



Urban Runoff Opportunities

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Pacific Institute's Mission and Vision

Mission

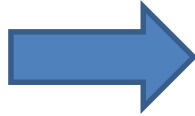
The Pacific Institute creates and advances solutions to the world's most pressing water challenges.

Vision

We envision a world in which society, the economy, and the environment have the water they need to thrive now and in the future.



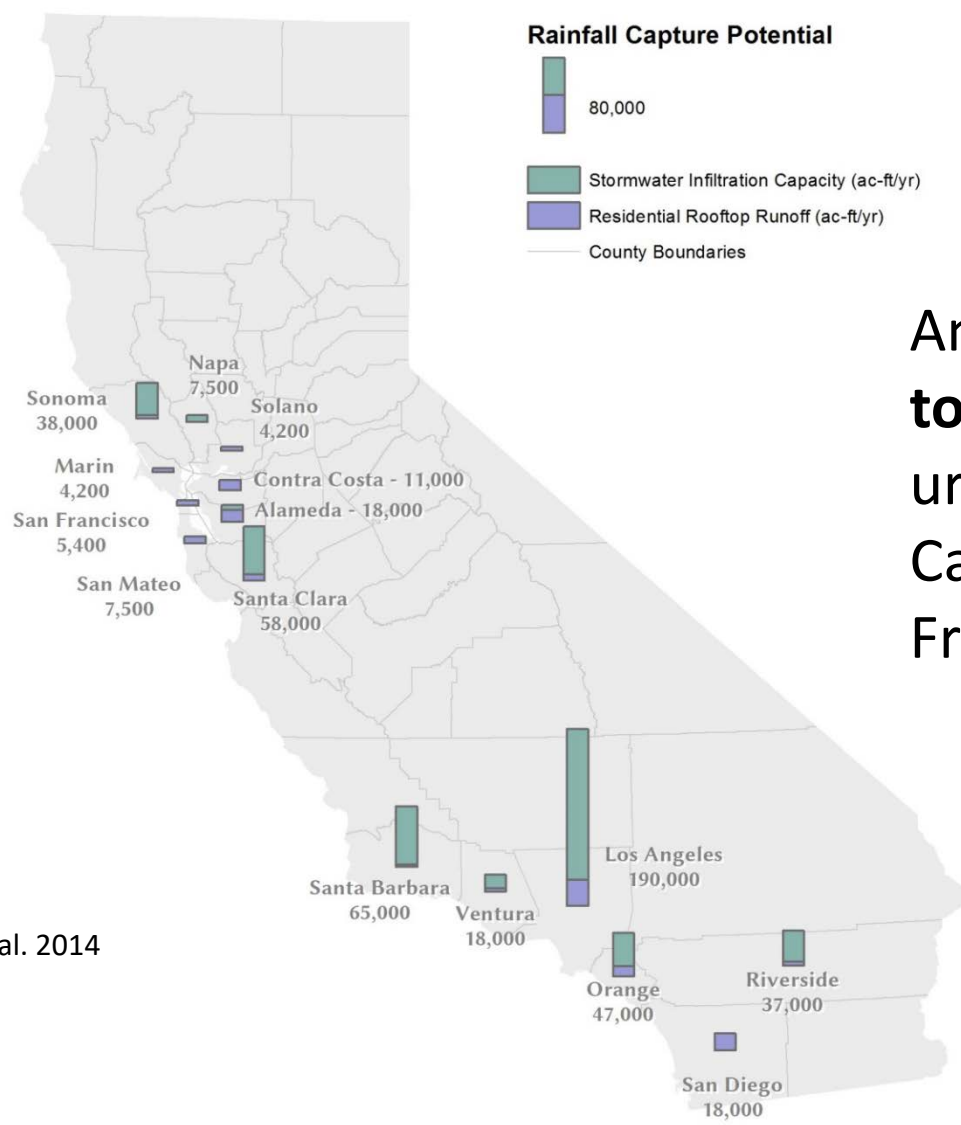
Urban Runoff: From Liability to Asset



Echo Park, Los Angeles



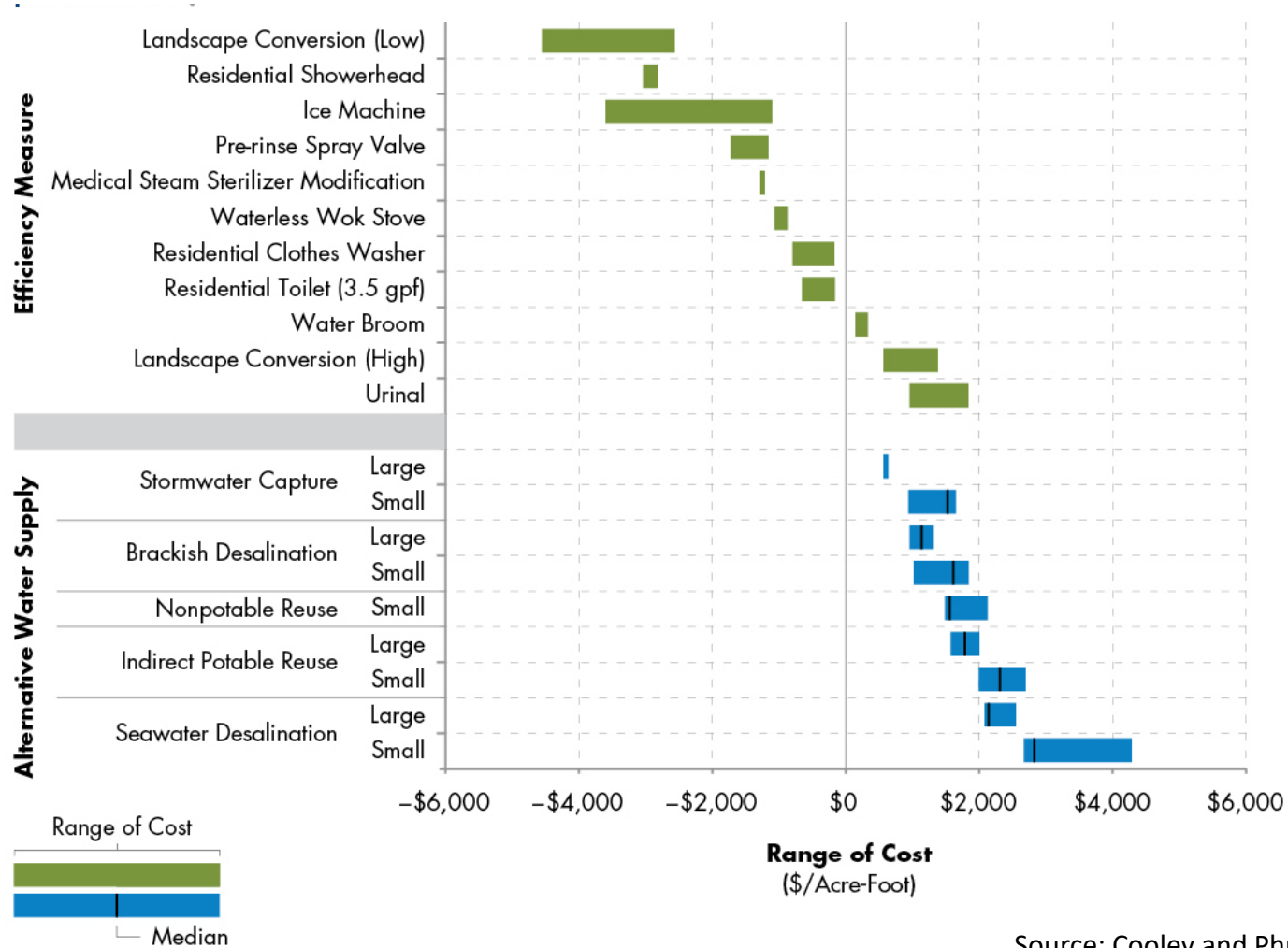
Stormwater Capture Potential in SF Bay and Southern California



Annual yield of **420,000 to 630,000 acre-feet** in urbanized Southern California and the San Francisco Bay region.

Source: Garrison et al. 2014

Levelized Cost of Water Supply Alternatives



Source: Cooley and Phurisamban 2016

Stormwater capture provides multiple benefits

We typically consider only select benefits of improved stormwater management:

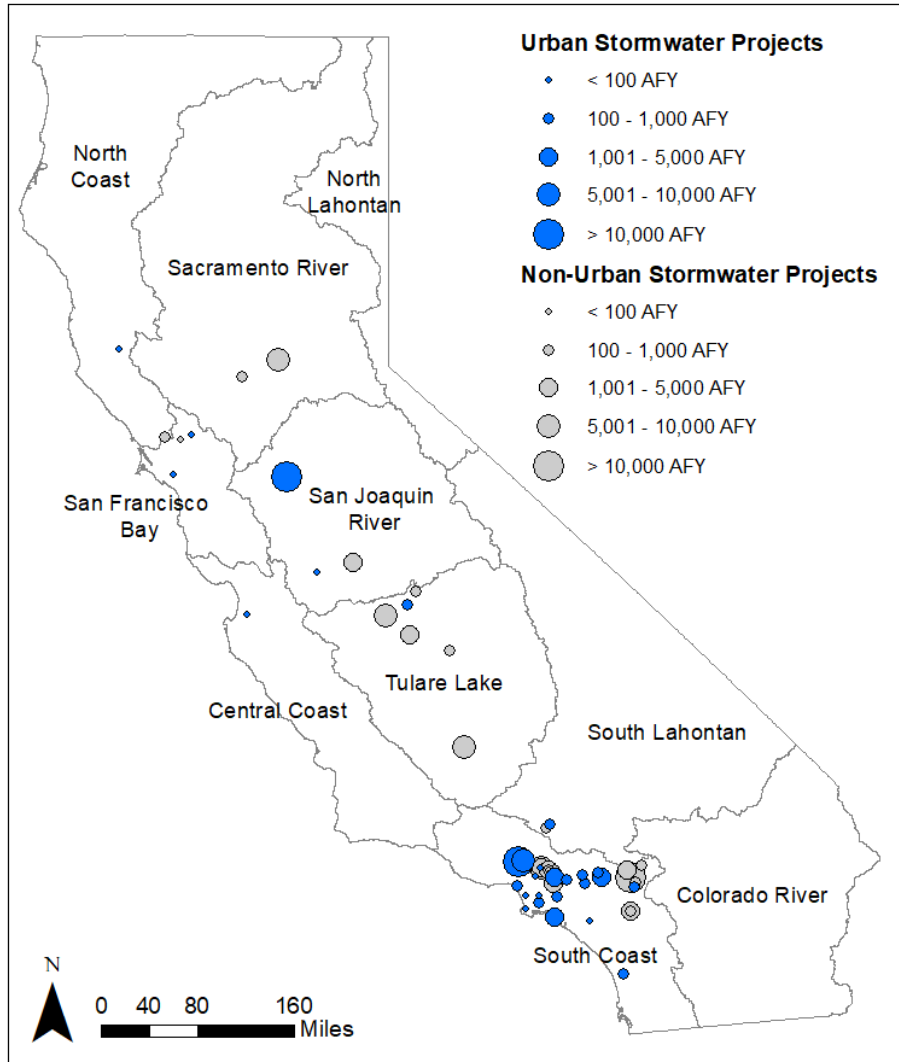
- Flood control
- Water quality
- Water supply

However, stormwater projects can provide other co-benefits:

- Provide wildlife habitat
- Save energy and reduce GHG emissions
- Improve air quality
- Increase property values
- Enhance community livability



Cost of Stormwater Capture With and Without Co-Benefits

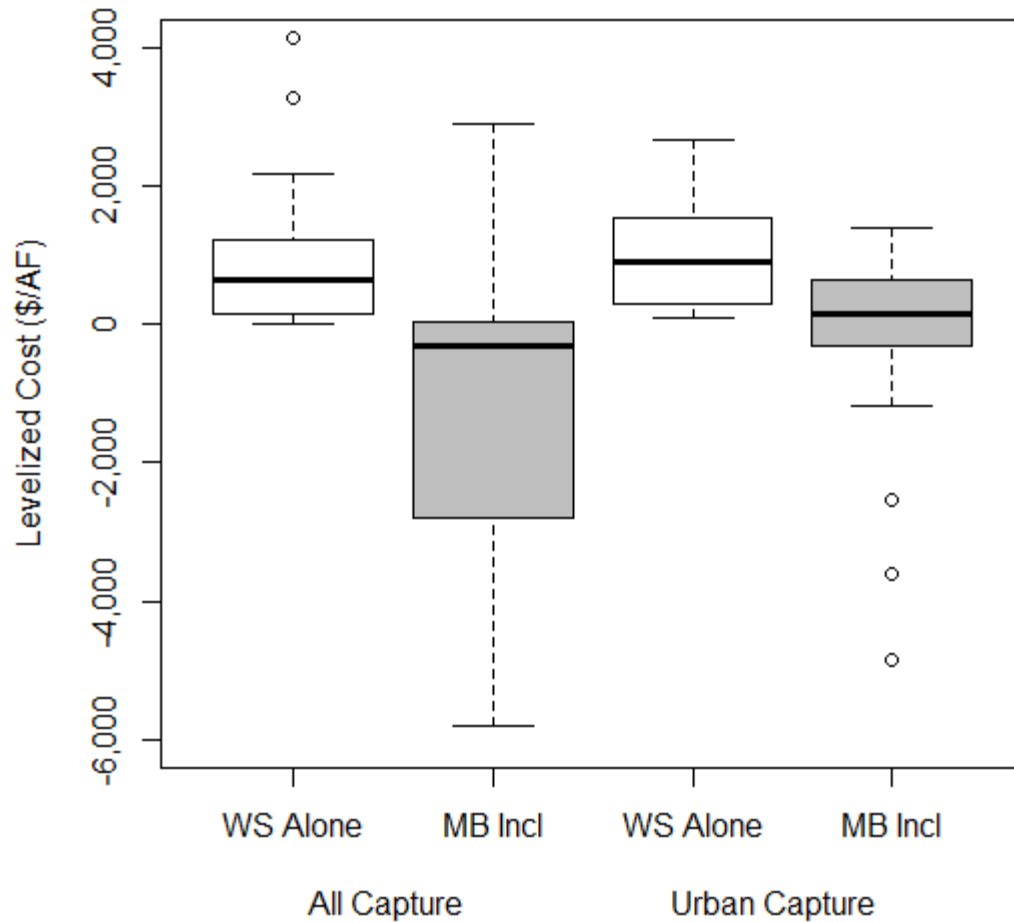


Data source: Rounds 1 and 2 of Prop. IE and 84 project proposals

50 projects: 26 urban and 24 non-urban stormwater

Diringer, Shimabuku, and Cooley (2019) – in review

Cost of Stormwater Capture With and Without Co-Benefits



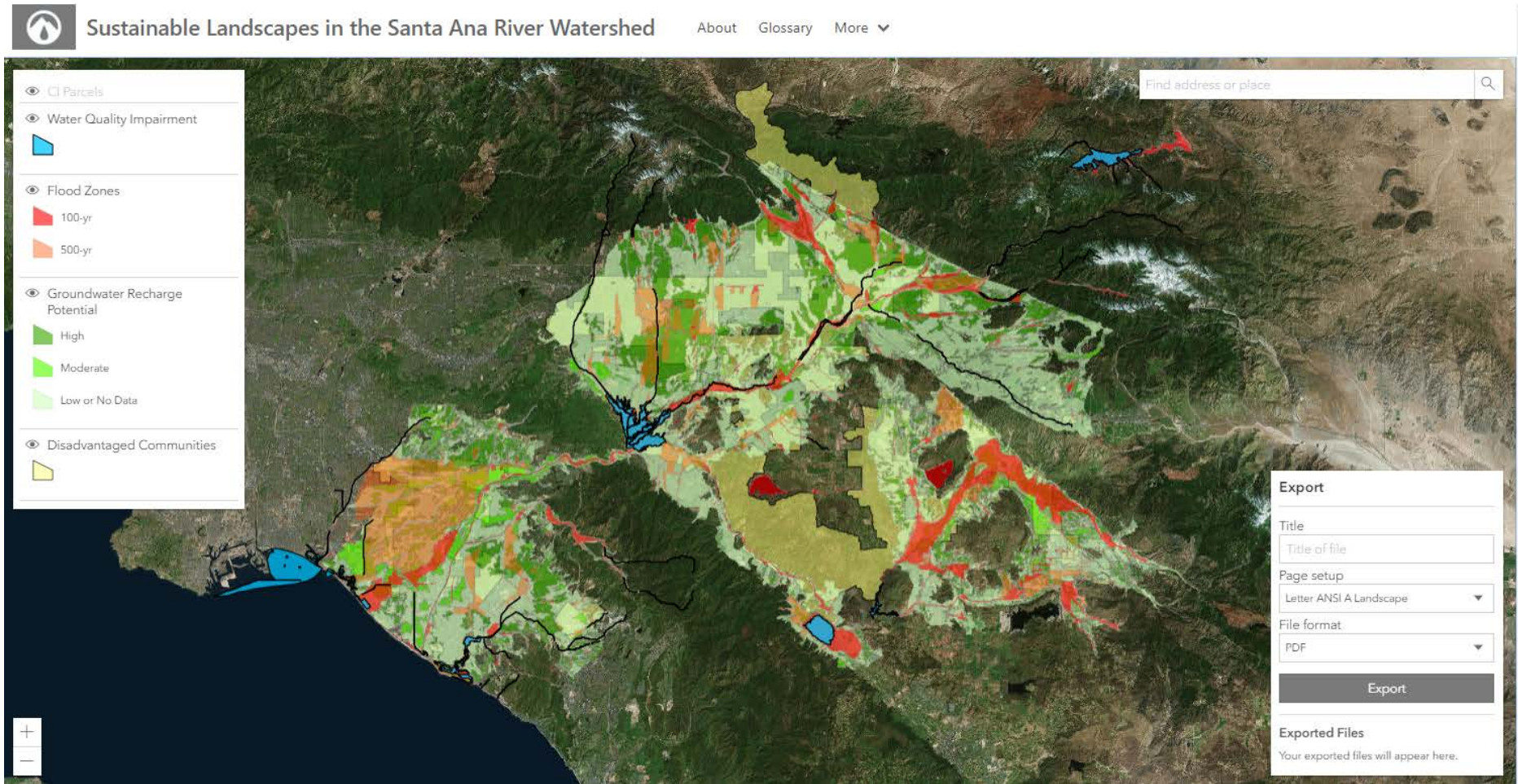
Diringer, Shimabuku, and Cooley (2019) – in review

Sustainable Landscape on Commercial and Industrial Properties



Source: Cooley, Thebo, Kammeyer, Abraham, Gardiner, and Davis (2019)

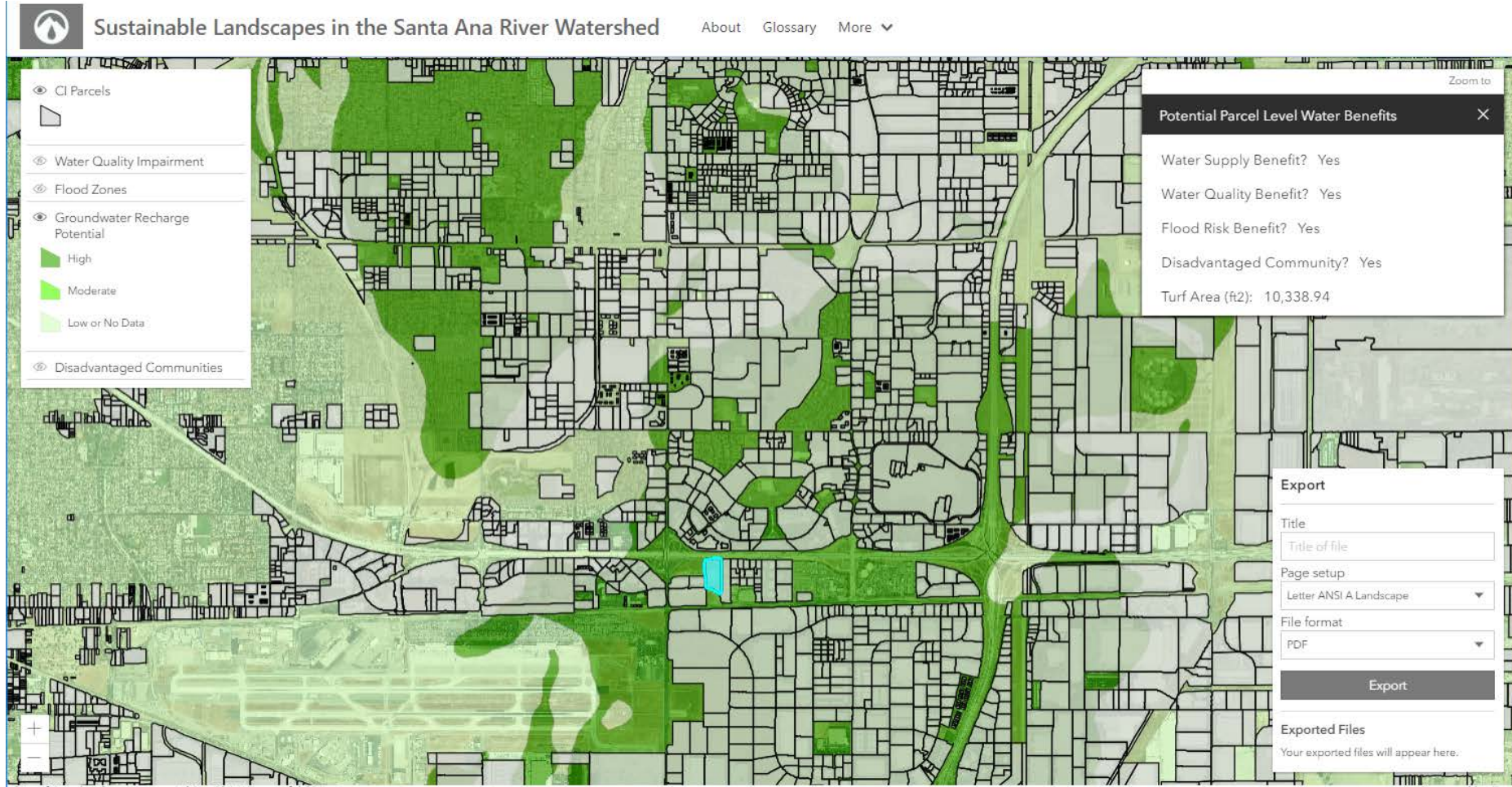
Opportunity Map for the Santa Ana River Watershed



Why Commercial and Industrial Properties?

- Large expanses of impervious surface (avg. 90,000 ft²) and irrigated turf grass (avg. 5,500 ft²).
- Businesses have numerous motivations: financial savings, social responsibility, enhancing reputation, and meeting sustainability goals.
- Opportunity to leverage private capital to pay for stormwater investments.

Opportunity Map for the Santa Ana River Watershed



Implementation Barriers

- Inadequate funding.
- Fragmented water sector.
- Incomplete and inconsistent consideration of co-benefits.
- Bias toward large, centralized projects.
- Land use policies that fail to protect recharge areas or promote LID BMPs.

Conclusions

- Stormwater capture can boost local water supplies.
- It can also provide other important water and non-water co-benefits.
- Stormwater capture is cost effective, especially when co-benefits are included.
- We need to value centralized and decentralized options.
- Partnerships and collaboration are essential.

Thank you!

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