TREEPEOPLE
Celebrating 40 Years

September 15, 2014

Shelby Livingston, Branch Chief
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: CARB Guidance on Cap-and-Trade Implementation and SB 535

Dear Ms. Livingston:

TreePeople is an environmental non-profit organization with 40 years' experience serving the people of Los Angeles, providing the region with programs and expertise in urban forestry, watershed management and community engagement. Each year we engage directly with 40,000 volunteers, students and members, and provide environmental benefit to at least 400,000 local residents.

We are writing today to provide comments, including support for comments provided by the California Urban Forest Council in their letter dated September 12, 2014 (Item 2) regarding the Air Resources Board Guidance for Cap-and-Trade and SB 535, and consideration of the many benefits of urban forestry.

We are very pleased that Urban Forestry, Land Use, and Water Use Efficiency have a significant role in the State's Cap and Trade expenditure plan for 2014/15 and beyond. To that end, we also provide comments to support the use of urban forestry to achieve many aspects of these roles to benefit disadvantaged communities through the combined effort of tree planting, landscape transformation and parcel-level stormwater capture. We refer to these combined elements as "green infrastructure."

We provide these specific comments:

a) Portion of Funds to DACs through CALFIRE Urban Forestry funds:
We agree with the CA Urban Forest Council regarding the importance of a significant portion of the funds serving disadvantaged communities, and support the Air Resources Board suggested $10.5 million (or 55%) recommendation of Urban Forestry funds that would be used for DAC programs. We are also supportive of increasing this percentage to 70%, which was previously proposed in budget discussions.

b) Definition of "benefitting a disadvantaged community" –
We strongly encourage you to consider that urban forestry and green infrastructure can "benefit disadvantaged communities" in ways that are not specific to highly defined geographic limits such as: "within ½ mile of" or "adjacent to" as seen in sections 1-6 and 1-7 of the Draft Guidelines. This is because of the broader benefits of urban forestry that can provide support by making changes to a watershed that impacts multiple disadvantaged communities, particularly within larger urban areas. We offer the following to show some of the crossover benefits of urban forestry and watershed management, with citations provided:

- Reduced runoff: In heavily urbanized areas where more than three-fourths of the ground is covered by impervious surfaces, 55% of rainfall becomes runoff. Only 15% of rainfall is absorbed by soil while the rest becomes evapotranspiration.[1] Trees slow runoff by capturing raindrops on their leaves, stems and trunks, retaining it as water slowly makes its way through the tree. Depending on tree species, age, storm intensity and duration, an urban tree can capture 15 to 80% of rainfall in its leaves, stems and trunk alone.[2]

- Permeability and infiltration: Urban trees and forests also provide pervious ground space where infiltration can occur. This is aided by root growth and decay, which improve soil permeability. In urban areas, soil is often compacted due to development (buildings, roads, parking lots, etc.) and use of the land by vehicles and pedestrians. Tree roots play an invaluable role in increasing permeability in compacted soils – increasing infiltration by one and a half times.[3]

- Flood control: Larger, older trees with broad leaves are the most effective at capturing rain, though all trees provide some stormwater capture benefit. A young jacaranda (*Jacaranda mimosifolia*) with a 3.5 cm diameter at breast height may intercept only 211 gallons in a year, or 15% of annual rainfall. A mature Brisbane box (*Tristania conferta*) with a 38.1 cm diameter at breast height can intercept 66% of annual runoff, or 5,494 gallons.[4]

- Water quality: Trees also improve water quality; trees claim some of the elements that become atmospherically deposited on their leaves and stems for their own use, including ammonia and potassium ions. These deposits are absorbed by the tree, which prevents rainfall from washing them away and further polluting urban runoff.[5]

c) Management and Maintenance:

We want to provide strong agreement with the CA Urban Forest Council that maintaining the existing tree canopy is essential to achieving greenhouse gas reduction and providing innumerable benefits to DACs, including improved air quality, walkability, transportation corridor buffers, flood control, access to fresh food and water use efficiency.

We believe it is extremely important to include funding in the program guidelines for management and maintenance of standing urban trees and green infrastructure elements with strategic and focused outcomes. Many existing urban forestry and urban watershed management projects are the result of public investments over the last 10-15 years, including State Propositions 40, 50 and 84. Their benefits

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[1] National Resources Conservation Service. Figure showing relationship between impervious cover and surface runoff. http://www.nrcs.usda.gov/technical/stream_restoration/images/scrhimage/chap3/fig3-21.jpg.

[2] Xiao Q., and E.G. McPherson. 2003. "Rainfall interception by Santa Monica's municipal urban forest." *Urban Ecosystems*, 6: 291-302. http://www.fs.fed.us/psw/programs/cufr/products/cufr420_UrbanEosystems_RISMUF.pdf. The study simulated rainfall interception by street and park trees in Santa Monica and found that rainfall interception ranged from 15.3% (0.8 m^3 or 211 gallons/tree) for a small *Jacaranda mimosifolia* (3.5 cm diameter at breast height) to 66.5% (20.8 m^3 or 5,494 gallons/tree) for a mature *Tristania conferta* (38.1 cm). Rainfall interception varied seasonally, averaging 14.8% during a 21.7 mm winter storm and 79.5% during a 20.3 mm summer storm for a large, deciduous *Platanus acerifolia* tree

[3] Day, S.D, and S.B. Dickinson (Eds.) 2008. *Managing Stormwater for Urban Sustainability using Trees and Structural Soils*. Virginia Polytechnic Institute and State University, Blacksburg, VA.
http://www.cnr.vt.edu/urbanforestry/stormwater/Resources/TreesAndStructuralSoilsManual.pdf
A container experiment with recently transplanted black oak (*Quercus velutina*) and red maple (*Acer rubrum*) tested whether roots can penetrate into compacted soils and once they penetrate, if they can increase water infiltration. Within 12 weeks, both tree species were able to penetrate into compacted soil and increase infiltration. Roots penetrating into subsoil increased infiltration by 153%.

[4] McPherson, E.G. and Q. Xiao. 2003.

[5] Larsen, E.W., J. Fleckenstein and E.G. McPherson. 2001. Investigation into hydrologic modeling and the effect of urban forests on runoff quantity and quality. Davis, CA: University of California, Davis-Department of Geology.

accrue over time, and can yield greater benefit (carbon sequestration, reduced runoff, water supply and efficiency) with proper care and maintenance.

d) Work hours within a Disadvantaged Community:

Finally, we ask consideration to define language related to "Step 2" of sections 1-5, 1-6 and 1-7 of the appendix, understanding that many urban forestry and green infrastructure projects and programs can and must be performed by members of the community under their own power and not necessarily as paid workers in order to achieve long-term maintenance and success in reaching the environmental outcomes desired. Helping DAC's transform their landscapes while allowing them to participate as volunteers – especially on or near their own properties – empowers a community to come together under a common cause, understand and accept the landscape changes, to advocate for resources for long-term care, and improve their environmental, social and economic health.

Please contact me at 818-623-4863 if you have any questions. Thank you again for consideration of these comments, and please accept best wishes from everyone at TreePeople.

Yours,

Peter Massey
Director of Grants