

**Scholars Workshop
Madison, Wisconsin
June 5, 2011**

A scholars' workshop was held in conjunction with the 17th Annual International Symposium on Society and Resource Management. Eight fire social researchers (attendance list attached) identified the characteristics/factors that contribute to adaptive capacity. We started with Figure 1, and the scholars helped us further define the characteristics in each lobe of the model, as shown in Figure 2 (attached). Workshop participants suggested that any one element of adaptive capacity is demonstrated in different ways before, during, and after a wildfire event, so we developed Table 1 (attached) using our previous research experience to provide examples of adaptive capacity during different wildfire time frames.

Figure 1.—Adaptive capacity framework for wildfire, identifying four elements that interact to create adaptive capacity (initial model).

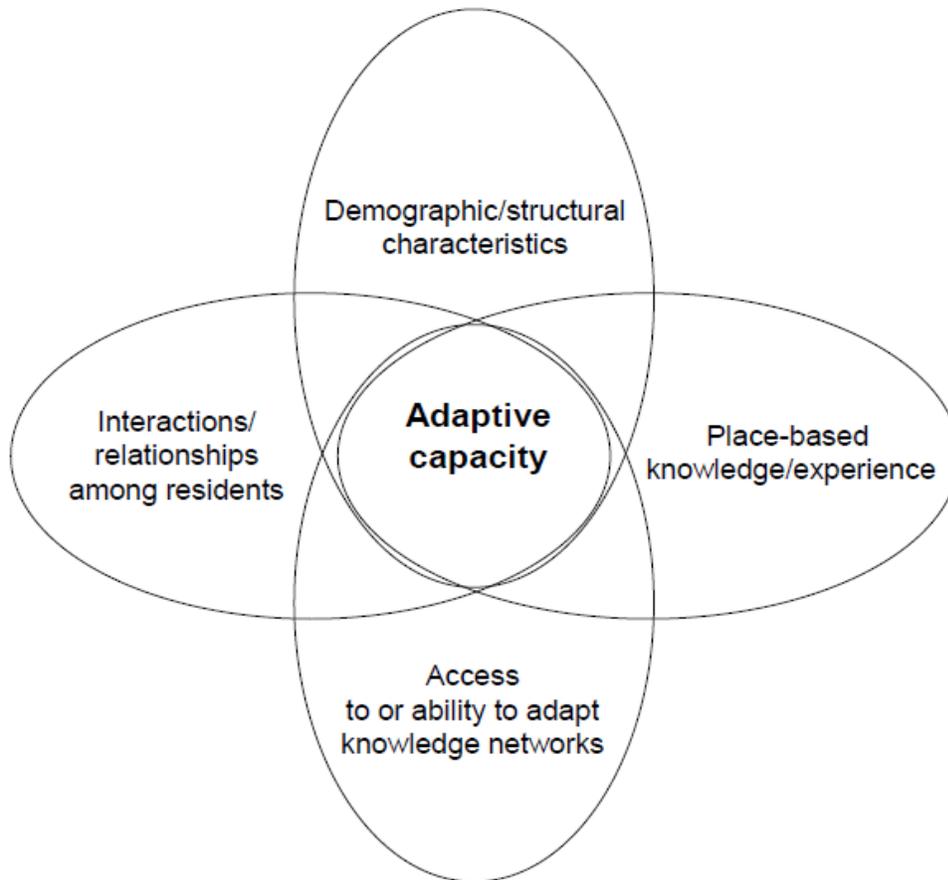


Figure 2.—Characteristics influencing each of the four elements of adaptive capacity for populations in Flathead County, Montana (revised model)

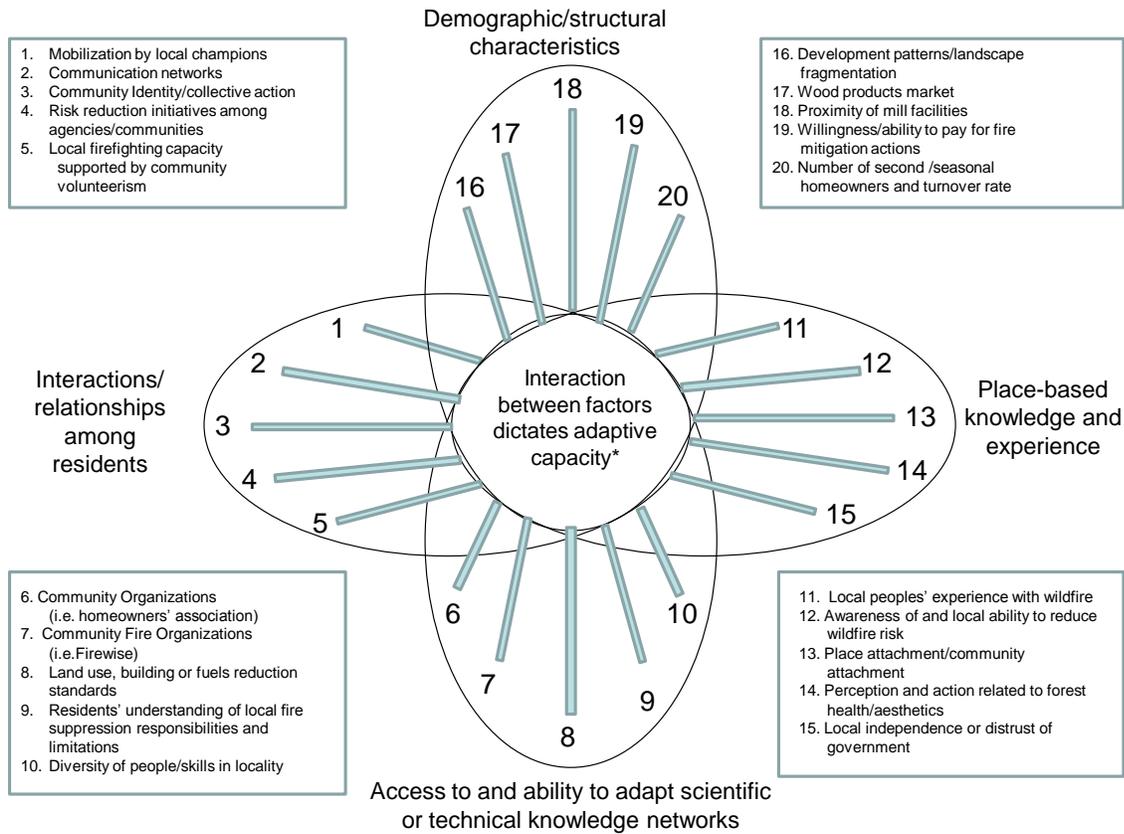


Table 1.—Elements of adaptive capacity, preconditions to adaptive capacity, and examples of actions taken before, during and after a wildfire that contribute to adaptive capacity (page 1 of 3).

Elements of Adaptive Capacity Framework	Preconditions (characteristic or process leading to adaptive action)	Examples of adaptive action taken at different time frames in relation to a wildfire		
		Before	During	After
Physical Infrastructure and Demographics (Vulnerability Context)	Land use, building or vegetation regulations			
	Local forest products market that includes contractors for product removal and transportation, and processing capacity			
	Number of permanent residents			
	Ability to pay for (or otherwise accomplish) risk mitigation actions			
Local Residents' Knowledge and Experience	Locals have knowledge relevant to being a fire-adapted community	In Waldo, FL, a local pine plantation owner prescribe burns in the spring to reduce fire risk because that's when his father burned and the plantation has survived several fires.	In Wilderness Ranch, ID, community members have designated "safe houses" that residents can collectively defend or shelter in when fires prevent evacuation.	Residents of "Shelter In Place" communities in Rancho Santa Fe, California observed the effectiveness of home construction and vegetation standards when no structures in these communities burned despite nearby destruction from the 2007 Witch Fire.
	Locals communicate and can access relevant knowledge	In Auburn Lake Trails, CA, local residents who participate in the Volunteers in Prevention program visit with neighbors about what they can do to reduce wildfire risk around their homes.	During the Columbia Complex Fire near Dayton, WA, some locals with firefighting knowledge banded together to help build fire lines with their own equipment.	Volunteer firefighters and other locals in Bigfork, MT researched/established a Firewise chapter and applied for fuel reduction grants following nearby fire impacts
	Locals have skills through which they apply and adapt knowledge	In Whitefish, MT, the local Fire Safe Council disseminates a list of local forest contractors who have and can work with NGOs to obtain funding for fuels reduction.	In Mt. Somers, NZ, a local agricultural contractor rode with a firefighting team during a fire so he could identify the location of water sources and gates into fields.	In the North Fork community of Montana, retired emergency services officials and those with professional writing experience have teamed up to obtain fuel reduction grants following multiple fire impacts.

Table 1.—continued (page 2 of 3).

Elements of Adaptive Capacity Framework	Preconditions (characteristic or process leading to adaptive action)	Examples of adaptive action taken at different time frames in relation to a wildfire		
		Before	During	After
<p style="text-align: center;">Access to Scientific/Technical Knowledge</p>	<p>Scientific/technical knowledge exists that is relevant to local conditions</p>	<p>Canadian engineers developed an external sprinkler system to deploy around a community when a wildfire approaches, creating a safe green zone.</p>	<p>Along the Gunflint Trail, MN, locals turned on their external sprinkler systems as they evacuated to protect their homes and so that firefighters have safe zones.</p>	<p>Following a wildfire that destroyed structures along the Gunflint Trail, MN, a study was conducted to evaluate the effectiveness of external sprinkler systems in protecting homes from a wildfire.</p>
	<p>Relevant scientific/technical knowledge accessible and communicated throughout the locality (vertical communication networks)</p>	<p>Canadian engineers demonstrated the usefulness of the Canadian sprinkler system to homeowners along Gunflint Trail, MN.</p>	<p>In Mt. Somers, NZ, the CIMS commander met with local residents to explain firefighting strategies.</p>	<p>Scientists and resource professionals presented the findings of the study on the effectiveness of external sprinkler systems at a local Gunflint Trail community meeting.</p>
	<p>Scientific/technical knowledge can be adapted and applied in locality</p>	<p>A Gunflint Trail retired engineer adapted the Canadian sprinkler system making use of water sources along the Trail and creating a more dependable fuel system.</p>	<p>The Local Fire Department in Whitefish, MT can use their "red zone maps" to quickly pull up geo-referenced GIS information about the fuel loadings, building types and water sources associated with structures near the fire they are responding to.</p>	<p>A study of the effectiveness of external sprinkler systems in protecting homes along the Gunflint Trail, MN from fire was used by local residents to apply for a FEMA grant to obtain funding for additional sprinklers.</p>

Table 1.—continued (page 3 of 3).

Elements of Adaptive Capacity Framework	Preconditions (characteristic or process leading to adaptive action)	Examples of adaptive action taken at different time frames in relation to a wildfire		
		Before	During	After
Interactions/relationships among residents	Involvement and/or development of local champions/community leaders	In the North Fork community of Montana, a local resident persuades the HOA to create a fire committee as a permanent committee of the HOA to work towards Firewise Communities/USA recognition.	A local grocery store manager in Show Low, AZ stayed behind during an evacuation and provided groceries to firefighters/community members who also stayed behind.	A local resident in the Timberland Acres subdivision near Show Low, AZ wrote grants for and organized removal of burned trees on private property following the Rodeo-Chediski fire.
	Horizontal communication networks (formal and informal)	In Taylor, FL, messages about creating defensible space around homes was included in the church bulletin.	In Wilderness Ranch, ID, a community member established a web-based information system that can provide real-time updates about nearby fires	In Mt. Somers, NZ, Federated Farmers provided counseling to farmers who had experienced losses due to the fire.
	Emergence of shared norms, values, and commitment to local action	In Em Kayan, MT, a recognized Firewise Community/USA, their Firewise sign and a Firewise bulletin board are located at the entrance to the development to demonstrate the community's commitment to taking responsibility for reducing fire risk.	In Mt. Somers, NZ, local women baked and cooked food that they delivered to the community hall to feed firefighters because "that's what we do" in emergencies.	Following the Rodeo-Chediski fire in Arizona, local environmentalists revised some of their positions on forest management and supported stewardship contracting to reduce fuels on the national forest.
	Place and community attachment (i.e., Strong bonds with physical landscape and people in locality)	In Libby, MT, the high school's mascot is the Libby Logger, demonstrating the community's attachment to the local forests and the importance of the logging economy.	In Painted Rocks, MT, residents plan to stay and defend their properties from wildfire by making appropriate preparations based, in part, on their local ecological knowledge.	In Ashland, Ore., residents participated in and helped organize locally based restoration projects on locally held land impacted by the Biscuit Fire.
	Community organizations (e.g., Local homeowners associations; Land preservation or conservation groups)	In Virginia, the state forester decided to only support CWPPs in communities that have a HOA, so the Front Royal community rejuvenated its HOA so they could obtain state support to create a CWPP.	In Mt. Somers, NZ, the local Red Cross representative worked with the sheriff to map where people lived are who would need help evacuating during the fire.	In the immediate aftermath of the Hayman fire in CO, a local organization formed to help distribute needed resources to impacted community residents who 'fell through the cracks" of pre-existing social service programs.

Scholar workshop attendees

JFSP Research Team attending both scholar workshops:

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