November 7, 2006

Wildland Fire Analysis and Comments

Based upon the
San Jose Water Company Non-industrial Timber Management Plan (NTMP)
Dated October 18, 2005 and the San Jose Water Company Fire Hazard Assessment prepared by TSS Consultants dated May 2006

By Richard E. Montague
FIREWISE 2000, Inc

1.0 INTRODUCTION

This wildland fire analysis of the San Jose Water Company Non-industrial Timber Management Plan (NTMP) and the Fire Hazard Assessment by TSS Consultants addresses my comments in regard to the overall accumulative affects of wildland fire within and adjacent to the San Jose Water Company Upper Los Gatos Creek Watershed lands covered by the NTMP. This analysis is not written to either support the proposed NTMP nor to support a decision to maintain the watershed in a status quo management option. The purpose of this analysis is to review both of the stated documents and make comments and recommendations based upon this review. It is my intent to determine the positive and negative affects of a potential wildland fire based upon each one of the various watershed(s) NTMP management options and/or the continuing management of the watershed under its present condition.

This wildland fire analysis is based upon my personal and professional experience during 34+ years as a wildland fire manager and 19 years as a wildland fire consultant. Also within this time period, I had 30+ years as a Registered California Forester (#905). My wildland fire expertise was gained at the most complex level and concluded as an Incident Commander (IC) on a National Interagency Management Team, and five years as the Regional Fire and Aviation Director for the Pacific Southwest Region (California) from 1982 to 1987. My earlier forester experience included assignments as project sales forester and District Fire Manager on the Redwood Purchase Unit, Del Norte County, Assistant Ranger and District Ranger on two coastal timber dominated Ranger Districts in Humboldt and Trinity Counties. My forester experience involved management of coast redwood, Douglas-fir and other related timber stand harvesting practices (including cable, helicopter and tractor), plus implementing the many fuel treatment options for reducing the activity fuels created by these timber harvesting practices. In addition, my overall fire and forester background included the introduction of prescribed fire as a management tool within natural (untreated) coast redwood and Douglas fir landscapes as a means to reduce fuel loading. It also involved fire hazard and risk reduction within managed timber harvesting and thinning activity fuel beds.

The stated purpose listed in the San Jose Water Company Fire Hazard Assessment prepared by TSS Consultants was not to be a full fire management plan, but an fire hazard assessment to quantify the wildfire hazard, determine how future management activities may affect fire behavior, and provide vegetation management recommendations to protect the water quality within the Upper Los Gatos Watershed managed by the San Jose Water Company (SJWC). The primary management goal of the watershed is to protect water quality.

The Non-Industrial Timber Management Plan (NTMP) was initially planned to be the primary tool for accomplishing the management recommendations listed in the San Jose Water Company Fire Hazard Assessment.

2.0 STATED INTENT OF THE SAN JOSE WATER COMPANY NON-INDUSTRIAL TIMBER HARVEST PLAN

The Upper Los Gatos Creek watershed was logged in the late 1890s and early 1900. No significant timber harvesting operations have taken place since 1900. Two large fires have occurred within the Study Area since 1900. The first large fire was the 9,000-acre Australian Creek Fire in 1961. The second fire was the 13,000-acre Lexington Fire in 1985. These two Wildland fires burned primarily along the drier mature brush covered eastern slopes of Australian Creek Drainage and spread into the mature coast redwood and Douglas fir slopes west of Australian Creek. The 1985 Lexington Fire reached several neighboring residential communities (Aldercroft Heights, Holy City, Chemeketa Park and along Thompson, Summit and Morrill Roads) destroying and/or threatening homes.

As mitigation against any further wildland fire threat to the watershed's (water quantity and quality) natural resource values and surrounding communities, the San Jose Water Company has recommended selective harvesting of the mature Douglas-fir and redwood overstory trees as a means to remove any potential crown fire threat to the watershed. Funds obtained from the timber harvest operations will be applied to help mitigate against activity created fuels and to treat other San Jose Water Company natural fuels adjacent to residential development.

3.0 HOW THE ANALYSIS WAS CONDUCTED

This Wildland fire analysis is based upon a two-day visit by Richard E. Montague, CEO, FIREWISE 2000, Inc. on October 29-30, 2005 to the San Jose Water Company watersheds and surrounding community developments, participating in an on-site visit to view the proposed timber harvest areas with the consultant who prepared the NTHP and on-site discussions with a Vice President of the San Jose Water Company. In addition, I had the opportunity to have person-to-person interviews with local citizens, Mid-Peninsula Regional Open Space District Managers and conduct phone interviews with local California Department of Forestry and Fire Protection (CDF) managers.

In preparation for this analysis, I reviewed various USDA Forest Service and other technical research documents relating to the basic principles of forest fuel reduction techniques for untreated natural stands and timber harvest activity fuels within a coast redwood and Douglas fir ecosystems.

The Wildland Fire Hazard Assessment by TSS Consultants (the San Jose Water Company fire consultant) was not completed at the time of my initial assessment. However, in the meantime I was able to review the Fire Hazard Assessment dated May 2006. It is now appropriate for me to comment on the results of the assessment. It is my professional opinion that the conclusions and recommendations presented by TSS Consultants were based upon incomplete or unsubstantiated data. At best I feel it can only be used as a simulated exercise for possible planning purposes and should not be used for actual prediction of wildland fire spread and fire behavior within the Upper Los Gatos Creek watershed.

4.0 COMMENTS AND RECOMMENDATIONS

Historical data indicates that these two wildfires spread primarily within the various chaparral patches and the ground fuels within the coast redwood and Douglas fir stands rather than the mature tree crowns. It is true that the untreated natural fuels, as demonstrated in the Australian Creek and Lexington Fires, are also known to support wildland fire intensity and spread. However, as previously stated the principal carrier of fire was the large tracts of native brush (chaparral), the dead and dying broken tree tops from a prior year heavy snow storm and the various dead and live ground fuels (brush, tree saplings and poles) lying beneath the mature tree stands. Mature coast redwood stands usually will not support a crown fire without a heavy accumulation of ground fuels. Thinning of these mature Douglas fir and coast redwood trees to reduce the potential for a crown fire is not economically sound. The closed crowns and local fog conditions maintain the ground fuels to a much higher live and dead fuel moisture condition; therefore, producing a low fire spread and intensity. To open up the normally dense crown cover to more sunlight

and solar heating will reduce live and dead fuel moistures, thereby increasing fire spread, fire intensity and flame lengths.

The timber harvesting techniques proposed for this selective harvesting (cable, helicopter and tractor yarding) will create activity fuels which will burn at a much higher rate of spread, fire intensity and produce longer flame lengths than if the Douglas fir and coast Redwood stands are left in their current state. Each one of these proposed timber harvesting operations will create some form of activity fuel that must be treated according to the State Board of Forestry Timber Practices Rules. Activity fuels are the results (debris) from timber harvesting activities. I.e. road clearance (stumps and tree debris), treetops and limbs left on the ground, down and broken undergrowth brush and young trees (sapling and pole size trees).

Activity fuels created by the various recommended timber harvesting techniques tend to increase overall fuel loading and fire intensity. Even with the recommended lop and scatter fuel treatment option described in the NTMP and Fire Hazard Assessment, it is my opinion that fire spread, fire intensity and flame length will be much higher after timber harvest than if the coast redwood and Douglas fir stands within the watershed and left in their natural state.

What would be more appropriate for reducing and/or minimizing fire spread and intensity in the coast redwood and Douglas fir stands is to reduce ground fuel loading rather than crown removal. This can be accomplished by hand labor, mechanical means and/or the use of prescribed fire. Thinning out the understory ground fuels will do more to reduce fire spread and intensity than crown removal by timber harvesting.

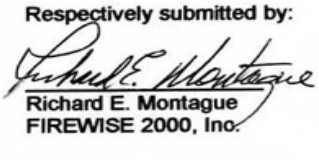
Regardless of what decision is made in regard to the Upper Los Gatos Creek watershed, local citizens have a responsibility to maintain their property in a *"fire safe"* condition. Each property owner should maintain at least 100 feet of *"defensible space"* around their structure. This does not mean the homeowner must clear all vegetation and trees around their property. It only means that no tree crowns should be within 10 feet of their structure, the ground fuels are usually reduced to 50% percent of their original fuel loading, all dead and dying vegetation is removed and all grasses weed-whipped or mowed to a 4-inch stubble height. The local fire departments have excellent brochures explaining how to maintain a yard in a "*defensible space"* condition.

Homeowners may want to work with their neighbors to provide a fuel treatment buffer around a cluster of residences by interlinking their various *"defensible space"* fuel treatments. In addition, access roads and long driveways should be treated a minimum of 20 feet on each side of the roadway. This provides a much safer ingress for emergency vehicles and egress by the residents.

It would be much more appropriate for the San Jose Water Company to implement and maintain a 100-foot wide fuel treatment buffer zone (shaded fuelbreak) along their boundaries that abut private development. This fuel treatment buffer zone would reduce the liability of a wildfire leaving the watershed and form an area in which homeowners can interlink their *"defensible space"* zones.

It is my opinion that he Fire Hazard Assessment by TSS Consultants should not be used in its present form as the sole basis of making fire protection management decisions in regard to the Upper Los Gatos Creek watershed. The data used does not appropriately reflect how coast redwoods and/or Douglas fir stands within the Bay Area react to wildfire. The larger wildfires in coast redwoods within the California coastal communities have spread due to increased fuel loading due to timber harvesting fuels and when ground fuels are abundant.

Respectively submitted by:



Richard E. Montague
FIREWISE 2000, Inc.