

Resilience of Mt. Somers community prior to, during and following the wildfire of January 2004

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Content

- Australian, US, Canadian research
- Events-based framework
- Mt. Somers case study
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- Lessons learned to increase resilience.

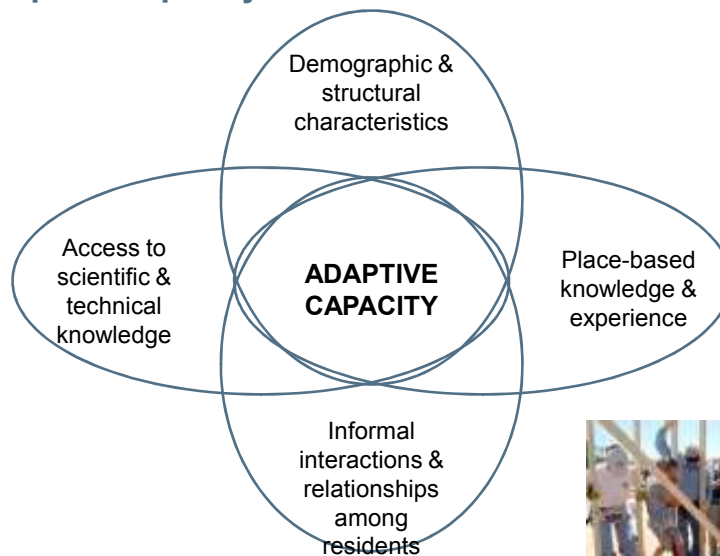
Australian and US research

- Vulnerability of communities influenced by:
 - exposure to hazard events
 - biophysical characteristics
 - social characteristics.
- Communities can minimise vulnerability by building resilience.
- Resilient communities – ability to adapt to hazards and move beyond pre-fire condition.

⇒ Adaptive capacity.



Adaptive capacity: function of 4 elements



(Paveglio et al. 2009)



Case study research

- Mt. Somers, remote rural community
- Focus on social characteristics that may affect resilience
- Compare rural findings with a more urban community - West Melton, rural-urban interface
- Lay groundwork for partnership between local residents, firefighters and emergency managers, and government to increase community resilience.

Mt. Somers fire, 4 January 2004



- 6 km riverbed scrub
- Arson?
- DoC jurisdiction
- Volunteer fire brigades
- North Island CIMS team
- Burned 270 ha, fences, equipment, pasture, plantations and shelter belts
- Evacuations/affected community.



Events based framework

- **Before – community preparedness**
 - Physical – vegetation mgmt / defensible space
 - Social – planning, CWPPs, relationships/networks and education.
- **During - response**
 - Key decisions made during event can affect community outcomes and relations
 - Evacuation / 'prepare, stay & defend or go early'.
- **After - recovery**
 - Post-fire stresses – influenced by economic and social conditions
 - Social networks and community organisations can facilitate recovery.



Qualitative study: personal interviews

Category	Men	Women	Total
Fire managers	4	-	4
Firefighters	3	-	3
Support officers	4	5	9
Local farmers	9	7	16
Local residents	5	11	16
Total	25	23	48



Data analysis

- Analytical analysis - explanations of impact of wildfire
- Thematic analysis – identify similar experiences
 - Code patterns
 - Identify contradictions
 - Standardise themes.
- Newspaper reports
- Official reports
- DoC memos.



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Before the fire: Sense of community

- Confident community – can handle challenges
- Come together to assist others
- Value abilities rather than position
- Close community

You find that the further away from the main centres [you are], that you have to rely on your neighbours in time of emergency... it's your neighbours who are your first call. [Support officer]

We helped everybody and everybody helped everybody else. [Local resident]

They're very close-knit up there, very close-knit. [Fire manager]

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Before the fire: gender differences

- Women
 - More likely to admit needed help
 - Better support mechanisms/outlets
- Men
 - ‘Happy hour’ at pub
- Mt. Somers District Citizens’ Association
 - developed annual plan and raised funds for village
 - managed grazing and plantation.



Fire awareness and knowledge



Recognise when danger high and change their behaviour...



Institutional capacity

- Local fire brigade – 10 volunteers (3 available for working day call outs)
- Emergency organisations
 - Red Cross
 - Salvation Army
 - Victim support
 - St John Ambulance
 - District Council
 - NZ Police
 - Federated Farmers – Ashburton
 - Emergency Relief Trust.



During the fire: use of local resources

- Local brigade first to respond but not integrated effectively into DoC or CIMS teams



They weren't allowed [to help]. That was bad. Because, I mean, all over the years we've had a fire unit here. [Local resident]

They didn't use the local knowledge. It was there... [Local farmer]

- But** manned ignition site (suspected arson)
- Assisted in initial helicopter overview
- Role of IC some nights
- Helped maintain communication equipment.



During the fire: emergency support

- Local organisations provided support
 - Red Cross fed firefighters
 - Salvation Army provided menus and
 - St Johns treated minor injuries
 - Parish visitor provided support



- Women – located homes on maps and community needs
 - baked, distributed food and water, and fought the fire.

[I] rang the office and they said, 'There's a fire in Mt. Somers, and it's not looking good.' So I turned the oven on and made scones and buns, and we headed off over there. [Local resident]



Evacuation

- Some evacuated willingly
- Others assisted in moving households
- Lacked info; thought more sensitivity required
- Some farmers wanted to remain and fight the fire, refused evacuation and were threatened with arrest:



... you will not order a farmer off his own land. I mean, that goes totally against the grain. And that was hugely frustrating. And that really angered farmers... [Local farmer]

... there were a lot of people that were visibly upset because we were evacuating and everything... they probably didn't understand the psychological aspect of the upset people. [Local resident]

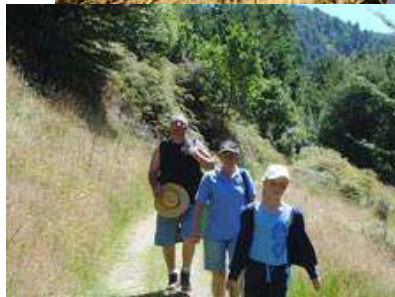


After the fire: Recovery

- Stay connected and exchange information
 - ‘Happy hour’ in pub
 - Community barbecue to thank firefighters
 - Farmer’s barbecue to thank community helpers
- Financial loss – some long-term
 - neighbours provided labour and maintenance
 - insurance payouts incl. recovery fund distributed by Federated Farmers.
- Stress
 - Federated Farmers counselling
 - Victim support assistance.



Mt. Somers: Land tenure review - increased fire risk





West Melton rural fire risk...

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Old lifestylers > 15-20 years	New lifestylers < 15-20 years
<ul style="list-style-type: none"> • More rural experience • Correct local knowledge • Take responsibility—more prepared. 	<ul style="list-style-type: none"> • Risk assessment based on urban experience • Depend on authorities • Relatively unprepared.

Jakes, Kelly & Langer 2010

West Melton: new lifestylers

- Viewed emergency management as District Council responsibility
- Did not actively seek technical knowledge
- Expected urban level service
- More dependent on officials to manage hazard risk
- Limited interaction with neighbours
- Significant networks based in Christchurch

We were prepared for a civil defence emergency, what to do, in that we had a meeting point, but not for fire. We had long grass, we were way unprepared, and the experience of having a fire has now made us very aware.

[New lifestyler]



West Melton old lifestylers and Mt. Somers

- Expect to look after themselves
- Described themselves as self-reliant
- Had acquired knowledge they thought was necessary through experience
- Life-long experience rather than science knowledge from experts – seen as critical to addressing risk and limiting damage
- Felt should have been allowed to stay and defend.



Mt. Somers – support each other

- Helped feed stock/
moved stock during
snowstorm
- Assisted family following
accident
- Raised money for village
park
- Supported rugby team.



Mt. Somers community- self-reliance



- Moved stock
- Fed firefighters
- Housed evacuated
- Tried to help neighbours
fight fire
- Provided pasture
- Reinforced belief self-reliant
and capable of meeting
challenges.

West Melton fire

- Highlighted new lifestylers and old lifestylers differences in community
- Fire did little to build bridges between different community groups.



Communities as part of the solution...



The success of wildland fire management hinges as much on the acceptance, support, behaviour, and cooperation of at-risk communities and individuals and the general public as on biophysical fire science the technology. [People, Fire and Forests 2007]

- Communities could play an important role in fire planning in NZ
- Residents, Council, fire managers, businesses and community groups could tackle rural fire risk management challenge collaboratively.



Lessons learned to increase resilience

- Help community plan for rural fires/natural disasters
- Share knowledge - communicate with the community before and during the event
- Involve property owners before and during the event
- Tackle rural fire risk management challenge collaboratively
- Involve the community in planning.

⇒ Can result in increased community resilience and improved recovery.

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