

Wildland Fire: The Good, Bad, and Ugly

Grow Green Firewise Landscaping
August 25, 2015

Luke Ball
Environmental Program Coordinator
Austin Water Wildland Conservation Division

FIRE!

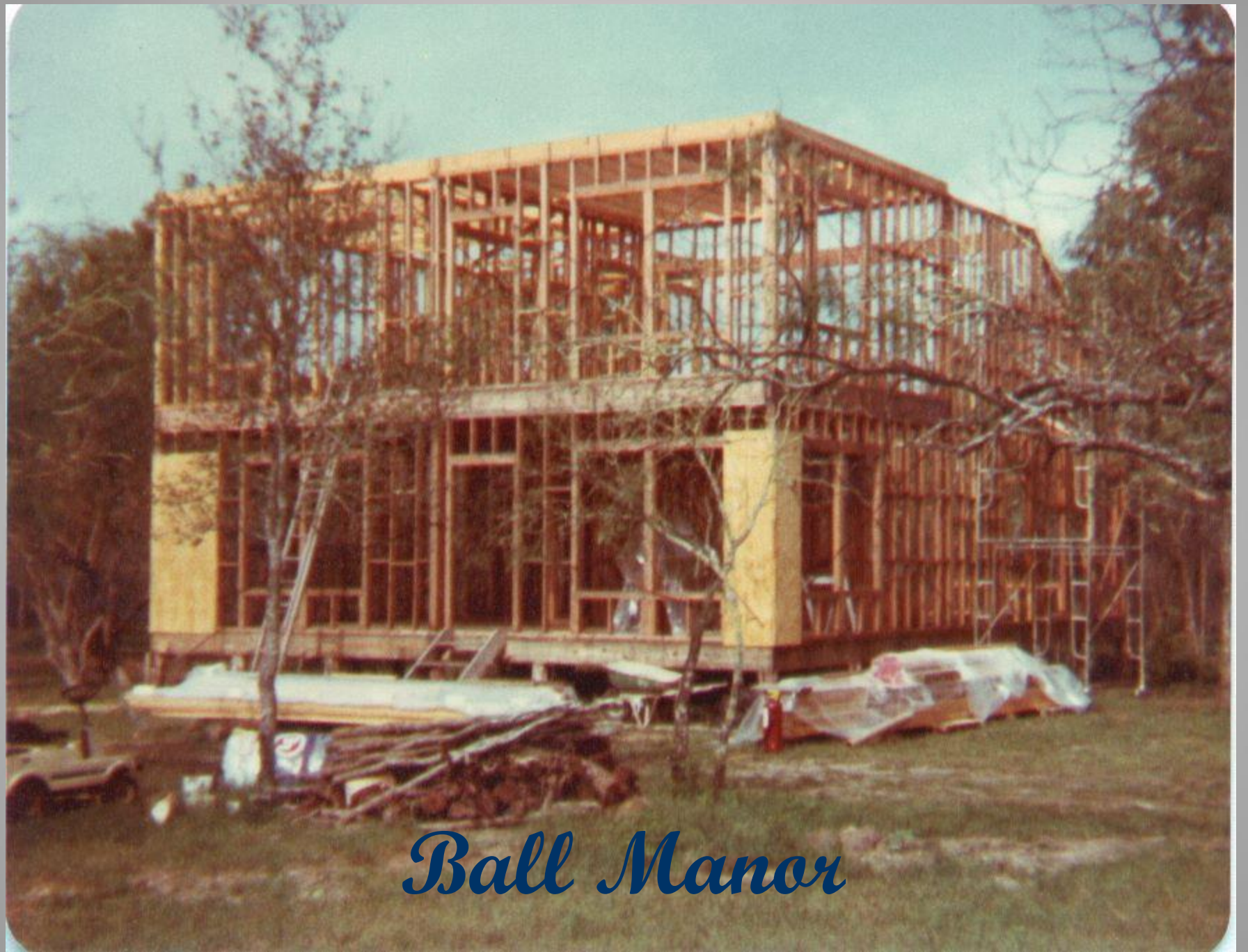


J. Forrester Elwell



The Indian Camp 1912





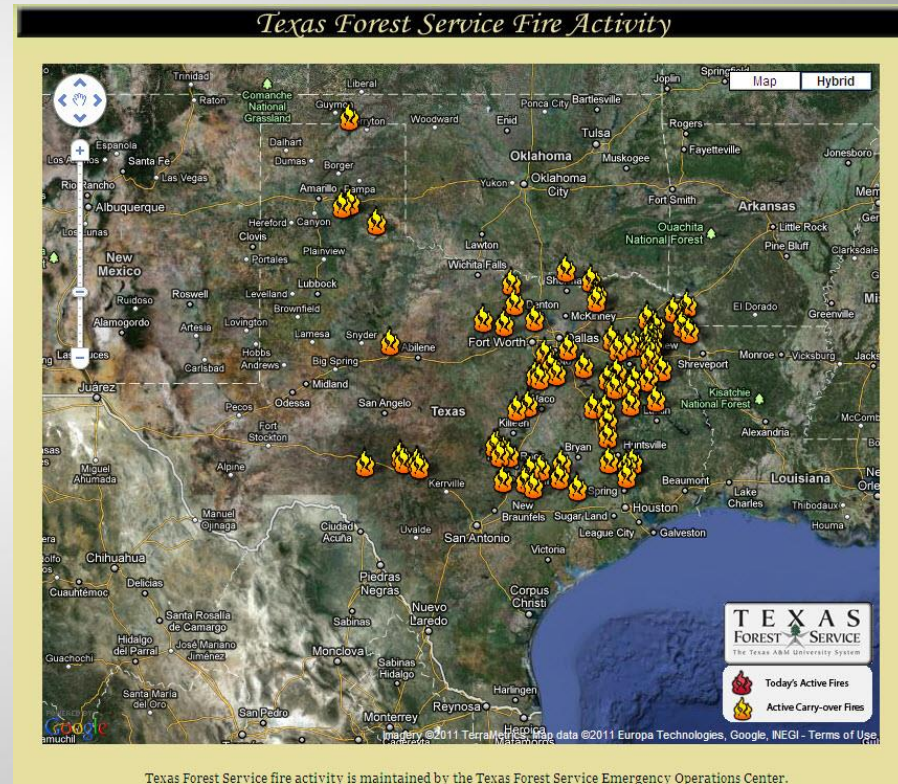
Ball Manor

Recent History

1950's



2010's



Texas Forest Service fire activity is maintained by the Texas Forest Service Emergency Operations Center.

Now What?



It depends...

Safe.



Safe.



Safe.



**Understand the
risks and take
action where it
will be most
effective.**

DESIRED FUTURE CONDITION

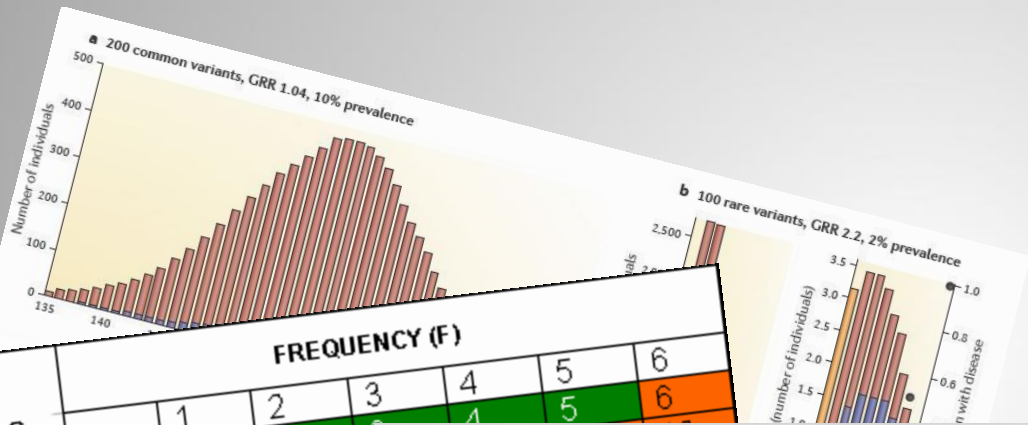


“ Patience and perseverance have a magical effect before which difficulties disappear and obstacles vanish.”

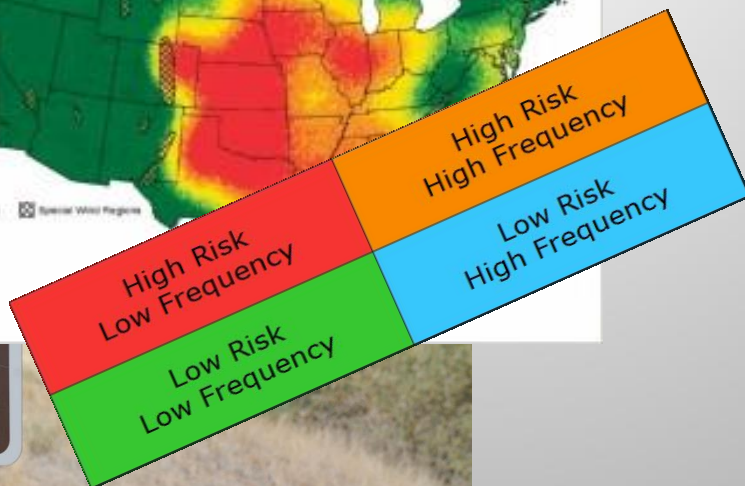
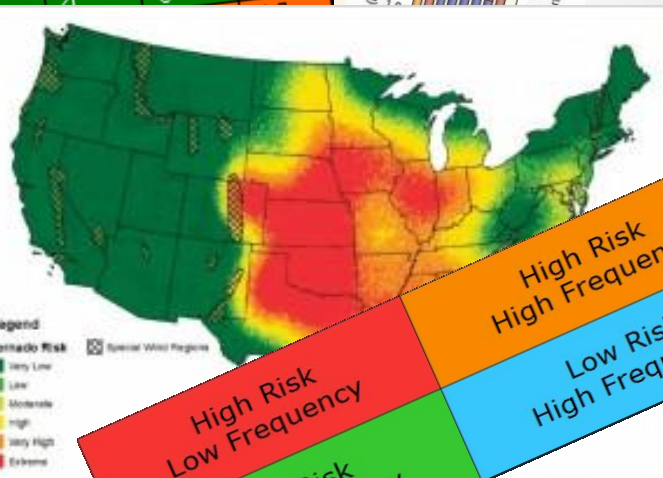
John Quincy Adams

Defining Fire Behavior

Frequency
and
Intensity



		FREQUENCY (F)					
		1	2	3	4	5	6
SEVERITY (S)	1	1	2	3	4	5	6
	2	2	4	6	8	10	12
	3	3	6	9	12	15	18
	4	4	8	12	16	20	24
	5	5	10	15	20	25	30
	6	6	12	18	24	30	36



High Frequency/ Low Intensity



**Rate of Spread 0.3-0.8 miles/hr
Flame Length 1-3 feet**



High Frequency/ High Intensity



**Rate of Spread 5-7 miles/hr
Flame length 10-18 feet**

Low Frequency/ Low Intensity



Rate of Spread 0.1-0.8 miles/hr
Flame Length 2-8 feet

Low Frequency/ High Intensity



Rate of Spread 0.5-2 miles/hr
Flame length 14-30 feet

Defining Resilience




Intensity

≠

Impact

“The capacity of a system to absorb disturbances while still retaining the same function, structure, and identity.”



Good, Bad or Ugly?

Any wildfire is a problem
when we don't have
resilience

Community Resilience
and
Environmental Resilience

How do we build resilience?

- 
- Community Preparedness
 - Vegetation Preparedness
 - Awareness

Low Frequency/Low Impact

Vegetation Preparedness

Fire Proofing in 3 Easy Steps

- Surface fire
- Transition to Crown Fire
- Continuity
 - Surface Fire
 - Crown fire



Surface Fuels

Reduce fine fuels to reduce surface fire intensity



Tree Crowns
Ladder Fuel
Surface Fuel

In a forest where fires rarely occur, surface fuels build up: There's surface fuel (dead leaves, twigs, woody debris, brush); ladder fuel (shrubs, small trees, snags); and tree crowns.

spread quickly through brush and woody debris. The fire is able to move up toward the forest canopy.

3 Tree crown fires are so intense, they're difficult to control.

Ladder Fuels

Remove ladder fuels to reduce ability of surface fire to ignite canopy fuels



Fuel Ladder Intact



Fuel Ladder Removed

Ladder-effect: Overgrown forest allows wildfire to climb up and destroy wildlife habitat.



Continuity

Reduce fuel continuity to contain or exclude the movement of the fire

- Surface Fuels
 - Man-made Barriers
 - Natural Barriers
 - Fuel Type Changes
- Canopy Fuels
 - Canopy Gaps
 - Canopy Species Diversity
 - Canopy Tree Size Diversity

Tree Crown

Ladder Fuel

Surface Fuel

In a forest where fires
builds up: There's surface
woody debris, brush, ladder fuel (shrubs,
small trees, snags), and tree crowns.

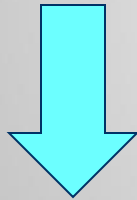
through brush
and woody debris.

up toward the
forest canopy,

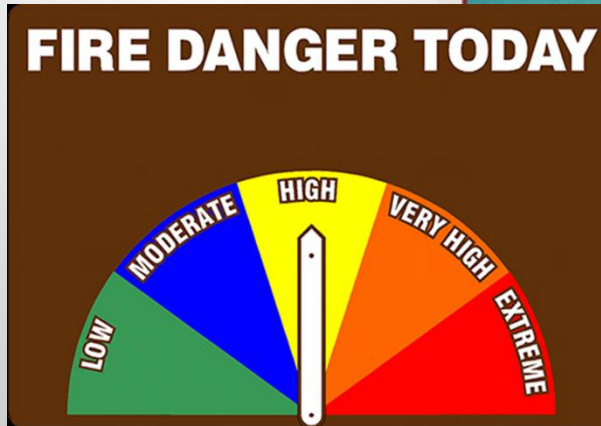
Tree crown fires
are so intense,
they're difficult to
control.

Awareness

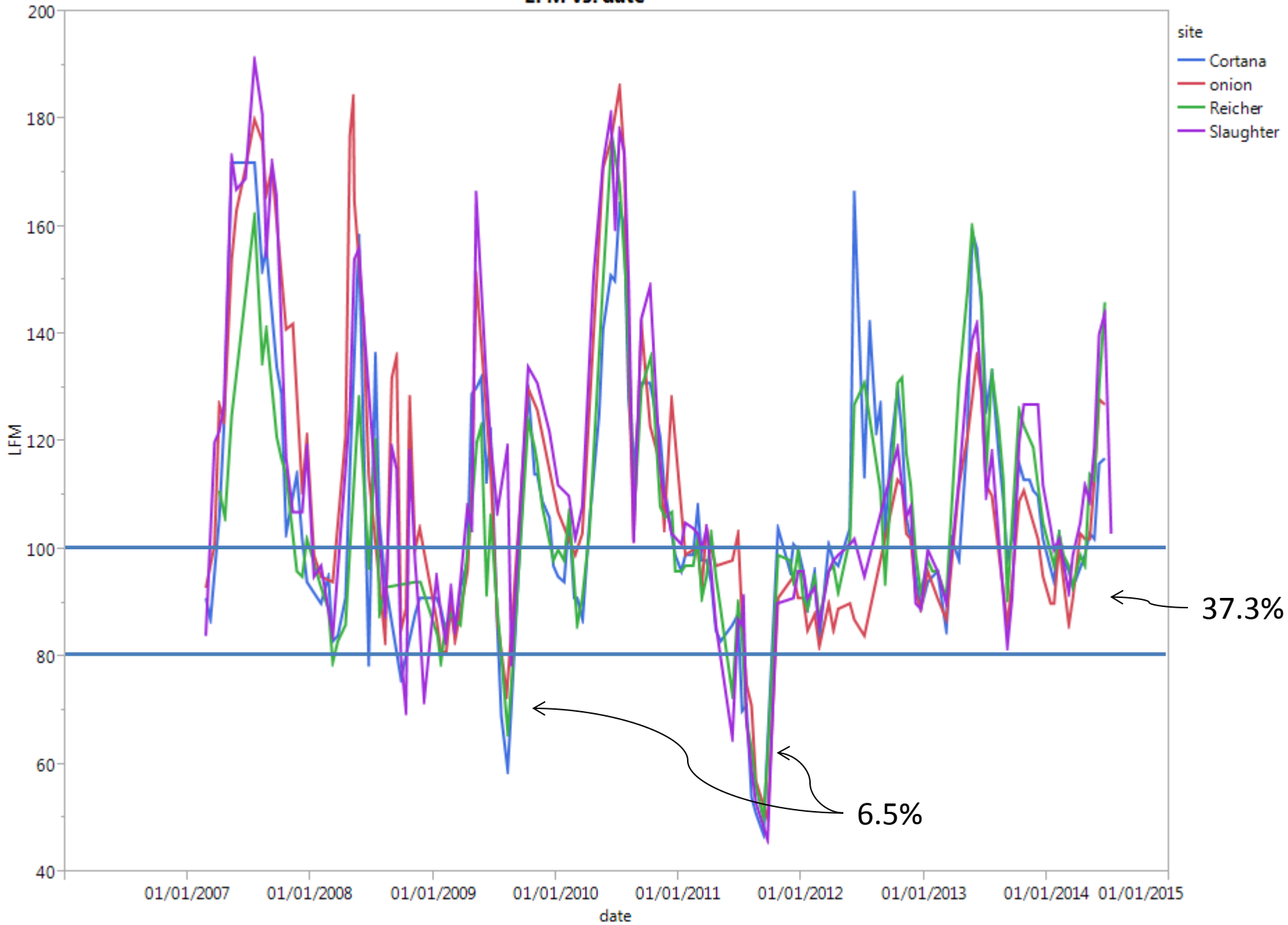
- Fuels Conditions
- Weather Conditions
- Special Conditions



ACTIONS



LFM vs. date



TRAVIS COUNTY LAND INVENTORY

- Travis County Acres: 654,131
- City of Austin Acres: 396,395
- Developed Acres in Austin: about 244,000
- Travis County Total Resource Acres: 66,082

Thank you.