View Claim Appeal Public Hearing, 6807 Wilton Dr
September 18, 2012

My name is Mary McAllister. I am a property owner in Oakland.

I came today to speak for the trees of Oakland because this case suggests that Oakland policies are both harmful to the environment and inconsistent with California state law which obligates cities to reduce greenhouse gas emissions.

Oakland apparently has a view ordinance which guarantees property owners the view that existed at the time they purchased their home. In this case you have two property owners who both want the view they purchased. In one case, the property owner claims the view was treeless and the other property owner wants to keep their forested view.

The City of Oakland should let the trees break this tie. The trees are storing tons of carbon which will be released into the atmosphere as greenhouse gas when they are destroyed. Oakland cannot comply with California State Law (AB32) if it destroys trees whenever a property owner requests their destruction.

The trees perform other ecological functions such as reducing air pollution, another equally important environmental issue in Oakland.

The City of Oakland has created another ordinance which violates California state law by making a distinction between protected trees which are native and unprotected trees which are non-native. David Nowak of the US Forest Service has published a study of the historical vegetation of Oakland. He reports that only 2% of Oakland was forested prior to settlement. In other words, the trees that are native to Oakland will not grow in most locations in Oakland. If unprotected trees are destroyed in Oakland, most of Oakland will be grassland and scrub.

Topping trees creates hazardous trees by creating dangerous limbs which are inadequately supported by the trunk of the trees. The 21 acacia trees that Oakland proposes to top are along Skyline Blvd which increases the hazard.

There is no environmentally responsible way to destroy these acacia trees. If they are destroyed they will resprout ten-fold unless their roots are ground out which isn't an option in an area with obvious potential for erosion into the adjacent road. Or you can plan to cut them back at least annually and poison the stumps for years into the future. All of these alternatives are hazardous or damaging to the environment.

The Agenda Report which you are considering today underestimates the impact of these tree removals by using the tree trunk diameters to calculate the land area affected by the removals. The impact of the tree removals goes far beyond the trunk diameters. The relevant calculation would measure the canopy at the drip line which is a proxy for the root area. The root area is the only meaningful measure of the potential for erosion and the canopy is the measure of the tree's ability to absorb carbon dioxide and air pollutants.

You have an opportunity here to examine Oakland's ordinances which have put the city in the untenable position of violating California State law, as well as creating hazardous conditions and damaging the environment. Thank you for having this hearing.

HISTORICAL VEGETATION CHANGE IN OAKLAND AND ITS IMPLICATIONS FOR URBAN FOREST MANAGEMENT

by David J. Nowak

Abstract. The history of Oakland, California's urban forest was researched to determine events that could influence future urban forests. Vegetation in Oakland has changed drastically from a preurbanized area with approximately 2% tree cover to a present tree cover of 19%. Species composition of trees was previously dominated by coast live oak (*Quercus agrifolia*), California bay (*Umbellularia californica*), and coast redwood (*Sequoia sempervirens*) and is currently dominated by blue gum (*Eucalyptus globulus*), Monterey pine (*Pinus radiata*), and coast live oak. Many forces throughout the history of Oakland have shaped the current urban forest structure. These forces include the gold rush of the 1840's, the San Francisco earthquake of 1906, massive afforestation of the early 1900's, and various fires from 1923 to 1991. These historical forces and the impact they had on Oakland's urban forest are explored. Future forces that can alter any urban forest are presented and discussed.

Events that influenced urban forest structure and management issues in the past will likely occur again and influence urban forests in the future. By understanding what these past forces are, urban foresters can better prepare for present and future events that will influence urban forests for years to come. To understand how past events have influenced an urban forest, the history of Oakland, California's urban forest was researched. This paper presents the history of major events Influencing Oakland's urban forest and discusses probable forces that will influence urban forests in the future.

Methods

In researching the history of Oakland's urban forest, black and white aerial photos from 1988 (1:12,000), 1959 (1:9,600), and 1939 (1:20,000) were sampled using a random dot grid to determine historical changes in urban forest and artificial (e.g., roads, buildings) cover (13). Historical documents and photographs were evaluated to analyze Oakland's vegetation before 1939.

Preurbanized species composition, stand areas, and tree densities were estimated using historical maps and descriptions of vegetation (5, 8, 10, 11, 12). Present day urban forest structure in Oakland was determined by ground sampling 5% of the vegetation on all land uses in 1989 (13). Impacts of the 1991 fire in Oakland were subsequently analyzed using aerial photographs and ground data (14).

The Shannon-Weiner diversity index was used to estimate species diversity (2). This diversity index ranges from zero, for a community with only one species, to values of seven or more in some rich western forests. Eastern deciduous forests range in diversity index values from approximately 1.7 to 3.1 (2).

Historical Changes in Oakland's Vegetation

Vegetation before urbanization in Oakland was dominated by grass, shrub, and marshlands that occupied approximately 98% of the area. Trees in riparian woodlands covered approximately 1.1% of Oakland's preurbanized lands, redwood stand - 0.7%, and coast live oak stand - 0.5% (13). Original forest cover is estimated at 2.3% with an original tree species composition of about 10 species dominated by coast live oak (*Quercus agrifolia*), California bay (*Umbellularia californica*), and coast redwood (*Sequoia sempervirens*); and an estimated Shannon-Weiner diversity index value of 1.9. A panoramic series of photos depicts the early vegetation of northern Oakland (Figure 1).

Many factors throughout the history of Oakland have led to changes in the vegetative structure. A chronology of these factors is given to illustrate how various forces have changed the vegetative structure of Oakland. The first two of these factors occurred before the incorporation of the city in 1854.

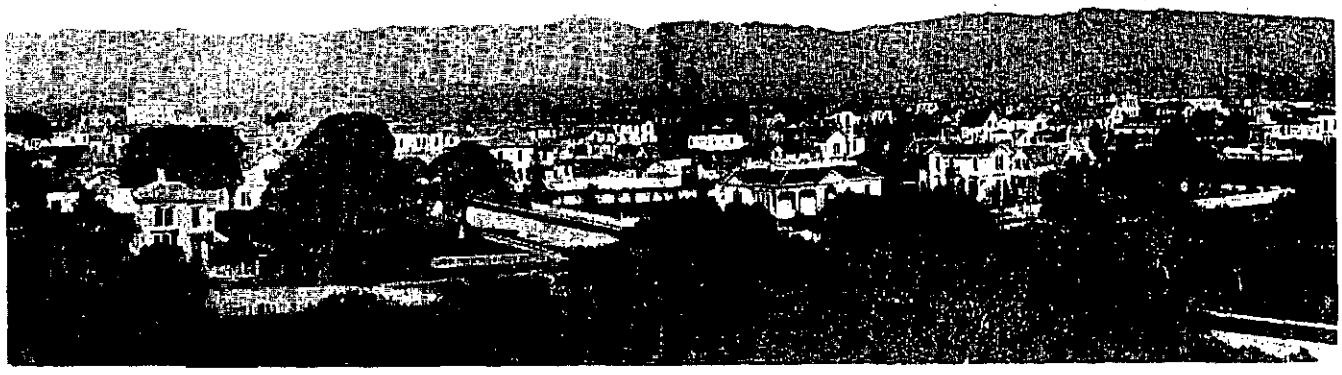

Figure 1. Oakland - 1869. Panorama taken from 14th and Webster Street. Photo courtesy of the Oakland History Room, Oakland Public Library.

1500 B.C. - e*a*r*l*y *1800*s: *C*ost*a*noan *I*nd*i*ans. The Costanoan Indians deliberately manipulated the vegetation of the Oakland area. They altered the native oak stand composition and spread by burning vegetation to facilitate the collection of acorns (6).

*1840*s: *D*iscovery *o*f *G*old *i*n *C*alif*o*rn*i*a and Remov*a*l *o*f Redwoods. As early as the late-1*7*00s, redwoods were logged from Oakland for use in the church of Mission San Jose (4, 6). Redwood logging in Oakland was recorded in the early to mid-1840s but subsided in 1848 due to the discovery of gold. However, the discovery of gold, which gave the redwood stand a respite from logging, ultimately led to its demise. With the gold rush, came an overwhelming demand for lumber and by 186*0* not a single giant redwood was left in Oakland (4). Besides decimating the redwoods, the gold rush also brought a large influx of immigrants, and thus the urbanization of Oakland began.

1850 - *1890*s: *E*arly *C*ity *D*evel*o*pment and *D*estruct*i*on of *N*at*i*ve *O*ak *S*tand. The urbanization of Oakland began in 185*0* with the development of a gridded street pattern in a stand of coast live oak. This early urbanization of Oakland gradually destroyed the oak stand, and by the 1890s nearly all of the original oaks were gone. In the 1850s, an ordinance was passed by the city council prohibiting oak removal without council permission. Unfortunately, the council never halted the removal of the trees (9).

*1880*s *t*hroug*h* *1920*s: *Aff*orestat*i*on of *Oak*land *Hill*s. The grassy hills of Oakland underwent a dramatic transformation in the late 19th and early 20th century. The first major afforestation in the Oakland hills was done by Joaquin Miller. In 1886, Joaquin Miller purchased 69 acres and proceeded to plant his land with pines, cypress, acacia, and eucalyptus (17, 18).

More large-scale plantings were accomplished around the turn of the century for three reasons: 1) "primarily as a measure against the recurring fires that almost every year swept over the hills..." (18); 2) to increase the value of land holdings (18); and 3) to profit from future lumber sales of eucalyptus trees. Between 1910 and 1913, Frank Havens is estimated to have planted between 1 and 8 million trees, mostly eucalyptus, on the hills in and around Oakland (19). Many of the eucalyptus were planted for lumber sale profits, but in 1913, the eucalyptus boom was over as it was discovered that small blue gums could not be made into timber and large trees require special handling (19).

1903: *C*ity *I*nvol*v*ement *i*n *S*tr*e*et Tree *P*lant*i*ng. In the early 190*0*s, the City Beautiful Movement began. During this period, the city became increasingly involved in urban vegetation. In 1903, a citizen committee was organized and persuaded the city to initiate a street tree planting program (16). Subsequent developments during the next 3*0* years typically included street trees. In 1932, the city began to designate "official trees" for each street to ensure uniform planting.

ries, air photo analyses, sampling of non-street vegetation) is the first step in determining the likely forces of urban forest change. Various species or age structures may be more prone to certain insects, diseases, fire, or storm damage. For example, although exotic species increase the diversity of the urban forest and reduce the potential impact of species-specific catastrophic events (e.g., Dutch elm disease), exotic species can lead to devastating insect or disease problems because an imported pest of exotic species often lacks natural controls. A recently introduced pest into California, the eucalyptus long-horned borer (*Phoracantha semipunctata*), may have a major impact on Oakland's urban forest, which is dominated by exotic eucalyptus.

Once current structure and associated possible future forces of change are understood, management plans can be designed to diminish the likelihood of the event occurring. If the event does occur, the plan will aid in a more desirable outcome. In the past, many cities have not responded or have responded too late after a major force of change; thus they had less control of the situation and increased the cost for corrective actions.

Although many of the ideas presented here may seem like luxuries to cities with minimal budgets, the relatively minimal investment for increased education, and developing and implementing ordinances and/or management plans can deliver large benefits through reduction of future problems and costs. Working with other private and public groups to develop and implement these goals can help ensure a successful program for developing optimal urban forest structure.

Concfusions

Many forces in the past have altered urban forest structure, and these same forces will continue to alter urban forest structure in the future. Urban foresters can minimize the undesirable impact of possible future forces by understanding what they might be and planning accordingly. The five main steps to help direct and sustain proper urban forest structure are to: 1) understand current forest structure; 2) consider probability of future events that will influence forest structure; 3) develop a long-term comprehensive management plan that accounts for probable future events and develops optimal forest structure; 4) determine best methods within city's political, economic, and natural systems to implement proper courses of action; and 5) implement plan.

Proper or optimal urban forest structure is specific to each city and is best inferred from local experience and management goals in conjunction with research findings. Through education, ordinances, planning, and management, proper urban forest structure can be attained and reduce the undesirable impacts of many forces of urban forest change while maintaining associated urban forest benefits. Urban foresters must incorporate urban forest change into urban forest management plans with goals of optimal forest structure on both public and private lands.

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Research Forester
USDA Forest Service
Northeastern Forest Experiment Station
5801 N. Pulaski Rd., Bldg. C
Chicago, IL 60646

Résumé. L'historique de la forêt urbalne d'Oakland en Californie fut l'objet d'une recherche afin de déterminer les événements qui pourraient influer sur le futur des forêts urbaines. La végétation d'Oakland s'est modifiée drastiquement d'une zone préurbanisée avec un couvert d'arbres de 2% à un couvert actuel de 19%. La composition en espèces étail, à l'origine, dominée par le chêne vert de Californie (*Quercus agrifolia*), le laurier de Californie (*Umbellularia californica*) et le séquoia toujours-vert (*Sequoia sempervirens*) et l'est aujourd'hui par l'eucalyptus bleu (*Eucalyptus globulus*), le pin de Monterey (*Pinus radiata*) et le chêne vert de Californie. De nombreuses forces tout au cours de l'histoire d'Oakland ont façonné la structure actuelle de la forêt urbaine. Ces événements incluent la ruée vers l'or des années 1840, le tremblement de terre de 1906 à San Francisco, la déforestation massive du début du 20e siècle et les nombreux feux de forêts de 1923 à 1991. Ces forces historiques et leurs impacts qu'ils eurent sur les arbres d'Oakland sonl explorés. Les forces futures qui peuvent altérer une forêt urbaine quelconque sont présentées et discutées.

Zusammenfassung. Die Geschichte von Oakland, Kaliforniens Stadtwald wurde erforscht, um die Ereignisse, die zukünftige Stadtwälder beeinflussen können zu bestimmen. Die Vegetation in Oakland hat sich drastisch verändert von einer vor-urbanisierten Region mit schätzungsweise 2%iger Baumbedeckung zu einer gegenwärtigen Baumbedeckung von 19%. In der Artenzusammensetzung dominierten früher Küsteneiche (*Quercus agrifolia*), Kalifornischer Lorbeer (*Umbellularia californica*), und Küstensequoie (*Sequoia sempervirens*) und gegénwärtig dominieren Eukalyptus (*Eucalyptus globulus*), Monterey-Kiéfer (*Pinus radiata*) und die Küsteneiche (*Quercus agrifolia*). Viele Kräfte haben während der Geschichte von Oakland auf die gegenwärlige Struktur eingewirkt, darunler der Goldrausch in den 1840gern, das Erdbeben von San Fransisco im Jahre 1906, massive Aufforstung um 1900 und zahlreiche Brände von 1923 bis 1991. Diese historischen Einflüße und deren Einfluß auf die Bäume in Oakland wurden ergründet, Zukünftige Einflüsse, die auf Stadtwälder wirken können, wurden dargestellt und deskutiert.