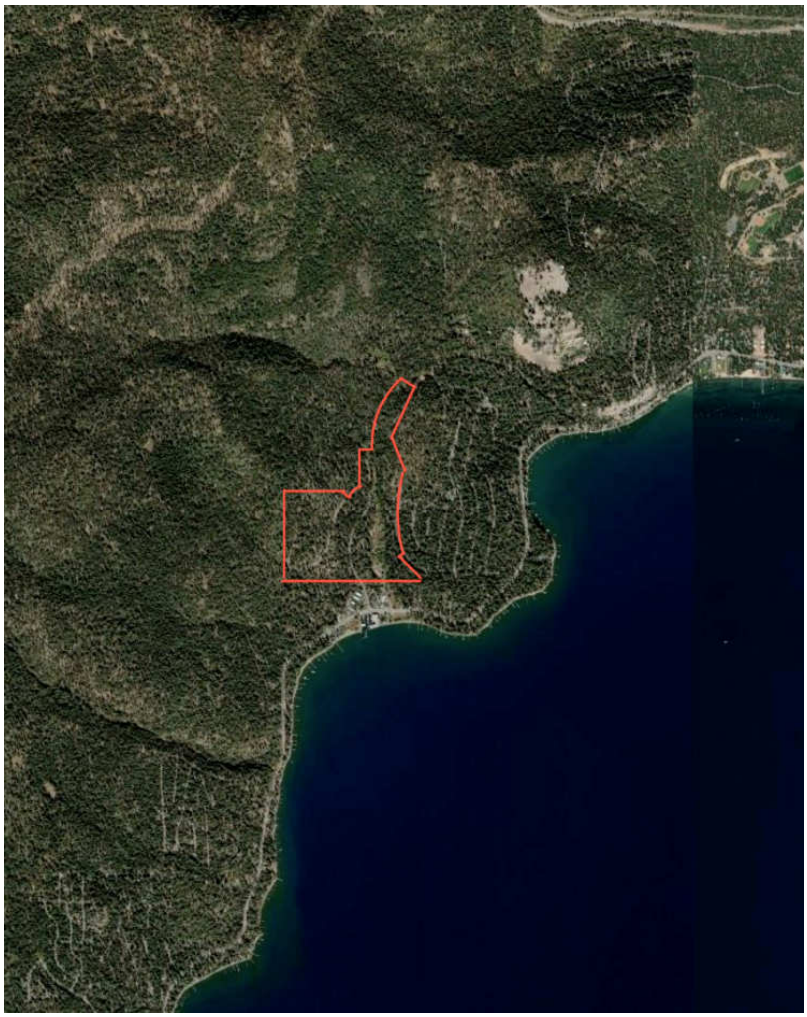
CARNELIAN WOODS
Forest Health

Fall 2026

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Introduction

The forest at the Carnelain Woods Townhouses is a relatively even-aged, mature stand and is generally healthy. As the photo shows, these trees are a significant part of the larger surrounding forest, and whose neighbors include the CA Conservancy, the USFS and private homeowners. This year I made my observations occasionally from March through October. My work travels often have me passing by and I usually will at least do a drive around the property. This year's report now represents more than 20 years of observing the property. The first reports I filed were in 2004 and 2006, followed by a thinning and fuel reduction project occurring in summer 2008. Reports have followed almost every three years after. The Carnelian Woods forestry staff has done much work in the areas of defensible space and dead tree removal over the years, including securing grant funds for a few projects above and beyond the annual cleanup work.

Existing Conditions

Since the thinning in 2008, the forest has generally been unchanged. Luckily there have been no major disturbances of widespread mortality, storm damage or fire. Following the summer of 2011, the Tahoe region suffered a three year drought and even more drought conditions beginning late 2020. The winter of 2025-26 actually brought an average amount of precipitation but it all seemed to come in three major events, and it was warm enough as to not result in a deep snowpack that would last through the spring. Hopefully we will continue to see adequate precipitation during the upcoming winters.

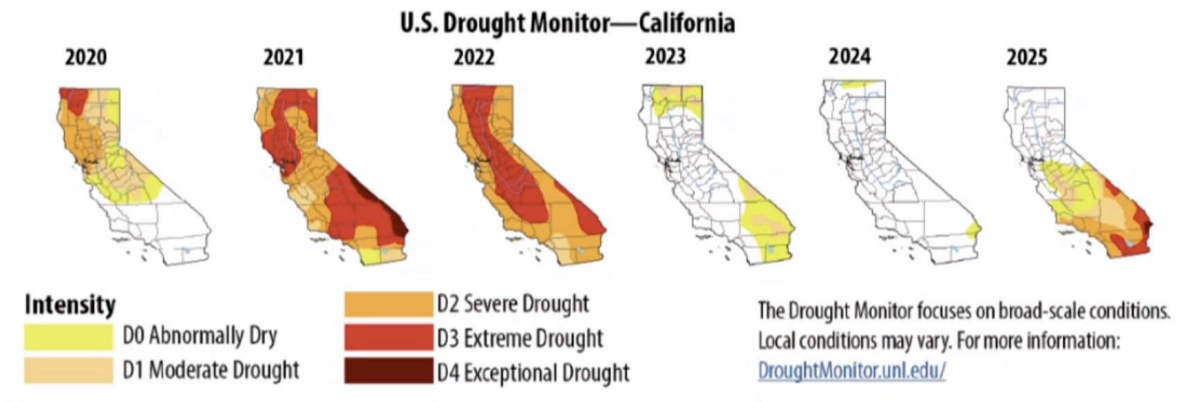


Figure 3. The U.S. Drought Monitor maps of 2020 through 2025 illustrate the severity, range, and ebb and flow of drought in California over the past six years. Maps are presented from the report date in April of each year. D1 is the least intense drought level and D4 the most intense; D0 areas are not in drought. A full description of each drought severity classification is available from the U.S. Drought Monitor. Source: U.S. Drought Monitor

Tree Species: The species composition generally remains the same with the most common species being white fir. Tree mortality is slightly reducing the overall number of trees, but not in dramatic numbers. The dying trees are mostly white fir, with Jeffrey pine and sugar pine only losing a couple trees annually. Aspen, willow and lodgepole pine grow in the stream zone surrounding the creek and are healthy.

Disease & Insects: White fir continues to be attacked by the fir engraver beetle and stressed by warm, dry summers. 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 and reduces tree stress from overcrowding.
There is evidence of scattered 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. It is a slow decline and I have documented one tree that has had almost the same appearance for at least six years now. Pine bark beetle activity has not been observed other than in isolated cases. A July 2025 annual study of the Sierra showed 40% less mortality than the previous 5 years' average. (Tahoelivingwithfire.com) The largest numbers of dead trees are on the hillside area above Carnelian Woods Ave. Not all have died this year. There is a range from the old dead trees with no needles, to more recent trees with all orange needles and then the freshly killed that turned yellow after summer.

Regeneration: There is still little evidence of much conifer regeneration. Usually the nature of an open timber stand will lead to establishment of seedlings. Soils and ground surface conditions also affect the amount of regeneration. Firs and cedars prefer more shade while the pines require plentiful sun. Fuel reduction work that removes ladder fuels and brush often takes out small trees as well.

Brush: Brush continues to grow in the wooded areas but the defensible space work has kept it under control in the residential areas. The hillside residences have much less tree cover and the brush thrives in the sun. The streamside townhouses are well shaded and this reduces the growth of brush. 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. Some of the tallest brush is found behind the NTPUD building. This snowbrush (ceanothis spp.) grows the highest and fastest. Huckleberry oak and bush chinquapin are the main brush species spreading in the upper forest. A spacing of three times the height of the brush between clusters is a good standard for fire resistance.

Conclusions

The Carnelian Woods forest is generally healthy although is has the issues that are common in the Tahoe region. Over the decades these forest health reports tend to bring up similar themes. The good news is that the condition of the forest is stable overall, so we are not addressing a major concern.

The weakest white firs will still decline over time. Some of these trees were crowded for years and never developed full crowns, which makes longevity difficult. In my work with local utility vegetation management, the white fir is overwhelmingly the most removed dead or declining tree. The open nature of the stand will support brush growth. The taller, denser areas could be targeted in future fuel reduction work but not all types of brush must be removed. There will always be some dead wood in the willows as the older, large stems die off or are broken by heavy snow. Smaller tree growth should be encouraged in forest openings to support a multi-aged tree stand. Carnelian Woods has more open forest space than most residential associations and they take care of, and enjoy, this valuable resource.

PHOTO GALLERY



2020: sugar pine on the right, with blister rust in the top - upper Silver Pine Dr.



2026 photo: a couple branches have died in the yellow top. Other trees look great.



Fall 2023: brush growing back from previous cutting



June 2026: slightly different lighting and angle, but increased growth visible.



White firs in various states of health, hill below Silver Pine Drive.



Tall brush behind NTPUD building, with desirable Jeffrey pine sapling in center.



March 2026: Carnelians Woods Ave.
Able to observe the volume of willow without the leaves in winter



July 2026: Unfortunate cutting of small sugar pine. Christmas tree?
Nice example of desirable mahala mat, or pinemat, groundcover.