Landscape Advisory Committee Focus Group
Preventing Urban Heat in WaterWise Landscapes
March 11, 2025
Minutes

(Attendees: Joanna Solins; Jessie Godfrey; Anne Fenkner; Rebecca Pollon; Catherine de la Pena; Jerri McNair; Ann-Marie Benz; Dona Wessells; Marie Kahn; Igor Lacan; Paul Schultz; Laura Brainin-Rodriquez; Marilyn Saarni; Bruno Pitton; Nicolle Patterson; Sarah Sutton; Joleen Bertetto; Kristin Bowman)

I. Attendees interest areas "buzz words"

a. Tree health (6x); conservation practices for urban farmers; inorganic (rock) vs organic mulches; unintended consequences of conservation/tradeoffs; public information and messaging; soil health; nexus of firescaping, waterwise gardens, and heat reduction. Establish healthy robust urban forests. Easy design choices and marketing.

II. Heat mitigation and inorganic mulches

a. From the research
   i. Incoming radiation is either- reflected back into the atmosphere or absorbed and transferred to the soil. Albedo is the fraction of light that a surface reflects.
   ii. Deep mulch and smaller particles retain more water
   iii. Deep mulch and smaller particles have higher conductivity
   iv. Research takeaway- More earthworms under bark mulch than rock mulch
   v. Research needed- What materials are locally available? Look at most common and frequently used inorganic vs organic mulches

b. Discussion
   i. Observations from Eaton Fire- "Houses burned trees down" ex: redwood tree next to a house and the side that is burnt is next to the house that burned down.
   ii. Shade on various levels to reduce heat and also support mycelium that draws water
   iii. Greg Rubin's research - use of gorilla hair and overhead irrigation next to homes to create a mat that holds in water and protects the home. Also found overhead irrigation provided more plant moisture for native plants – less flammable.

c. Resources
   i. Cal Fire's Rating system of how well your house is protected against fire

III. Tree Irrigation during/after lawn conversion

a. From the research
   i. Save trees during drought with new tree irrigation equipment
      - Rotary sprinkler irrigation contraption
      - Tree ring irrigation contraption (TRIC)

ii. Calculating amount of irrigation needed
    - What is the soil reservoir, how do we refill it without causing runoff
iii. Research needed- how fast does soil moisture decline when turf is removed?

b. Discussion
    i. Could water trees to ET but not everyone is doing that, how do we simplify for landscapers.
    ii. General rule – water to 3 feet and water in the summer!
    iii. Tree canopy can intercept radiation.
    iv. "Step into your own backyard and observe"
    v. "Brown is not the new green for trees"
    vi. How do we get messaging out there to keep watering trees when converting NFT?
        - Can water agencies review projects for how the trees are going to be irrigated?
        - Can we inform and work with irrigation companies and box stores to carry the irrigation supplies needed to water trees?
        - Water Districts offer rebates for tree irrigation equipment. Build in how to care for trees when they convert their lawn - more solutions and techniques.
        - Rossmoor replacing some of the lawns with rock – maybe straining tree health.

c. Resources
    i. UC Davis has a calculator about how much water your tree needs

IV. Firescaping

a. From the research
    i. Composted mulch doesn't burn as well - higher mineral content
    ii. Good maintenance; irrigation management; composted mulch can help reduce fire impact; rain gardens can help as fire barriers.

b. Discussion
    i. The use of rocks doesn't have to be the entire yard- could install a rain garden.
    ii. Life thrives on the edges of rock and soil, rock doesn't have to be the enemy, just using it strategically
    iii. Calfire Rating system – how well the house is protected from fire.

iv. California Department of Forestry and Fire Protection defines three zones of defensible space Zone 0 (0-5 ft); Zone 1 (5-30ft); Zone 2 (30-100+ ft)

c. Resources
   i. Webinar of homes that survived fire
   ii. How do you redirect wind around houses?
   iii. Las Paletas Nursery Leaf Burn study
   iv. IBHS – Wildfire section

V. Tree Selection

a. From the research
   i. Wider trees with large canopies provide more cooling. Any shade helps with cooling.
   ii. In general it does seem that small residential changes matter at scale
   iii. Multi-layer and multiple species can provide ET at different levels and change wind patterns
   iv. Plan ahead in urban areas to create spaces suitable for trees
   v. Sarah Sutton and ReScape- looking at "rootable soil volume". Working with City of Emeryville rootable soil volume requirements for new developments for trees in parking strips - 600 cubic feet of rootable soil for a small tree, 900 for medium, 1200 for large tree.
   vi. Green stormwater infrastructure and its effect on heat (study in Phoenix)

b. Discussion
   i. Many native trees are not a good fit for street trees.
   ii. Need to leverage community groups to help with greening efforts but they need to be educated.
   iii. Some frustration around past messaging to turn all water off. Message needs to be that it is ok to use water outdoors.
   iv. Where do Green roofs fit in?

c. Resources
   i. SelecTree from CalPoly
   ii. Robert Perry book –Trees and Shrubs for Dry California Landscapes

VI. Final Thoughts

a. Simple good achievable messaging

b. Sample marketing materials with good examples based on customer goals
c. Highlight adding aesthetic value
d. Tree irrigation equipment readily available in big box stores.
e. Train professionals on caring for trees
f. Controllers and scheduling.
g. Work with City Department of Public Works
h. Align messaging with firescaping and heat prevention; saving water and energy; how do you make things comfortable, enjoyable; livable with less inputs.