California’s Crown Jewels Under Attack

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California ReLeaf’s The Power of Trees Conference
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Today

- State of California’s Urban Forests
- Problem
  - High value
  - Low investment
- Solutions
- Lessons Learned
Assessment Methods

- Plot data: FIA & UFORE 49 street tree inventories
- 2012 UTC: 1-m NAIP
- Land use map: 6 classes
- Climate zones: 6 in CA
- Transfer functions
  - kWh/UTC ha (CZ & LU)
    - Street length & density
Street Tree Results

- Numbers up: 5.9 to 9.1 million
- Density down: 105 to 75/mile
- Stocking: 36.3% (16 million vacant sites)
‘Street Value’ of California Trees Is $1 Billion

Posted on Jun 25, 2016

By Tim Radford / Climate News Network

The tree-lined splendor of California Boulevard in Pasadena. (Kevin Nelson via Flickr)

This piece first appeared at Climate News Network.

LONDON—Californian foresters have demonstrated once again that money does grow on trees—and they are not talking about commercial orchards.

New research estimates that the pines, eucalypts, planes, palms, sequoias and magnolias that line the boulevards of the Golden State’s cities and suburbs are worth at least $1 billion a year to California taxpayers.
Urban Tree Canopy (15%)

- 108 sq yds/capita (US avg 451 s.y.)
- California 50th in U.S.
- Uneven distribution
Structure Results

- 173.2 million trees, 5/capita
- Diversity: Oak (22%), Cherry (6.6%)
  - Many vulnerable to pests and drought
- Youthful age structure
Function & Value Results

• $181 billion asset value
• $8.3 billion/yr services ($48/tree)
  – $7.2 billion property values (3.6%)
  – $548 million energy (AC 179k houses)
  – 103 MMT CO2 stored, 8.5 MMT removed/yr (remove 1.8 M cars)
  – $56.2 million/yr pollutant uptake (low $ due to BVOCs)
  – $324.6 million/yr interception (424k houses)
• $2.20 returned per $1 spent
Good Trends in California’s Urban Forest

- Increased $ for planting
  - 1999 = $1 M
  - 2015-16 = $15-30 M
- Increased number of California ReLeaf
  - 63 (1999) to 90
- Increased number of Tree City awards
  - 103 to 149
  - $9 to $11/capita
Disturbing Trends

- Declining tree budgets
- Removing more trees than plant (18-22%)
- Planting more small, short-lived trees
- Declining tree diversity
- Los Angeles (2005-09)
  - Losing 667 ac/yr
- PSHB/FD Complex
  - 26.8 million susceptible
  - $36.2 billion remove/replace
Problems

• Disconnect: High value of trees and underinvestment in their management
  – Trees are cost center
  – Managers are always fighting fires
  – Every community forest is different

Solutions

• Increase revenues
• Connect with GI & resilience planning
• Manage for What? Define what resilient urban forests look like
Increase Revenues

• How spend $ smarter?
  – Technology to leverage social capital

• Sell certified carbon credits in voluntary market
  – Protocol
  – Registry

• Bundle co-benefits (Charismatic credits)
  – Storm water
  – BVOCs
  – Shade trees and energy savings
Connect With GI & Resilience Planning

- Need time to think strategically
  - Urban areas most at-risk
  - Heat waves, air pollution, extreme weather events (flooding, winds, etc.)

- Urban forests are GI that builds resilience
  - Process not just product
  - Community cohesion
  - Youth education, jobs, crime reduction
What Do Resilient Urban Forests Look Like?

• What are we managing for?
  – Are we creating a legacy of value or headaches?
  – How do we do it better?
  – How much do we save by doing it better?

• We need:
  – BMPs for resilient urban forests that embrace diversity of place, consensus approach
  – Metrics for assessing progress
Three Traits of Resilient Urban Forests

- Resilient Resource
  - Delivering high level of services

- Mindful Management
  - Applying science and best practices in support of a resilient resource

- Civic Connections
  - Embeding tree literacy and activism in all aspects of civic life
Resilient Resource

• Abundance
  – UTC targets sustained
  – Fully stocked streets & parks

• Species Composition & Age Structure
  – Diverse mix of climate-ready species
  – Juvenile and maturing trees dominate

• Health
  – Excellent and good health dominate
  – Monitoring in-place
  – Capable of rapid response to threats
A Resilient Resource Doesn’t Happen by Chance

Continued Commitment
Mindful Management

• UTC Campaigns
  – Integrate with policy
  – Ordinances to protect & expand
  – Funding

• Master Plans
  – Prioritize
  – Protect veteran trees
  – Planting
  – Young tree care
  – Removal and reuse
  – Optimize benefits, minimize costs
Mindful Management Doesn’t Happen by Chance

Continued Commitment
Civic Connections

• Informed and active citizenry
  – NGOs and advocacy groups
• Youth education
• Skilled workforce and quality products
  – Landscape professionals
  – Jobs and career opportunities
Civic Connections Don’t Happen by Chance

Continued Commitment
Lessons Learned

• Tree Planting Initiatives
  – 9 of 12 largest US cities
  – 20 million trees

• Sacramento Greenprint
  – National Greenprint Workshop
Greenprint Lessons Learned

• Engage public officials
  – Credibility: Proven partnerships & science
  – Steering committee – meet regularly

• Use your Board of Directors
  – Build bridges to key groups

• Celebrate your volunteers
Greenprint Lessons Learned

• Be leaders
  – Take risks, benefits will come

• Be visible
  – Tell your story
  – Use symbols to inspire action & report progress

• Be patient
  – Perseverance pays off
TPIs: Initial Conclusions

• Beautification or GI?
  – Presence of overarching goals
  – Collaborative constituencies

• Effective planning?
  – Some approaches work
  – Science-based planning

• TPIs mainstreamed?
BMPs
Executive Management

• Set realistic goals
• Champion TPI with public & politicos
• Demand interdepartmental coordination
• Lead fund-raising effort
BMPs
Management Team

• Create early successes
• Establish strategic partnerships
  • planting/stewardship
  • public relations
  • funding
• Develop a plan
• Report TPI accomplishments
Regional Greenprints Don’t Happen by Chance

Continued Commitment
Summary

WHAT IF THE HOKEY POKEY IS REALLY WHAT IT'S ALL ABOUT
Summary

• Trees are **PRICELESS**
• Our Urban Forests are Sparse, Fragile and Threatened
• They Don’t Happen by Chance: See the Future, Be the Future
• Lessons Learned: Continued Commitment is Required
• More Treehouses: Tell the Stories
The tree in front of my home is a **word**
The trees on my street are a sentence
The trees in my neighborhood are a paragraph.
All the trees in my community are a story
This story tells us about our relationship to nature past and present. The next chapter is ours to write. Our challenge is to reveal the connections between my trees and my forest.