



Longitudinal Analysis of Wildland Fire and Fuel Management Examining Citizen Responses in Seven States from 2002 - 2008

Wildland fire is a salient land management issue affecting both public and private resources throughout the United States. A century of intense fire suppression has contributed to the prevalent forest conditions of the day: dense stands of timber coupled with large amounts of accumulated fuel. Due to increasing human populations in the wildland-urban interface (WUI), many wildfires previously considered “remote” now have the potential to impact individual homeowners as well as entire forest communities. Across the U.S., land managers are utilizing various fuel management strategies in an attempt to proactively reduce the excessive vegetation that can contribute to catastrophic, stand-replacing wildfires and threaten communities. Public acceptance is a critical component of developing and implementing successful management programs.

This study examines the factors that influence citizen support for agency fuel reduction treatments over time—particularly prescribed fire and mechanical vegetation removal (thinning trees and shrubs with mechanized equipment). Data presented here come from a six year (2002-2008) longitudinal study of communities adjacent to federal lands in seven states: Arizona, Colorado, Oregon, Utah, Michigan, Minnesota, and Wisconsin (see p. 9 for a list of research sites). In 2008, mail-back questionnaires were sent to all participants from our original 2002 study. After accounting for those who had moved or were deceased, 546 questionnaires were completed for a 55% adjusted response rate. Questions replicated measures from the original project and also included additional items of interest to fire managers. The study design enables comparisons between individual responses over time for each site using paired t-tests and between locations with Chi-square tests. In this report we show aggregate responses for all seven states and examine key changes between 2002 and 2008; significant differences are noted in each figure. We also note important variations among geographic locations (individual states).

This is the second report in a series summarizing key findings from this research. Additional summaries include a profile of study participants (Summary #1) and opinions about agency communication methods and citizen-agency interactions (Summary #3). A data summary of state-by-state findings used in this report is included in the attached appendix. For additional information please contact Eric Toman (Toman.10@osu.edu) or Bruce Shindler (Bruce.Shindler@oregonstate.edu).

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**Summary of Findings #2:
Citizen Preferences for Fuel
Management Practices**

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Public Acceptance of Fuel Management Practices

Overall, public acceptance is relatively high for using both prescribed fire and mechanical vegetation removal to reduce fuels. Considering responses of citizens who offer at least minimal levels of acceptance—i.e., those who believe a practice can be used widely and those who believe it should be used sparingly—a large majority support some use of these practices. Of the two, respondents are willing to give managers greater discretion to use mechanical methods while appearing to express some caution about the use of prescribed fire. Very small numbers of respondents are opposed altogether to either treatment type.

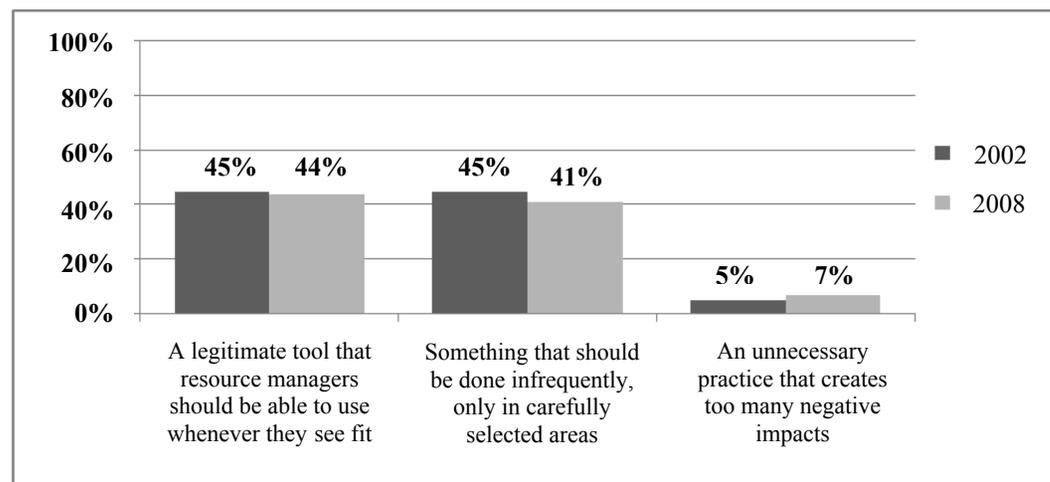
Responses over time

- Ratings of both practices remained relatively stable between 2002 and 2008.
- For prescribed fire, aggregate responses were similar across the study period. Among the seven sites only Colorado residents expressed a slight decline in acceptance levels.
- For mechanical treatments, collectively there was a slight increase of acceptance in aggregate ratings, although responses remained similar at each location.

Geographic variation

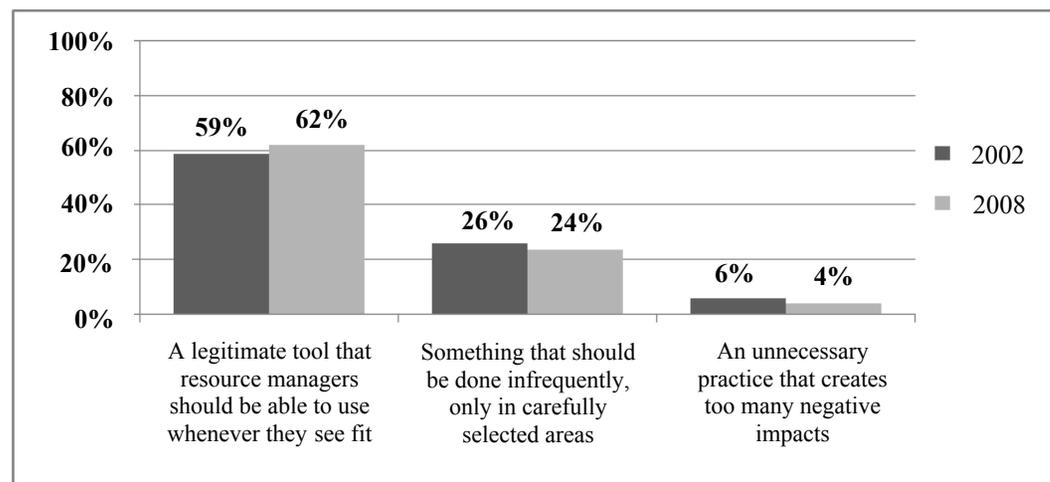
- In 2008, acceptance ratings for prescribed fire differed significantly in two study locations. Substantially more participants in Arizona and Oregon (at least 60% in each location) were willing to give managers full discretion to use prescribed fire wherever they see fit.
- Also in 2008, a majority in each state gave managers full discretion to use mechanical treatments. Scores for this option ranged from 50% agreement in Michigan to 75% in Arizona.

The use of prescribed fires on public forests and rangelands is:



“Don’t Know” responses are omitted for presentation purposes.

The use of mechanical vegetation removal is:*



2002 and 2008 responses are significantly different at $p \leq .05$.
“Don’t Know” responses are omitted for presentation purposes.

Concerns with Potential Risks of Prescribed Fire

The use of prescribed fire may create concerns among citizens. Study participants rated their level of concern about eight potential risks.

Responses over time

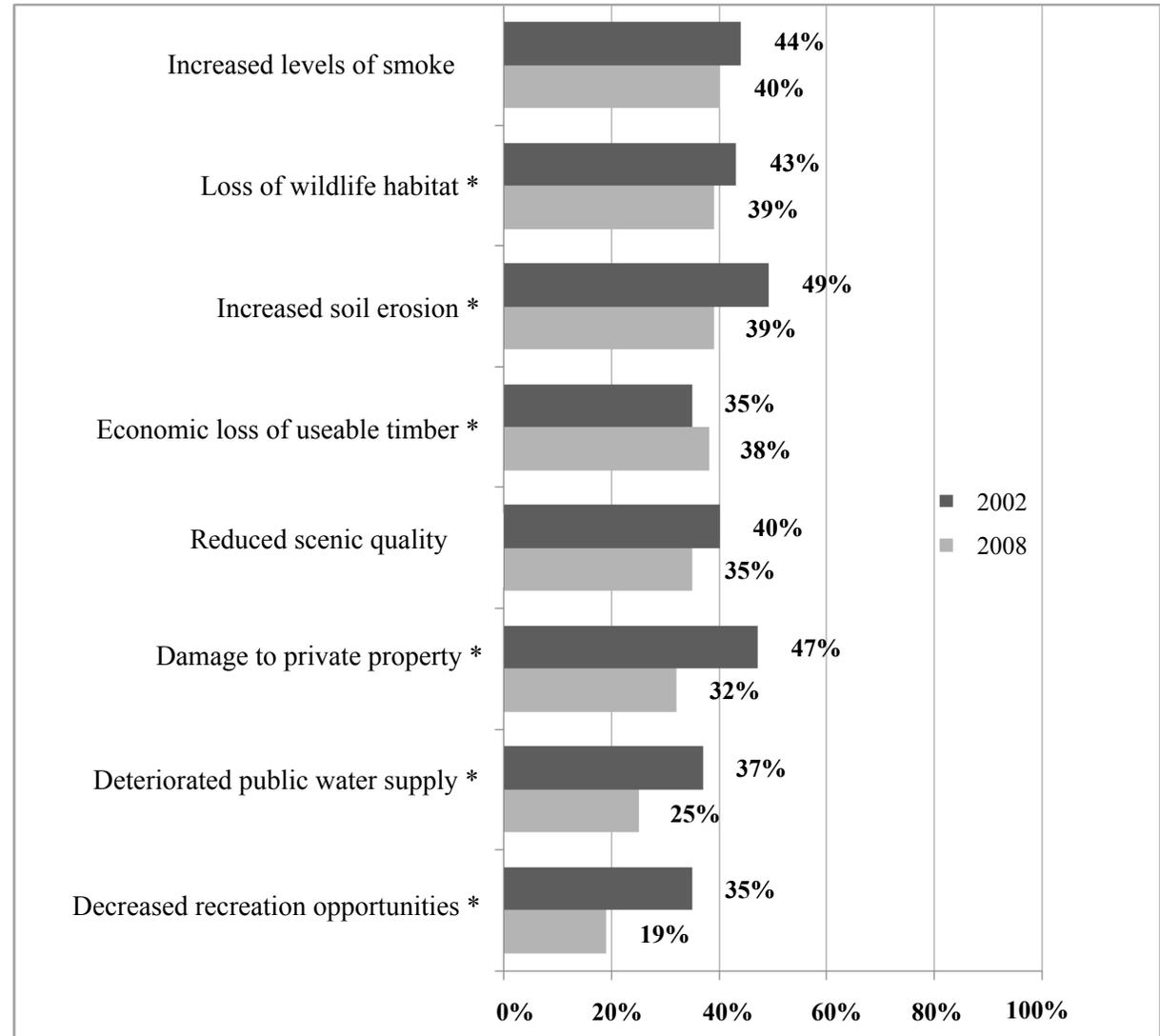
- In aggregate responses, concern about most potential risks declined significantly across the study period. Only one item, concern about the *economic loss of useable timber*, increased from 2002 to 2008.
- Responses within individual study sites help explain these changes, particularly for the three items that saw the largest reduction. Concerns over *damage to private property* significantly declined in all sites except Colorado. Similarly, concerns about *deteriorated public water supply* and *decreased recreation opportunities* declined in four locations: Oregon, Utah, Minnesota and Wisconsin.

Geographic variation

In 2008 noteworthy findings across sites include:

- Michigan residents showed the highest level of concern for six of the eight risks: *increased smoke levels*, *loss of wildlife habitat*, *economic losses*, *reduced scenic quality*, *deteriorated water supply*, and *decreased recreation opportunities*.
- Arizona is where the fewest concerns exist. They had the lowest scores for *wildlife habitat*, *economic losses*, *damage to property*, and *decreased recreation opportunities*. Minnesota had the lowest scores for three items: *scenic quality*, *increased smoke*, and (tied with AZ) *decreased recreation*.
- Concern regarding *damage to private property* was highest in Colorado where a majority indicated this was a moderate/great concern, compared to one-third or fewer elsewhere.

Concerns about the use of prescribed fire



Data reflect percentage of respondents who rated concern as great/moderate on a 4-point scale (none, slight, moderate, great).

* 2002 and 2008 responses are significantly different at $p < .05$.

Acceptability of Smoke from Prescribed Fire

Prior research has pointed to smoke management as an important factor in the public acceptance of the use of prescribed fire. A series of questions was added to the 2008 questionnaire to provide a closer look at this factor in forest communities.

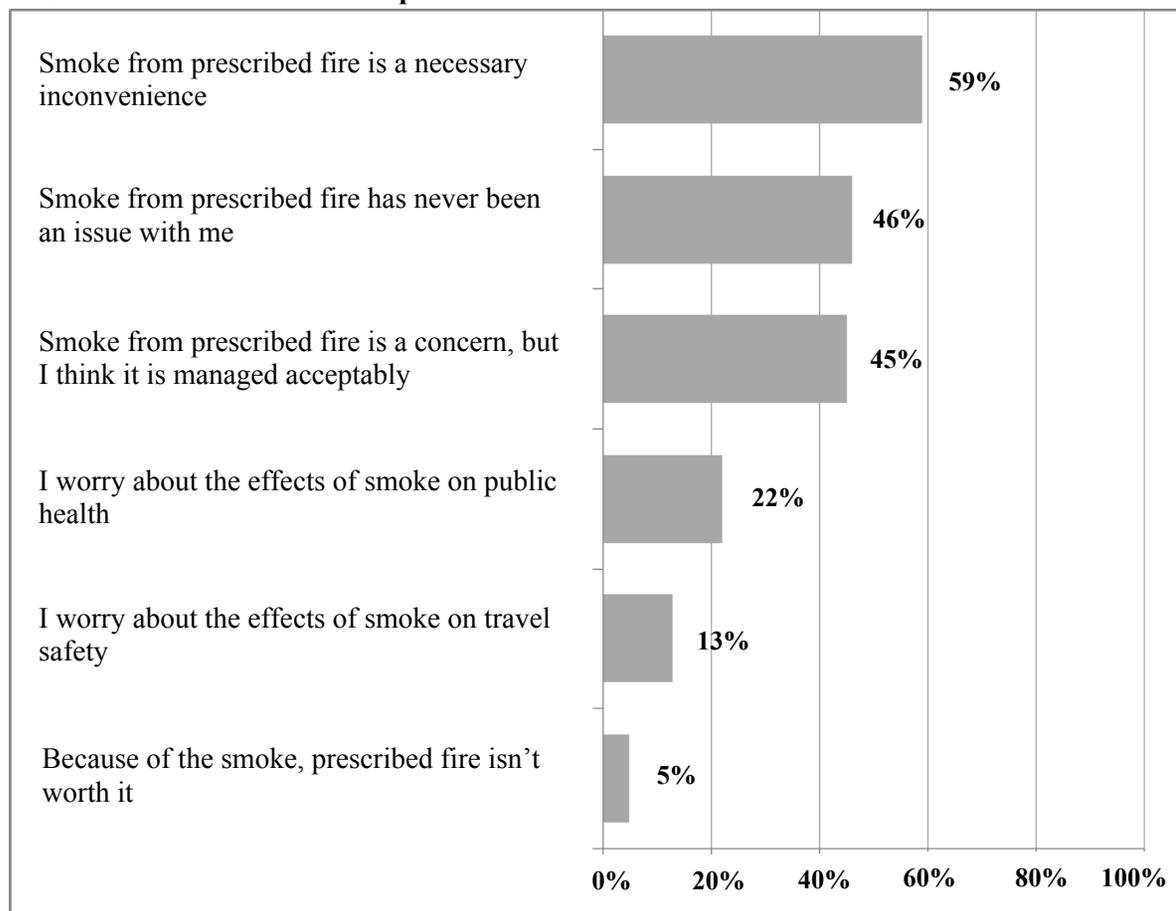
- Looking at aggregate responses for all sites, most participants indicate a willingness to accept the potential inconveniences associated with smoke. A majority agree that smoke from prescribed fire is a necessary inconvenience, with almost no one agreeing that prescribed fire should not be used (“isn’t worth it”) because of smoke impacts.

Geographic variation

Notable findings between locations include:

- Most Arizona residents (75%) acknowledged that *smoke is a necessary inconvenience*. The lowest level of agreement came from Michigan (46%).
- Participants in Colorado, Michigan, Minnesota, and Wisconsin were more likely to indicate they had never had an issue with smoke.
- Arizona had the highest number of participants (62%) who responded positively that *smoke from prescribed fire is managed acceptably*. Michigan had the lowest level of agreement at 35%.
- More Michigan participants also expressed concern with smoke effects on travel safety.

Concerns about smoke from prescribed fire.



Question asked in 2008 only.

Data reflect percentage of respondents who agreed with statement.

Potential Positive Outcomes of Fuel Treatment Practices

Fuel reduction treatments are used to produce a number of positive outcomes. In 2008, a new question sought to determine if respondents agreed with the likelihood that certain objectives would be achieved through prescribed fire and mechanical thinning treatments. Responses are ordered according to highest level of participant agreement.

Outcomes from Prescribed Fire

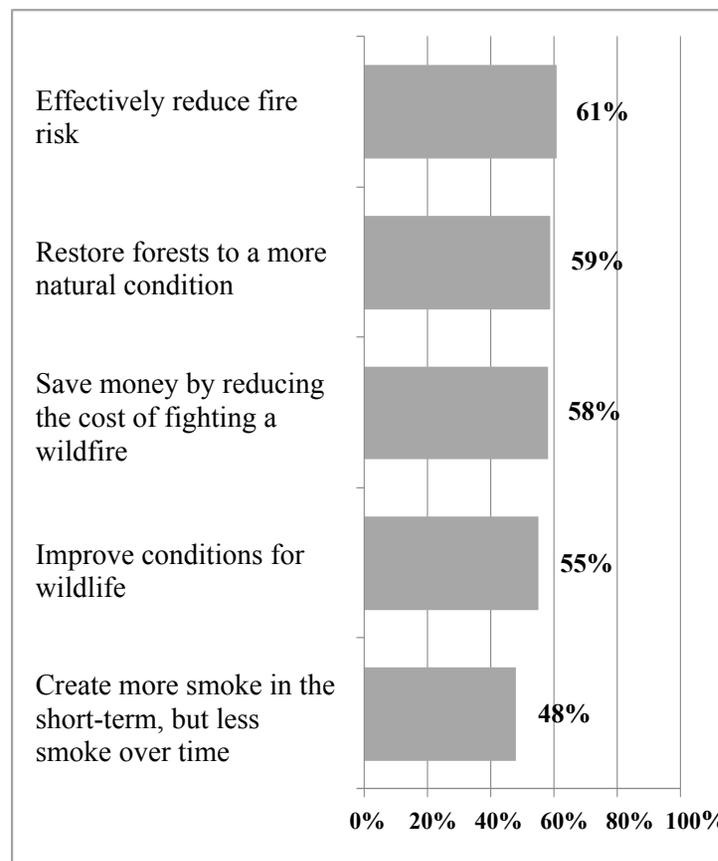
- In aggregate, participants largely agreed the use of prescribed fire would achieve four of the five intended outcomes: *reduce fire risk, help restore forest conditions, reduce the cost of fighting fire, and improve wildlife conditions.*
- Just under half agreed that it would lead to *less smoke over time.*

Geographic variation

There were several important differences in responses across locations.

- Overall, respondents from Arizona, Colorado, Oregon, and Minnesota were much more likely to agree that prescribed fire would achieve these outcomes than participants in the other three states. On a particularly important item—*effectively reduce fire risk*—the four states above all registered at least two-thirds agreement.
- Overall, Oregonians had higher levels of agreement about this set of outcomes than the other states. For each item, approximately two-thirds indicated each outcome was extremely or very likely.
- Conversely, Michigan respondents were less likely to agree this set of outcomes would result from the use of prescribed fire.

How likely do you think it is that prescribed fire will generate the following outcomes:



Question asked in 2008 only.

Data reflect percentage of respondents who rated likelihood as extremely/very on a 5-point scale (not at all, slightly, somewhat, very, or extremely likely) with a don't know option.

As with prescribed fire, respondents were asked about five likely positive outcomes for mechanical thinning treatments. Given concerns expressed in other studies, we also included an item probing the perceived likelihood that thinning treatments would *result in more harvesting than necessary*.

Outcomes from mechanical thinning

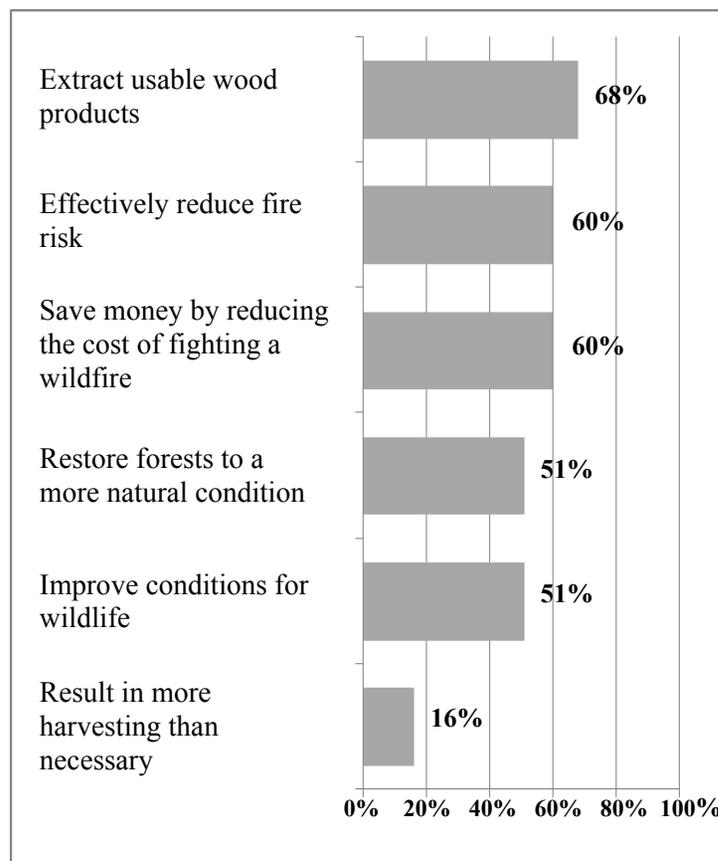
- In aggregate, a majority of participants agree thinning is likely to result in all five of the intended positive objectives: *extraction of wood products, reduction in fire risk, reduced cost of fighting fire, restoration of forest conditions, and improved conditions for wildlife*.
- It is also noteworthy that while two-thirds agree thinning will produce *usable wood products*, very few (16%) believe it will *result in more harvesting than necessary*.

Geographic variation

As with prescribed fire, there were several differences across locations regarding thinning treatments.

- Resulting differences followed a similar trend as for prescribed fire with a split between four states (Arizona, Colorado, Oregon, and Minnesota) again showing substantially greater agreement about most positive outcomes. However, all seven sites posted close to two-thirds agreement that thinning would result in *extraction of usable wood products*.
- Interestingly, Oregon again had the highest level of agreement for four of the five positive outcomes, with at least two-thirds of participants agreeing in each case.
- Once again, Michigan residents demonstrated the lowest level of agreement for most of these items.

How likely do you think it is that thinning will generate the following outcomes:



Question asked in 2008 only.

Data reflect percentage of respondents who rated likelihood as extremely/very on a 5-point scale (not at all, slightly, somewhat, very, or extremely likely) with a don't know option.

Confidence in Agency Managers

Confidence in agency personnel to use fuel reduction treatments safely and effectively is essential to the success of these programs. Agencies at all study locations had implemented such treatments during the study period and we are able to compare participant confidence levels between 2002 and 2008. In both studies, participants were specifically asked to rate their level of confidence in *agency managers to use prescribed fire and mechanical vegetation removal as part of a responsible and effective fuels management program.*

- Aggregate responses in both 2002 and 2008 show a majority expressed moderate or full confidence in managers to implement both treatments. While encouraging, it is also notable that at least one-fourth of participants had either limited or no confidence in agency managers.

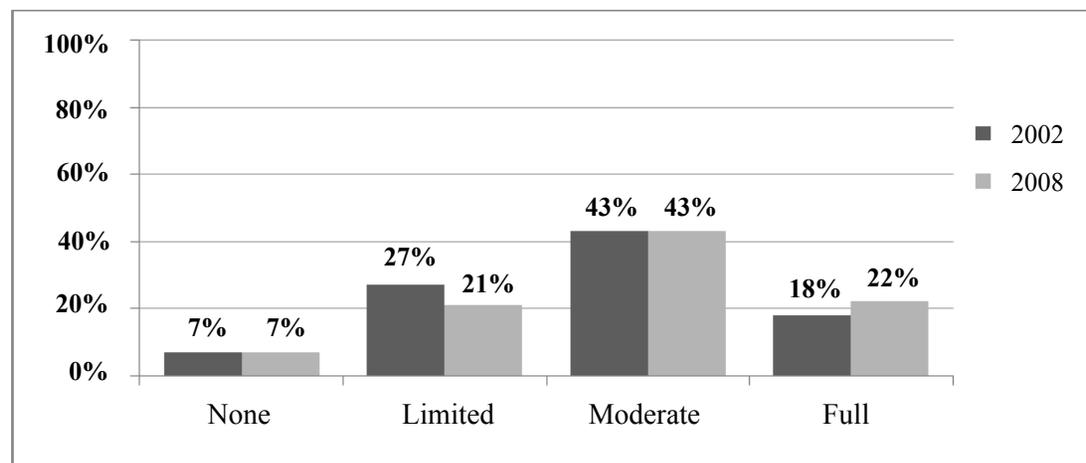
Responses over time

- Aggregate confidence levels were stable across the study period with both treatments receiving similar ratings in 2002 and 2008.
- As for individual locations, a significant change occurred only in Utah where participants expressed greater confidence in managers to use prescribed fire in 2008.

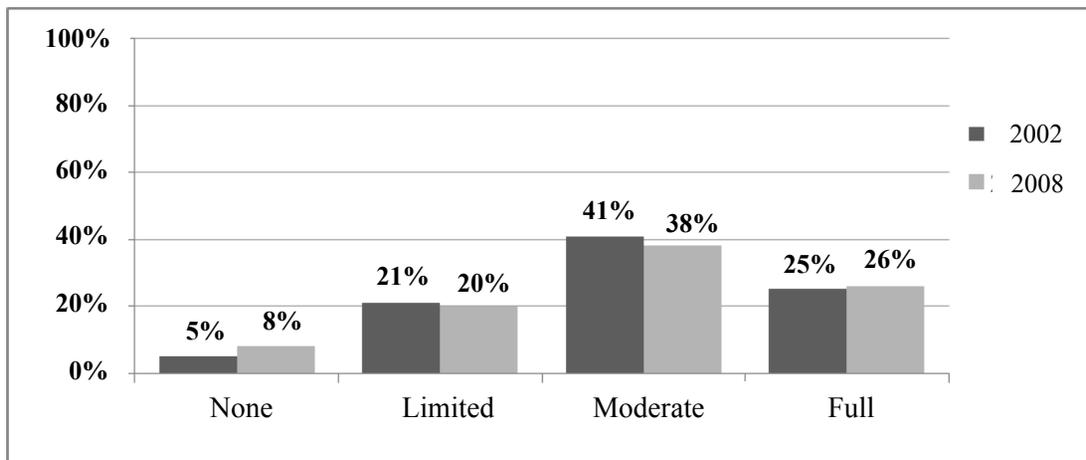
Geographic variation

- Confidence in managers to use prescribed fire differed across locations. In particular, three-fourths of participants in Arizona and Utah expressed support, while those in Michigan and Wisconsin appeared most apprehensive with just over 50% reporting full or moderate confidence in managers.
- There were no differences in confidence levels for the use of mechanical treatments. All sites reported a strong majority in support.

Confidence in Prescribed Fire



Confidence in Mechanical Vegetation Removal



“No Opinion” responses are omitted for presentation purposes.

Participant Trust Level Across the Study Period

To probe the confidence issue further, we also asked participants to indicate whether their trust in the local forest agency had changed over the last six years as a result of how agency personnel have addressed their fire and fuel management responsibilities. If their opinion had changed, we included an open-ended question asking respondents to provide a primary reason for this change.

- Overall, most participants at each site indicated their trust level remained the same.

Geographic variation

- Participants in Arizona and Oregon were most likely to exhibit change. At least one-fourth of participants in each state indicated their trust in the local agency had *increased*. Interestingly, these same states also reported the highest level of *decreased* trust.
- Written responses were recorded and analyzed. The most common reasons for *increased* trust included:
 - improved citizen-agency interactions
 - increases in fuel reduction activities
 - the success of agencies in suppressing recent fires.
- For *decreased* trust, participants most often cited:
 - escaped prescribed burns
 - increasing frequency/damage from wildland fires
 - lack of harvesting following a fire or other disturbance event.

My trust in the local forest agency has:

	Increased	Not changed	Decreased
Combined	14	74	11
AZ	32	52	17
CO	11	79	10
OR	24	59	17
UT	9	84	7
MI	10	78	12
MN	8	80	10
WI	10	82	9

Management Summary

- Overall, there is substantial public acceptance for the use of prescribed fire and mechanical vegetation removal to reduce forest fuels across these seven study sites. Positive responses were marked by their consistency across the study period demonstrating a steady level of support for active forest management.
- In both 2002 and 2008 at least 80% of study participants agreed these treatments could be used either with full discretion by managers or sparingly in carefully selected areas. The latter is already the common approach among management agencies.
- While there is acceptance of the use of prescribed fire in each location, participants were more positive in their support for the use of mechanical vegetation removal. Particularly in fire prone communities such as these, residents may recognize a need for the use of mechanical treatments to modify current forest conditions prior to implementing an extensive prescribed fire program.
- In general, residents are becoming more comfortable with the use of prescribed fire. Concerns with most potential risks decreased between 2002 and 2008. However, perceived risks still remain in each location suggesting managers will need to address important concerns within local communities.
- While increased levels of smoke are still a concern across every locations, most participants agree the potential benefits from prescribed fire outweigh the potential negative impacts.
- Respondents recognized a number of positive outcomes from actively managing forests. Both prescribed fire and mechanical vegetation removal were noted for their ability to reduce fire risk, restore natural forest conditions, improve wildlife habitat, and ultimately reduce the costs of fire suppression.
- It is clear that communities have different concerns and opinions about forest practices. For example, study sites in Arizona, Oregon, and Minnesota appear much more comfortable with implementation of treatments and see fewer risks in using them. No one approach works in all places. To be successful, managers will need to pay close attention to the interests of local citizens, levels of understanding and agreement, and specific concerns among their stakeholders.
- Despite the high levels of acceptance for fuel treatments, participants were less confident in the ability of agency personnel to effectively implement practices. This suggests that residents may be waiting to see the outcomes of these practices before making final judgments. Improved communication strategies and relations with citizens are likely lead to increased confidence levels.
- Findings here corroborate findings regarding citizen-agency trust in previous case study research. Three such factors that are central to developing citizen trust in agencies include-1) paying attention to and improving interactions with community residents, 2) the carryover benefits of successfully implementing locally visible fuel reduction programs, and 3) residents' belief in managers' ability to effectively suppress wildfires.

Study Locations:

Arizona: Yavapai County

Management unit: Prescott National Forest

Colorado: Boulder and Larimer Counties

Management units: Rocky Mountain National Park, Arapahoe-Roosevelt NF

Oregon: Deschutes and Jefferson Counties

Management units: Deschutes NF, BLM Prineville District

Utah: Wasatch Front—Salt Lake City and Tooele County

Management units: BLM West Desert District, Uinta-Wasatch-Cache NF

Michigan: All communities adjacent to national forests

Management units: Huron Manistee NF, Ottawa NF, Hiawatha NF

Minnesota: All communities adjacent to national forests

Management units: Chippewa NF, Superior NF

Wisconsin: All communities adjacent to national forests

Management unit: Chequamegon-Nicolet NF

Appendix A – Frequency Report

1. In my opinion, using *prescribed fires* on public forests and rangelands is:

	A legitimate tool that resource managers should be able to use whenever they see fit.		Something that should be done infrequently, only in carefully selected areas.		A practice that should not be considered because it creates too many negative impacts.		An unnecessary practice.		I know too little to make a judgment about this topic.		P-value
	2002	2008	2002	2008	2002	2008	2002	2008	2002	2008	
Total	45	44	45	41	3	5	2	2	5	9	.566
AZ	50	61	47	25	0	7	2	0	2	7	.109
CO	52	34	42	56	3	3	1	1	1	6	.036
OR	55	60	37	30	7	7	1	0	0	3	.277
UT	40	41	52	50	3	3	0	0	6	6	.536
MI	35	31	38	42	9	6	1	1	17	19	.569
MN	53	45	44	45	0	3	1	3	2	4	.074
WI	34	38	53	35	1	7	5	4	7	15	.590

2. In my opinion, *mechanical vegetation removal* is:

	A legitimate tool that resource managers should be able to use whenever they see fit.		Something that should be done infrequently, only in carefully selected areas.		A practice that should not be considered because it creates too many negative impacts.		An unnecessary practice.		I know too little to make a judgment about this topic.		P-value
	2002	2008	2002	2008	2002	2008	2002	2008	2002	2008	
Total	59	62	26	24	3	2	3	2	9	10	.039
AZ	76	75	16	10	3	3	2	0	3	12	.261
CO	63	70	24	20	3	4	3	0	7	6	.220
OR	67	68	21	22	6	1	1	1	4	7	.497
UT	56	57	34	31	0	2	0	2	10	9	.821
MI	47	50	31	32	4	3	4	4	15	12	.999
MN	60	67	28	21	1	1	3	3	8	8	.550
WI	50	52	26	27	4	2	5	1	15	17	.109

3. The use of *prescribed fire* may create concerns for some people. Please indicate how concerned you are about the following possible effects in your area.

a. Damage to private property

	Great concern		Moderate concern		Slight concern		Not a concern		P-value
	2002	2008	2002	2008	2002	2008	2002	2008	
	Total	20	10	27	22	40	44	13	
AZ	7	7	30	12	47	50	17	31	.033
CO	20	14	38	41	35	34	7	11	.344
OR	23	6	21	20	41	46	16	29	<.001
UT	21	8	28	25	38	52	13	15	.038
MI	30	21	24	14	31	44	16	22	.030
MN	16	6	27	22	42	48	14	24	.001
WI	19	11	25	19	47	39	10	31	<.001

b. Decreased recreation opportunities

	Great concern		Moderate concern		Slight concern		Not a concern		P-value
	2002	2008	2002	2008	2002	2008	2002	2008	
	Total	11	5	24	14	33	32	33	
AZ	9	5	14	13	33	32	44	50	.458
CO	7	4	20	19	35	33	38	44	.381
OR	9	6	24	14	36	30	31	50	.001
UT	13	5	28	21	32	43	27	31	.046
MI	19	13	31	28	26	29	24	30	.171
MN	8	2	20	16	32	34	39	48	.016
WI	10	3	26	23	36	24	29	49	.010

c. Loss of wildlife habitat

	Great concern		Moderate concern		Slight concern		Not a concern		P-value
	2002	2008	2002	2008	2002	2008	2002	2008	
	Total	19	12	24	27	28	28	28	
AZ	14	12	17	27	33	30	33	32	.409
CO	13	9	24	35	33	31	27	25	.645
OR	19	11	23	16	26	27	31	46	.001
UT	22	9	25	30	28	36	18	25	.175
MI	27	19	26	26	25	33	22	22	.246
MN	15	14	24	26	27	21	33	38	.671
WI	20	13	26	25	25	34	29	28	.163

d. Economic loss of useable timber

	Great concern		Moderate concern		Slight concern		Not a concern		P-value
	2002	2008	2002	2008	2002	2008	2002	2008	
	Total	13	12	22	26	27	31	37	
AZ	7	12	12	17	29	28	52	43	.188
CO	3	4	19	25	19	27	60	44	.038
OR	16	15	27	21	24	31	34	34	.596
UT	9	12	24	29	27	35	40	26	.099
MI	18	19	26	28	22	32	35	22	.228
MN	21	11	25	35	30	32	25	22	.593
WI	13	14	22	26	38	33	28	27	.392

e. Increased levels of smoke

	Great concern		Moderate concern		Slight concern		Not a concern		P-value
	2002	2008	2002	2008	2002	2008	2002	2008	
	Total	18	12	26	28	32	37	24	
AZ	14	17	36	24	24	44	26	15	.604
CO	11	6	27	39	37	30	24	25	.904
OR	21	13	23	32	29	44	27	12	.908
UT	24	13	22	40	38	34	16	12	.745
MI	23	19	28	29	28	28	23	24	.615
MN	13	12	21	22	34	37	31	28	.850
WI	18	9	26	14	36	46	20	31	<.001

f. Deteriorated public water supply

	Great concern		Moderate concern		Slight concern		Not a concern		P-value
	2002	2008	2002	2008	2002	2008	2002	2008	
	Total	18	9	19	16	31	32	32	
AZ	10	7	26	14	24	36	40	43	.122
CO	14	7	23	24	37	37	26	32	.184
OR	21	13	23	15	29	23	27	49	<.001
UT	25	8	18	24	37	45	21	24	.038
MI	23	14	19	22	19	31	39	33	.713
MN	15	5	16	10	33	34	36	51	<.001
WI	17	11	13	9	34	23	36	57	.004

g. Increased soil erosion

	Great concern		Moderate concern		Slight concern		Not a concern		P-value
	2002	2008	2002	2008	2002	2008	2002	2008	
	Total	22	13	27	26	34	37	18	
AZ	12	17	29	24	40	34	19	25	.905
CO	17	11	34	35	41	41	7	13	.212
OR	23	13	24	19	37	39	17	29	.006
UT	31	13	29	39	24	40	16	8	.301
MI	26	14	30	29	30	29	14	28	.006
MN	17	9	19	24	37	37	26	29	.136
WI	23	15	27	16	30	37	20	32	.001

**4. Which of the following items reflect your opinion about *smoke from prescribed fire*?
Please check all the answers that apply to you.**

	Smoke from prescribed fire has never been an issue for me	Smoke from prescribed fire is a necessary inconvenience	Smoke from prescribed fire is a concern, but I think it is managed acceptably	I worry about the effects of smoke on public health	I worry about the effects of smoke on travel safety	Because of the smoke, prescribed fire isn't worth it.
	% Agree	% Agree	% Agree	% Agree	% Agree	% Agree
	2008	2008	2008	2008	2008	2008
Total	46	59	45	22	13	5
AZ	29	75	62	25	5	5
CO	51	63	47	20	11	0
OR	36	64	47	20	16	7
UT	32	52	41	29	16	3
MI	52	46	35	30	25	10
MN	53	68	47	17	14	3
WI	60	51	39	17	3	3

5. How likely do you think it is that *prescribed burning* will generate the following outcomes?

a. Create more smoke in the short-term, but less smoke over time

	Extremely likely	Very likely	Somewhat likely	Slightly likely	Not at all likely	Don't know
Total	15	33	24	11	7	10
AZ	15	45	15	12	8	5
CO	20	30	29	6	6	9
OR	22	41	15	13	3	6
UT	9	29	37	8	5	12
MI	10	16	26	21	12	16
MN	16	42	21	11	4	6
WI	15	29	24	9	9	15

b. Save money by reducing the cost of fighting a wildfire

	Extremely likely	Very likely	Somewhat likely	Slightly likely	Not at all likely	Don't know
Total	24	34	20	9	7	6
AZ	33	37	12	10	7	2
CO	25	39	25	4	4	3
OR	42	33	12	1	7	4
UT	18	43	25	6	1	6
MI	10	28	21	13	13	15
MN	32	35	20	8	4	1
WI	14	29	23	14	9	10

c. Restore forests to a more natural condition

	Extremely likely	Very likely	Somewhat likely	Slightly likely	Not at all likely	Don't know
Total	23	36	18	8	9	6
AZ	25	42	17	5	7	5
CO	22	50	12	4	6	6
OR	36	35	17	3	9	0
UT	16	36	21	12	7	7
MI	14	28	14	15	17	12
MN	29	36	23	5	4	2
WI	16	29	20	11	15	9

d. Improve conditions for wildlife

	Extremely likely	Very likely	Somewhat likely	Slightly likely	Not at all likely	Don't know
Total	23	32	20	9	9	8
AZ	25	30	17	8	7	13
CO	20	32	25	10	7	6
OR	31	32	19	4	7	6
UT	17	38	21	11	5	9
MI	17	27	19	10	17	10
MN	32	36	17	5	6	4
WI	16	27	24	12	12	8

e. Effectively reduce fire risk

	Extremely likely	Very likely	Somewhat likely	Slightly likely	Not at all likely	Don't know
Total	27	34	21	7	6	5
AZ	38	35	12	5	8	2
CO	26	39	20	6	4	4
OR	43	30	20	0	3	3
UT	18	38	25	11	3	5
MI	18	27	22	12	12	10
MN	35	37	19	4	3	1
WI	15	32	26	13	5	8

6. How likely do you think it is that *thinning* will generate the following outcomes?

a. Extract usable wood products

	Extremely likely	Very likely	Somewhat likely	Slightly likely	Not at all likely	Don't know
Total	28	40	15	9	3	5
AZ	20	37	20	14	2	7
CO	26	39	20	7	4	4
OR	32	38	19	7	3	1
UT	23	44	14	14	2	5
MI	23	40	8	12	5	12
MN	32	42	16	7	2	1
WI	33	37	13	4	6	7

b. Save money by reducing the cost of fighting a wildfire

	Extremely likely	Very likely	Somewhat likely	Slightly likely	Not at all likely	Don't know
Total	27	33	21	8	5	6
AZ	42	30	10	8	3	7
CO	21	44	24	6	3	1
OR	38	43	9	3	1	6
UT	28	30	27	4	4	6
MI	16	29	17	16	13	10
MN	33	32	26	6	2	1
WI	14	29	27	10	10	10

c. Restore forests to a more natural condition

	Extremely likely	Very likely	Somewhat likely	Slightly likely	Not at all likely	Don't know
Total	21	30	24	10	8	7
AZ	31	32	19	7	3	8
CO	21	43	20	7	3	6
OR	35	35	19	6	1	4
UT	12	33	22	13	9	10
MI	13	17	30	16	17	8
MN	26	28	25	10	8	2
WI	10	28	29	8	14	11

d. Improve conditions for wildlife

	Extremely likely	Very likely	Somewhat likely	Slightly likely	Not at all likely	Don't know
Total	21	30	24	10	7	8
AZ	27	27	20	7	3	17
CO	17	37	26	9	6	6
OR	28	38	18	3	7	6
UT	15	27	38	12	2	6
MI	15	17	26	12	21	10
MN	30	33	18	11	3	4
WI	13	33	24	15	8	8

e. Effectively reduce fire risk

	Extremely likely	Very likely	Somewhat likely	Slightly likely	Not at all likely	Don't know
Total	27	33	21	8	6	6
AZ	43	28	18	0	3	7
CO	25	41	23	3	6	3
OR	35	45	13	3	1	3
UT	24	30	28	9	3	6
MI	17	26	19	17	12	9
MN	34	33	20	8	3	2
WI	16	27	23	13	10	10

f. Result in more harvesting than necessary

	Extremely likely	Very likely	Somewhat likely	Slightly likely	Not at all likely	Don't know
Total	7	9	18	31	26	8
AZ	10	8	23	27	22	10
CO	4	7	20	33	26	10
OR	7	7	7	33	39	6
UT	0	11	23	44	14	9
MI	12	8	18	30	18	13
MN	4	12	14	35	34	2
WI	9	8	24	20	29	10

7. How much confidence do you have in the forest agency in your area to use the following practices as part of a responsible and effective fuels management program?

a. Confidence in forest agency to use prescribed fire

	Full		Moderate		Limited		None		No Opinion		P-value
	2002	2008	2002	2008	2002	2008	2002	2008	2002	2008	
Total	18	22	43	43	27	21	7	7	6	7	.126
AZ	25	34	52	41	18	20	5	5	0	0	.695
CO	13	10	49	51	32	23	4	10	1	6	.504
OR	13	29	59	36	19	23	6	10	3	1	.678
UT	13	25	43	51	37	13	3	4	3	6	.008
MI	14	15	36	37	20	23	13	5	18	19	.314
MN	23	21	43	49	24	22	3	5	6	2	.833
WI	22	21	27	35	33	22	12	11	6	10	.595

b. Confidence in forest agency to use mechanical vegetation removal

	Full		Moderate		Limited		None		No Opinion		P-value
	2002	2008	2002	2008	2002	2008	2002	2008	2002	2008	
Total	25	26	41	38	21	20	5	8	8	8	.317
AZ	35	33	40	38	15	21	10	3	0	5	.828
CO	21	25	44	38	27	16	1	16	7	6	.458
OR	28	35	46	36	21	21	3	8	3	0	.557
UT	18	31	49	40	25	19	0	3	8	7	.419
MI	23	21	33	37	18	19	6	10	21	14	.597
MN	27	25	47	41	16	21	3	7	7	7	.219
WI	23	20	32	35	26	24	10	9	8	12	.827

8. Please tell us if your trust in the forest agency in your area has *changed* over the last six years because of how it has handled its fire and fuel management activities.

My trust in the agency has:

	Increased	Not changed	Decreased
Total	14	74	11
AZ	32	52	17
CO	11	79	10
OR	24	59	17
UT	9	84	7
MI	10	78	12
MN	8	80	10
WI	10	82	9

If your trust in the forest agency in your area has increased or decreased, what is the primary reason? (open-ended question)

Increased trust (most common responses recorded here. States where this response was particularly high are noted).

- Improved agency interactions and community outreach (AZ, CO, OR, WI)
- Increases and improvements in fuel reduction practices (AZ, OR)
- Effectiveness of agency in stopping recent local wildfires

Decreased trust

- Prescribed burns got out of control
- Inability to reduce number of wildfires and to put them out quickly (AZ, UT)
- Failure to harvest damaged trees after fire or blow-down event (MI, WI)