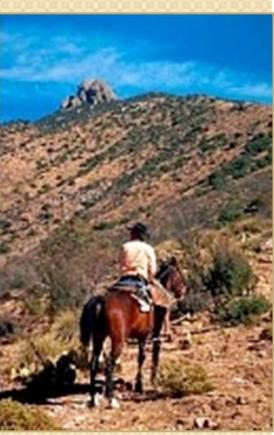


Human dimensions of sagebrush management in the Great Basin

Mark Brunson

Department of Environment & Society

Utah State University



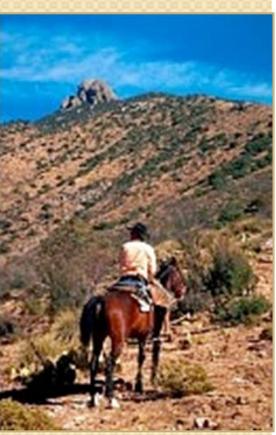
A team effort

- Co-investigator: **Bruce Shindler (Oregon State University)**
- Outreach coordinator: **Summer Olsen, Liz Didier**
- Graduate research assistants: **Ryan Gordon (Oregon State)**, Scott Hoffmann, Robert Johnson, Jennifer Peterson, Hilary Whitcomb
- Undergraduate researchers: Casey Snider, Elaine Taylor
- Undergraduate outreach assistants: Ashley Hansen, Sara Hunt, Hesper Kohler, Summer Taylor
- Funding: Joint Fire Science Program, USU Ecology Center, Utah Agricultural Experiment Station
- Cooperators: Countless wonderful federal agency partners!!



SageSTEP social science: An overview of key outcomes

- Research approach
- Notable results at 3 levels of interaction
- Implications for sagebrush ecosystem management and research



3 levels of human-environment interaction

Citizens

Surveys:
Initial, post-fire, repeat

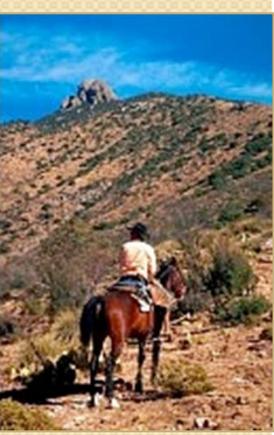
**Interviews &
content analysis**

Interest groups

Interviews:
Initial & issue-specific

**Decision makers
(managers and
policy makers)**



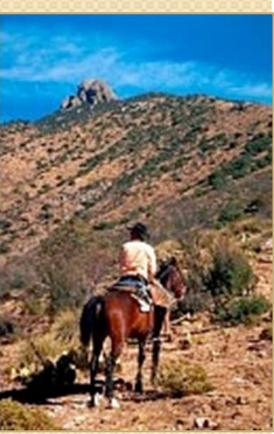


Study goals

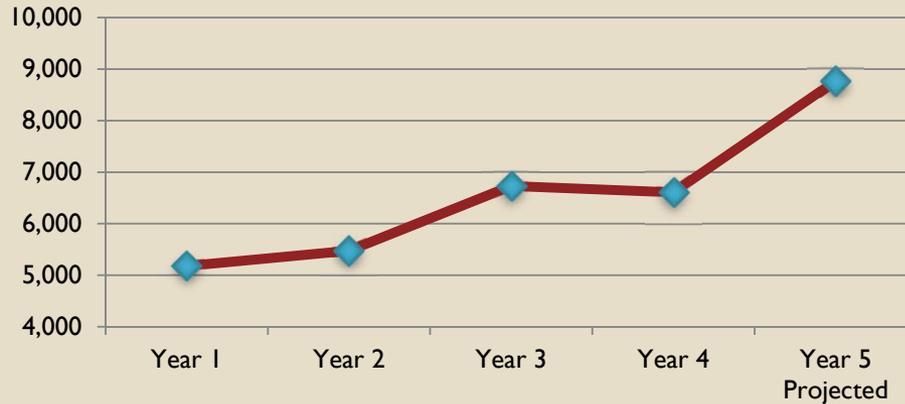
- **General public surveys** help us understand
 - Citizens' awareness of threats to sagebrush
 - Relative acceptance of management options for fuels control or post-fire rehabilitation
- **Interviews & content analysis** help us learn
 - Underlying reasons for political action by interest group activists
 - Uses of information by decision-makers
 - Influences upon management change (impediments or facilitators)



Use of outreach resources



Yearly Visits to www.sagestep.org



Most visited pages

1. Homepage
2. Contacts
3. Site locations
4. Study overview
5. SageSTEP publications

Most useful products

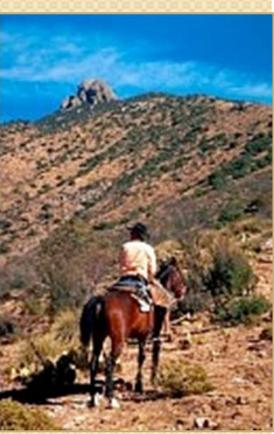
1. Scientific publications
2. (tie) Field guides, field tours
3. (tie) Newsletter, workshops
4. (tie) Website, DVD
5. Fuels guide

Who uses our resources?

Public land managers	61%
Extension/outreach	23%
Researchers	10%
Private land managers	3%
General public	3%

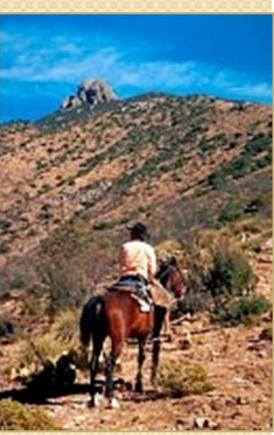
Decision-maker perspectives

- Not enough money – maybe never will be
- Feel they do a good job of balancing grazing, recreation and environmental interests
- Prefer larger projects to match scale of disturbance and to minimize NEPA costs



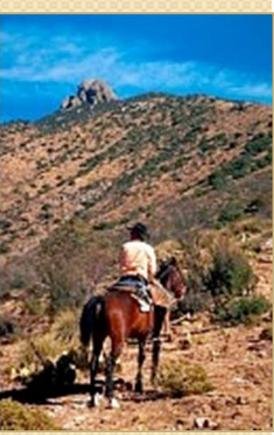
Stakeholder perspectives

- Pessimistic about future – feel agency staff, \$\$ not enough to “get ahead” of problems
- Willing to consider any management tool – opposition typically about goals, not methods
- Think agency is tilted toward “the other side”
- Believe higher-up interference prevents local managers from using best science
- Prefer smaller projects to minimize costs of potential mistakes

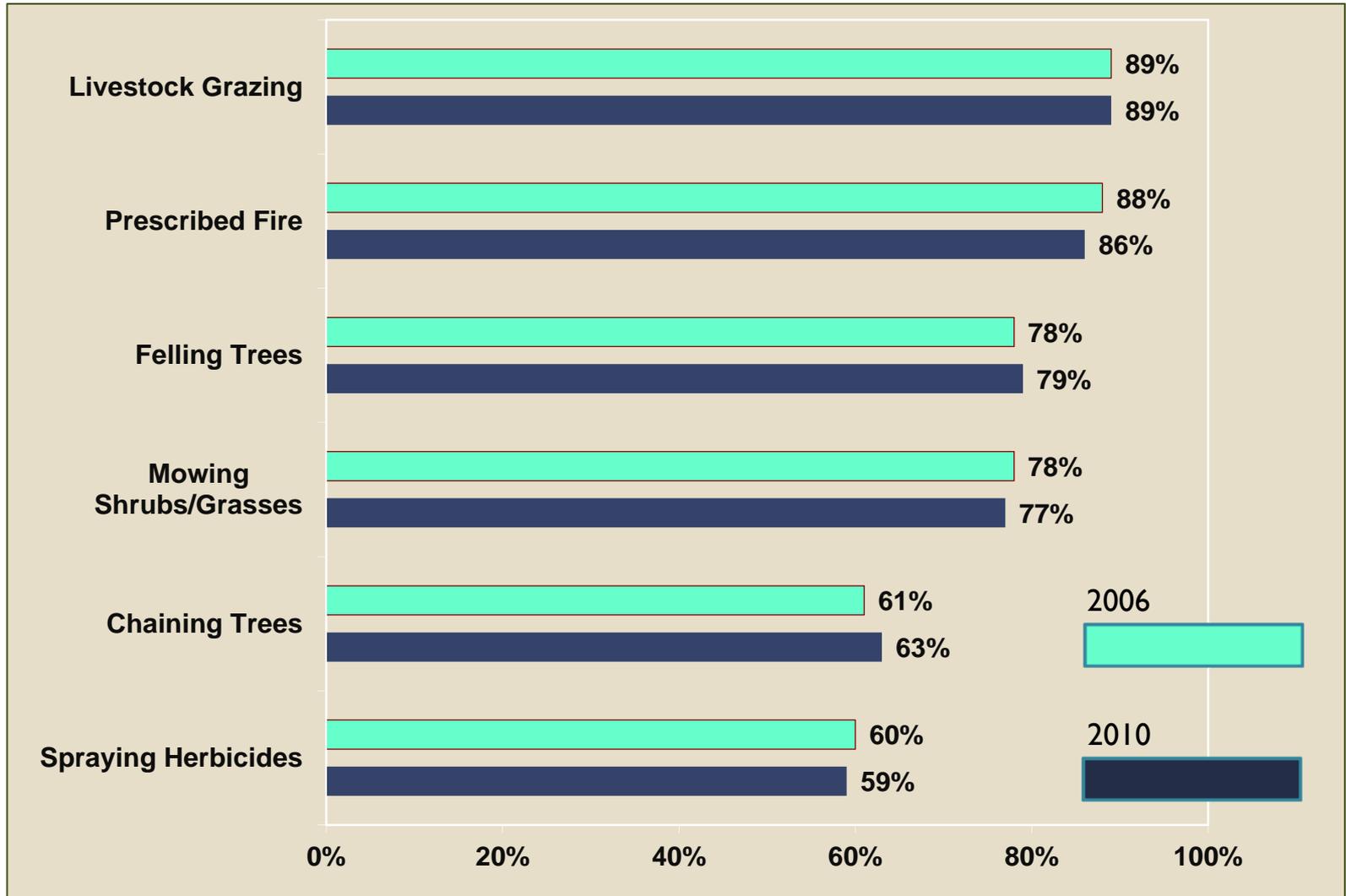
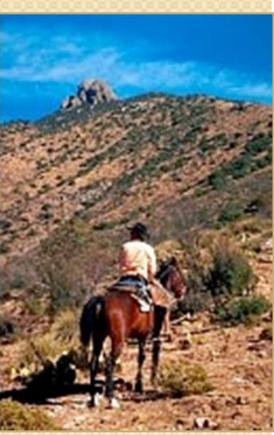


Surveys in 3 urban, 6 rural areas

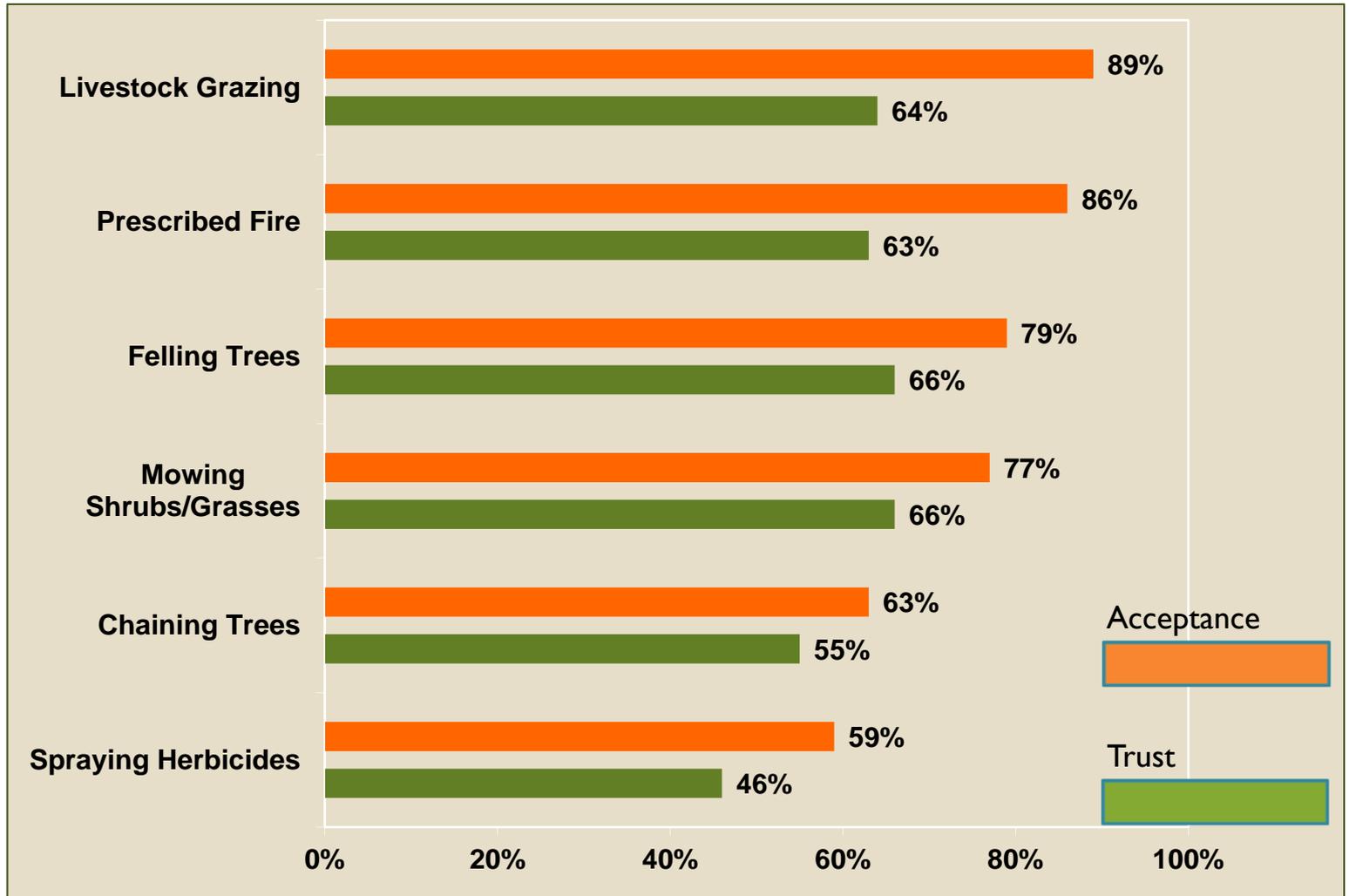
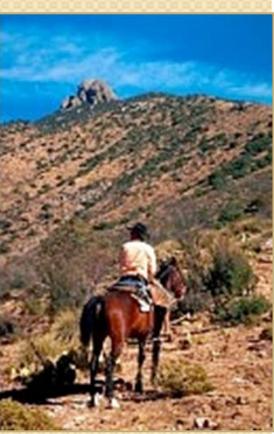
- Most see Great Basin rangelands as healthy
- Perceived threats to rangeland health:
 - All agree on invasive species and wildfire
 - Urban residents more likely to see threats from human impacts (OHVs, grazing management)
 - Rural residents more likely to see threats from ecological processes (P-J encroachment, dense sage)
 - Little change in awareness from 2006-2010, except increasing knowledge of feral horse issues



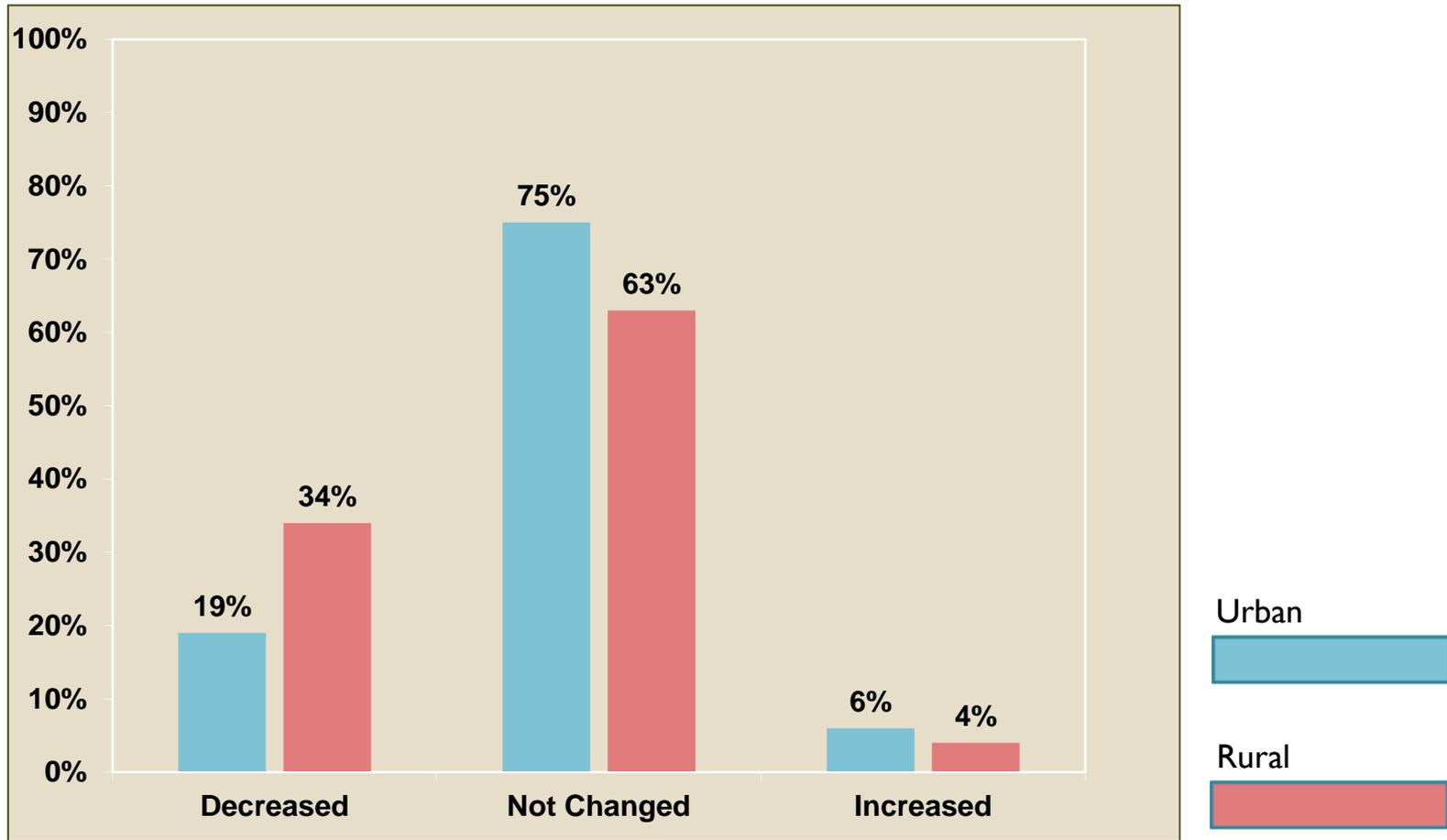
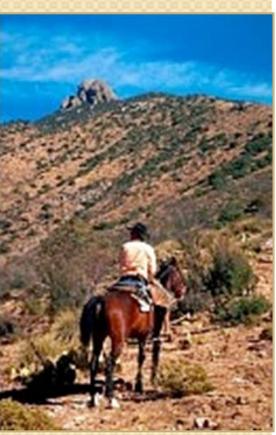
Acceptance of practices, 2006-10



Acceptance of practices vs. trust in implementation (2010)

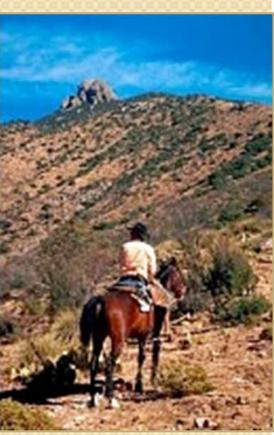


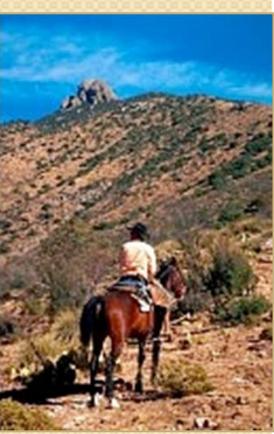
Declining trust among rural publics



What underlies loss of trust?

- No change in belief that field offices seek input and listen to it
- Perceived loss of local control – believe local input ignored due to top-down pressures
- Distrust driven more by overall politics than specific knowledge of agency actions
- One exception: counties affected by Utah's Milford Flat wildfire (2007), where restoration response was rapid & visible





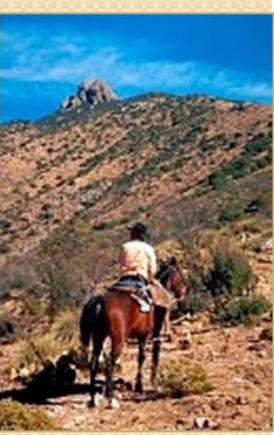
Other lessons from Milford Flat

- Some increased awareness of threats (e.g., PJ encroachment among urban citizens)
- Little effect on acceptance of fuels treatments
- Effects of large fires can be felt both locally and regionally

Effect	Salt Lake City	Millard County	Beaver County
Suffered property damage	1%	4%	4%
Friends or family property damage	9%	28%	46%
Health was affected by smoke	18%	14%	9%
Bothered by odor or low visibility	39%	58%	50%

Implications for sagebrush management

- Awareness of threats remains lower than it could be, but increases after wildfires
 - ***Maintain outreach activities; take advantage of events***
- Everyone thinks opponents treated more fairly; politics interferes with science
 - ***Be as open as possible – even about political constraints***
- Almost all practices are generally acceptable
 - ***Focus on specific situations & safeguards***



Implications for sagebrush management & research

- Confidence-acceptance gap is unavoidable due to national politics, but trust can be improved
 - ***We need better information about conditions that influence affect trust***
- Wildfires have both local and regional impacts
 - ***We need information about extent & impacts of smoke (wildfire or prescribed fire) at multiple scales***
- Active outreach during study can be invaluable
 - ***For large projects, scientists should plan for it, agencies should insist on it***

