

Letter: Oxygen depletion needs to be addressed

To the community,

As I walk through Tahoe neighborhoods and open spaces, I can't refrain from glumly noting stumps where once trees stood. Before the Angora Fire of 2007, trees were cherished and protected from cutting. Since then they have been deemed hazardous and under assault by many.

Trees in my neighborhood alone have been removed by the USFS, the fire department, California Tahoe Conservancy, Liberty Utilities and developers. Elsewhere, DOT has removed trees along roads. The city of South Lake Tahoe took out many to develop Lakeview Commons at El Dorado Beach. California and the western states have lost thousands of acres of forests from fires. Otherwise, many trees are stressed or dying from drought and pests. Global deforestation is widespread.

We should be alarmed by the loss of trees both here where we live and around the globe. Trees and phytoplankton are the two most important sources of the oxygen we breathe; 10,000 years ago, forests covered twice the land area of today. The trees back then produced twice the oxygen of contemporary forests. Researchers have determined that during the dinosaur era, the atmosphere was far richer in oxygen. It comprised 30 to 35 percent of the atmosphere, whereas now it is slightly less than 21 percent.

Climate change resulting from increasing levels of CO₂ is much in the news these days. I have never once come across a discussion of oxygen depletion. However, there are people who are concerned. The Scripps Institution of Oceanography at La Jolla has been measuring steadily declining oxygen levels since 1985 (see <http://scrippsco2.ucsd.edu/>). Other European

researchers are also seeing a decline. Oxygen is falling two to four times faster than CO₂ rises. NASA has noted in the north Pacific that oxygen producing phytoplankton concentrations have alarmingly dropped 30 percent compared to the 1980s. Nearly 150 dead zones in the world's oceans have been identified. These are likely caused by discharged sewage, industrial waste and fertilizer runoff. Also causing oxygen depletion is wide-spread deforestation, increasing fires and tree mortality.

We lose three oxygen molecules for each CO₂ molecule that is produced by burning fossil fuels. A 30 percent increase in CO₂ has occurred since the beginning of the Industrial Age. Depletion of oxygen will continue until we stop burning hydrocarbons faster than the environment can absorb the byproducts and replenish oxygen. Forests are extremely important in this process and need to be intelligently managed.

Sufficient oxygen is needed for body health to keep cells, organs and the immune system functioning efficiently. Oxygen deficiency for humans is set at 19.5 percent. Below that, loss of consciousness and death can occur. Air is less pure in polluted cities than in the Sierra. Current reduced levels in cities may be contributing to the development of cancers and other degenerative diseases. It is clearly in everyone's best interest to be stewards of trees, to protect and encourage their growth, not get rid of them.

Monitoring CO₂ in relation to climate change is not enough. It may become critically important for life on earth to ensure a sufficient supply of oxygen. It can't go on like this if we expect to live here.

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