Sustaining Fire-Adapted Forest Ecosystems through Collective Management

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Burning Issues Workshop, February 4-5, 2020, Battle Creek, MI

Acknowledgements

- Interviewees who generously gave their time
- U.S. Forest Service, Pacific Northwest Research Station
- National Institute of Food and Agriculture, McIntire-Stennis project 1003473
- Alissa Cudmore, Andrew Klooster, Lora Cirhigiri
- Susan Charnley, the U.S. Forest Service, Pacific Northwest Research Station
- Erin Kelly, Nicole Gorko and Jodi Pixley, Humboldt State University

Why Collective Management?

- Fire, invasive plants, insects, and diseases function on landscape scale

- Landowners in landscapes are interdependent

- Collective action is when interdependent actors self-organize to improve joint outcomes

- Collective action to manage landscapes has been identified as a policy priority

- Yet collective action is rare. Why?

Emerald Ash Borer mortality Photo Credit: Center for Invasive Species and Ecosystem Health

Meridian Boundary Fire, Michigan 2010. Photo Credit: USFWS

Comparative Case Studies of Collective Fire Management

Private-Private

Multi-Owner

Research Questions

1. How do landowners act collectively to manage fire-adapted forests?

2. What are some key factors that may enable or constrain collective action?

3. How can policy and programmatic initiatives foster collective fire management?

Theory of Collective Action

1. **Shared understanding**: landowners understand how fire operates and that acting collectively to manage fire is beneficial

2. **Perceived advantages**: landowners perceive the long-term, joint benefits of collective action exceed the short-term, individual costs

3. **Efficacy**: Strategies exist that enable landowners to jointly plan and implement fire management

4. **Capacity**: Landowners have the capacity to participate in these strategies

5. **Trust and reciprocity**: landowners trust that if they change their behavior, their neighbors will too

(Adapted from Ostrom, 1992, 2000, 2000)

Private-Private Cases

Pacific Northwest

Great Lakes Region
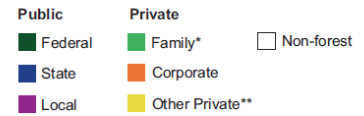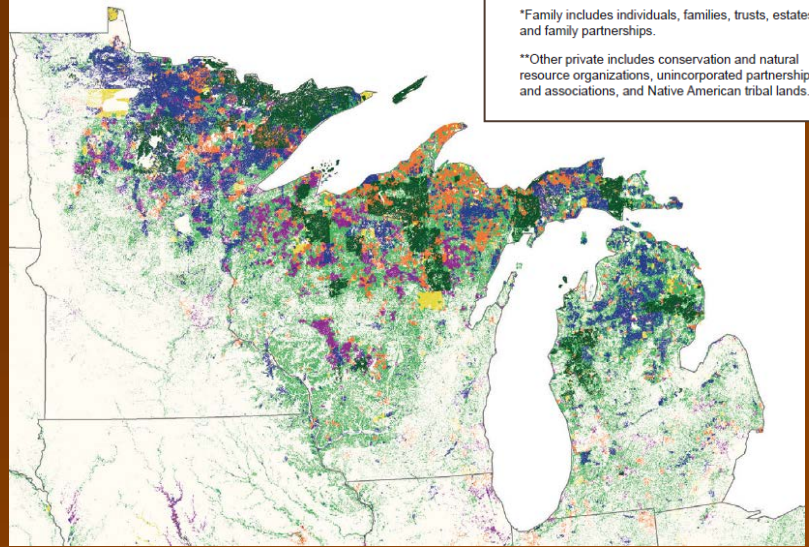
Location	Case (Pseudonym)	Owners (#)	Parcel acreage	Management Focus
MI (SE)	Woody Hills Properties (WHP)	10	10-300	Restoration and invasives
MI (N)	Blue River Properties (BRP)	26	10	Wildfire risk
WI (SE)	Network of Active Environmental Stewards (NAES)	70-80	5-100	Restoration and invasives
MN (N)	Perry Lake (PL)	12	1-2	Wildfire risk
WA (C)	Riverview Road (RR)	35	20-100	Wildfire risk and restoration
WA (C)	Cougar Hills Estates (CHE)	13	20	Wildfire risk
OR (SW)	Windy Creek (WC)	12	10-40	Wildfire risk
CA (N)	Silver Ridge (SR)	6	20-60	Wildfire risk and invasives

Multi-Owner Cases

State	Case	Owners	Project acreage	Acres treated
OR	Ashland Forest All-Lands Restoration (AL)	USFS, BLM City of Ashland Private corporate Family	53,000	7,255
OR	East Face of Elkhorn Mountains (EF)	USFS, BLM State F&W Private corporate Family	128,000	28,447
OR	North Warner Multi-Ownership (NW)	USFS, BLM Private corporate Family	410,000	32,432
CA	Middle Klamath River Communities (MK)	USFS Family	~10,000	9,930
CA	San Bernardino-Riverside County Fuels Reduction (SBR)	USFS Tribal Family		16,207
CA	Trinity County Community Fire Protection (TC)	USFS, BLM Private corporate Family	743,000 625,750	13,857
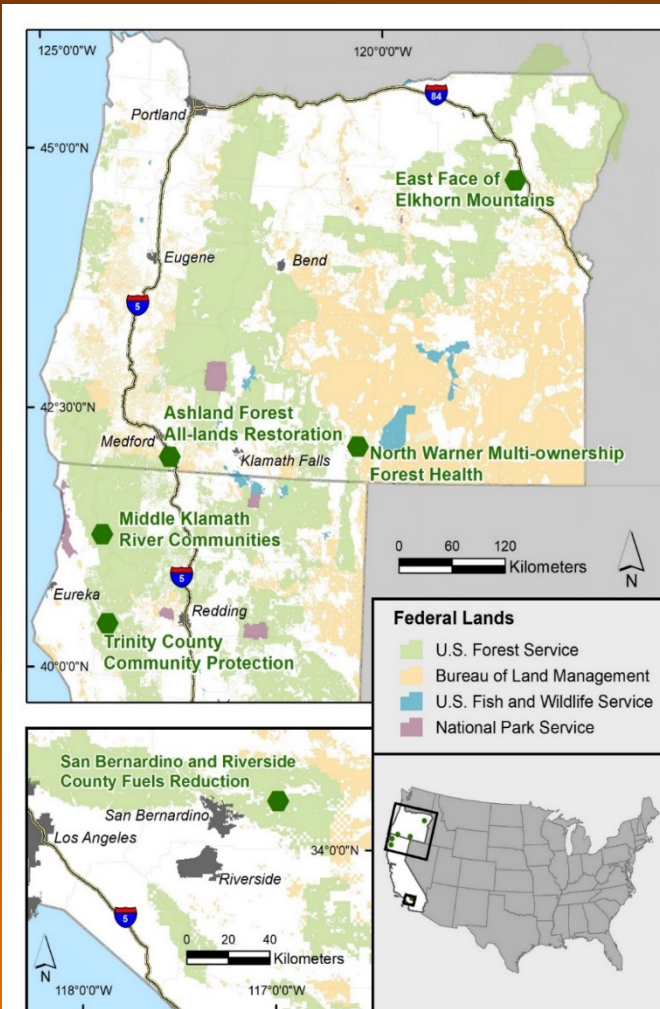
How do landowners act collectively to manage fire-adapted forests?

Types of Private-Private Collective Action

		Cases								Total
		WHP	BRP	NAES	PL	RR	CHE	WC	SR	
Joint Planning	Planned informally	X	X	X	X	X	X	X	X	8
	Planned formally		X	X	X	X	X		X	6
	Coordinated fundraising	X	X		X	X	X			5
Joint Implementation	Jointly hired labor	X		X	X	X			X	5
	Shared equipment		X	X			X		X	4
	Pooled labor	X		X					X	3

Types of Multi-Owner Collective Action

		Cases						Total
		AL	EF	NW	MK	SBR	TK	
Joint Planning	Identified priority treatment areas	X	X	X	X	X	X	6
	Developed and implemented outreach	X	X	X	X	X	X	6
	Coordinated fundraising	X	X	X	X	X	X	6
Joint Implementation	Jointly hired labor	X	X	X	X	X	X	6
	Shared equipment	X		X		X	X	4
	Pooled labor	X				X	X	3

What factors enable or constrain collective action?

Factors in Private-Private Collective Action

Factor	Cases								Total
	WHP	BRP	NAES	PL	RR	CHE	WC	SR	
Shared understanding	X	X	X	X	X	X	X	X	8
Capacity	X	X	X	X	X	X	X	X	8
Trust and reciprocity	X	X	X	X		X		X	6
Perceived advantages	X	X		X		X			4
Efficacy									0

Factors in Private-Private Collective Action

Factor
Shared understanding
Capacity
Trust and reciprocity
Perceived advantages
Efficacy

Shared understanding: "It's a big fire hazard, or it's a noxious weed that can take over a lot of area. We don't want that to come onto our property, so we are totally willing to help you put the time and effort in to get rid of it before it gets too big."

Factors in Private-Private Collective Action

Factor
Shared understanding
Capacity
Trust and reciprocity
Perceived advantages
Efficacy

Capacity: "We had a loose-knit organization to begin with [to address] common causes: roads, plowing, gates and things like that…We were historically used to doing some things in common."

Capacity: "There is something wonderful about an organization that has decided not to get really formal . . . but of course then you put yourself at risk of the ebb and flow of human energies and we're aging so, you know. . . ."

Factors in Private-Private Collective Action

Factor
Shared understanding
Capacity
Trust and reciprocity
Perceived advantages
Efficacy

Trust and reciprocity: "Some people need more help; some people do more of it themselves…There's that willingness to do some work and give something, even if the benefit that particular time is gonna be for the neighbors."

Factors in Multi-Owner Collective Action

Factor	Cases						Total
	AL	EF	NW	MK	SBR	TK	
Shared understanding	X	X	X	X	X	X	6
Trust and reciprocity	X	X	X	X	X	X	6
Perceived advantages	X	X	X	X	X	X	6
Efficacy	X	X	X	X	X	X	6
Capacity	X	X	X	X	X	X	6

Factors in Multi-Owner Collective Action

Factor
Shared understanding
Trust and reciprocity
Perceived advantages
Efficacy
Capacity

Shared understanding*:* "We used to manage for timber and cattle but now we manage for fire because without reducing the risk of catastrophic fire, we can't have timber or cattle."

- Landowner

Factors in Multi-Owner Collective Action

Factor
Shared understanding
Trust and reciprocity
Perceived advantages
Efficacy
Capacity

Capacity_:_ "The biggest challenges were capacity issues. We overcame them by convincing the Forest Service to fund a dedicated position for coordinating all-lands management, and a position at [the state department of forestry] to administer the NRCS funding on the ground."

- USFS personnel

Capacity_:_ "The biggest challenge is the availability of funding because we would not do the forest management work if we didn't have access to public funds. We don't generate enough extra funds through grazing to be able to apply those to forest management."

- Landowner

Factors in Multi-Owner Collective Action

Factor
Shared understanding
Trust and reciprocity
Perceived advantages
Efficacy
Capacity

Efficacy: Legal authorities and policy tools enabled collective action among public and private owners

- Cooperative Agreement allowed state forestry department to provide forestry assistance to NRCS to implement the Environmental Quality Incentives Program (EQIP) and the Wetland Reserve Program (WRP) on private forest land

- USFS and private landowners used Wyden Authority to allow the USFS to conduct restoration work on private lands

- Good Neighbor Agreement allowed the USFS to transfer funding to state forestry department to implement forest management on federal lands

How can policy and programmatic initiatives foster collective fire management?

Key Points

- Shared understanding, perceived advantages, and trust and reciprocity were important but not critical factors
- Capacity was critical for private landowners
- Capacity and efficacy were critical for multi-owner groups
- Capacity is contingent on efficacy, which requires formal institutions
- Private landowners are ambivalent about participating in formal institutions

For private landowners…

- Formal institutions that enforce reciprocity not necessary among small cooperating groups of like-minded owners
- Semi-formal institutions may be sufficient to ensure access to information and resources
- Creating small scale governance networks composed of landowners, local leaders, external brokering agents (e.g., *Fire-Adapted Communities* program) could accommodate:
  - Preference for low expectations and demands
  - Need for individual autonomy
  - Need for funding and technical support

For multi-ownership groups…

- Create or empower existing partnerships
- Expand legal authorities and tools
- Create positions for forestry professionals to facilitate collective action
- Cultivate expertise in partnerships and use of authorities and tools among landowner assistance providers and forestry professionals
- Support small-scale governance networks for private landowners

Thank You

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