

DUDEK

Item: VI-B

CITY OF NEWPORT BEACH

Urban Forest Analysis (Corona Del Mar) and Canopy Cover Analysis (Citywide)



JUNE 2025

Parks, Beaches & Recreation Commission Meeting

OCTOBER 7, 2025

Table of Contents

- 1** Urban Forest Analysis
- 2** Canopy Cover Analysis
- 3** Recommendations

Urban Forest Analysis

Project Background

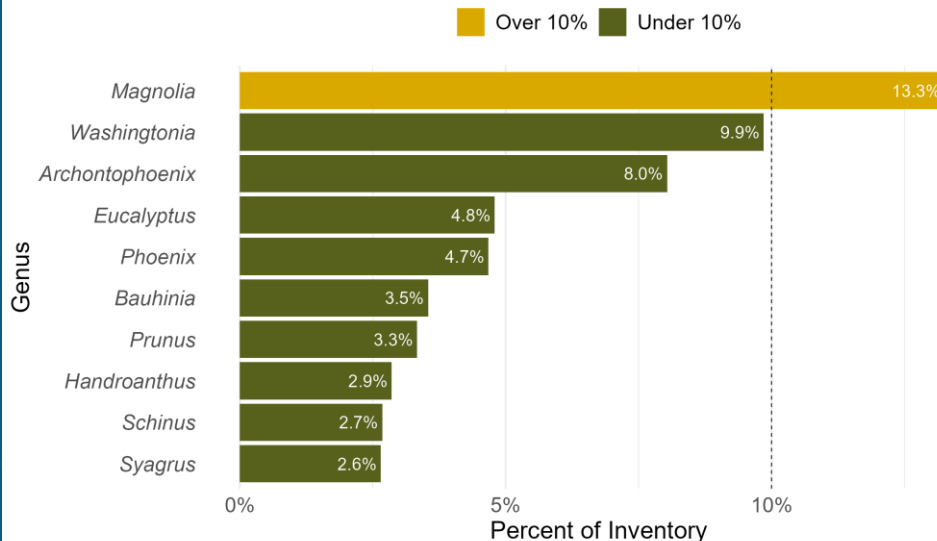
- 1) Conduct an updated inventory of 3,353 tree sites within the Corona del Mar neighborhood.
- 2) Compare the inventory data to urban forest sustainability indicators.
- 3) Assess risks to pests and diseases.
- 4) Determine tree maintenance needs.
- 5) Provide management recommendations.



Sustainability Indicators – Species Diversity

Genus Diversity (106)

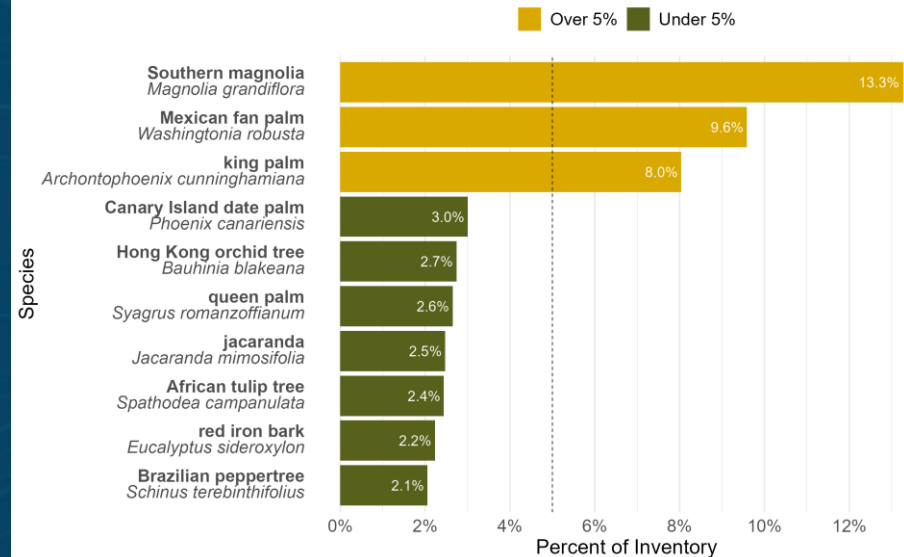
Sustainability goal: No genus represents more than 10% of the inventory



The top 10 genus make up 55.7% (1,871 trees) of City's inventory.

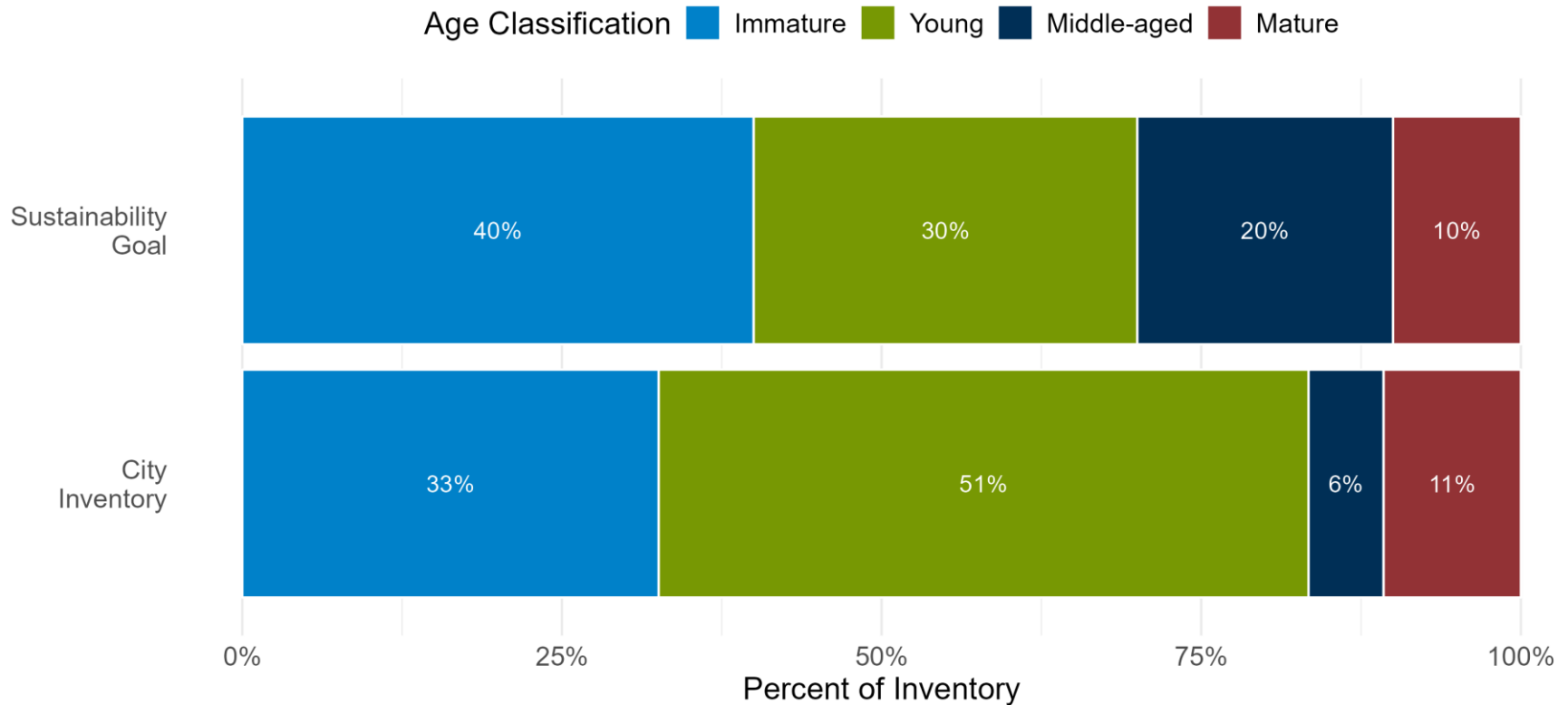
Species Diversity (164)

Sustainability goal: No species represents more than 5% of the inventory



The top 10 species make up 48.5% (1,629 trees) of City's inventory.

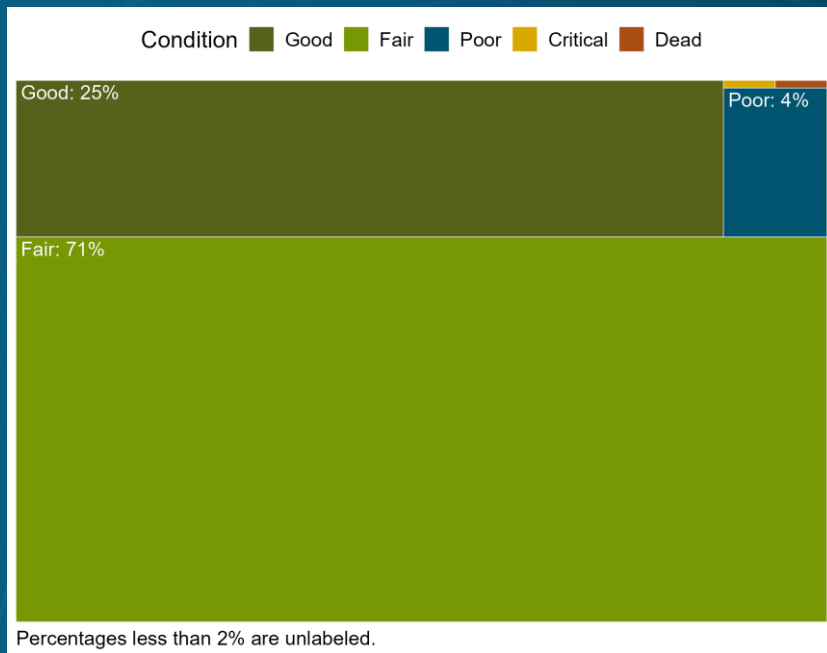
Sustainability Indicators – Age Diversity



Immature: less than 6" DSH, Young: 6" - 18" DSH, Middle-aged: 18" - 24" DSH, Mature: greater than 24" DSH

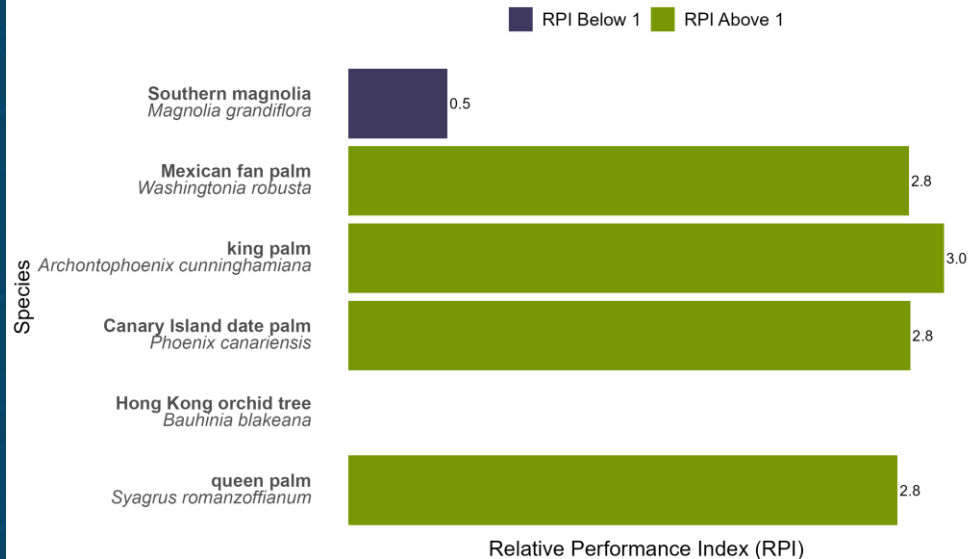
Sustainability Indicators – Condition

Inventory Condition



Rating Against Inventory

Top 6 Species in the City's Inventory

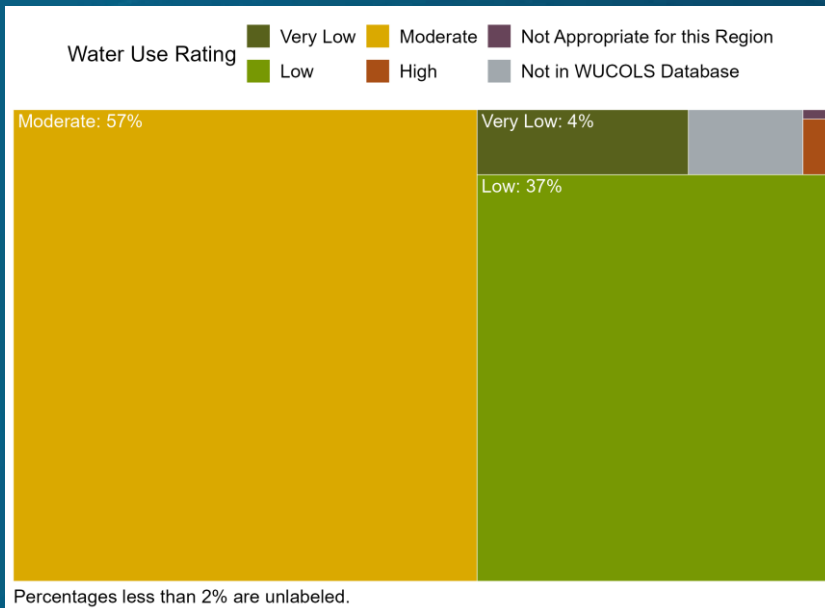


Average RPI for City's inventory: 0.51

Species without an RPI or with a value of 0 did not have any trees assessed in good or better condition.

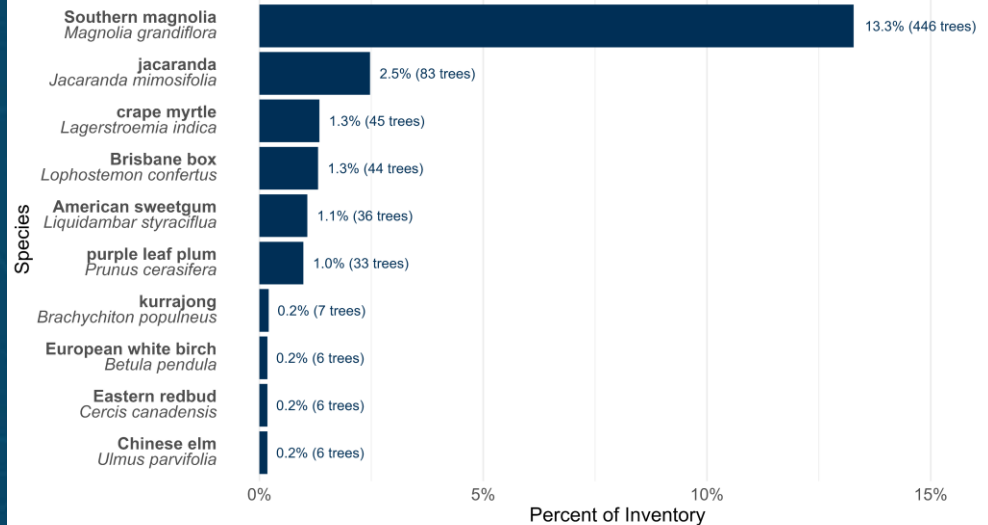
Sustainability Indicators – Climate Resiliency

Water Use Rating



Suitability for Future Climate

Top 10 Species in Inventory Unsuitable for Future California Climates



A total of 22 species (740 trees or 22.0%) in the City's inventory are predicted to be unsuitable for future climates. Note: Research excluded palm species

Pest and Disease Vulnerability

- South American Palm Weevil
 - Palms are 28% of CDM inventory
 - 93% of that population is vulnerable
 - Best control methods still not known
- Other potential pest and diseases common to Southern Ca.
- Monitor high risk species like Canary Island date palm, *Ficus spp.*, *Eucalyptus spp.*



CDM Inventory Recommendations

- 233 Vacant Planting Sites
- 276 Structural Prune
- 20 for elevated risk assessment
- 28 Removals
- Overall trees in a safe and healthy (96% fair or good) condition
- Monitoring Plan for Magnolia Trees



Canopy Cover Analysis

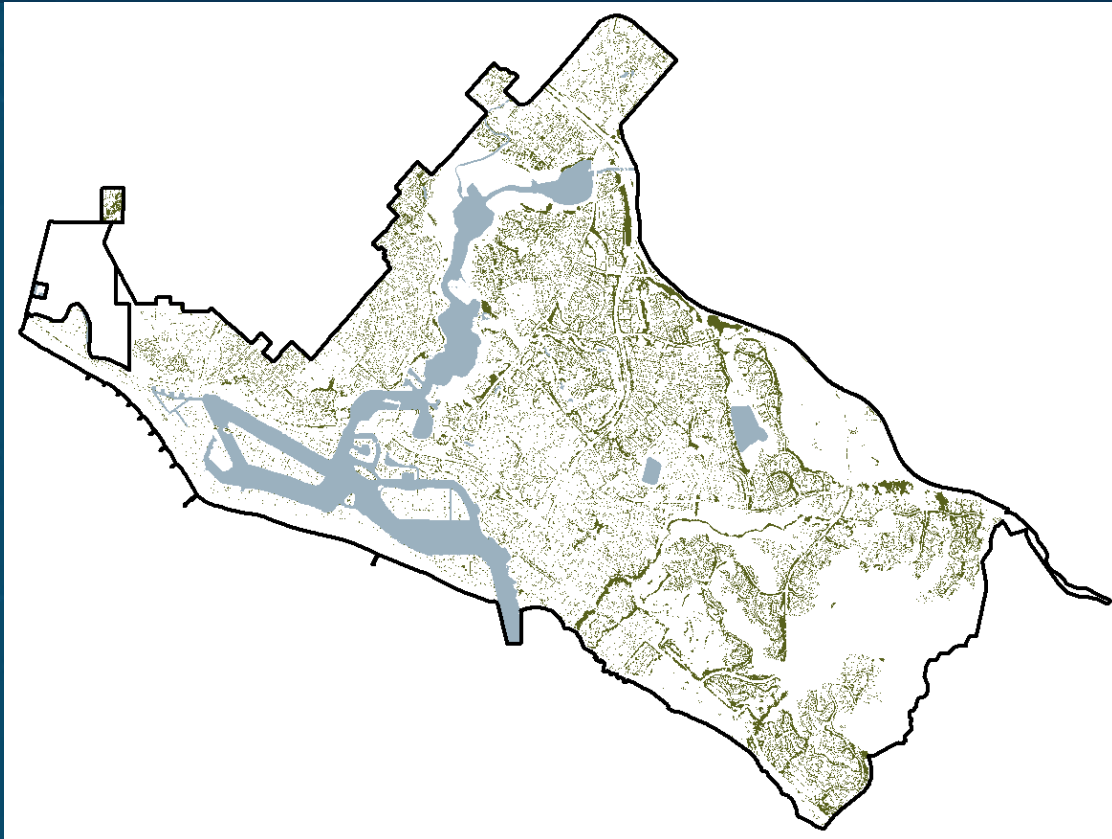
Project Background

- 1) Conduct a City-wide canopy cover analysis.
- 2) Summarize results by census tracts, zoning types, and parks.
- 3) Set baseline for long-term planning.
- 4) Provide recommendations.



Canopy Cover Analysis

- 2024 NAIP Imagery with .6 meter resolution.
- Machine learning classification:
 - Tree canopy
 - Vegetation
 - Bare earth
 - Impervious surfaces
 - Water

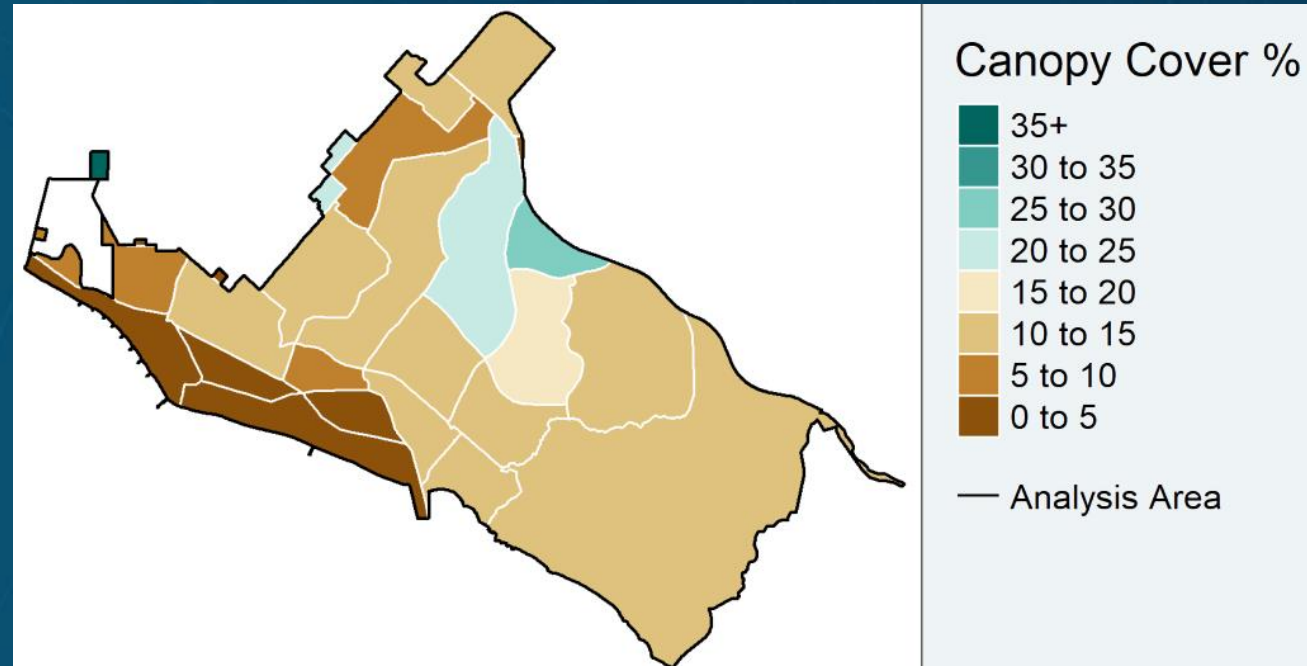


Canopy Cover Analysis

Land Cover Class	Acres	Percent
Tree canopy	2,159	13%
Low to medium vegetation	4,885	29%
Bare earth/non-photosynthetic vegetation	687	4%
Impervious	7,592	46%
Water	1,329	8%

Canopy Cover Analysis – Census Tracts

- Coastal zone and Newport Preserve are lowest 9 (2% - 7%).
- Relatively equal distribution throughout rest of the City.

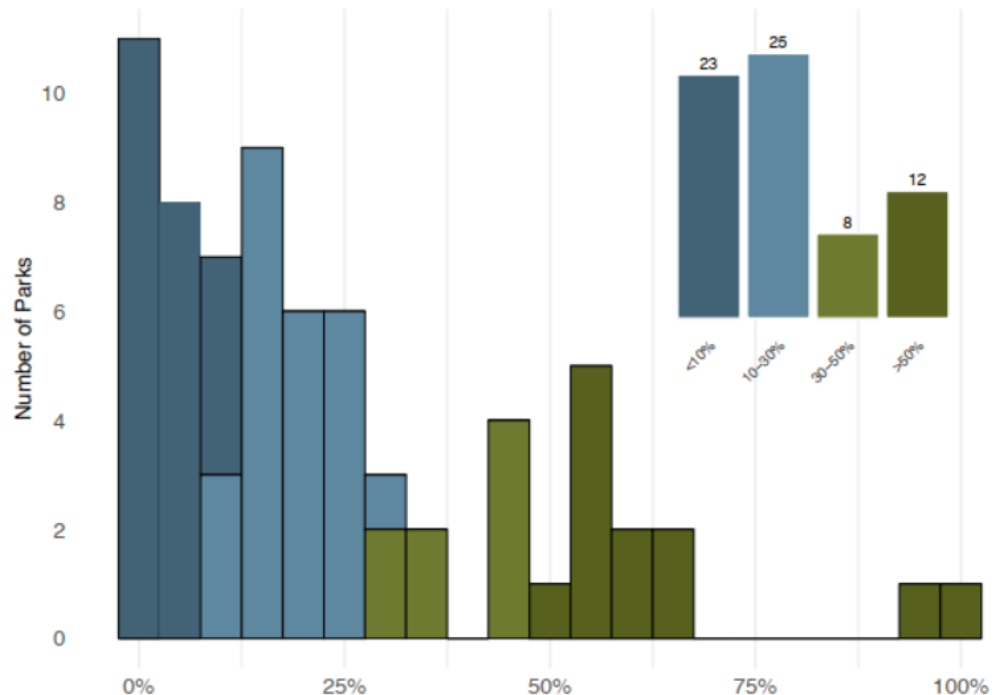


Canopy Cover Analysis – Parks

- 24% average across all parks.
- Only 6% of City canopy.
- Park use limits canopy potential.
- Canopy data for each park.

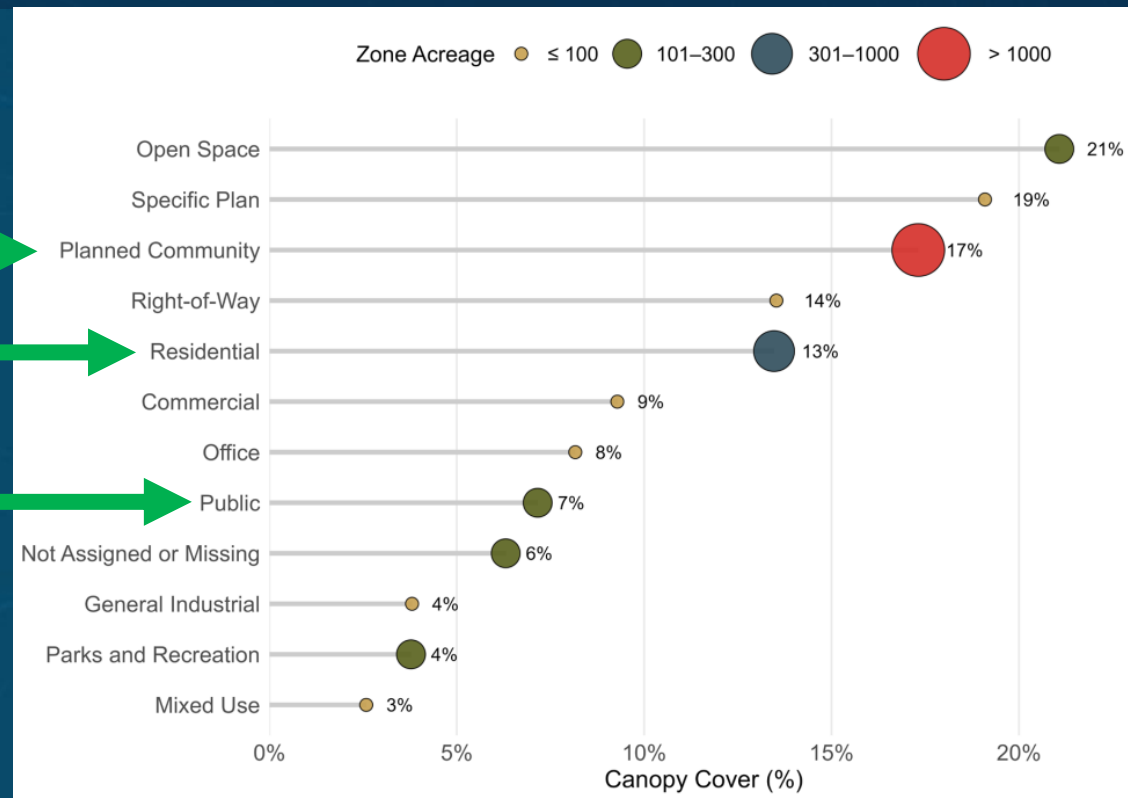
Exhibit 12. Canopy Cover Distribution Across Parks

71% of parks have less than 30% canopy cover.



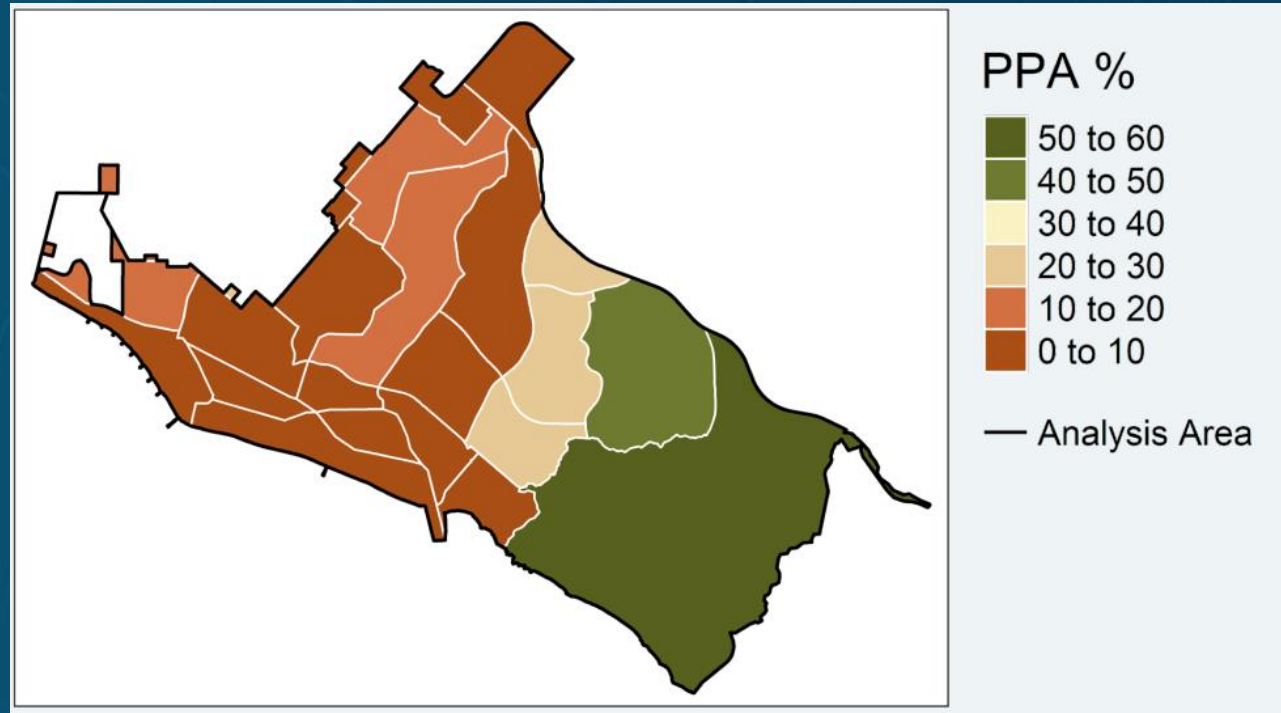
Canopy Cover Analysis – Zoning Types

- Planned community, residential, and public zone types likely offer best opportunities for tree planting based on canopy levels and total acreage.

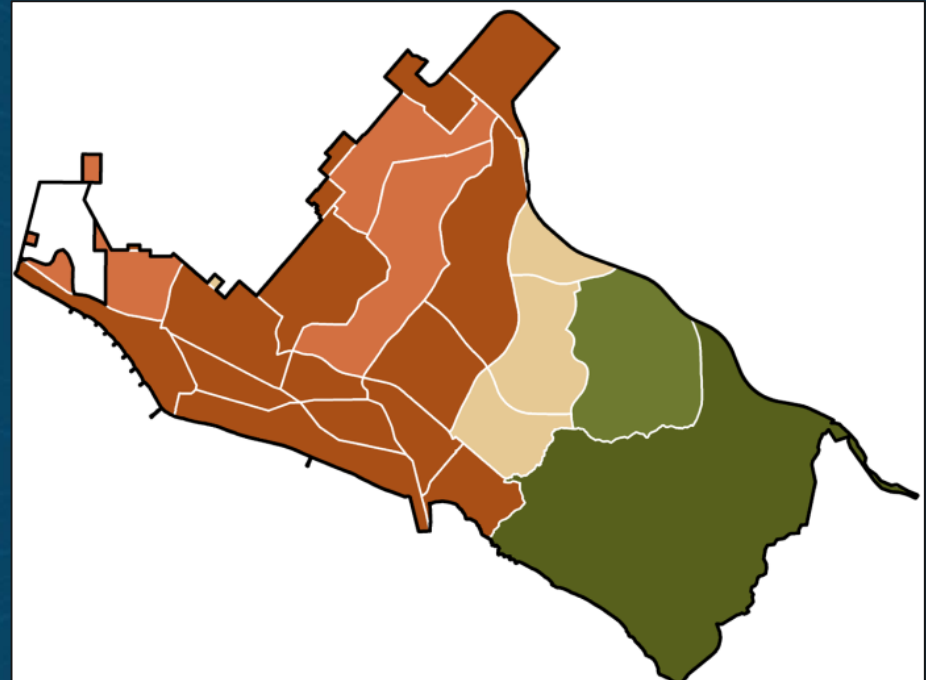
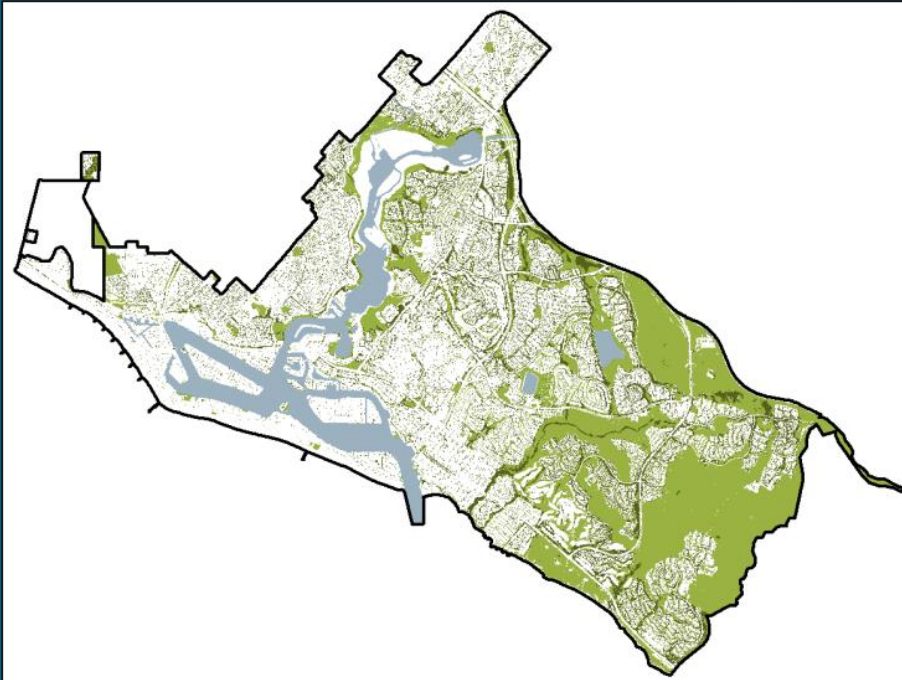


Canopy Cover Analysis – Possible Planting Area

- Western portion of city is developed, dense, water restrictions.
- East is open space, large lots, low density.
- Must make space for trees to increase canopy cover.

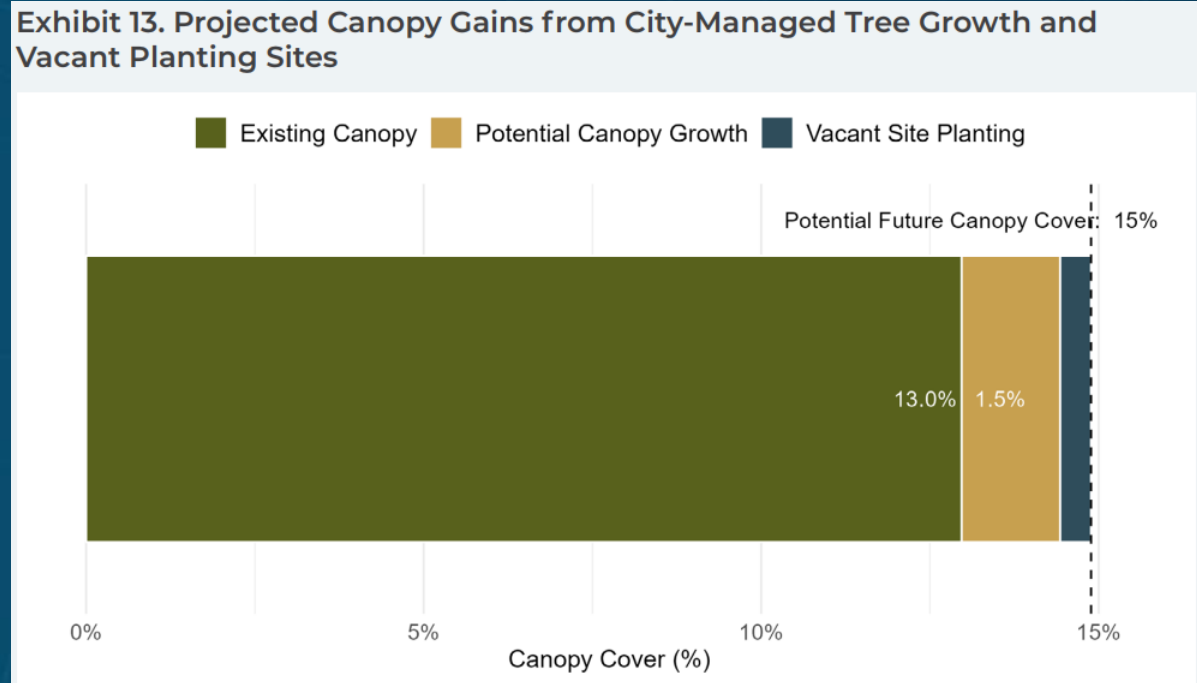


Canopy Cover Analysis – Possible Planting Area



Canopy Cover Analysis – Goal Setting

- 15% is likely with known data.
- Other factors:
 - Private property growth/loss
 - CIP's
 - Development



Recommendations

City-Wide Recommendations

- Take steps towards establishing a city-wide canopy cover target and align urban forestry efforts.
- Consider a private property tree protection ordinance.
- Refine data to create a planting strategy.
- Develop partnerships to support urban forestry goals.



An aerial photograph of a coastal town, likely in California, showing a dense residential area with many houses and buildings. The town is situated on a hillside that slopes down to a sandy beach and the ocean. The water is a vibrant blue, and the sky is clear. The town's architecture is varied, with many houses featuring red-tiled roofs and white walls. There are also some larger, more modern buildings interspersed among the smaller houses. The overall scene is a picturesque view of a coastal community.

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Thank you!

OCTOBER 7, 2025