Problems caused by Eucalyptus Trees

Eucalyptus trees threaten human safety and the health of ecosystems.

Safety Hazards

- The oil in dry leaves slows their decomposition and ignites readily and explosively, creating an easy route for fire spread.
- The bark and leaves of eucalyptus create thick flammable duff in abundance that releases twice as much heat as a grassland fire when ablaze.
- Their height contributes to convenient fire spread and, when ignited, their tops are very difficult and dangerous for firefighters to extinguish.

© John M. Randall/The Nature Conservancy

- Eucalyptus are called "widow makers" because of their limbs tendency to break easily and unexpectedly, causing injury or death to those beneath them.

Biodiversity

- Calcium concentrated in the leaves raises soil pH as leaf litter decays, creating an allelopathic effect that allows eucalyptus to outcompete native plants and animals.
- Eucalyptus flowers are deep and filled with gum that clogs the beaks of the local short-beaked birds, leading to suffocation.
- The trees create bird and butterfly sinks by giving them a false sense of security for nesting. They build their nests, which are easily knocked out by the wind. The Point Reyes Bird Observatory reports that in eucalyptus trees the fallout rate of Anna's hummingbird nests is 50% compared to 10% in more stable native vegetation.

Management

Trees

Cutting–Trees are removed in stages, the smaller ones cleared first to make room for the more complex removal of larger ones. Heavy machinery often aids this process. The Brontosaurus turns the tree into mulch by shredding it from the top down. The Feller Buncher cuts the trees at their base and collects them in piles.

Toppling–Heavy equipment knocks over and uproots the entire tree, bypassing the creation of stumps. This method is effective because it removes the entire root system; however it also creates erosion problems and cannot be used in hard to access areas.

Stumps

Herbicide application–Chemicals are applied around the circumference of the stump where the cambium is located to prevent regrowth.

Smashing–The stumps are revisited to physically monitor and destroy any new sprouts. This method is more time and labor intensive because it requires multiple visits and is not entirely effective.

Light deprivation–A tarp is place on top of the stump to avoid resprouting, also a rather impractical method because of its high cost and low effectiveness.

Slash (The debris created by management activities)

Haul away–Slash is removed for us as firewood.

Burning–If there are no on-site uses, slash can be burned under controlled conditions.

Chipping–Trees less than 24 inches in diameter can be chipped. If left on-site, they act as erosion and weed control. If transported off-site, they can be composted or burned to produce electricity.

The Situation at EBRPD

Many of Havens' former eucalyptus plantations are now property of the East Bay Regional Park District. Some areas contain up to 900 trees per acre and are extremely fire prone compared to the 30 to 50 trees per acre in fire-safe groves. The fire concern is intensified by the local topography. Mt. Diablo and the Carquinez Strait create a wind tunnel that funnels high winds into densely populated areas creating an inevitable path for rapid fire spread if ignition were to occur.

Efforts Taken by EBRPD

In zones of high density the Brontosaurus and Feller Buncher are used to remove trees. The resulting stumps are painted with the herbicide Garlon. The Park District determines which zones to cut based on areas of critical risk established by the Federal Emergency Management Agency in the publication "East Bay Regional Park Vegetation and Management HMGP #919-515-24". This analysis took into account available funds and historical disasters, such as the 1991 Hills Fire.

Measure CC was recently passed by homeowners in the Wildland Urban Interface that will fund fire hazard reduction projects over the next 15 years. The Park District's long term goal is to return selected parks to all natural vegetation.

Feller Buncher

Brontosaurus

Photos courtesy Tom Klatt

History

Initially introduced into the Bay Area from Australia in 1853, the blue gum eucalyptus tree first served as an ornamental landscaping tree. Large-scale planting occurred in anticipation that it would provide a good timber source; this was a very realistic need during the "hardwood famine" that resulted from rebuilding after the 1908 earthquake. Frank Havens is the man responsible for many of the eucalyptus plantations in the Bay Area. He had hoped to earn his fortune from its timber, but it was soon discovered that despite the wood's rapid growth rate, it was brittle and twisted, unsuitable for building. Eucalyptus trees were often employed by companies such as Judson Dynamite and Powder Company to muffle the sound of explosions and hide the ugly landscape created by blasts. They also served as a windbreak and indicator of property boundaries. Their rapid growth rate and great survival abilities in California's Mediterranean climate has resulted in their abundance along the coast. While many enjoy the smell and shade of the grooves, they create a severe fire hazard and are key to fire prevention.

Some Practical uses

- Eucalyptol oil extracted from their leaves is used for medicinal purposes
- Wood chips are processed at co-generation plants to create energy
- Shavings can be placed in horse stalls as bedding
- Firewood
- Seed pods are said to make good flea collars for pets

Program Presented by the
East Bay Regional Park District
Department of Public Safety
and Fire Services.

Special Thanks to Jerry Kent and Tom Klatt for sharing their knowledge on the issue.

For more information visit
http://library.csustan.edu/bsantos/euctoc.htm
or
http://magazine.audubon.org/incite/incite0201.html

Eucalyptus flower cover photo:

East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381
(510) 635-PARK
www.ebparks.org

Blue Gum Eucalyptus

Eucalyptus globulus

A Wildfire Threat

East Bay Regional Park District
www.ebparks.org
in collaboration with
Berkeley
University of California