

## Local Identification of Tier 2 High Hazard Zones



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**Tier 2 High Hazard Zones (HHZ) are defined by HUC 12 watershed boundaries that have significant tree mortality as well as significant community, critical infrastructure, and natural resource assets. Work at the Tier 2 HHZ level addresses the immediate threat of falling (hazard) trees and fire risk, while also supporting broader forest health and landscape level fire planning.**

This form describes the information necessary for Local Tier 2 HHZ designation. Prior to completing this worksheet, you should visit the TMTF Tier 2 HHZ viewer ([LINK](#)) to identify the Hydrologic Unit Code (HUC) 12 watersheds you are planning to assess. Use the viewer to explore information associated with the watershed.

Not all watersheds will support conditions for all sections of this worksheet. If information or conditions for any section are absent or unavailable, please indicate that where appropriate. Proponents may provide supplemental information that is not included in this worksheet, such as maps, written descriptions or photographs.

After completing as much of this worksheet as is possible, submit proposal materials to the CAL FIRE Unit Forester and the designated U.S. Forest Service representative for the administrative area that covers the watershed. Proponents can find the names and contact information for CAL FIRE and USFS units on the TMTF Tier 2 HHZ viewer cited above, or on the TMTF website.

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HUC 12 Name: \_\_\_\_\_

HUC 12 Number: \_\_\_\_\_

CAL FIRE Unit: \_\_\_\_\_

USFS Forest Name: \_\_\_\_\_

Name: \_\_\_\_\_ Telephone \_\_\_\_\_

Organization: \_\_\_\_\_ Email: \_\_\_\_\_

**SIGNED and DATED**

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**USFS Forest Supervisor**

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**CAL FIRE Unit Chief**



## Summary of Sections Addressed in Worksheet

Check the appropriate yes/no boxes to summarize the sections completed in the worksheet.

Section		Yes	No
Threats	Mortality		
	Fire		
	Other		
Assets	Critical Infrastructure		
	Water as a Natural Resource		
	Water Infrastructure		
	Other		
Supplemental Information			

**General Description of Watershed** (Append additional pages as necessary.)



## Threats

### Mortality

Provide tree mortality information that is *drought related*. This includes trees that are dead due to bark beetle, other insects or pests (if known), or trees that have died due to water stress. Photo documentation including GPS coordinates (or a geotagged photo) is strongly encouraged. Damage causal agents (DCA) reflects the primary cause of mortality, such as mountain pine beetle. If tree mortality is estimated to be less than 3,000 trees in the watershed, provide a description of mortality conditions in #19 below.

Mortality assessment completed (month/year): \_\_\_\_\_

- 1) Estimate the number of dead trees due to *insects or pests*. Check appropriate box corresponding to highest level of mortality.**

Dominant Tree	Primary DCA	3,000 to 5,000	5,001 to 10,000	>10,000
Hardwood				
Ponderosa pine				
Other species:				
Other species:				
Other species:				

- Check here if there are less than 3,000 dead trees due to *insect or pest* activity observed in this watershed at the time of assessment.

- 2) Estimate the number of dead trees due to *water stress*. Check appropriate box corresponding to highest level of mortality.**

Dominant Tree	Primary DCA	3,000 to 5,000	5,001 to 10,000	>10,000
Hardwood				
Ponderosa pine				
Other species:				
Other species:				
Other species:				

- Check here if there are less than 3,000 dead trees due to *water stress* observed in this watershed at the time of assessment.

- 3) Is there drought related mortality that is not represented by the 2012 – 2016 USFS Aerial Detection Survey (ADS)?**

Dominant Tree	3,000 to 5,000	5,001 to 10,000	>10,000
Hardwood			
Ponderosa pine			
Other species:			
Other species:			
Other species:			

- Check here if there is no additional mortality.



Fire

Fire threat reflects how wildfire is expected to behave within the watershed of interest. The expectation is based on a combination of two measures: 1) the likelihood of fire occurring, and 2) the expected fire behavior under severe weather conditions. Both are influenced by a variety of factors, but the strongest contribution comes from vegetation (fuels) and topography.

See the **Rapid Assessment of Fire Threat** document for additional information.

**4) For lower montane forests:**

Lower montane forests range in elevation from approximately 1,200 to 5,500 feet in the north and in the south from 2,500 to 9,000 feet. The dominant forest species are ponderosa pine, mixed conifer with oak, and the upper extent of oak woodland.

Estimate number of lower montane forest mortality acres within the watershed in the following fire behavior categories. Not all categories may be present. Use the following classes to estimate acres in each slope and fuel category. Place a number into each box corresponding to the estimated amount in each fuel load/slope class combination:

- 1) less than 25 acres    2) 25 to 2,500 acres    3) greater than 2,500 acres

Lower Montane Forest		Fuel Load		
		Low	Moderate	High
Slope	Less than 25%			
	More than 25%			

Check here if this watershed does not support lower montane vegetation types.

**5) For upper montane forests:**

Upper montane vegetation can be found at elevations from approximately 5,500 to 8,000 feet in the north and 6,500 to 10,000 feet in the south. The dominant forest species are mixed conifer with white fir, red fir, lodgepole pine, and Jeffery pine.

Estimate number of upper montane forest mortality acres within the watershed in the following fire behavior categories. Not all categories may be present. Use the following classes to estimate acres in each slope and fuel category. Place a number into each box corresponding to the estimated amount in each fuel load/slope class combination:

- 1) less than 25 acres    2) 25 to 2,500 acres    3) greater than 2,500 acres

Upper Montane Forest		Fuel Load		
		Low	Moderate	High
Slope	Less than 25%			
	More than 25%			

Check here if this watershed does not support upper montane vegetation types.



**6) Watersheds that have experienced severe fire since 2012 fire year:**

a.) Estimate the *forested* portion of watershed that was severely burned (click one):

NA    0 to 10%    11 to 25%    25 to 50%    50 to 75%    75 to 100%

b.) Estimate the *forested* proportion of the watershed with low or moderate burn severity (click one):

NA    0 to 10%    11 to 25%    25 to 50%    50 to 75%    75 to 100%

c.) Estimate the proportion of *forest* remaining that supports high rates of mortality (click one):

NA    0 to 10%    11 to 25%    25 to 50%    50 to 75%    75 to 100%

## Assets

### Critical Infrastructure

Critical infrastructure is infrastructure used to provide essential services to the residents of an area. Refer to the TMTF Tier 2 HHZ viewer to explore mapped assets ([LINK](#)).

**7) Estimate the miles of powerlines in the watershed (click one):**

Less than 1    1 to 5    More than 5

**8) How many power generating facilities are in the watershed (click one):**

0    1 to 5    More than 5

**9) Estimate the miles of paved public roads in the watershed (click one):**

Less than 5    5 to 15    15 to 25    More than 25

**10) Estimate the number of schools and government buildings in the watershed (click one):**

0    1 to 5    5 to 15    More than 15

**11) Estimate the number of hiking/biking/equestrian trail heads in the watershed (click one):**

0    1 to 5    5 to 15    More than 15

**12) Estimate the number of ski areas in the watershed (click one):**

0    1 to 5    More than 5



**13) Estimate the number of OHV staging areas in the watershed: (click one)**

0                      1 to 5                      More than 5

**14) Estimate the number of campgrounds or day use areas in the watershed: (click one)**

0                      1 to 5                      More than 5

**15) Does the watershed contain a type of critical infrastructure (other than those listed above) with significant importance to the local population or to populations outside of the local area? Describe the infrastructure, its significance, and the population it serves. (Append additional pages as necessary.)**

Water as a Natural Resource

**16) Are there significant water resources other than lakes and major rivers in the watershed? These might include sensitive wetlands, riparian areas critical for wildlife habitat, or stream reaches with threatened or endangered species. Describe the resources and provide a spatial location. Photo documentation and maps are encouraged. (Append additional pages as necessary.)**

Water Infrastructure

Water has many beneficial uses, including human consumption. Does the watershed contain water resources related to drinking water supply, such as water conveyances or storage facilities?

**17) Describe the water storage facilities, including population served, proximity to forested areas, and spatial location. (Append additional pages as necessary.)**

**18) Describe any water conveyances, including an estimated length of the conveyance, building material, population served, and spatial location. (Append additional pages as necessary.)**

Other Assets

**19) Does the watershed have any other significant assets or natural resource to be protected that have not been identified? Please describe these assets and resources and include a spatial location. (Append additional pages as necessary.)**