

WHITEHAWK RANCH COMMUNITY HAZARDOUS FUELS ASSESSMENT

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By:

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PURPOSE AND NEED

During calendar year 2017, the State of California has experienced a record wildfire season, with over 8500 structures lost in the central California wildfires alone. As indicated in recent years, the general trend within the State is fire behavior that is more intense, leading to larger, more catastrophic wildfires that often threaten human safety and result in significant resource and economic damage. In effort to provide protection from the damaging effects of wildfire, the Whitehawk Homeowner's Association (HOA) sought an update to their 2013 hazardous fuels assessment within the Whitehawk Ranch community.

This report provides an assessment of current hazardous conditions, with recommended fuel reduction project areas and treatment methods as based on site inventory by Registered Professional Forester Danielle E. Bradfield during the months of November and December 2017.

PRIOR RECOMMENDATIONS

RPF Bradfield's prior 2013 Assessment for the Whitehawk community suggested two categories of fuel reduction prioritization: 1) Home Ignition Zone, and 2) Unimproved Lots/Greenbelts/ Roadside Edges. This methodology focused on creating effective defensible space within the Home Ignition Zone, and working outwards into the community by treating unimproved and vacant lots, greenbelts, and the roadside edges. This approach offered the greatest protection to residents and personal property first, while then focusing next on connecting into either existing fuels reduction projects in the vicinity of the community, or to larger planned fuel reduction projects within the community.

PROGRESS TO DATE

Since the 2013 assessment, the Whitehawk HOA implemented a new regulation within the community that requires landowners to achieve and maintain compliance with Public Resource Code (PRC) 4291. PRC 4291 requires landowners to maintain 100 feet of "defensible space" around their home, or to the property line if less than 100 feet. This code intends to protect lives and property from destruction by wildfire. The 2017 inventory

of improved lots at Whitehawk indicates significant compliance with this PRC, and the HOA now has the appropriate mechanism to help ensure continued compliance.

Progress in fuels reduction beyond the Home Ignition Zone is was also apparent in the 2017 inventory. Notably, hazardous fuels along the southern access road (to the burn pile area) within the subdivision were significantly reduced using mechanical operations under a Cal Fire Exemption process. It also appears that portions of some green areas within the subdivision core were also treated by hand methods to reduce hazardous fuels. These excellent examples of fuels reduction provide not only for current protection from wildfire, but also provide logical links for which future projects can connect.

CURRENT CONDITIONS

Home Ignition Zone: Current year RPF inventory of the subdivision indicates PRC 4291 compliance has improved, and it can be inferred that compliance will continue with the aforementioned regulatory mechanism in place for subdivision residents.



Picture 1: Area with surface, ladder, and crown fuels adjacent to Whitehawk community road.

Unimproved Lots/Greenbelts/Roadside Edges: As stated in the 2013 Assessment, in many areas of the community, hazardous ladder fuels are present on unimproved lots, within greenbelts and common areas, and along roadside edges. Within these areas, ladder fuels should be reduced such that they no longer provide laddering into the overstory tree crowns. Hazardous ladder fuels in Whitehawk Ranch consist generally of young growth pine and White Fir regeneration. In many instances, this regeneration forms a continuous layer of surface and ladder fuels that could allow fire to ladder into overstory tree crowns. Frequently within the community, these ladder fuels are present on

unimproved lots directly adjacent to homes, or between homes, or within the larger green areas surrounding the community. Contiguous canopy fuels in the form of overstory tree crowns also pose a risk within the unimproved areas within the subdivision. Contiguous



Picture 2: Unimproved lot with extensive ladder and canopy fuels.

tree crowns create effective horizontal fuel continuity, which the in event of wildfire, can support a running crown fire, hastening wildfire's spread and intensity, and ultimately creating а catastrophic wildfire situation. Crown fuels should also appropriately be

thinned to abate the horizontal continuity of fuels. This objective can be achieved through "thinning from below", where trees generally less than 18" diameter breast height (DBH) are thinned to increase intertree spacing. A general spacing of 15-25 feet will provide for ample discontinuity of crown fuels. Trees targeted for removal would include intermediate, suppressed, and codominant trees, those with evidence of insect and/or disease infestation, and those trees that provide for dangerous crown fuel arrangement.

ASSESSMENT RESULTS and RECOMMENDATIONS

Continued compliance with PRC 4291 should remain the top priority within the subdivision. Related, the reduction of hazardous fuels on unimproved residential lots should remain of similar focus.

Beyond the Home Ignition Zone, there are several areas in need of hazardous fuels reduction. The accompanying maps and Table 1 present 27 different fuels reduction of varying areas priorities. High priority areas are those that are closest to known ignition sources (highways, other



Picture 3: Area with over 1200 small trees per acre in between residential lots and along community road.

roadways), those areas adjacent to ingress/egress routes that would be utilized in the event of wildfire, and those areas with significant fuel loading and acreage extent that would hasten wildfire rate of spread and intensity within the community. Areas indicated as "Moderate" priority include those areas immediately adjacent to mesic sites (fairways, natural wet areas, irrigated areas), those areas that are smaller in extent and/or of lesser fuel loading, and those areas that would connect to existing fuels work along northern aspects.

Assigning prioritization to the recommended project areas is a difficult task as fuel reduction within each of the recommended projects is important. The prioritization presented in this report is an effort to identify some of the more significant risks as based on known ignition sources, historical data, and site characteristics.

Implementation strategy should include considerations of the assigned prioritization, yet be flexible enough to adapt to unforeseen circumstances such as opportunistic funding and landscape level collaboration.

The fuel reduction projects recommended herein do not include every possible acre of necessary fuel reduction within the subdivision. Rather, the projects put forth represent those that would have the largest impact on reducing potential wildfire behavior within the Whitehawk community. Over time, as some of the recommended projects are implemented, continued assessments can continue to refine project areas and provide an updated prioritization.

Each project area is assigned the most feasible treatment method given the size, arrangement, and location of the hazardous fuels. Biomass removal would entail thinning stands, producing sawlogs, skidding the logs to a central landing, and delivering sawlogs and/or biomass chips to local area mills, or other commercial outlet. This treatment would require a Cal Fire harvest document.

For areas with small fuels, sensitive areas, or areas without ample access for biomass removal, hand work is the suggested treatment methodology. This specific treatment would entail hand thinning, with subsequent chipping and broadcasting of chips, or removal of cut material to an area for piling and burning.

Mechanical mastication may also be an option for some of the hand work areas, and has been indicated with an "MM" in the following table.

Local market conditions, operator availability, and funding may all influence actual implementation date for the identified fuel reduction areas. However, the table and maps provided should help guide future fuel reduction efforts and planning.

Table 1. Whitehawk Ranch Recommended Fuel Reduction Areas			
Name	Treatment	Priority	Acres
А	Biomass Removal	High	14.6
B1	Biomass Removal	High	6.0
B2	Biomass Removal	High	1.8
B3	Biomass Removal	High	14.2
B4	Hand Work	Moderate	1.2
С	Hand Work	Moderate	1.1
D	Hand Work	Moderate	2.4
E1	Hand Work/MM	Moderate	3.2
E2	Hand Work	Moderate	1.7
F1	Biomass Removal	Moderate	0.8
F2	Hand Work	Moderate	0.4
G1	Biomass Removal	Moderate	5.6
G2	Hand Work/MM	Moderate	4.6
G3	Biomass Removal	High	4.7
H1	Hand Work	High	0.9
H2	Hand Work	Moderate	1.6
H3	Hand Work	High	2.3
H4	Hand Work	High	0.9
H5	BMR/HW	High	7.0
H6	Hand Work	High	4.6
	Hand Work	Moderate	1.1
J1	Biomass Removal	High	30.7
J2	Hand Work	Moderate	2.1
J3	Hand Work	Moderate	5.1
J4	BMR/HW	Moderate	5.3
J5	Hand Work	Moderate	4.0
J6	Biomass Removal	Moderate	19.1
Total			147.2
Total BMR			109.9
Total HW			37.3







