Fuels and Fire Behavior Advisory

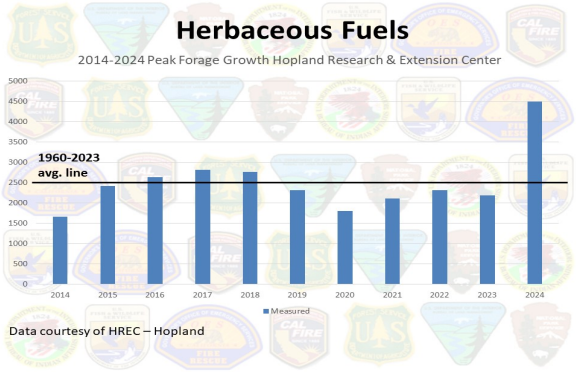
California Grass and Herbaceous-Dominated Ecosystems

July 22, 2024

Subject: Herbaceous fuel loading is above to well above average across most of California's grass-dominated systems, including typically arid deserts and valleys that often do not support fire growth.

Discussion: Precipitation and temperature alignments throughout the winter and spring of 2024 have resulted in an above average load of herbaceous fuels across many grass-dominated systems throughout California. The above normal grass and herbaceous load creates a continuous fuel bed, allowing for rapid spread of fires when these fuels are cured. The continuous nature of the herbaceous fuel bed is enhanced by remnant thatch resulting from herbaceous growth during the abnormally wet late summer and fall of 2023 and multiple consecutive years of above average herbaceous growth.

Difference from normal conditions: Herbaceous fuel loadings in the California Coast Ranges, Sierra Foothills, and areas east of the Sierra Crest range from 120% to as much as 198% of normal. Below 3,000 ft. these fuels are nearly to fully cured. Curing and drying in the area of concern was enhanced during a recent heat wave and period of widespread humidity values in the teens to single digits and poor overnight humidity recovery.



Concerns to Firefighters and the Public:

- Continuous and above normal fuel loading lowers the wind speed threshold needed to initiate rapid spread of fires during initial attack. Under what are typically low to moderate wind speeds, rates of spread and flame lengths are likely to exceed direct attack capabilities.
- Areas that typically resist fire spread, such as grazed areas, may not slow fire growth or reduce fire behavior as expected.
- Continuous fuels in arid and semi-arid ecosystem, such as deserts and high valleys, are likely to support continuous fire spread in areas typically considered non-burnable.
- Heavy and continuous cured herbaceous fuels may serve as a catalyst for fire spread into brush fuel types, even at fuel moisture levels that would otherwise make them resistant to rapid fire spread.

Mitigation Measures:

- Brief all incoming resources about these conditions, especially out-of-area resources unfamiliar with local conditions.
- Consider augmentation of initial attack resources in areas of heavy herbaceous fuels.
- Fire behavior prediction simulations using fuel models GR1 and GR2 are likely to underpredict spread; modification to GR4 or GR7 may be needed to accurately model fire spread in herbaceous fuels.
- Modify tactics to account for increased fire line intensity and spotting.

Area of Concern:

Across Central and Southern California, areas of concern focus on foothills, grasslands and deserts at or below 3,000 ft. in elevation. This includes portions of the following predictive services areas: NC02, NC03A, NC03B, NC04, NC05, NC07, and all South Ops PSA's.

Across the northeast portion of the state this includes hills, valleys, and deserts near and below 5,500 ft in elevation in parts of predictive services areas NC06 and NC08.

Issued By: Predictive Services Units from Northern California and Southern California, in coordination with Cal Fire and Cal OES Fire and Rescue Division.

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July 8, 2024