


U.S. Fire Disasters

Lessons learned (and quickly forgotten...)

A firefighter in a yellow jacket and red helmet stands in front of a destroyed building. The building has a cinder block chimney and is surrounded by debris. The firefighter is looking down at the ground.

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Relearning old lessons...



- "It'll never happen here"
- Get our teeth kicked in during extreme weather
- Mitigation occurs only *after* teeth gets kicked in
- We easily forget

"Who knew you could get hurt playing rugby???"

Fires are necessary, fire disasters are not...



Eucalyptus sprouting, Victoria

Former dining room in Marysville



THE GREAT PESHTIGO FIRE OF 1871



- Wisconsin
 - Great Lakes Region of north-central USA
- Largest fire disaster in U.S. history
 - 1600 dead (at least)
 - Same conditions by descendants of Mirimici Fire
- Little press (why???)
 - Same day as Chicago fire

20 Largest California Wildland Fires (By Structures Destroyed)

	FIRE NAME/CAUSE	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1	CEDAR (HUMAN)	October 2003	SAN DIEGO	273,246	4,847	15
2	TUNNEL (REKINDLE)	October 1991	ALAMEDA	1,600	2,900	25
3	WITCH (UNDER INVESTIGATION)	October 2007	SAN DIEGO	197,990	1,650	2
4	OLD (HUMAN)	October 2003	SAN BERNARDINO	91,281	1,003	6
5	JONES (UNDETERMINED)	October 1999	SHASTA	26,200	954	1
6	PAINT (ARSON)	June 1990	SANTA BARBARA	4,900	641	1
7	FOUNTAIN (ARSON)	August 1992	SHASTA	63,960	636	0
8	SAYRE (UNDER INVESTIGATION)	November 2008	LOS ANGELES	11,262	634	0
9	CITY OF BERKELEY (POWERLINES)	September 1923	ALAMEDA	130	584	0
10	HARRIS (UNDER INVESTIGATION)	October 2007	SAN DIEGO	90,440	548	6
11	BEL AIR (UNDETERMINED)	November 1961	LOS ANGELES	6,090	484	0
12	LAGUNA FIRE (ARSON)	October 1993	ORANGE	14,437	441	0
13	LAGUNA (POWERLINES)	September 1970	SAN DIEGO	175,425	382	5
14	HUMBOLDT (ARSON)	June 2008	BUTTE	23,344	351	0
15	PANORAMA (ARSON)	November 1980	SAN BERNARDINO	23,600	325	4
16	TOPANGA (ARSON)	November 1993	LOS ANGELES	18,000	323	3
17	49ER (BURNING DEBRIS)	September 1988	NEVADA	33,700	312	0
18	ANGORA (HUMAN)	June 2007	EL DORADO	3,100	309	0
19	SIMI (UNDER INVESTIGATION)	October 2003	VENTURA	108,204	300	0
20	SLIDE (UNDER INVESTIGATION)	October 2007	SAN BERNARDINO	12,759	272	0

Note that this list does not include fire jurisdiction. These are the Top 20 within California, regardless of whether they were state, federal, or local responsibility. Also note that "structures" is meant to include all loss - homes and outbuildings, etc.



1/12/2009

Tunnel Fire (Oakland/Berkeley Hills) – October 1991

- Same area that burned down in 1923
- 25 die while evacuating
- 2900 structures consumed
- Directly led to Bates Bill
 - Locate “Very High Fire Hazard Severity Zones”
 - Class-B roof
 - 30’ minimum clearance



Laguna Fire (SoCal) – October 1993

- 1000 homes over 10 days
- Directly led to Class-A roofs in Very High Fire Hazard Severity Zones



2003 SoCal Fire Siege

- 4847 homes
- 15 die while evacuating
- Directly led to 100' clearance
- Directly led to new WUI Building Standards



2007 SoCal Fire Siege

- 1650 homes
- 2 deaths
- Directly leads to...
 - Shelter-in-place alternative???
 - At least until Black Saturday



Extreme Weather Down Under...



Victoria, February 2009

California dreamin'...

- Build it and they will burn (2003)

Never again!!!

4803 Homes lost



California dreamin'...

- Build it and they will burn (2007)

Never again!!!

>3000 Homes lost



Where's all the ash???

- Answer... 30 km to the west
- Highest winds ever recorded at nearby weather station



Causes???

- People...
 - Power-lines
 - Arson
 - Accident



King Lake, Victoria



Cal Poly fire bug...

Exhibit A: Rancho Santa Fe



100% structural survival





Evacuations ordered well in advance via Reverse-911

- “But I thought this was shelter-in place”
- “True, but we don’t know what YOU’RE gonna do when it hits the fan”

We're all human...



Marysville, Victoria



Some stayed behind...



Saved 4
homes

Yes!!!



Setbacks... (for only \$300,000)

Yes!



Yes (kinda)...

Double paned window
sprayed with water just
before fire arrived



Mulch
almost
ignited
interior



No!

- Fire stopped 3 blocks back from house
- Asset-wealthy residents couldn't afford to change



Timing is everything...



Pre-fire mitigation helped fire fighters



Regulations + Political Will to Enforce...



Complexities

- Many protection agencies = Many mandates = Many policies
 - Policies are inconsistent and often conflicting

SD County

SD City

SD County

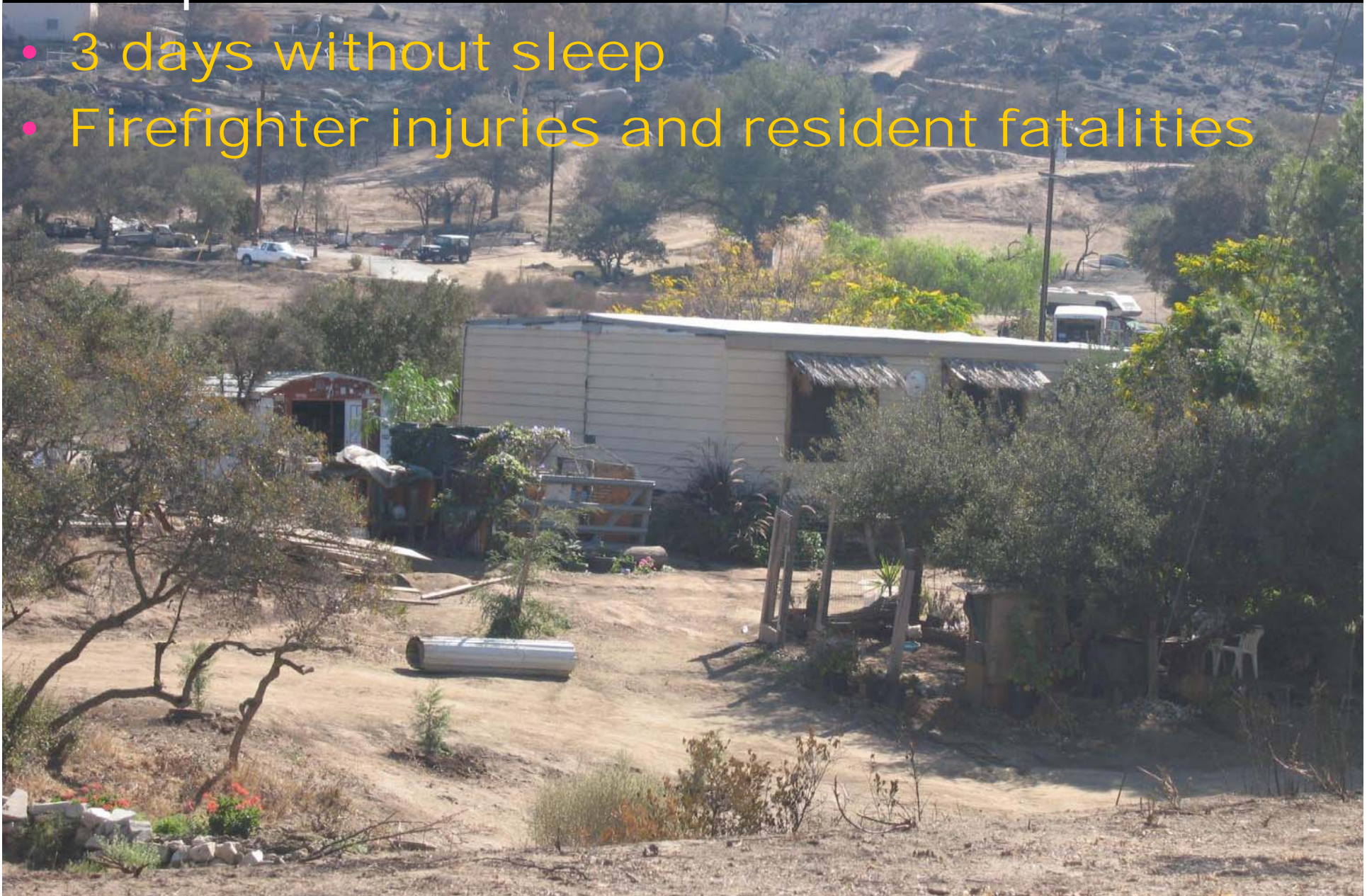
Rancho Santa Fe



Gaviota Fire 2003

Exhibit B: Not quite Rancho Santa Fe...

- 3 days without sleep
- Firefighter injuries and resident fatalities



An aerial photograph of a trailer park situated in a desert environment. The park is located in the upper-middle section of the image, featuring a row of approximately 15 white mobile homes with dark roofs. To the left of the homes, a paved road curves through the landscape. The surrounding terrain is arid, with scattered rocks, sparse green shrubs, and patches of dry grass. In the lower-middle section, there are several large, light-colored, irregularly shaped structures that appear to be ruins or debris. A black rectangular box with yellow text is positioned over the lower-middle part of the image, and the word 'Del Zura' is written in white in the upper right corner.

Del Zura

Trailer Park

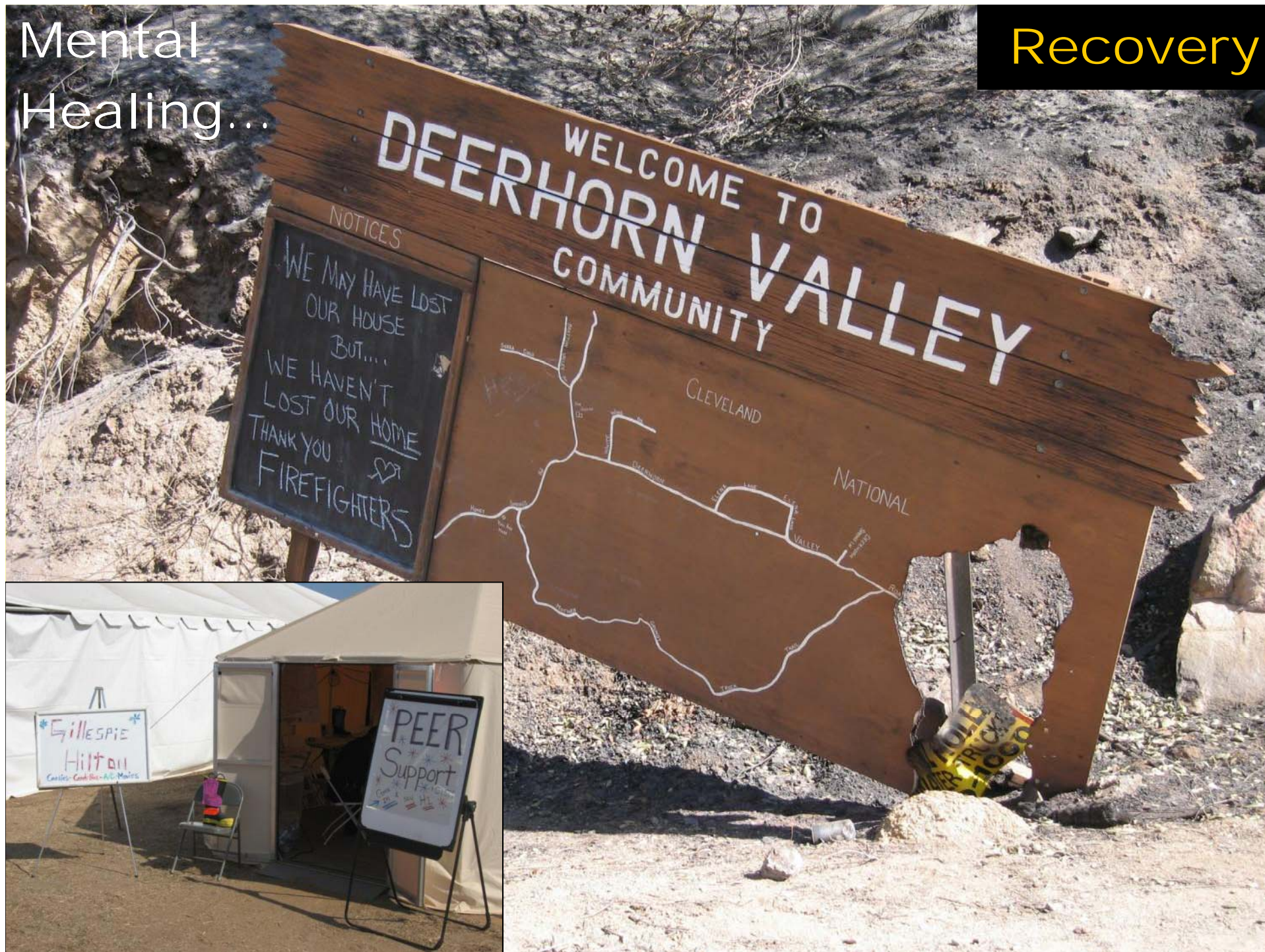
After the Fires

Physical
healing...



Mental
Healing...

Recovery



My experience down under...

Much help to the masses



Much less to individuals



Pre-fire changes Do work...

- Prevention
- Mitigation
- Preparation



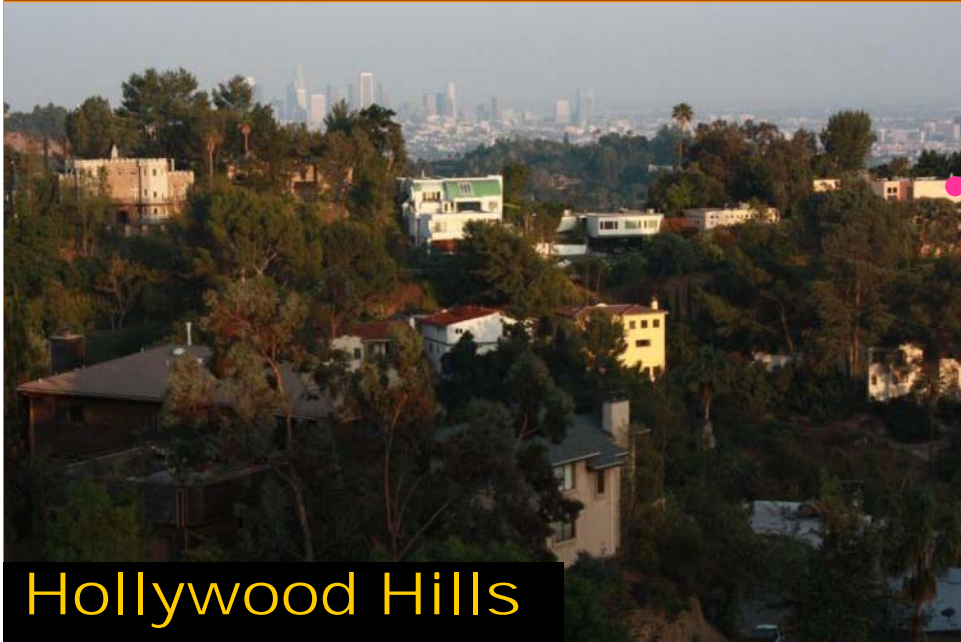


We must shape
the battlefield!!!

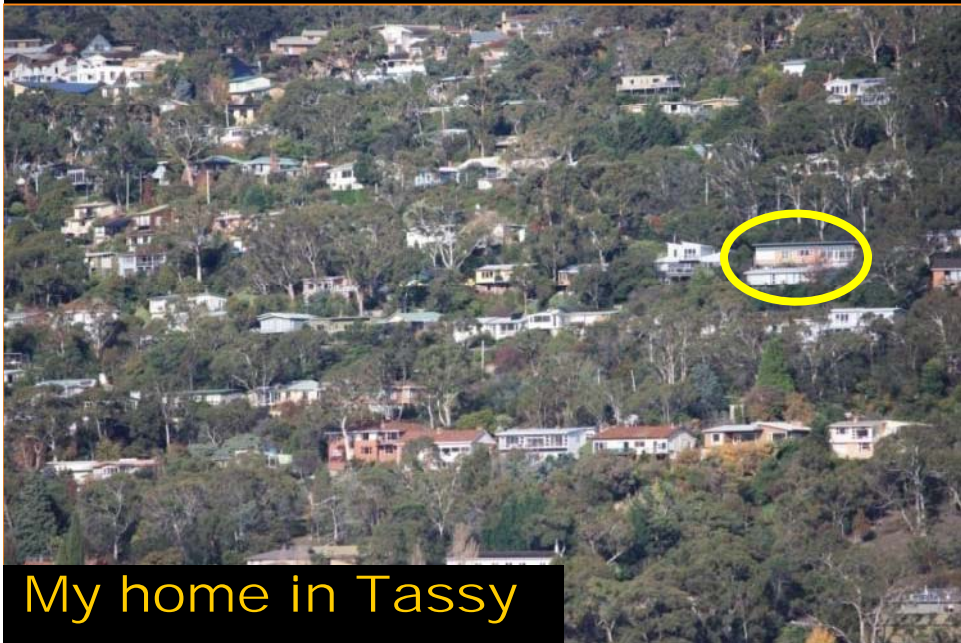


Thanks Kate Dargan & Tonya Hoover!

If I were a betting man...



Hollywood Hills



My home in Tassy

Going to get worse before it gets better

- Still have existing communities
- Still moving to the bush
 - Western USA will start experiencing more "California fires"
- Humans still have attention spans of gnats

We CAN break the cycle...

Fires are necessary, fire disasters are not

- Biophysical critical
- Socioeconomic critical

