



# STAFF REPORT

---

**Meeting Type:** Watershed Committee/Board of Directors  
**Title:** Wildfire Pathway Modeling Presentation  
**From:** Shaun Horne, Director of Watershed Resources  
**Through:** Bret Uppendahl, Acting General Manager  
**Meeting Date:** June 20, 2024

---

**TYPE OF ACTION:**                      Action                      X                      Information                      Review and Refer

**RECOMMENDATION:** Receive a Guest presentation relating to Wildfire Pathway Modeling

**SUMMARY:** In October of 2019, the District adopted the Biodiversity, Fire, and Fuels Integrated Plan (BFFIP), which describes the actions the District will implement to reduce wildfire hazards and to maintain and enhance ecosystem function. To better understand the potential risks to critical facilities, neighboring communities and the efficacy of existing and proposed fuel reduction efforts, the District continues to evaluate various wildfire modeling technologies to help inform the District’s BFFIP work. The Watershed Committee will receive a guest presentation on the Wildfire Pathway modeling approach that uses existing fuel models, topography, and worst case historical weather conditions characterized by high winds and low relative humidity. This modeling can then be used to support the development of Strategically Placed Landscape Area Treatments (SPLATS).

**DISCUSSION:** California is facing unprecedented wildfire crises as a result of decades of fire exclusion and increasing impacts associated with climate change. In many of California ecosystems, biodiversity, carbon stability and overall ecological resilience are dependent on the regular occurrence of fire. In addition, the wildfire seasons over the past few years have brought record impacts to communities, critical infrastructure and ecosystems. Under the BFFIP there are 27 management actions that are being implemented to fulfill the goals and approach described in the plan. Vegetation management under the BFFIP aims to reduce fuel loads, maintain fuelbreak infrastructure, preserve defensible space, and reduce invasive weed species. Vegetation management is conducted continuously throughout the year with the chief goal of reducing fuel loads and maintaining the watershed’s biological diversity to preserve the District’s primary source of water, the Mt. Tamalpais Watershed.

In an effort to understand the best available science and to inform the District’s BFFIP implementation, the District continues to evaluate various wildfire modeling technologies. A guest speaker will provide a presentation on the value of Wildfire Pathway modeling approach and SPLATS. Recommended SPLATS location and quantity are developed using an algorithm prioritizing fuel treatment areas that

interrupt those pathways that enter identified values at risk (community, critical infrastructure, high value environmental area) and have few barriers to implementation (low slope, proximity to a road, not in an environmental exclusion area). Multiple independent fuel treatment areas can be recommended to interrupt the same pathway to achieve network effects. Treatment recommendations vary based on the fuel type and can include mechanical thinning, pruning and limbing, mowing and brush cutting, grazing, and prescribed fires. Treatments include a return interval to account for maintenance efforts. These treatment recommendations are prioritized to select those areas with greatest contribution to slowing the spread of fire to provide additional time before wildfire's arrival to selected values-at-risk. Multiple fuel treatment areas can be recommended to interrupt the same pathway to achieve network effects. Fuel treatment areas are designed to optimize the cost and complexity of treatment with the benefit of delayed fire arrival time to the downstream values at risk.

**ENVIRONMENTAL REVIEW:** None.

**FISCAL IMPACT:** None.

**ATTACHMENT(S):** None.