CARNELIAN WOODS
Forest Health

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Introduction

A field trip was held on the morning of June 2nd to look at tree conditions on the Carnelian Woods property. In attendance were Celia, Ruth, Don, Serge, Fran, and myself. We toured most of the area adjacent to the condominiums and looked at the woods at the upper end of Silver Pine Drive. The last report I filed was in December 2011, following similar reports in 2004 and 2006. A major thinning and fuel reduction project occurred in summer 2008. The Carnelian Woods forestry staff has done much work in the areas of defensible space and dead tree cleanup since then.

Existing Conditions

Following the summer of 2011 the Tahoe region has suffered a well-documented drought. Each winter the area received less and less precipitation until this past winter broke the trend with twice the average amount. The effects of this winter will be interesting to monitor and hopefully we will continue to see adequate precipitation during the upcoming winters. Thankfully, widespread storm damage to the forest in the form of snapouts, blow down and uprooting did not occur.

Tree Species: The species composition generally remains the same with the most common species being white fir. There is little new growth to add in and tree mortality is slightly reducing the overall number of trees. The dying trees are mostly white fir and sugar pine, which are the most and least common species with Jeffery pine in the middle.

Disease & Insects: White fir continues to be attacked by the fir engraver beetle and we witnessed many trees that are dead or dying. This was quite abundant in the areas east of Carnelian Creek. Dwarf mistletoe also still exists in pockets of the white fir but it doesn't appear to be spreading. The result of opening the stand and getting crown separation has slowed the movement of the mistletoe. There is evidence of blister rust in the sugar pines in the upper area where they are most common. The tops of a few of these trees are fading in color as the canker cuts off nutrients to the treetop. Pine bark beetles have recently hit these weakened trees hard in this area and on adjacent land. It is frustrating because there is not much that one can do to stop this process. At least the mountain pine beetles attacking the sugar pines do not like the Jeffrey pines. We can hope that the abundant moisture in the ground will reduce tree stress and help the tree's natural defense mechanisms.

Regeneration: There is still little evidence of much conifer regeneration. Usually the nature of an open timber stand will lead to establishment of seedlings. The dry, hot summers in the past years may have hindered the growth.

Brush: Brush continues to grow in the wooded areas but the defensible space work has really kept it under control in the residential areas. Outside of the 30-foot perimeter of the buildings scattered brush is acceptable. Too much bare soil can lead to erosion. The key is to have separation between the clusters

of brush to avoid rapid fire spread in the event of a ground fire. The tallest brush is in three areas:

1. Between Cedar Court. and Green Pine Court. (the old woodlot).
2. Below Red Pine Court.
3. Woodlands at end of Sahara Drive (above Unit 76).

Areas 1 and 3 were masticated in the 2008 project and are growing back as expected. Maybe the drought years had a benefit of not encouraging rapid growth.
Area 2 was not treated due to the steep and rocky terrain limiting equipment access.

Recommendations

The dead tree removal and cleanup is already underway in the residential areas due to the obvious safety concerns. The defensible space areas are generally maintained by the annual pine needle removal. It seems that the raking and disturbance keeps new brush from growing. Where possible I would retain any small conifers (pines and cedar preferred) in openings to encourage some trees that will be the future forest.

The dead trees in the wooded areas are a lower priority but it is a good idea to remove these also. At a minimum it would be good to get them cut down and at least remove the branches. This will reduce the smaller fuels and avoid a large accumulation growing over time. If the larger logs are too difficult to move away, these scattered logs will not greatly increase fuel loading and the white fir should decay. Standing dead trees are good for habitat but I would think there would be plenty of these left on surrounding properties to benefit the general forest.

The brush in the woods should be monitored over time. At some point it will need to be cut or masticated as it gets more dense and taller, which could be a future grant project. The brush below Red Pine Court is a little concerning because there are structures nearby. The good news is that the paved road makes a good fuel break and that there is not a dense tree canopy over the brush field. It will be important to maintain a clear perimeter around this brush area.

Conclusions

The Carnelian Woods forest is generally healthy although is has some of the issues that are common in the region. Much of the disease and insect problems are out of human control. Past work has thinned the forest to reduce fire hazard and these practices have helped forest health as well. Smaller tree growth should be encouraged in order to have a multi-aged tree stand. The involvement and concern shown by the community is important to maintaining a healthy forest, and it shows.

References & resources:

A good article in the Sierra Sun, June 24, 2017:
http://www.sierrasun.com/news/environment/bark-beetle-infestation-continues-to-threaten-tahoe-truckees-forests/

http://www.sierrasun.com/news/environment/lake-tahoes-sugar-pine-trees-are-dying-heres-what-you-can-do-to-help/

Bark Beetles in California Conifers, USDA, Feb. 2015

www.Defensiblespacesolutions.com Crystal Bay, NV (mastication)