Exploring Major Policy Options

National Science Team Briefing
June 25, 2013

~~*Risk Management*~~ *The Cohesive Strategy* is the identification, assessment, and prioritization of risks *associated with wildfire,* followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events.

- Hubbard, 2009
(edited by Lee, 2010)

Source: Douglas Hubbard, *The Failure of Risk Management; Why it's broke and how to fix it.* Wiley, 2009.

Moving from a basic understanding of risk management to more complex problem solving.

The Cohesive Strategy is the identification, assessment, and prioritization of risks *associated with wildfire,* followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events.
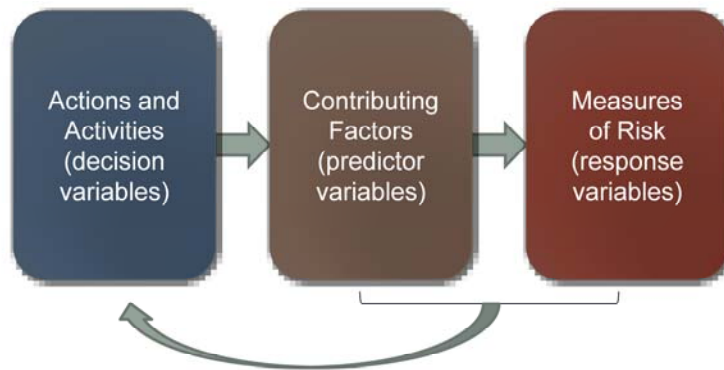
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The emphasis is on moving to "action and implementation", using a finite set of resources. Having to prioritize actions while at the same time maximizing three goals (and not allowing any of them to be truly minimized) is the challenge. We are moving from looking at what is just at risk and discussing possible solutions. We are really looking at making the difficult choices between our options.
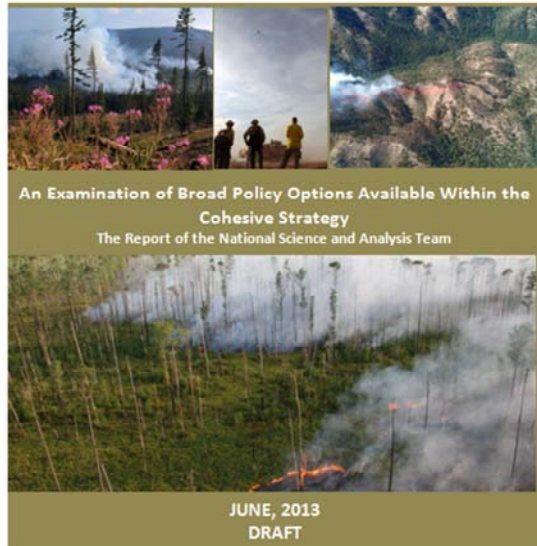
In previous meetings of the WFEC, we have moved through the first three steps of the Analytical Process together. When we met in Denver in February, the WFEAC as a group started exploring Policy Options and Choices and created a table of options.

Just a basic overview of what is in the binders and how to use some of the materials today and tomorrow.
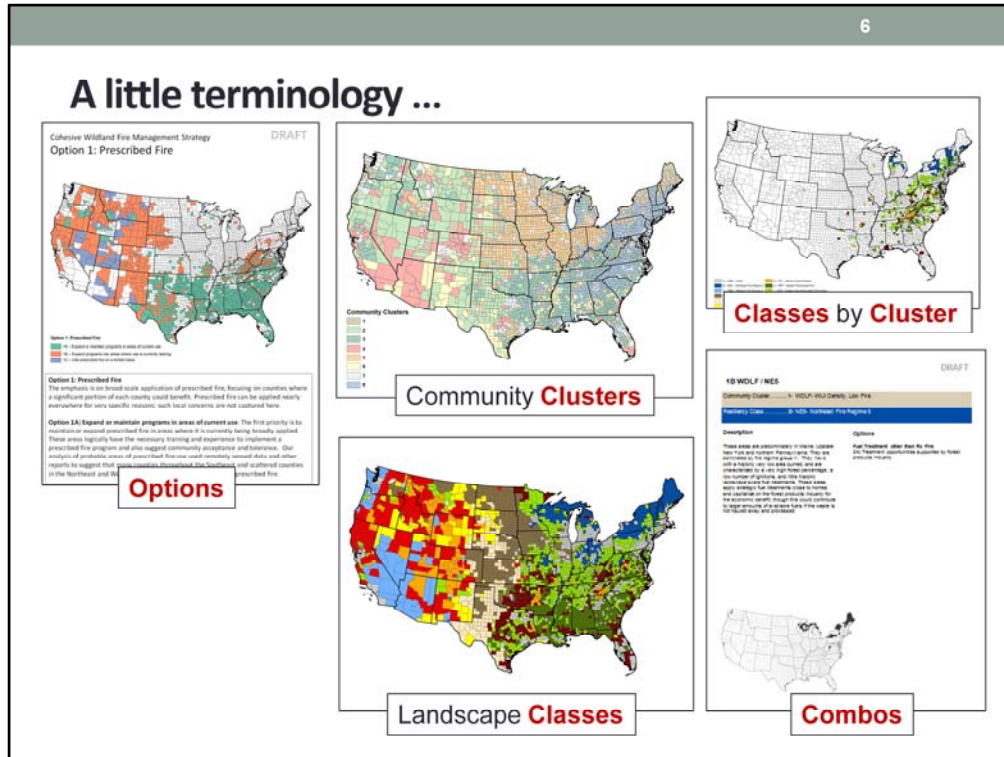
In the report and the appendices, we use four words quite a bit. It is probably worth stepping back just a minute to make sure it is clear exactly how we are using the terms and what the products look like for each term.

• Probably most important are the Options. They are located in Appendix 6 and typically use a Red/Green/Blue color scheme. They display the multiple options that WFEC asked the NSAT to investigate.

• The second term is "Clusters" – a word referring to the eight subdivisions of the country based on community metrics. Clusters are mapped using pastel, or muted colors so that the reader can instantly identify that a map belongs to this group. Clusters are located in Appendix 4.

• The third term is "Classes", the eleven subdivisions of the country based on landscape resiliency. Landscape Classes utilize the bolder, primary colors. Classes are found in Appendix 3. An intermediate product, found in Appendix 4 are the Classes by Cluster. This subdivision shows the Combos present within each Cluster.

• The fourth term is "Combos", which looks at the intersection of the Clusters with the Classes. Combo summary sheets are found in Appendix 5. The color code on the top of the page shows the color of the Cluster on top of the color of the Class.

Policy Options

Theme	Option	Description
Prescribed Fire	1A	Expand or maintain programs in areas of current use
	1B	Expand programs into areas where use is currently lacking
	1C	Use prescribed fire on a limited basis
Managing Wildfire for Multiple Benefits	2A	Apply tactic in forested systems
	2B	Apply tactic in non-forested systems
	2C	Apply tactic, but with awareness of community risk
Fuel Treatment other than Rx Fire	3A	Treatment opportunities supported by forest products industry
	3B	Non-forest areas with opportunity for treatment
	3C	Treatment opportunities limited by economic markets
	4	Treatments are economical as a precursor to prescribed fire
Managing Ignitions	5A	Reduce accidental human-caused ignitions
	5B	Reduce human-caused incendiary ignitions
Home and Community Actions	6A	Focus on home defensive actions
	6B	Focus on combination of home and community actions
	7A	Adjust building and construction codes, municipal areas
	7B	Adjust building and construction codes, non-municipal areas
Response	8	Prepare for large, long-duration wildfires
	9	Protect structures and treat landscape fuels
	10	Protect structures and target prevention of ignitions

These are the sets of options that the NSAT was able to explore – 19 options, shown as 11 maps in 6 major categories. All of the options were analyzed using the process in the previous slide. This table is found in the front of Appendix 6 – Policy Options.
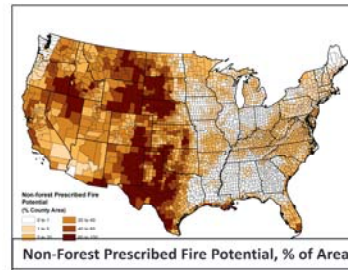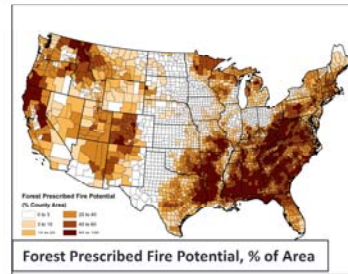
Policy Options

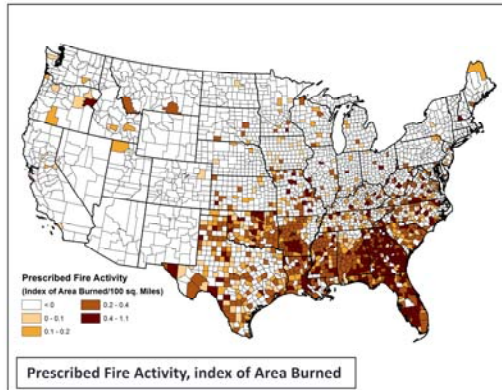| Theme	Option	Description
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Let's examine the first Option – Option 1A

Prescribed Fire Option 1A) Expand or maintain programs in areas of current use

Option 1: Prescribed Fire

- 1A – Expand or maintain programs in areas of current use
- 1C – Use prescribed fire on a limited basis.
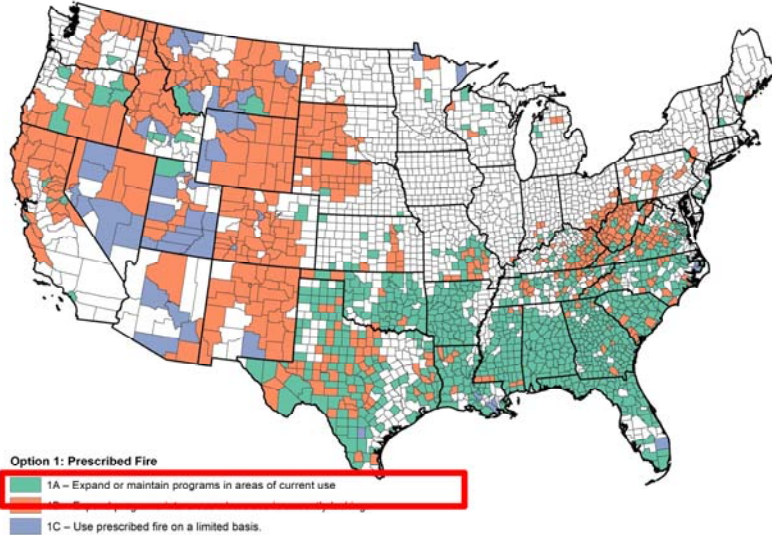
Option 1A) is shown as the green-colored counties on the map. The map is found in Appendix 6.

How was the **Option** map constructed?

Prescribed Fire Activity, index of Area Burned

Forest Prescribed Fire Potential, % of Area

Non-Forest Prescribed Fire Potential, % of Area

•Options are independent of clusters and classes
•Constructed from NSAT data sets on a county level scale

It is not our intent to go through the entire analytical process for each option, but rather to illustrate The maps shows counties where the Prescribed Fire Activity is present, and at least 20% of the county is suitable for prescribed fire (either forested or non-forested, not summed)

What should be done is the easy part.
The hard part is how much and where?
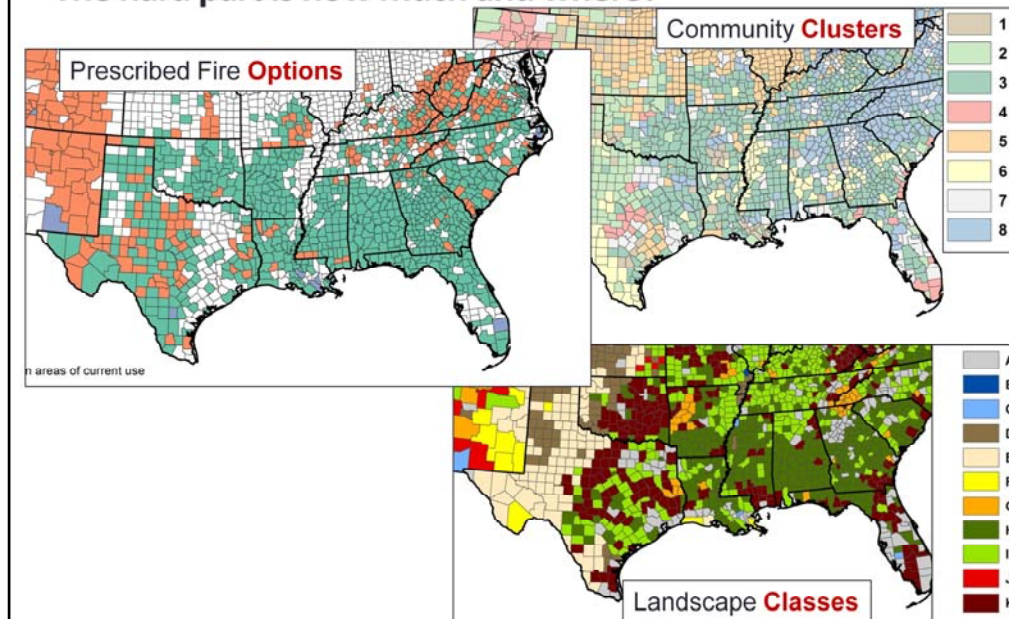
We then take the Option map and compare it to the Community Clusters and Landscape Resilience Classes to see how prescribed fire might be implemented and what impact it will have on the landscape and the communities. We know that all of the counties colored in green on the map do not have similar characteristics on the ground. What are the implications are implementing this option in the different Combos?

Let's start with one example. We can see that much of the state of Alabama is colored green on the Option map and is therefore a good area to implement Option 1A). Looking at the Community Cluster map, we can see Alabama has a high percentage of Clusters 3, 6 and 8.
The Landscape Classes map shows that Alabama has a high percentage of Classes H, I and K.

The use of the Community **Cluster** 3 by Resilience **Class** Map
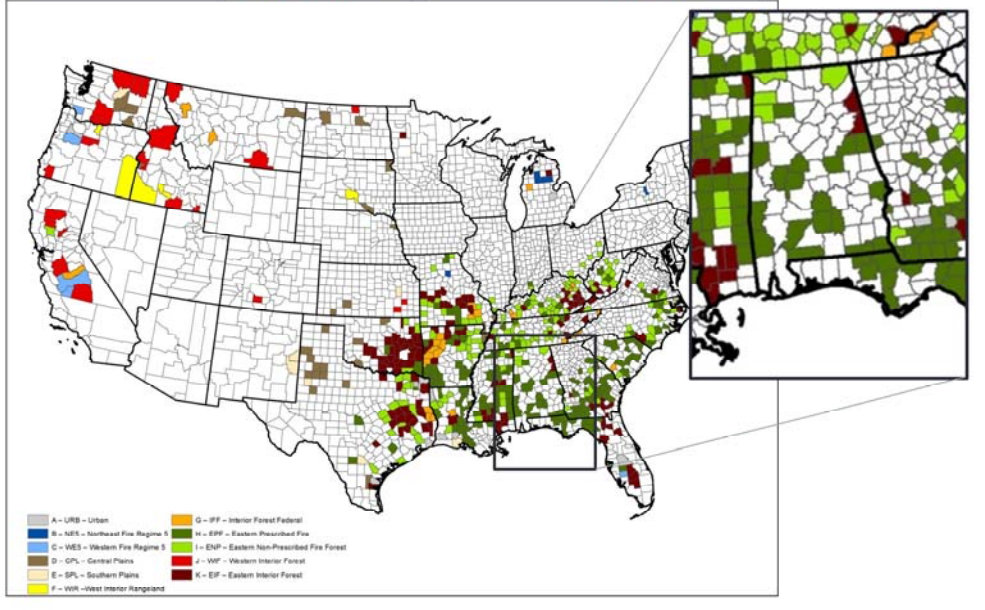
Located in Appendix 4, this map shows Cluster 3. Looking at Alabama, we see and the dominance of the dark green color that indicates Resilience Class H.

The use of the 3H **Combo** page

The Combo page, located in Appendix 5, can now be consulted for a more detailed description of the combo. We can see that Cluster 3 is labeled Demographic Stress, High. This tells us that the communities here will probably not have local resources to enact on the ground actions by themselves. It should be no surprise that the Class H label is Eastern Prescribed Fire – this landscape is characterized by the historical use of prescribed fire. On the right hand column, the options are listed, and we can see that Option 1A) is definitely one that should be used here.

Community Cluster 4 is Demographic Advantage, High Fire. Class J indicates the forested areas of the west that have a history of large fires. By looking at the large number of options, it is clear that a great deal of resources are going to be needed to keep the Landscape Resiliency and Community Protection goals in balance.

Community Cluster 4 by Resilience Class Map

Class J is in Red

Located in Appendix 4, this map shows Cluster 4. Located in the West, red counties are Resilience Class J.

Policy Options

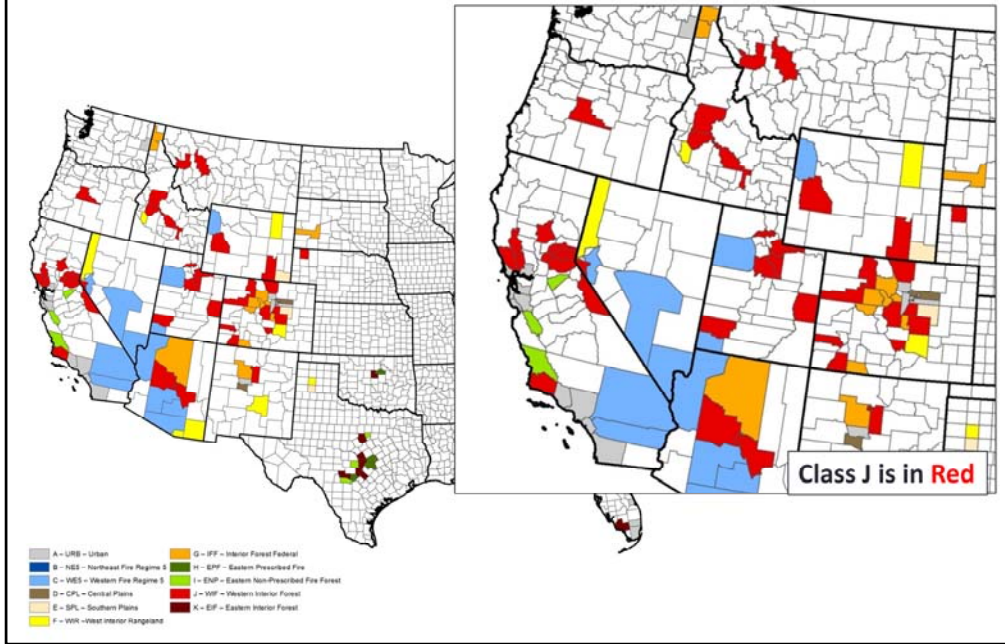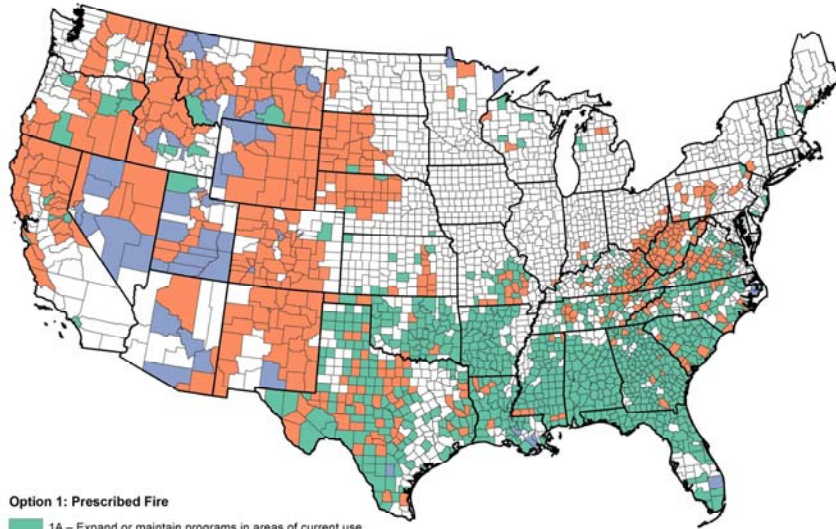| Theme	Option	Description
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Response	8	Prepare for large, long-duration wildfires
	9	Protect structures and treat landscape fuels
	10	Protect structures and target prevention of ignitions

Now let's quickly go over the other options that are available. This table is found in the front of Appendix 6 – Policy Options.

Prescribed Fire, Options 1A, 1B, 1C

Option 1: Prescribed Fire

- 1A – Expand or maintain programs in areas of current use
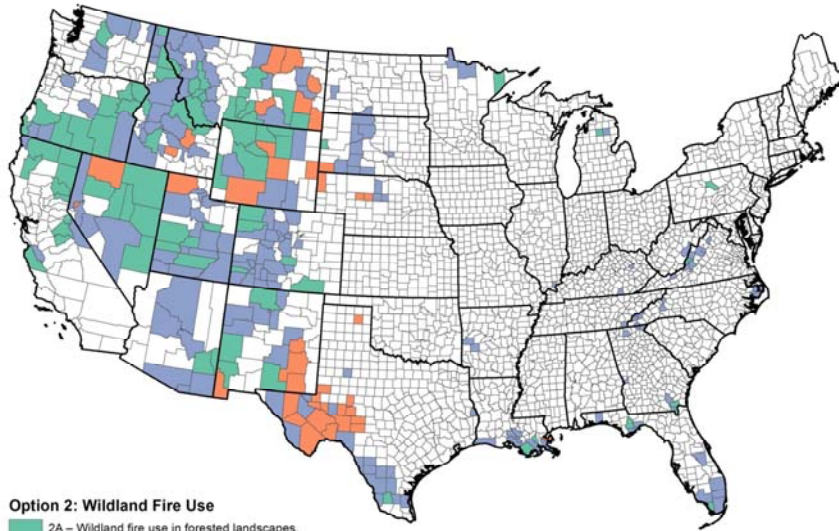- 1B – Expand programs into areas where use is currently lacking.
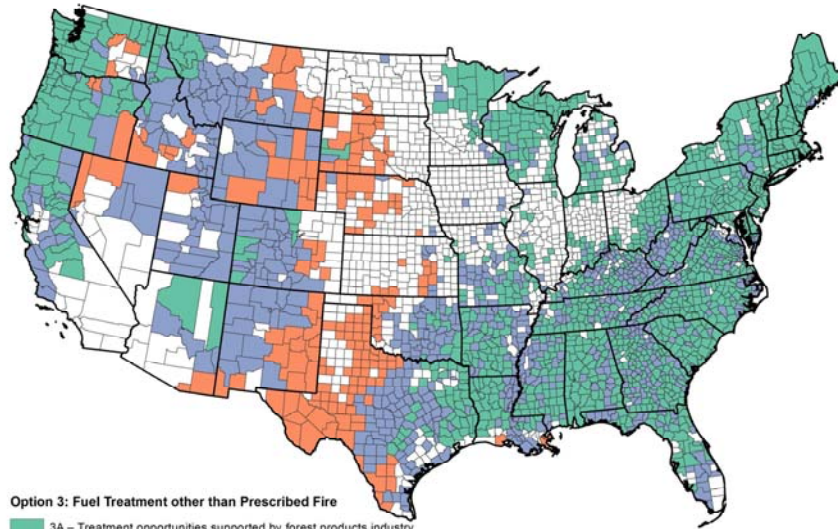- 1C – Use prescribed fire on a limited basis.

Option 1A) is shown as the green-colored counties on the map. The map is found in Appendix 6.

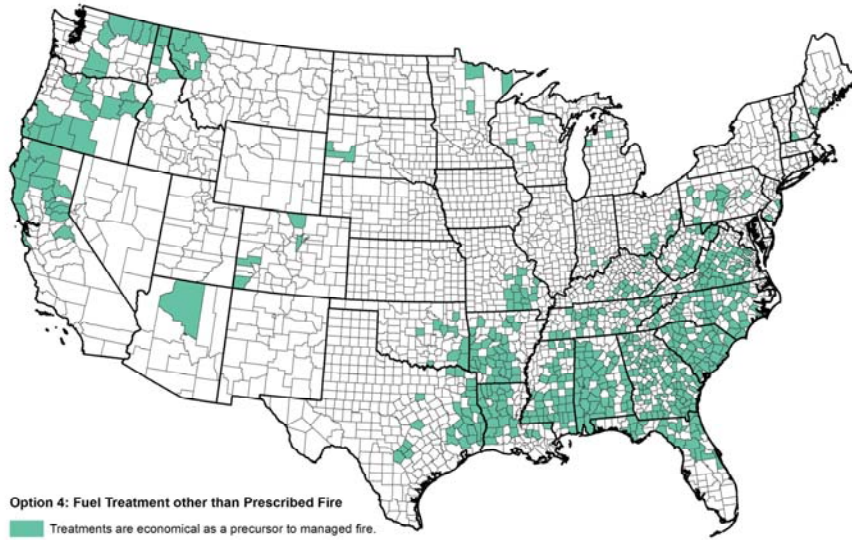# Managing Wildfire for Multiple Benefits, Options 2A, 2B and 2C

Option 2: Wildland Fire Use

- 2A – Wildland fire use in forested landscapes.
- 2B – Wildland fire use in non-forested landscapes.
- 2C – Wildland fire use, but with more conflicts with communities.

Fuel Treatment other than Prescribed Fire; Options 3A, 3B and 3C

Option 3: Fuel Treatment other than Prescribed Fire

- 3A – Treatment opportunities supported by forest products industry
- 3B – Non-forest areas with opportunity for treatment.
- 3C – Treatment opportunities limited by economic markets.

Fuel Treatment other than Prescribed Fire; Options 4

Option 4: Fuel Treatment other than Prescribed Fire

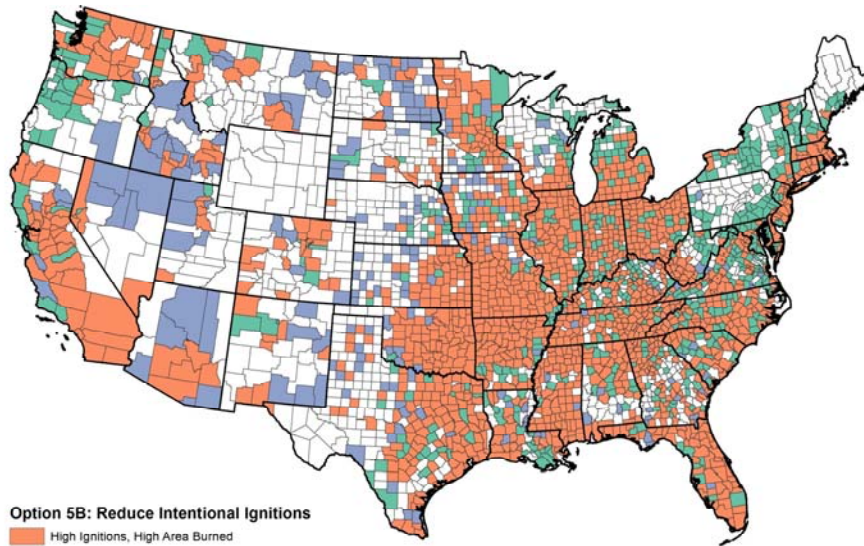Treatments are economical as a precursor to managed fire.
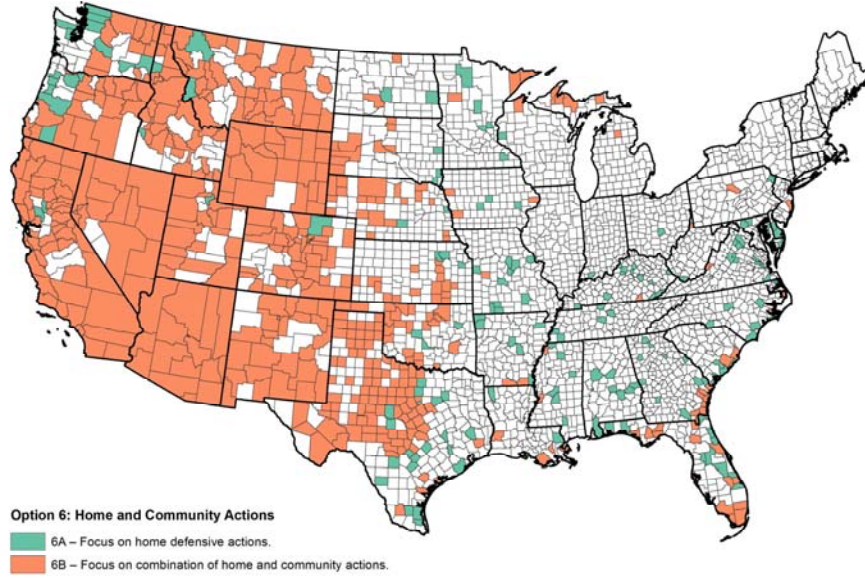
Managing Ignitions; Options 5A
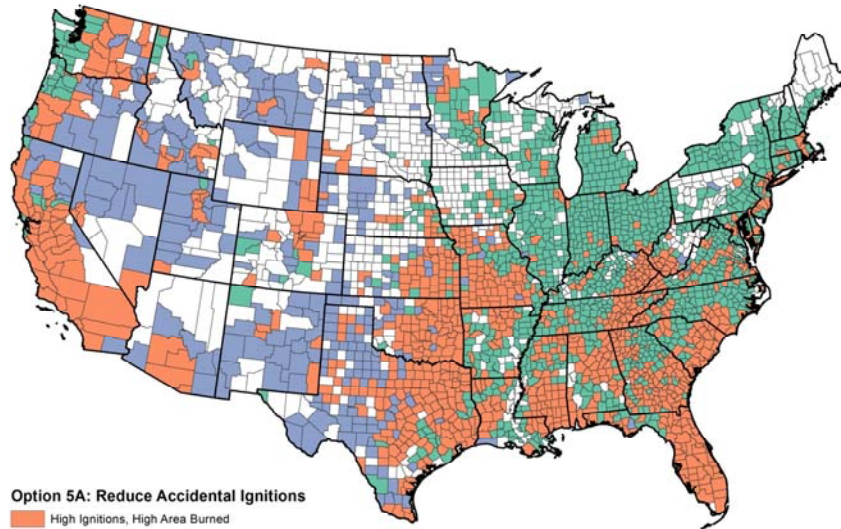
Option 5A: Reduce Accidental Ignitions
- High Ignitions, High Area Burned
- High Ignitions, Low Area Burned
- Low Ignitions, High Area Burned
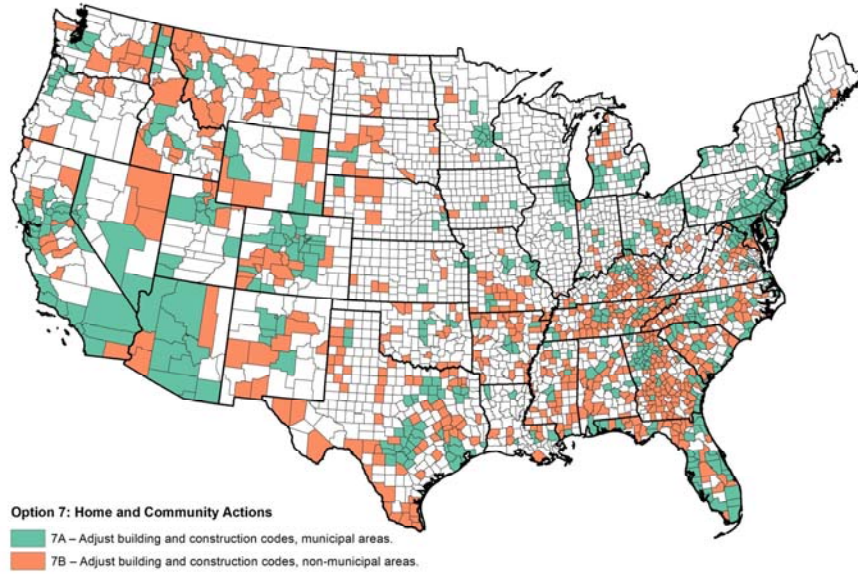- Low Ignitions, Low Area Burned

Managing Ignitions; Options 5B

Option 5B: Reduce Intentional Ignitions

- High Ignitions, High Area Burned
- High Ignitions, Low Area Burned
- Low Ignitions, High Area Burned
- Low Ignitions, Low Area Burned
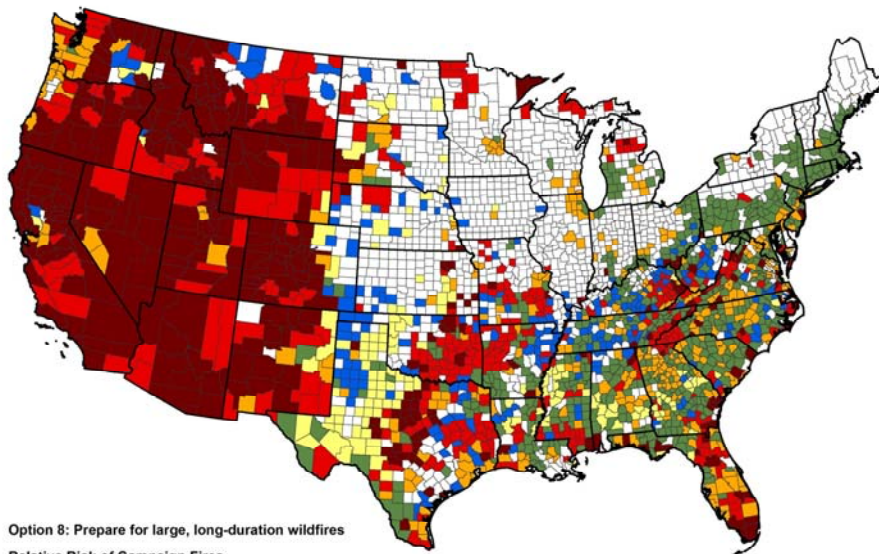
Home and Community Actions; Options 6A and 6B

Option 6: Home and Community Actions

- 6A – Focus on home defensive actions.
- 6B – Focus on combination of home and community actions.

Home and Community Actions; Options 7A and 7B

Option 7: Home and Community Actions

- 7A – Adjust building and construction codes, municipal areas.
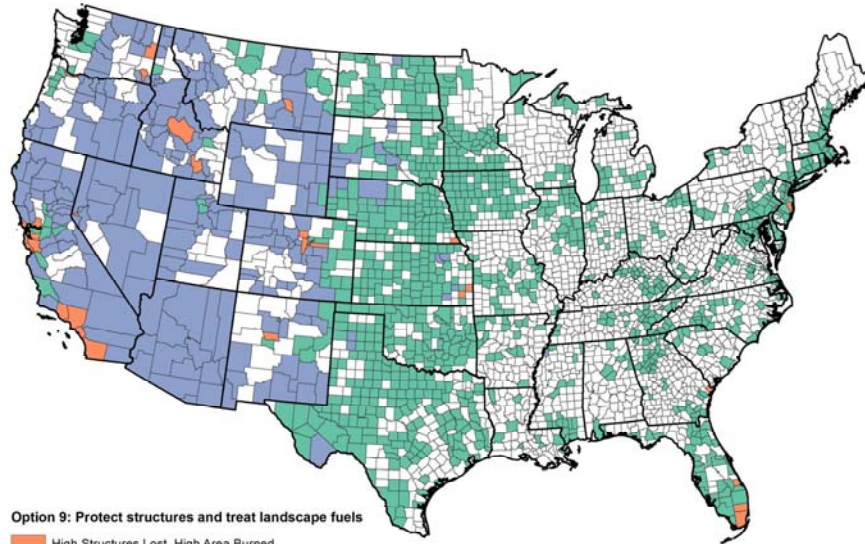- 7B – Adjust building and construction codes, non-municipal areas.

Response; Option 8

Option 8: Prepare for large, long-duration wildfires

Relative Risk of Campaign Fires

Low   Moderate   High
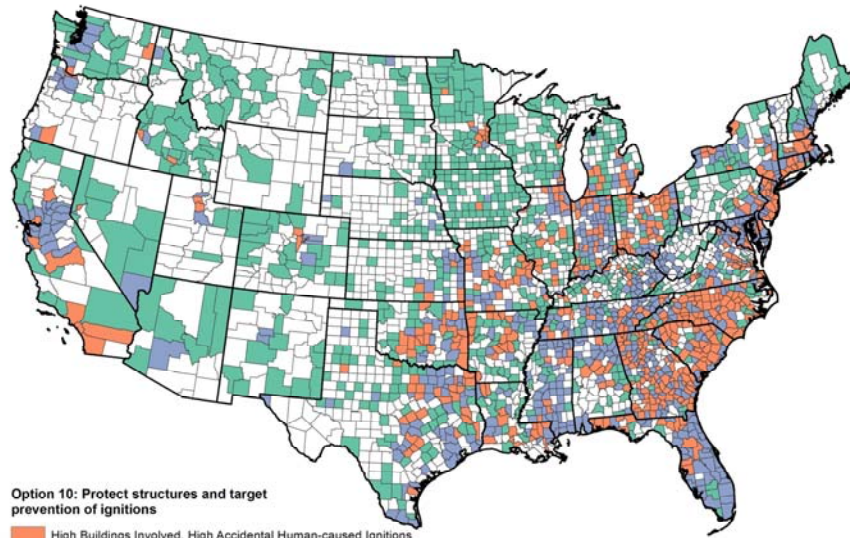
Response; Option 9

Option 9: Protect structures and treat landscape fuels

- High Structures Lost, High Area Burned
- High Structures Lost, Low Area Burned
- Low Structures Lost, High Area Burned
- Low Structures Lost, Low Area Burned

Response; Option 10

Option 10: Protect structures and target prevention of ignitions

- High Buildings Involved, High Accidental Human-caused Ignitions
- High Buildings Involved, Low Accidental Human-caused Ignitions
- Low Buildings Involved, High Accidental Human-caused Ignitions
- Low Buildings Involved, Low Accidental Human-caused Ignitions