



Wildfire Risk within the Burney Hat Creek Basins CFLRP

We used wildfire model outputs, generated by the USDA Forest Service Pacific Southwest Region, to assess wildfire risk within the Burney Hat Creek CFLRP on the Lassen National Forest. We focused on two metrics of wildfire risk, burn probability and conditional flame length, which were estimated using the stochastic wildfire simulation program FSim. This fire model incorporates variability in weather, fire ignitions, fuel, and topography to estimate wildfire probability and intensity by simulating thousands of wildfires across large landscapes.

Model outputs identify areas of high wildfire risk and can be used to prioritize fuel reduction treatments.

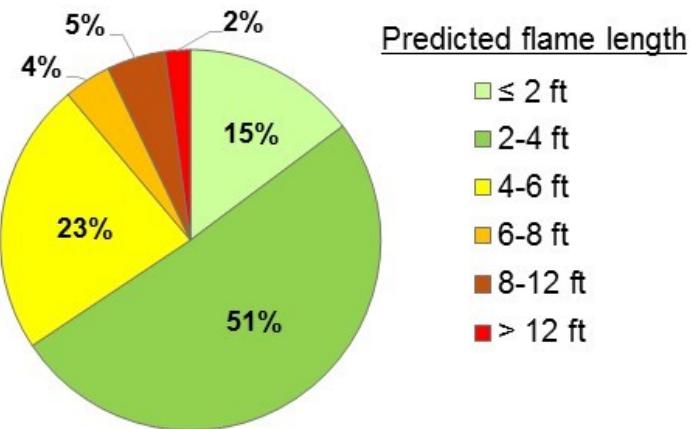
Key Findings

- The probability that a large wildfire (>100 acres) will burn within the CFLRP project area in any given year is 49%.
- The expected annual area burned is 1,926 acres.
- For any given pixel (i.e. an area of ~ 2 acres) the annual burn probability ranged from less than 0.001 (that is, 1 in 1000 odds of burning in a large wildfire in any given year) to 0.015 (1 in 67 odds).
- The highest burn probabilities were typically on the western side of the CFLRP project area.
- Approximately 66% (259,065 acres) of the landscape has predicted flame lengths less than 4 ft; 11% (44,002 acres) have predicted flame lengths greater than 6 ft, which generally corresponds to higher risk of crown fire.

Definitions

- **Burn probability:** the probability that a specific geographic location will experience a wildland fire within the calendar year.
- **Conditional flame-length probability:** the relative likelihood of observing a defined flame-length class at a point on the landscape, given that a wildfire occurs at the point.

Distribution of predicted conditional flame length



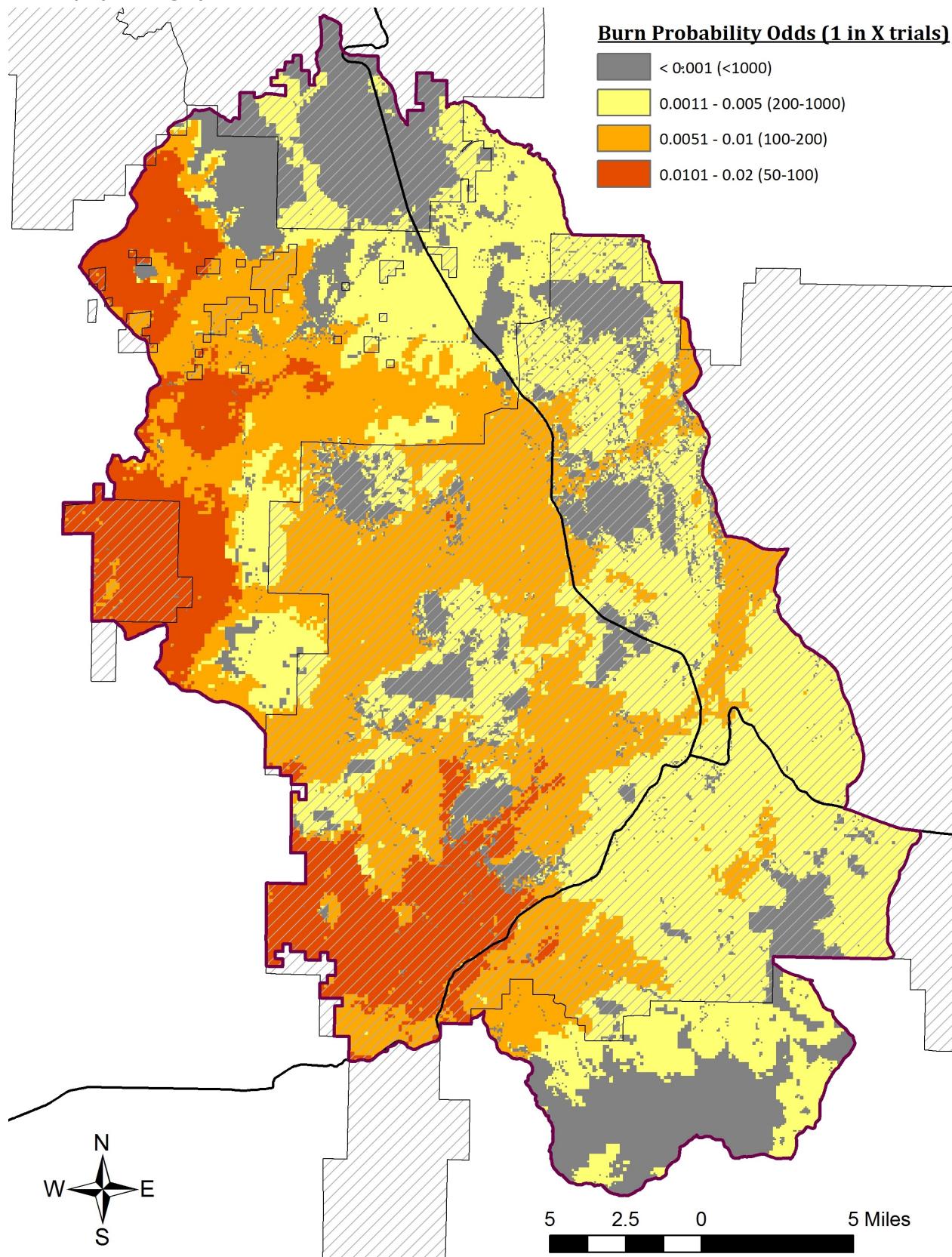
This assessment is the first step in addressing the following monitoring question from the Burney Hat Creek CFLRP Ecological Monitoring Strategy: FIRE.I.I. In areas where the goal is to reduce high severity patch size and fire-related tree mortality, are treatments effective?

Link to Maps and GIS files:

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Predictive map showing the annual probability that a wildfire will burn a given pixel (i.e. ~ 2 acre area) within the Burney Hat Creek CFLRP on the Lassen National Forest. Model outputs were generated as part of the Wildfire Risk Assessment completed by the USDA Forest Service Pacific Southwest Region. Federal lands are displayed as gray hatch.





Map displaying the most likely predicted flame length, given that a wildfire occurs, within the Burney Hat Creek CFLRP on the Lassen National Forest. This map was developed by selecting the flame-length class with the highest probability for each pixel (~ 2 acre map unit). Data were obtained from the Pacific Southwest Region's Wildfire Risk Assessment . Federal lands are displayed as gray hatch.

