Photo credit: Emily Jane Davis

Prescribed Fire: How Does it Span Boundaries for More Effective Co-Management of Wildfire Risk?

Emily Jane Davis, Heidi Huber-Stearns, Tony Cheng, Darren McAvoy, Mike Caggiano

Article

We're Not Doing Enough Prescribed Fire in the Western United States to Mitigate Wildfire Risk

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- Lack of enabling structural conditions in federal agencies

- Social barriers: public perceptions of risks and negative impacts

- Limited social and economic science on the topic

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Air quality is not uniformly the barrier…

- Lack of capacity and funding

Prescribed Fire Policy Barriers and Opportunities

A Diversity of Challenges and Strategies Across the West

COURTNEY SCHULTZ, HEIDI HUBER-STEARNS, SARAH MCCAFFREY, DOUGLAS QUIRKE, GWEN RICCO, AND CASSANDRA MOSELEY

SUMMER 2018

ECOSYSTEM WORKFORCE PROGRAM WORKING PAPER NUMBER 86

PUBLIC LANDS POLICY GROUP PRACTITIONER PAPER NUMBER 2

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Air quality is not uniformly the barrier…

- Lack of capacity and funding
- Limitations to sharing resources across agencies
- Lack of incentives
- Cultural risk aversion

…Reliance on "champions" versus conditions

Prescribed Fire Policy Barriers and Opportunities

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Research Questions

What spans action arenas and structures the possibilities for co-management of risk in firesheds?

1) Develop new knowledge of the relationships between organizational structures, behaviors, and values at risk

2) Identify attributes that share or distribute risk in new ways through joint accountability and action

Photo credit: Eytan Krasilovsky

Research Questions

What spans action arenas and structures the possibilities for co-management of risk in firesheds?

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Photo credit: Eytan Krasilovsky

What is the role of prescribed fire within these questions?
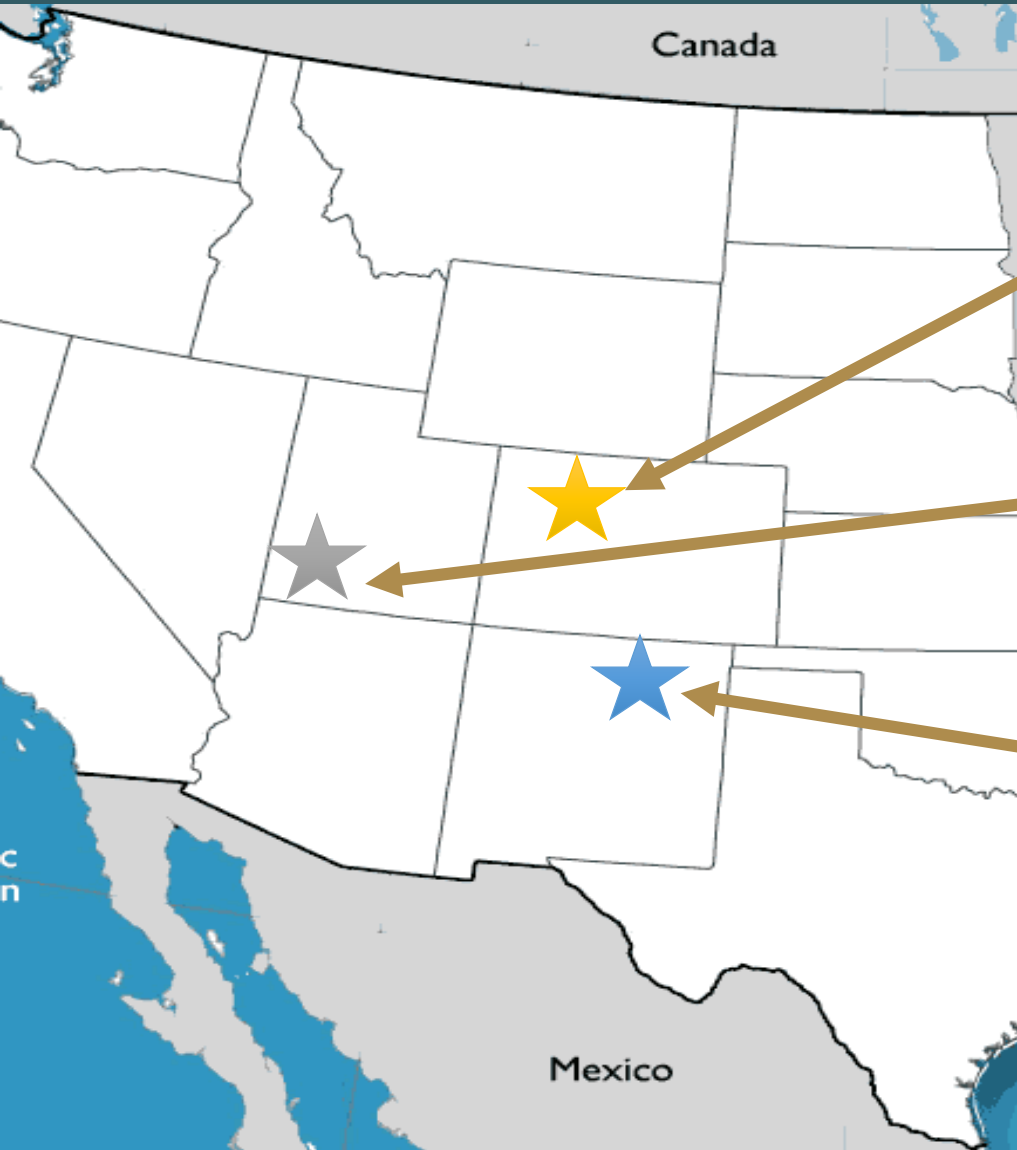
Methods

- Case study firesheds

- Document analysis

- Qualitative semi-structured interviews
  - Key informants in federal, state, local agencies and other organizations
  - Involvement in mitigation and suppression

Case Study Criteria

- Recent histories of:
  - Large fires with multiagency response
  - Collaboration and partnerships

- Variability in:
  - Socio-ecological context
  - Spatial footprint
  - Ownership patterns
  - "On paper" evidence of co-management

Focal Cases Today

- Northern Colorado Fireshed, northern Colorado
  March 2019

- Iron and Garfield Counties, southwestern Utah
  May 2019

- Rio Grande Water Fund Landscape, northern New Mexico
  October 2018

Total of 58 interviewees

Typology of Boundary Work

Activities	Performing related or collective tasks
Objects	Bridge gaps in org. structures, knowledge, interests; move resources
Concepts	Sustain common communication and goals
Organizations/ people	Facilitate and sustain connections, put in legwork
Settings	Missions, cultures, practices, policies

Coding

- Examples of specific prescribed fire events, how those were organized
- Outcomes of prescribed fire
- Relationship of prescribed fire to other fuels reduction activities
- Relationship of prescribed fire to wildfire events
- Relationship of prescribed fire to use of managed fire
- Discussions of what enables or inhibits use of prescribed fire
- Partnerships that have facilitated prescribed fire
- Mechanisms used to organize prescribed fire (contracts, grants, agreements, job codes)
- Risks of prescribed fire
- Prescribed fire workforces and quals (burn bosses, presence/absence of workforce, etc)

Boundary #1:

Ownership/jurisdictional boundaries

Burn across boundaries

- Interspersed state and federal landownerships

- Different missions and capacities re: fire

- Allowing prescribed fire to cross boundaries

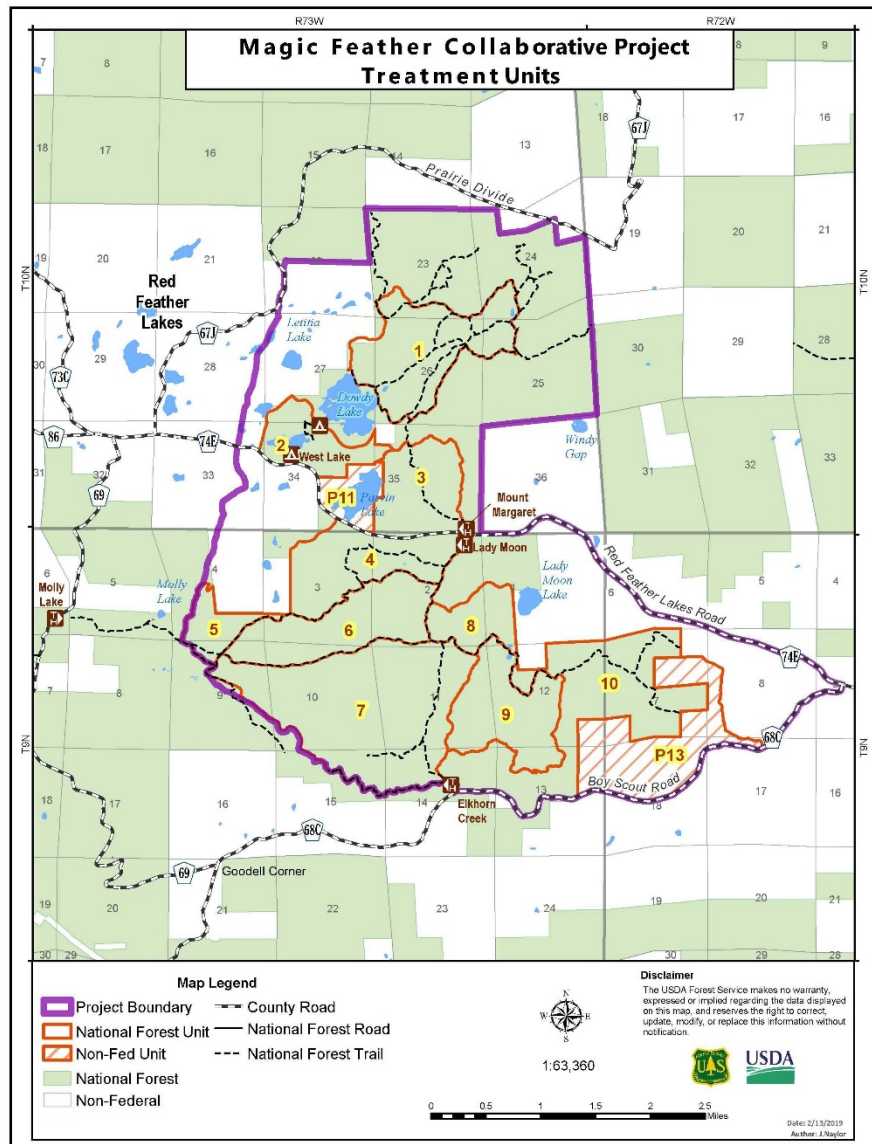Photo credit: Emily Jane Davis

"In a meeting, in conversation with the BLM, we started looking at maps. And, there was one prescribed burn in particular where they were trying to keep off of State Trust land, and it involved a lot of extra work. Finally we said, well, why are we doing this? Why don't we just have fire go across the landscape? It's cheaper, it's a better landscape benefit. I think the light bulbs went off and said, yeah, we're actually making harder on ourselves, to not manage across boundaries. Rather than trying to stay in our own boxes."

NM interviewee #13

Map credit: Arapaho-Roosevelt National Forests
and Pawnee National Grassland

Cross-boundary burns in Northern Colorado Fireshed

- Planned burn including adjacent private units

- Joint Chiefs/NRCS funding to enable

- Outreach to build support and engagement

"But this was one of the ones that was go out to do what you can to seek support and collaborative efforts on private, individual landowners.

It's just kind of a prelude of how we want to move forward which is kind of that POD idea. Moving out to reasonable operational perimeters. Prepping those, and then regardless of jurisdiction trying to get everybody on board across all jurisdictions."

CO interviewee #5

Photo credit: Arapaho-Roosevelt National Forests and Pawnee National Grassland

Boundary #2:

Organizational boundaries

Cooperative Burn Team

- Rio Grande Water Fund funding and support

- Forest Stewards Guild and The Nature Conservancy standing up

- Multiple affiliations, multiple jurisdictions

All Hands All Lands Burn Team
Fall 2018

This fall the All Hands All Lands Burn Team (AHAL) has gone from a concept to a force on the ground that's completed 4379 acres of burning across the Rio Grande watershed.

Training for new firefighters
AHAL trained 21 new firefighter from 3 youth crews from Rocky Mountain Youth Corps and Forest Stewards Youth Corps at burns across the Rio Grande Water Fund area.

Leadership
AHAL not only provided person power to critical burns but also filled crucial leadership positions that enabled burns to happen that wouldn't have, and allowed partner agencies to expand operations.

Outsized Benefits

AHAL provided leadership and support to Taos Ski Valley to carry out a 5 acre, highly technical pile burn on the steep ski slopes directly above the Ski Village. Firefighters from AHAL worked hard to burn the piles and prevent roll out on to equipment and structures.

Graphs show percentages of these burns out of total AHAL supported burned acres.

AHAL provided a burn boss to enable Santa Clara Pueblo fire staff to follow up their investment in thinning with 150 acres of prescribed fire. This burn is opening the door to collaborative burning on Tribal land through out New Mexico.

Cooperators & Partners

City Fire Departments
County Fire Departments
Federal
Youth Corps
Non-Profit
Tribal
Private

Percentage of shifts (days) worked by partner type

205 shifts worked

Angel Fire Fire Department
BIA Regional Fire Staff
Forest Stewards Youth Corps
Forest Stewards Guild
Philmont Scout Ranch
Pottawattamie Conservation District
Rocky Mountain Youth Corps
Santa Fe Fire Department
Santa Clara Pueblo
Taos County Fire Department
Taos Ski Valley
Tesuque Pueblo
United States Air Force
Volunteers

Image: Forest Stewards Guild

Cooperative Burn Team

"Why is there not more good fire on the ground? Well, in some cases it's because we don't have the right people, personnel, at the right time of year. [You have] Forest Service seasonals who kind of hit their ten 39 hours and so they can't be Forest Service people anymore, but it's right at the time when the Forest Service actually needs them to do the prescribed fire. And so if we feel like, well, there is a need for restoration with good fire, we need to have the people there…"

NM interviewee #1

Photo credit: Emily Jane Davis

Sharing Resources on Burns

- Smaller-scale: engaging local fire departments

- TREX events

Boundary #3:

Action arena boundaries

Prescribed fire prepares the (socio-organizational) ground for managed fire

Photo credit: Emily Jane Davis

- Creating collective recognition of role of fire

- Developing familiarity

- Practicing addressing impacts

Cooperative culture of suppression as foundation

- Interagency dispatch

- Cooperation and communication among operational staff

- Low turnover

- Existing capacity to share resources

Photo credit: Emily Jane Davis

Challenges

- Costs and time to plan and implement cooperative burning

- Feasibility of innovative examples occurring more broadly

- Recovery from adverse events

- Limits to co-managing risk?

Why/How
Does Prescribed Fire
Span These Boundaries?

- Involves several types of boundary work:
  - Common concepts and language
  - Engagement in tangible shared activities
  - Use of boundary objects to enact it

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- Creates a space that can have less uncertainty
  - Allows for learning, interaction

Implications and Considerations

- We need to continue documenting best practices and enabling conditions in organizational settings

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- We need to continue documenting best practices and enabling conditions in organizational settings

- We need more prescribed fire in not only our ecosystems, but also our socio-organizational systems

Thank You

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http://www.nwfirescience.org/CoManagingRisk