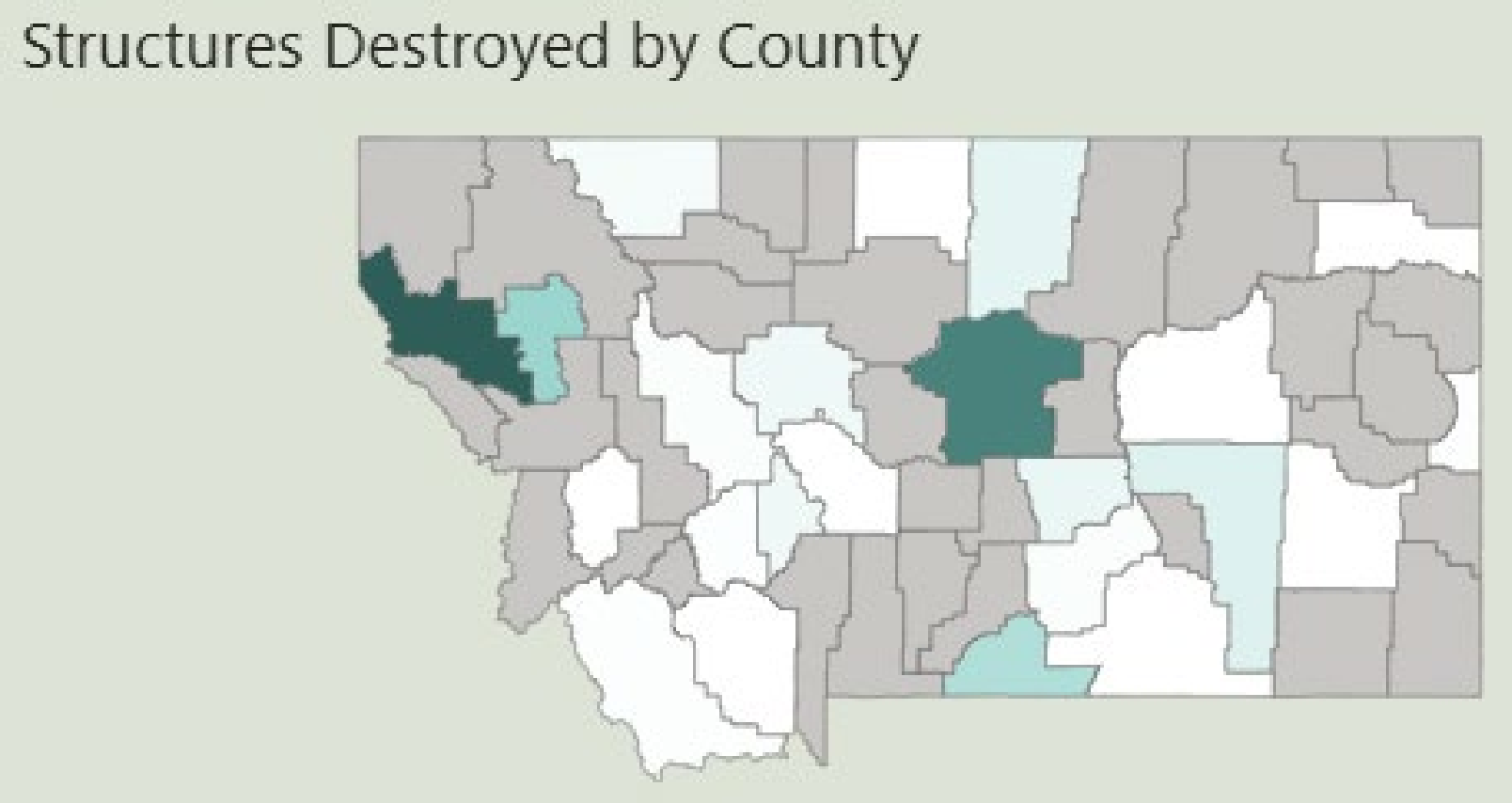
Structure Loss by Fuel Type



Observation 5:

In the past 5 years, structure loss is increasingly associated with grass fires

Structure Loss by Fuel Type & WHP



Observation 5:

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Next Steps

Next Steps

- Continue to Incorporate Legislative Feedback
  - Upcoming Lunch & Learn!
- Model Refinement, Data Updating, & Accessibility Improvement
- Continue External Validation with Experts
  - Pew Charitable Trusts currently partnering with LFD
- Model is Public and Available to Policymakers for the 2027 Session

Questions & Feedback