

# **Social learning, science, and the creation of Communities of Understanding in Community Wildfire Protection Planning**



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# Research Context: HFRA and CWPPs



- 2003 Healthy Forest Restoration Act (HFRA)
  - Community Wildfire Protection Plans (CWPPs)
    - Collaborative process for “at-risk” communities
      - Fire Department
      - State Forestry Department
      - Local Government



- 15 case studies nationwide
  - Collaborative context, process, and outcomes



# Collaborative Environmental Planning

Why plan collaboratively?

- Innovative solutions in complex contexts
- Create durable decisions
- Deal with uncertainty



Source: S. Grayzeck and V. Sturtevant

*“Collaboration can lead to better decisions that are more likely to be implemented, and at the same time, better prepare agencies and communities for future challenges.” (Yaffee and Wondolleck, 2000).*

# Collaborative Planning: Challenges



- Addressing diverse interests
- Considering and evaluating relevant science
- Navigating multiple agency directives
- Coming to a shared understanding of the problem at hand

*How can groups overcome these challenges?*

**One Option: Social Learning?**

# What is Social Learning?

“...learning that occurs when people engage one another, **sharing diverse perspectives** and experiences to develop a **common framework** of understanding and **basis for joint action**”  
(Schusler et al. 2003).

Social learning as Process

Shared Understanding/Knowledge as Outcome

Action follows Collective Understanding



# Collaboration, Science, & Social Learning

- CWPP partners come with different perspectives on wildfire and experience with fire ecology & technology



## *Science can...*

- Be a common rallying point (Nerbonne and Nelson 2004)
- Help groups evaluate alternatives (McCool & Guthrie 2001)

## *And science can...*

- Marginalize or exclude non-scientists (Fischer 2003)
- Act as a shield, become a political tool (Ozawa 1999)

# Research Questions

*How do shared understandings contribute to action and outcome?*

**Action/Outcome?**

**Shared Understanding**

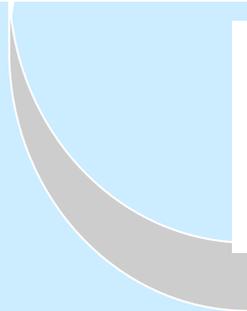
*Is there a change in shared understanding as a result of the CWPP?*

*What shared understandings do CWPP groups come to?*

**Social Learning**

*What tools, knowledge, or activities facilitate social learning?*

**CWPP Participants**



# Methods



- **Multiple Case Study Design**
  - Minnesota, Wisconsin, Virginia, and Florida
- **Sampling**
  - Based on meeting attendance and organization representation
  - Avg.  $\approx$  85% of primary participants
- **Data Collection**
  - Semi-structured interviews (N = 57), digitally recorded
  - Transcribed audio to text
- **Data Analysis**
  - Focused coding for social learning themes on selected questions

# Methods: Case Study Analysis

Four Eastern U.S. case studies from larger JFS project:

Lake County, Minnesota



Taylor, Florida



Barnes and Drummond,  
Wisconsin



High Knob Owner's Association  
in Front Royal, Virginia



## *Findings*

**Is there a change in the group understanding of wildfire as a result of the CWPP process?**

# Findings: Change in Shared Understanding?



- **Change towards having the same shared understanding (MN, WI, VA)**

*“I think everybody had a heightened sense of awareness on an issue that [before]...no one would even give much thought to.”*

- Virginia

- **Pre-existing common understanding, CWPP reinforced relationships (FL)**

*“I think [the shared understanding] was probably already there. Because we’ve had so much experience in the past with it.”*

– Florida

# **Findings**

**What tools, knowledge, or activities facilitate social learning?**

# Findings: Facilitating Learning

- Different types of science inputs across cases
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*Agency-driven CWPPS (MN, WI, FL):*

## **Science Inputs**

Fuel Models

Vegetative Data

Infrastructural Data

Fire History/Occurrence

Public Land Boundaries

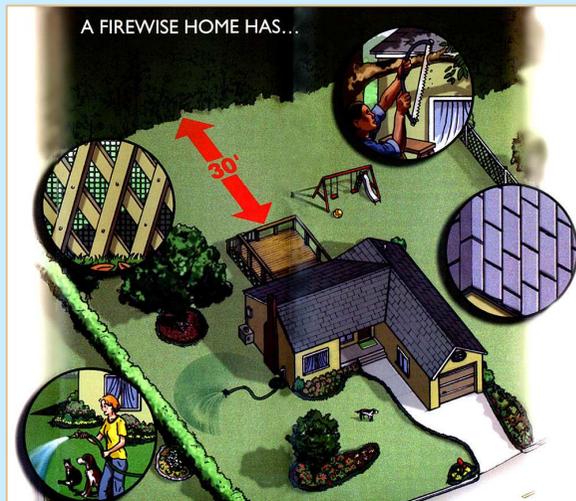
## **Role of Science**

- Visualizing
- Reconfirming
- Prioritizing

# Findings: Facilitating Learning

- Different types of science inputs across cases
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## *Community-driven CWPP (VA): Firewise Materials*



### Role

*Discovery*

*Persuasion*

*...When you show them a color photo of fully engulfed forest, and then you start talking about things you can do, right on the back - bam! This is the old one-two. I did not have to hard sell this at all to anybody. - Community Member/Road Captain, Virginia*

# Findings: Facilitating Learning

- Planning processes varied across cases
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## Common learning elements

- Group data collection, analysis, or discussion
- Deliberative, relational aspects



# Findings: Facilitating Learning

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- **Risk assessments** as important in creating site-specific data
- Helped position planning within the local social and ecological context



*“I think what really helped was...doing the assessment. Because then...we had a current history and we actually saw it – after learning how this process worked – now took this tool out to the field and say, well dad-gum! Look at this!”*

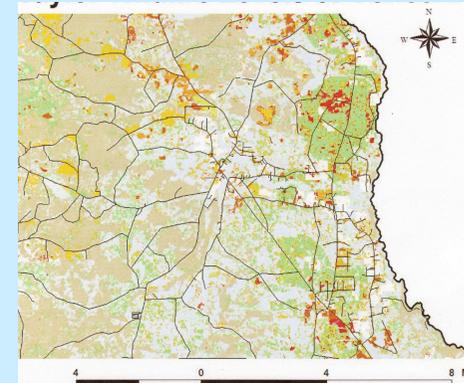
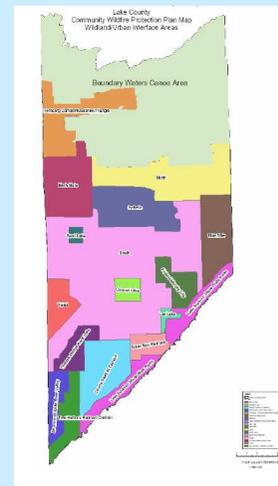
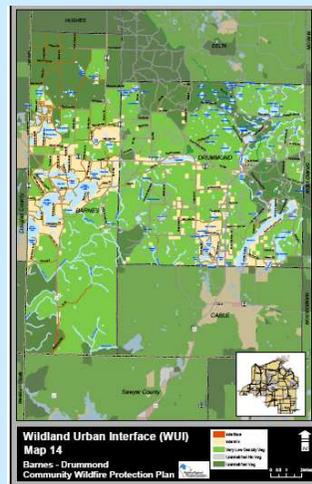
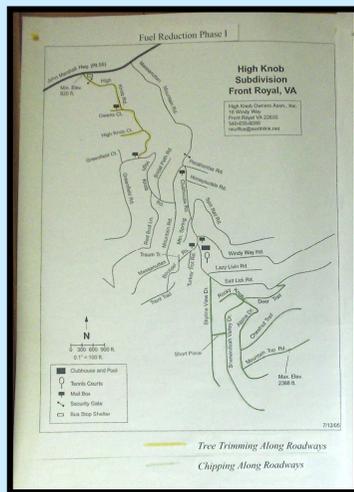
– Florida

# Findings: Facilitating Learning

- **Mapping the landscape** as important in all cases

Role:

- creating a shared conception of the landscape
- visualizing “hazards” and landscape values
- basis for decision-making and future action



*“There was a point where the light bulbs turned on, when you showed the final map and everybody looks at it and goes, well yeah...” - Wisconsin*

# Findings: Facilitating Learning

## Relational aspects enhance social learning

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- Meetings themselves
- Open atmosphere
- Discussion and dialogue
- Facilitation

*“And, it’s important that the facilitator come from the outside...they just know how to keep everybody on track, and that in itself was a big help.” - Wisconsin*

## **Findings**

**What shared understandings do  
CWPP groups come to?**

# Findings: Shared Understandings

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- Two functional types emerge
  - **Substantive:** understandings on *what* to act and *why*
    - Ecological understanding of wildfire causes, consequences, and management
  - **Relational:** understandings of *how* to act
    - Social and institutional systems around wildfire



# Findings: Substantive Understandings

- **Wildfire is a problem in the east**

*“...it’s not a Western problem or a Southern problem  
it’s a nationwide [problem].”* – Wisconsin



# Findings: Substantive Understandings

- Understanding specific wildfire risks/hazards



- Hazardous Fuels
- Human Causes
- Railroad Fires
  - Lightening
- Escaped Prescribed Fires

# Findings: Relational Understandings

- Roles, limitations, and capabilities of other agencies



*“I think that in Lake County [the planning process] really helped the partners come together and understand what everybody’s role is as a whole. Looking at the big picture ... ‘cause everybody was just working on their own before.” - Minnesota*

# Findings: Relational Understandings

- Action should happen collaboratively



## Within the CWPP...

*“Well, the [understanding was that the] project was needed and cooperation was needed from all the government units in order for it to be a success.”* - Wisconsin

## And Beyond the CWPP...

*“My understanding of that whole process was, we have to work closer – and I already felt we worked close with the DNR – but I think we have to work closer yet now.”*

– Minnesota

# Findings: Shared Understandings

- Participants extended learning to home organizations

*“...I had a much better understanding of [wildfire] after the process. And I tried to bring that back to the fire departments...and give them the information.”* - Fire Chief, Minnesota



## **Findings**

**How does social learning contribute to action and outcome in CWPPs?**

# Findings: Action and Outcome

- Lake County, Minnesota
  - Group identified weakness in VFD coordination
  - Created political will to address the issue
  - Outcome:** Creation of a new fire coordinator position
- High Knob, Virginia
  - Tension between “naturalness” and fuels reduction
  - Community identified hazardous fuels as an issue
  - Outcome:** Community-wide fuel reduction project
- Taylor, Florida
  - CWPP group identified Taylor as at-risk
  - Created political will to collectively act
  - Outcome:** Fuel break put in around the community



# Findings: Action and Outcome

## Benefits beyond the scope of the CWPP

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- Continued contact and collaboration (MN, VA)
- Improved landscape level planning & coordination across ownership boundaries (MN, WI, FL)
- Strengthened organizational infrastructure (MN)
- Improved management *within* agencies (MN)



# Communities of Understanding

- Enhanced social and ecological understanding of wildfire
- Learning beyond the immediate CWPP group



## **Communities of Understanding**

- persists beyond CWPP
- benefits beyond the scope of the CWPP
  - across agencies and scales
  - fosters continued collaboration around wildfire and forest management

# Conclusions

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- CWPPs as a forum for social learning around wildfire
  - A capacity building outcome
- Process elements
  - Collective reasoning activities
  - Relational activities
- Learning Outcomes
  - Wildfire as a problem
  - Common Causes
  - Restoration/Stewardship not a focus
- Communities of understanding
  - At different organizational levels
    - Inter-organizational (MN, WI)
    - Local level (VA)
  - Can bring concrete outcomes
  - Can persist beyond the CWPP



**Thanks!**

## **JFSP CWPP Research Team**

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Questions?

