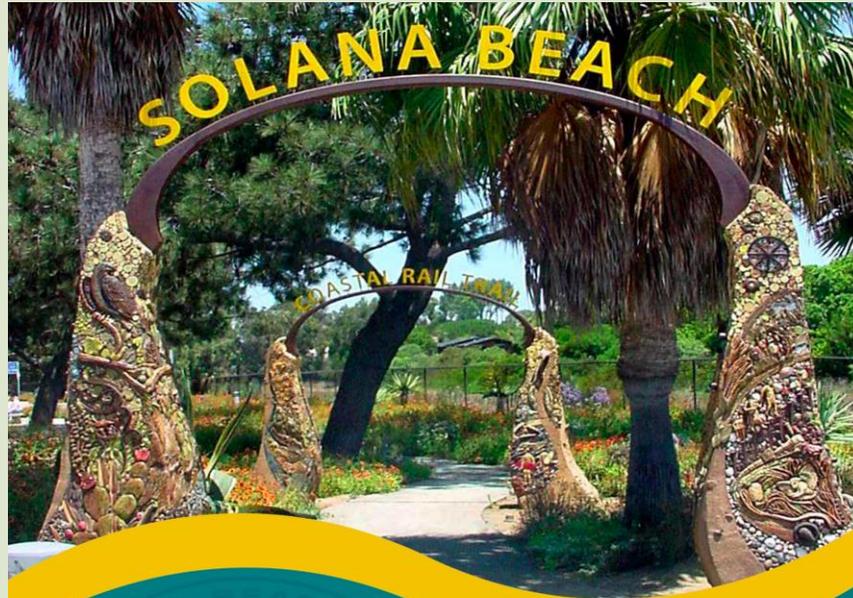
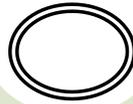


Climate Action Commission Special Meeting



**Adaptation to Increased Risks
to Wildfire and Coastal Habitats**

Chet Koblinsky

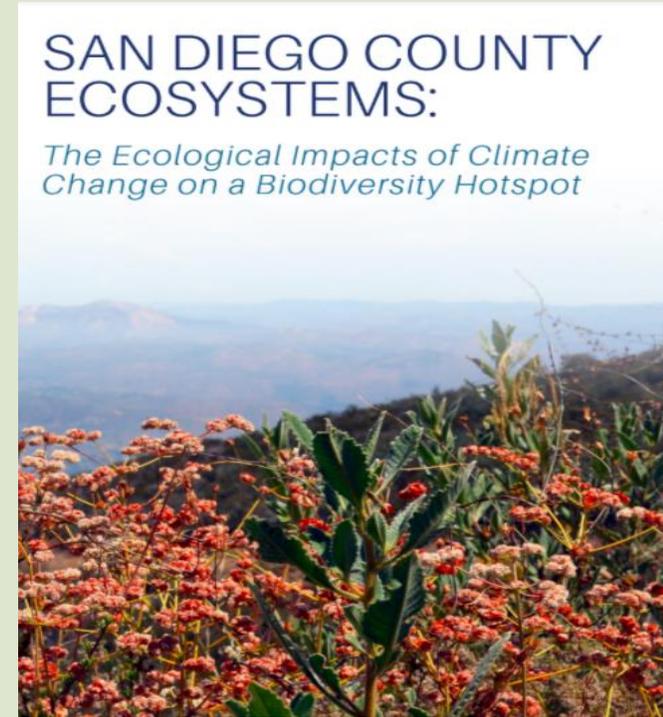
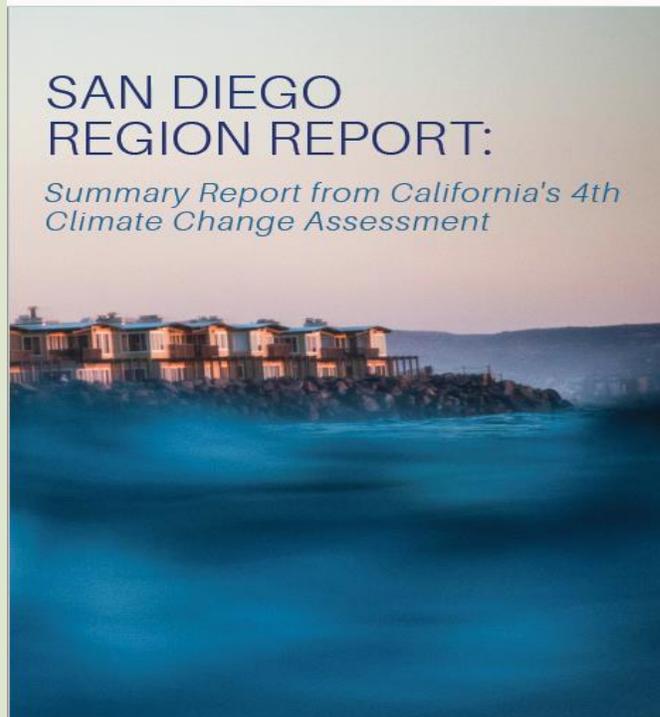


City of Solana Beach

Climate Action Plan

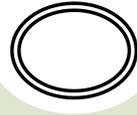
The Climate is Changing

Habitats and Ecosystems will be at Risk



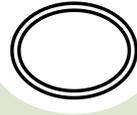
4th California Climate Change Assessment (2018)

Prepare for Increased Risk of Wildfire



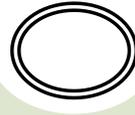
- **Map and identify locations that are at fire risk;**
- **Maintain adequate fire emergency services and resources;**
- **Manage combustible vegetation and maintain defensible space; and**
- **Encourage removal of eucalyptus and other non-native vegetation from the wildland-urban interface.**

Protect Coastal Habitats



- **Protect, preserve, and restore native habitats;**
- **Acquire and protect open space areas;**
- **Educate the public on benefits of using native and drought resistant landscaping**

Tonight's Speakers



- **Rancho Santa Fe Forest Health Study**
 - **Bill Beckman, Chair, Rancho Santa Fe Forest Health & Preservation Committee**
 - **Michael Huff, Principal Urban Forester, Dudek**
 - **Laurie Broedling, Forest Resiliency Program, Lumbercycle**
- **FireWatch! Richard McCreight, Founder, NEOS Ltd.,**
- **Wildfire prevention and protection for Solana Beach, Del Mar and Encinitas**
 - **Mike Stein, Fire Chief, Solana Beach, Encinitas and Del Mar**
- **Questions and Answers**



The Covenant Forest Health Study

BILL BECKMAN, CHAIR
FOREST HEALTH AND
PRESERVATION COMMITTEE

Video by Enjet



A video entitled “Our Forest’s Future” created for the Rancho Santa Fe Association by Enjet Media

Video

Why Create the Study?



1) Our community's history and identity
with its forest

Why Create the Study?



2) Recent developments in Our Covenant Forest

- Climate change
- Insects & diseases
- Increased fire threat

Background of the Forest Health Study



Funding for the Study Provided by:

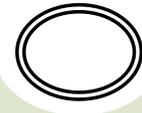
- Rancho Santa Fe Association
- Rancho Santa Fe Foundation

Consultants Selected:

- Dudek
- Tree San Diego

Timing and Process for Creation of the Study

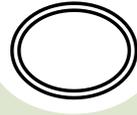
Forest Composition and Health



MIKE HUFF

DUDEK, PRINCIPAL URBAN FORESTER

Covenant Area Forest Populations by Forest Types



Total Estimated Trees: 266,000

- Residential Forest 163,700 trees – 62% of total
- Eucalyptus Forest 56,500 trees – 21% of total
- Agriforest (Orchards) 34,700 trees – 13% of total
- All Other Types 11,100 trees – 4% of total

Forest Types



Covenant Boundary



GOLF COURSE



RSF VILLAGE

FOREST TYPES



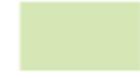
NON-FOREST (Grasslands/Chaparral)



RESIDENTIAL FOREST



AGRIFOREST (ORCHARDS)



EUCALYPTUS FOREST



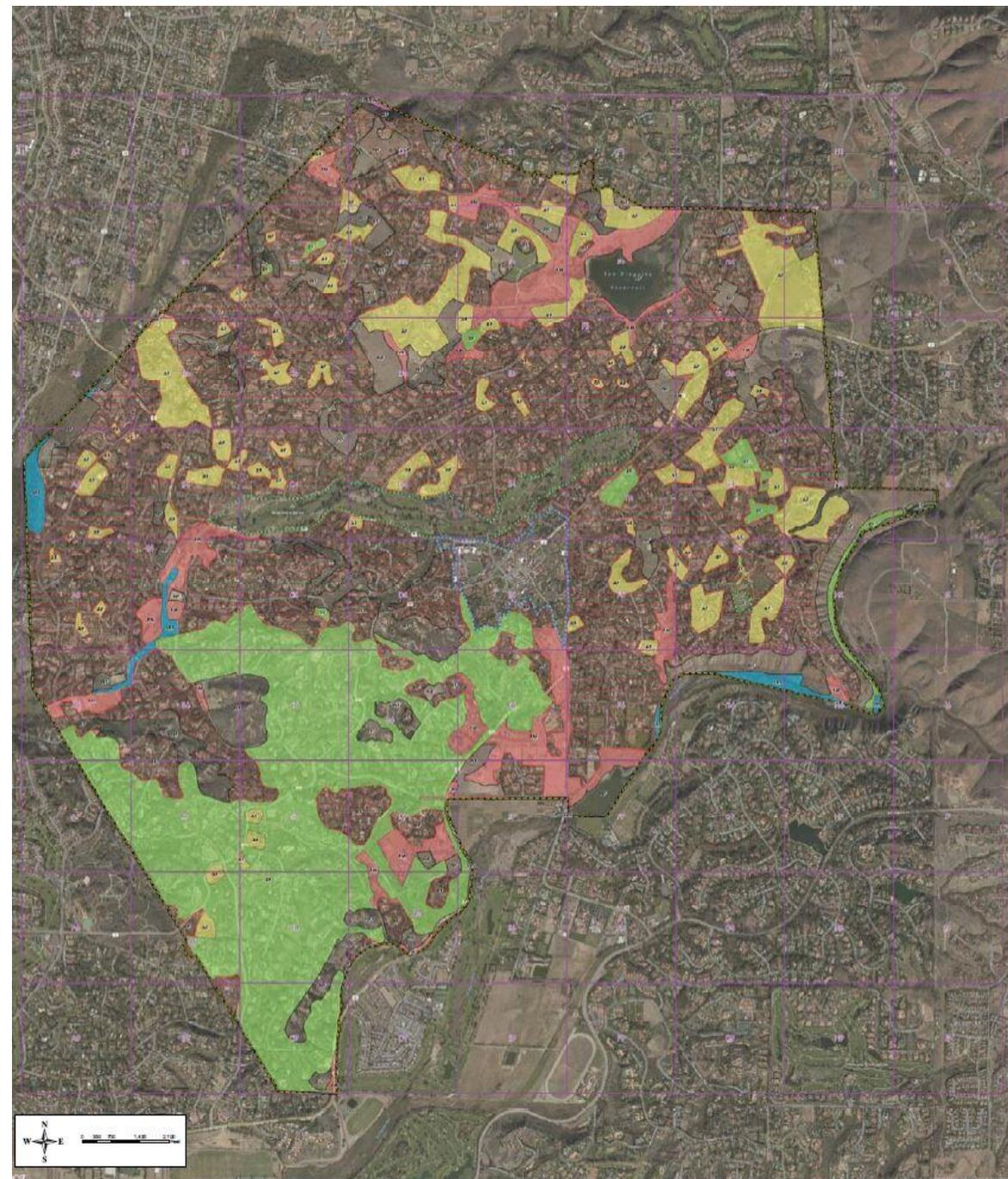
FORESTS-MISCELLANEOUS TREE GROUPINGS



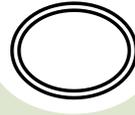
SOUTHERN SYCAMORE-ALDER RIPARIAN WOODLAND



SOUTHERN RIPARIAN SCRUB



Tree Species Diversity



COMMON NAME

Red Gum Eucalyptus

Peruvian Pepper

Mexican Fan Palm

Canary Island Date Palm

Brazilian Pepper

Aleppo Pine

Coast Live Oak

Citrus (Lemon, Ginger)

Sugar Gum Eucalyptus

California Sycamore

ESTIMATED % OF FOREST

8.8%

7.7%

6.4%

6.2%

4.7%

4.2%

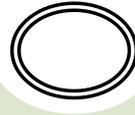
4.1%

3.8%

3.8%

3.2%

Covenant Forest Trees by Health Rating



HEALTH RATING

ESTIMATED NUMBER OF TREES

Good

52,100

Fair

172,100

Poor

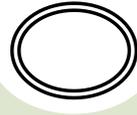
31,300

Dead

10,600

Total 266,000

Key Observations – 1



- 84 % of trees are in Fair or Good Condition
- 16% of trees are in Poor, Dead and/or Dying Condition
- Forest is Vibrant & Diverse – 125-150 species observed
- Eucalyptus in Poor Condition – Highest level of tree decline

Key Observations – 2



- Eucalyptus are susceptible to large scale mortality events
- Citrus Orchards Abandoned & Declining – Water rates too high to maintain orchard, general maintenance overwhelming
- Wildfire Impact on Forest – Dead and dying trees provide fuel for fires

Conclusions and Recommendations



- Create a eucalyptus management program, a program to rehabilitate the portions of the eucalyptus forest which are declining or dead. This will reduce the fire risk, while also increasing the forest's overall health and the benefits it provides.
- Implementing this program and achieving its goals would satisfy several other recommendations in the process, including age diversification and species diversification. A tree removal and planting monitoring entity should be created.



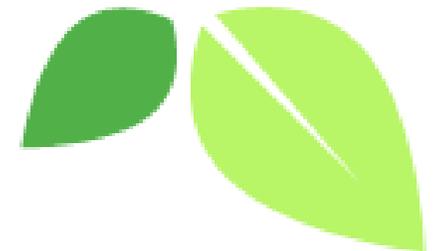
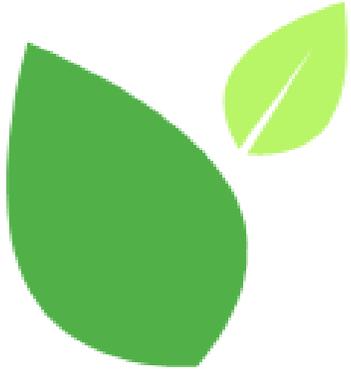
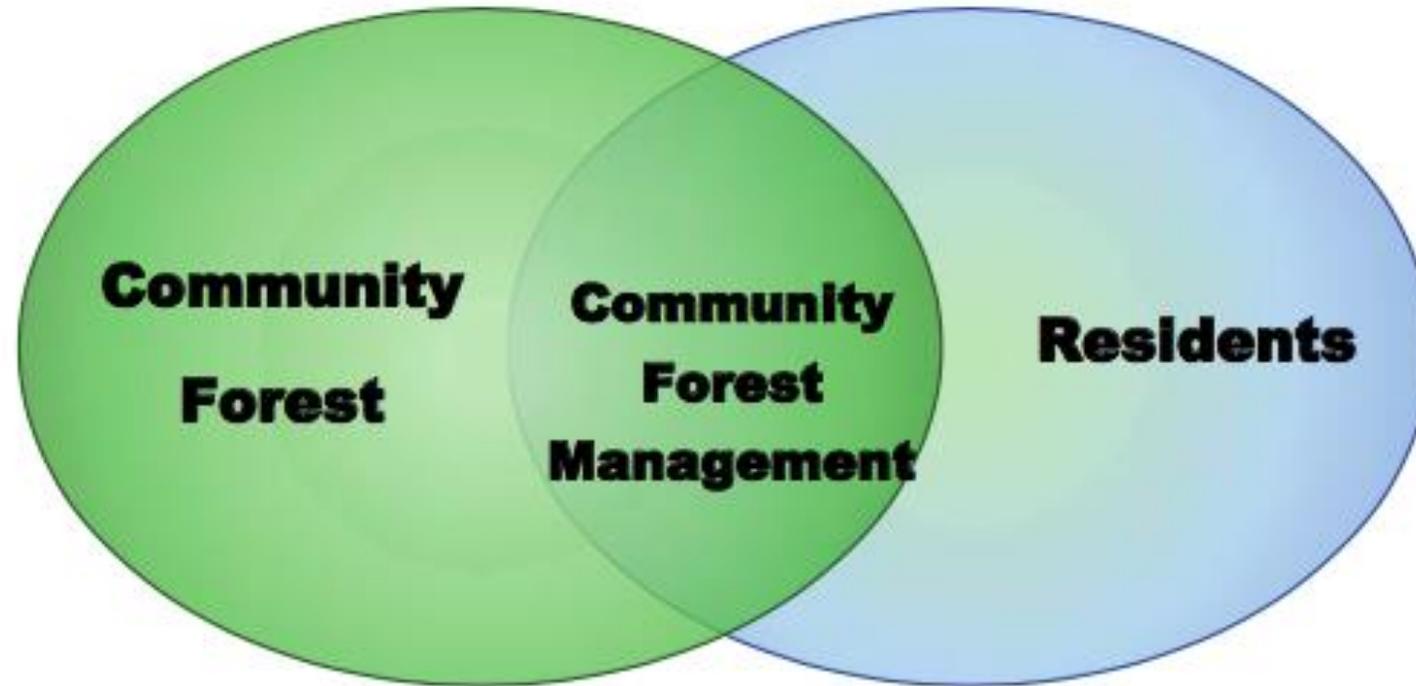
Laurie Broedling
Forest Resiliency Program, Lumbercycle

Overview

- What is a resilient forest?
- What is the value of a resilient forest?
- How can the Covenant maintain and enhance its forest?



A Resilient Community Forest





Why Invest in Our Forest?



Increase
Property Values
& Community
Character



Water
Conservation



Human
Health &
Safety



Fire
Protection



Create a
Legacy for
Future
Generations

Property Values, Beauty, & Community Character

- Trees planted on private property increase home value by 10-20%.
- There is \$300,000-\$600,000 in value-added per property in Covenant area.
- The forest is a significant element of Covenant's identity and major source of pride for residents.





Human Health, Safety, & Fire Protection

Trees:

- Enhance mental and emotional well-being
- Encourage outdoor activities, contributing to physical health and social cohesion
- Produce life-giving oxygen and reduce air pollution
- Protect community from fire through informed planting plans with appropriate removal of end-of-life wood



Environment and Water Conservation

- The Covenant's forest sequesters approximately 167,500,000 lbs. of CO₂ out of the atmosphere in the forest's tree wood, mitigating global warming
- Repurposing dead tree wood keeps CO₂ sequestered
- Tree shade cools a whole property, resulting in reduced air conditioning costs
- Trees mitigate stormwater runoff and reduce erosion

Framework for Action - How Can the Covenant Maintain and Enhance the Forest?



Urban Forestry Leadership



Knowledgeable community advisors who help strategically guide forest management using current urban forestry information.



Tree Stewards



Volunteers trained and certified in specific tree-related and community organizing skills, committed to improving forest resiliency in the community.

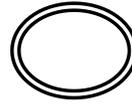


Covenant Residents



Property owners and other residents who own and maintain about 95% of the Covenant's trees.

Lifecycle of a Resilient Forest



Select & Plant

- Site selection/preparation
- Species selection
- Right tree, right place

Remove, Repurpose & Plan

- Plan replacement planting
- Remove dead and diseased material
- Repurpose as much material as possible



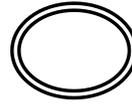
Establish & Maintain

- Watering, Mulching
- Weeding
- Pruning
- Pest & disease management

Monitor Mature Trees

- Right tree for location?
- Manage and maintain tree health
- Monitor effects of drought

Build Tree Steward and Resident Capacity



- Trained and certified Tree Steward volunteers provide free, skilled labor
- Both adults and youth can be involved
- Additional source of expertise and assistance to Ranch residents



- Provide informational material to empower residents
- Engage residents in forest advocacy
- Participate in neighborhood planting and other events

Summary



- The Covenant forest is healthy overall but portions of our forest are experiencing challenges.
- Fire risk in our community is significant and needs to be addressed on private properties through removal of dead and dying trees by the property owner.

Summary



- Private property owners need to plant new and appropriate trees for the future benefit of our community, as we have benefited from the planting of trees by past community members. “The right trees in the right places.”