

Fuels and Fire Behavior Advisory

Southern Missouri (all lands south of I-44)

Date Advisory Effective - August 2, 2022

Subject: Extremely dry live and woody fuel conditions during the Summer. Record setting weather conditions have caused live and herbaceous vegetation to dry and cure during the summer. Field samples are showing record low fuel moisture reading in all dead woody fuel classes. We are currently recording more frequent fires that are showing significant increase in fire behavior. **The current forecasted weather and climate predictions are displaying no improvement for the next 30 days.**

Discussion: Over 45 days of record high temperatures and record low rainfall for this time of the year has left the southern part of the state in severe to extreme drought. This abnormal weather has led to below normal live and dead fuel moistures for this time of the year. Areas in the southwestern part of the state, where live vegetation is transferring to the fine fuel load (1hr) and woody vegetation (trees) is becoming more susceptible to ignitions sources. There are more frequent fire starts from sparks caused by machinery, vehicles, lightning, and cutting equipment in dry grasses and other fine fuels. Some counties have issued burn bans to deter the public and inform them of the risk of all fire use until conditions improve.

Difference from normal conditions: Historically, the summer fire occurrence is 10 to 20 fires for the season (June, July, August). Last month, we recorded 30 fires across the area, and in extreme drought areas recorded 5 to 10 fires weekly. Normal precipitation for this time of year average about 4 in/month. The 60-day departure from normal precipitation records show 3 – 6 inches below normal across the advisory area. Normally live fuel, herbaceous and woody, moistures would read close to the average, 120% to 150%, and this fuel class would not become available fuel until the fall season. Current readings are from 50% to 90%, and the lowest recorded readings are in SW Missouri. This fuel class in a normal summer would either slow or deter fire growth. Currently, this fuel class is readily available and increasing fire behavior on fire weather days. Downed/dead fuel classes are all running in the low percentage due to lack moisture and prolonged periods of excessive heat (drying). 1000hr fuel class (3" or larger sticks) are reading 9 -12%. The current forecast (7-10 days) displays that some localized area may have short term improvement during precipitation events.

Concerns to Firefighters and the Public:

- Increase fire severity, higher fireline intensities, resistance to normal control practices, increased rate of spread during days very low relative humidity, increased spotting, single tree torching with short crown runs.
- Extreme fire growth potential and fireline intensity is to be expected during both initial attack and extended attack operations, especially when critical fire weather is occurring. This is to be expected on all areas of the fire perimeter including the less active flanks.
- The public will need to be advised to avoid activities that can become ignition source on fire weather days and avoid areas in the vicinity of ongoing fires.

Mitigation Measures:

- Local briefings need to be thorough and highlight specific fire environment conditions. These include but not limited to local weather forecast, pocket cards, NFDRS indices, and fuel moistures.
- Based all actions on current and expected fire behavior. Augment initial attack resources as incident activity dictates.
- Indirect tactics in elevated fire weather conditions. The use of roads, improved natural fuel breaks and dozer lines for control lines are important. Blower line may not suffice. Adjust mop-up standards.
- Recent observations indicate large diameter surface fuels and ground fuels are burning more readily and holding heat longer due to low 1000-hr fuel moisture and underlying drought. The time and effort needed for mop-up will continue to increase as large diameter fuels and ground fuels hold heat with the continued forecast of very hot and mostly dry conditions.

Issued By: Mark Twain National Forest's Fire and Aviation Management

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