

**HIGH HAZARD ZONE DETERMINATION
TREE MORTALITY TASKFORCE
MARCH 14, 2016**

<http://www.fire.ca.gov/treetaskforce/index>

CAL FIRE



UPDATE HIGH HAZARD ZONES

■ Reasons to Update

■ Directive 1

- ...identify areas of the State that represent high hazard zones for wildfire and falling trees...

■ Directive 6

- ...distribute portable equipment across high hazard zones so that isolated communities can remove and process wood waste locally where appropriate.

■ Directive 7

- ...to burn tree waste that has been removed in high hazard areas.

■ Directives 8-10, 13

- Bioenergy considerations

UPDATED HIGH HAZARD ZONES(HHZ)

- Initially, HHZ was defined solely based on proximity of tree mortality to communities and public infrastructure.
 - ***HHZ Tier 1:***
 - *in close proximity to communities, roads, and utility lines.*
 - *a direct threat to public safety.*
 - *Tier 1 HHZ is already completed and is currently available on the TMTF viewer.*

- Tier 2 addresses broader concerns for forest health
 - ***HHZ Tier 2:***
 - *Defined by watersheds (HUC 12)*
 - *Has significant tree mortality, fire threat as well as community assets and water resources*
 - *Tier 2 level supports broader forest health and landscape level fire planning issues.*

ASSET DATA INPUTS

- **Community Infrastructure** – Area of buffers from roads, utility lines, and communities that are within a watershed.
- **Water Infrastructure** – The amount reservoirs, canals, and related infrastructure that are within a watershed.
- **Water Resources** – The amount of meadows, lakes, and riparian areas within a watershed.

THREAT DATA INPUTS

- **Tree Mortality** – Summarize the amount of tree mortality (ADS survey data) within a watershed.
 - A threshold level of tree mortality in a watershed was set at 1.5%. This value is our estimate of a natural background mortality rate.
 - Tree mortality above the threshold represents elevated mortality.
 - To be designated as HHZ Tier II all watersheds must be above threshold.
- **HHZ Tier 1** – Summarize the amount of HHZ (direct) within a watershed.
- **Fire Threat/Fire Return Interval Departure** – Based on expected fire behavior and frequency of events in a watershed.

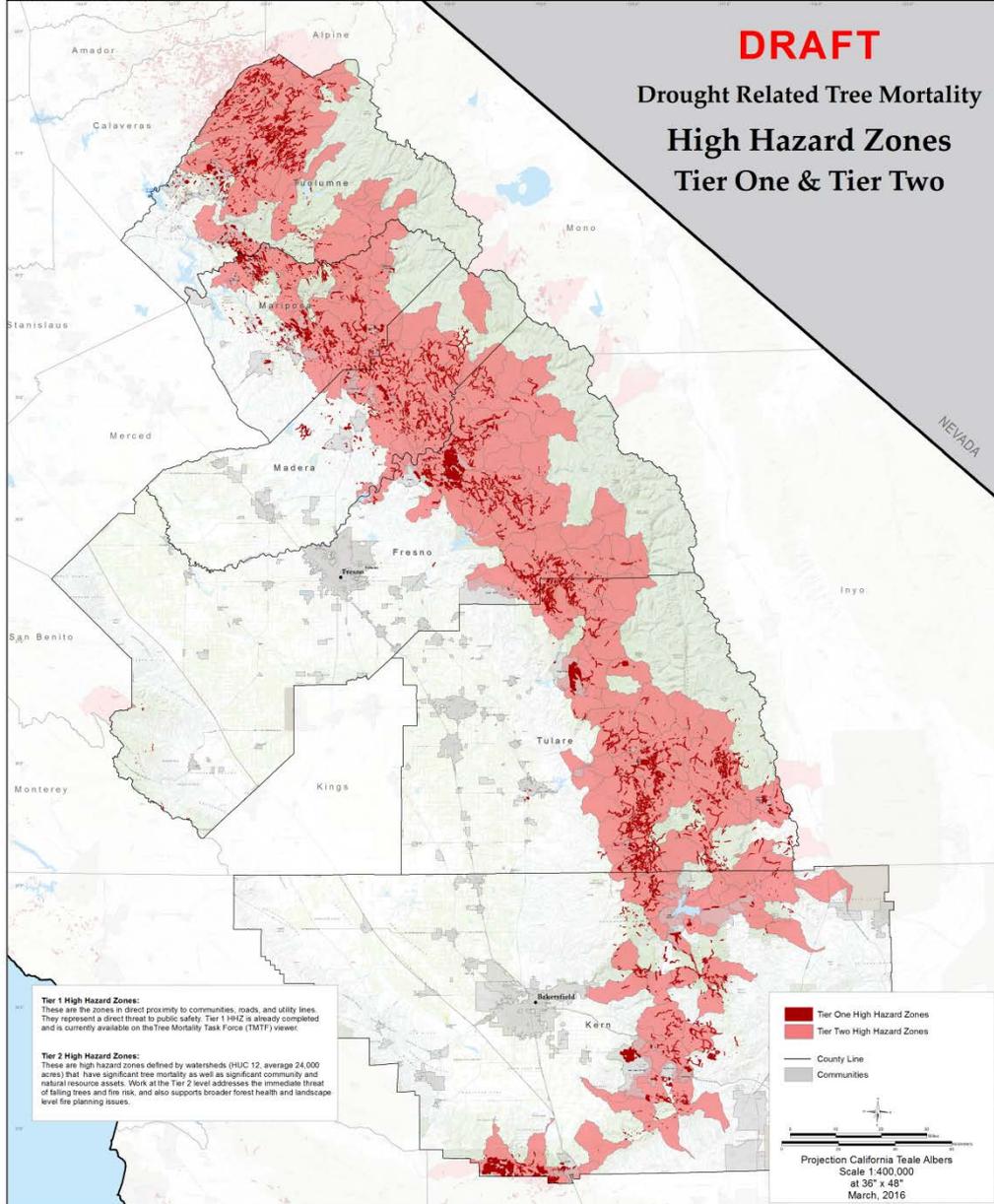
WATERSHED SCORING MATRIX

- Combine Asset Layers into an overall asset score
- Combine Threat layers into an overall Threat score
- Assign Watershed Designations based on Overall Score
- Watersheds with an overall score of 4 and above are combined into a single class that are designated HHZ (Tier II).

Description	Asset Composite Score	Threat Composite Score	Overall Score
Low	1	1	2
Med-Low	2	1	3
Low-Med	1	2	3
High-Low	3	1	4
Low-High	1	3	4
Medium	2	2	4
Med-High	3	2	5
Med-High	2	3	5
High	3	3	6

DRAFT

**Drought Related Tree Mortality
High Hazard Zones
Tier One & Tier Two**



Tier 1 High Hazard Zones:
These are the zones in direct proximity to communities, roads, and utility lines. They represent a direct threat to public safety. Tier 1 HHZ is already completed and is currently available on the Tree Mortality Task Force (TMTF) viewer.

Tier 2 High Hazard Zones:
These are high hazard zones defined by watersheds (HUC 12, average 24,000 acres) that have significant tree mortality as well as significant community and natural resource assets. Work at the Tier 2 level addresses the immediate threat of falling trees and fire risk, and also supports broader forest health and landscape level fire planning issues.

■ Tier One High Hazard Zones
■ Tier Two High Hazard Zones
 — County Line
 ■ Communities

Projection California Teale Albers
 Scale 1:400,000
 at 36° x 48"
 March, 2016

HIGH HAZARD ZONES (MAP)

(Tier 1): These are high hazard zones that are in close proximity to communities, roads, and utility lines. They represent a direct threat to public safety. Tier 1 HHZ is already completed and is currently available on the TMTF viewer.

(Tier 2): These are high hazard zones that are defined by watersheds (HUC 12) that have significant tree mortality, combined with community and natural resource assets. Work at the Tier 2 level supports broader forest health and landscape level fire planning issues.

RECOMMENDATIONS

- Work with the Forest Health Workgroup and others to review the data and threshold values used to score watersheds.
- There is a need for field level review of HHZ Tier 1 and Tier 2
- HHZ should be updated periodically to reflect new data from tree mortality surveys and improved asset information
- Incorporate HHZ into CAL FIRE Unit Fire Plans to create a strategic approach to link Fire Plan goals to the goals of the Task Force

THANK YOU

Contact Information:

Glenn Barley

Glenn.Barley@fire.ca.gov

(951) 320-6116

Or

Mark Rosenberg

Mark.Rosenberg@fire.ca.gov

(916)445-5366

Special Thanks To:

Lead Analyst

Kelly Larvie (CAL FIRE)

Support Team

Chris Keithley, Liz VanWagtendonk, Nic Enstice, Adam Ellis, Matthew Bokach

<http://www.fire.ca.gov/treetaskforce/index>

