The Urban Drool Tool

Investigating unnatural water balance and flow in Orange County

moulton niguel water district

CODELABOC

California Data Collaborative

OC Public Works

Overview

Managing Urban Drool:

- What?
- Why?
- How?

The Tool:

- For the public
- For internal investigations

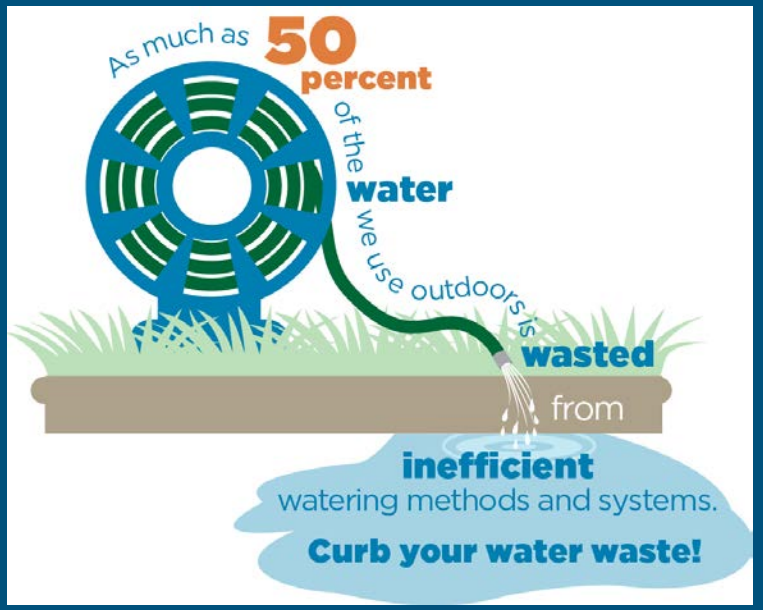
What?

"Urban Drool"

- Unnatural, unpermitted, non-exempted dry weather flows
- Increases with imperviousness
- Carries urban increased pollutant loads
- Inefficient water practices exacerbate it

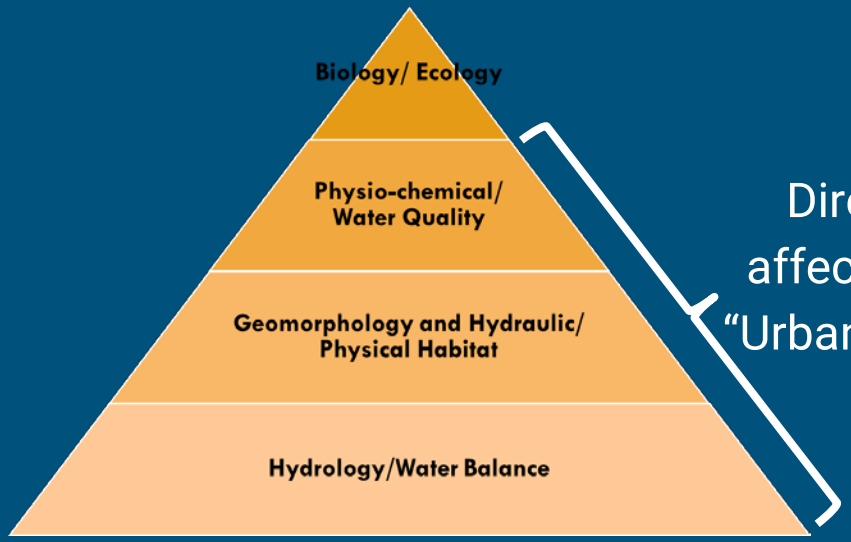
Affects

- Water supply
- Water balance
- Water quality

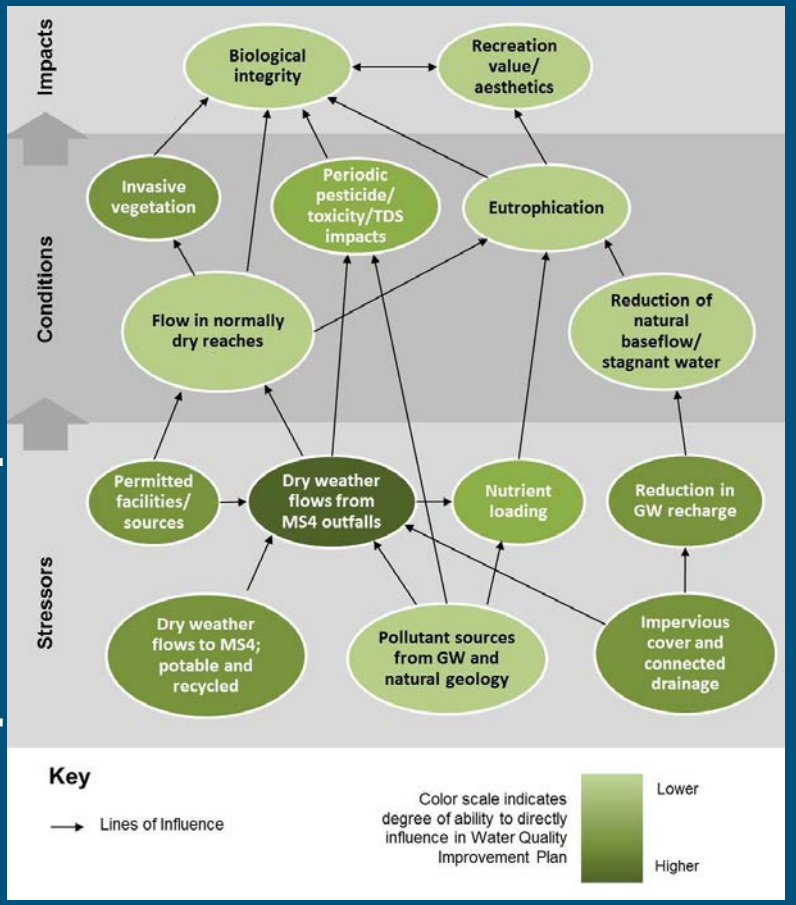


(US EPA WaterSense)

Why?



Function-based framework for stream restoration adapted from Harman (2012)



Interrelation of conditions in inland stream systems in dry weather (WQIP, 2017)

How?

Non-structural BMPs

- Awareness/ Education
- Incentives
- Street sweeping

Structural BMPs

- Diversion
- Capture
- Treatment
- Infiltration

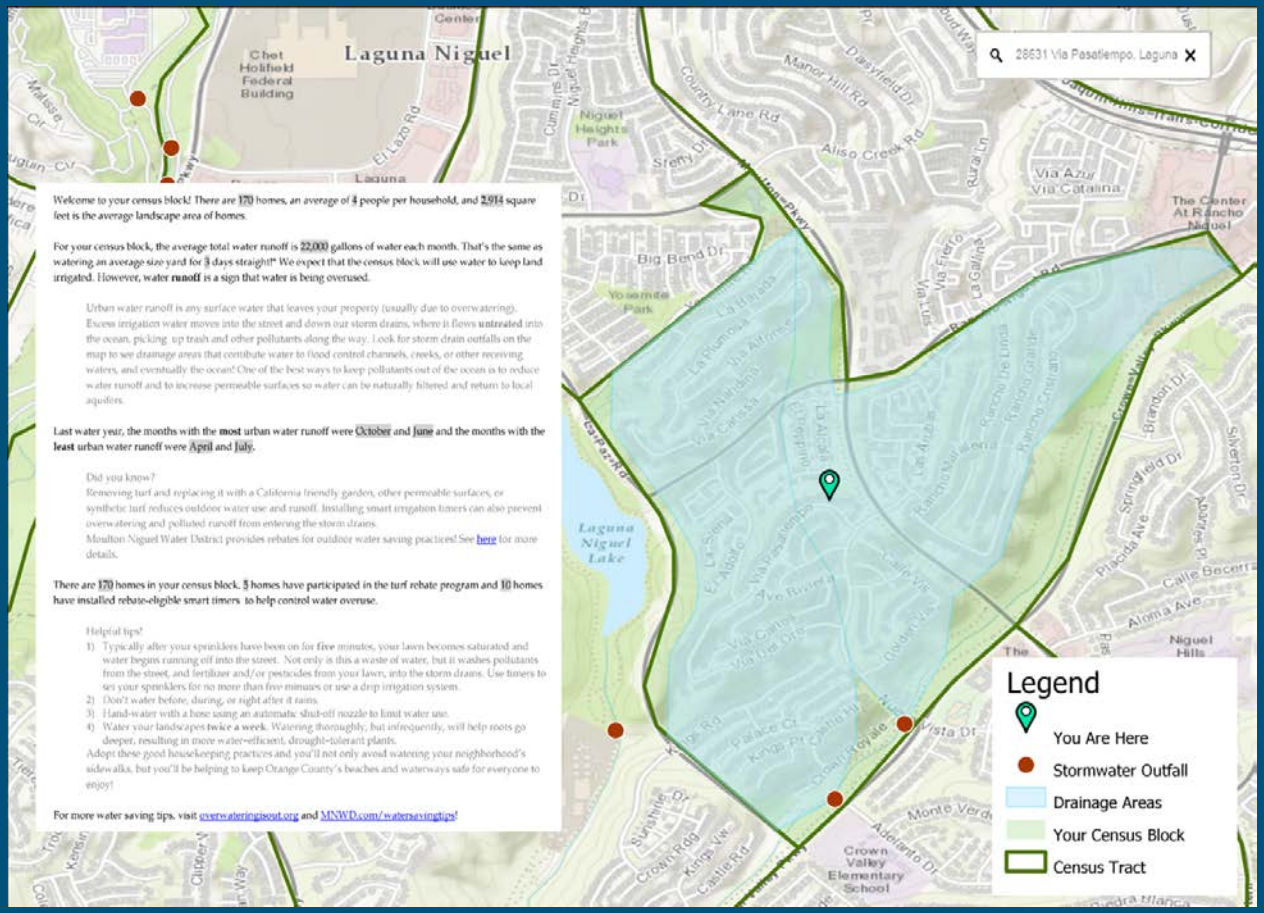
The Making of the Tool

Public-Facing Application

Search for address

Get personalized data for the census block

Visually see extent of water data and stormwater drainage areas



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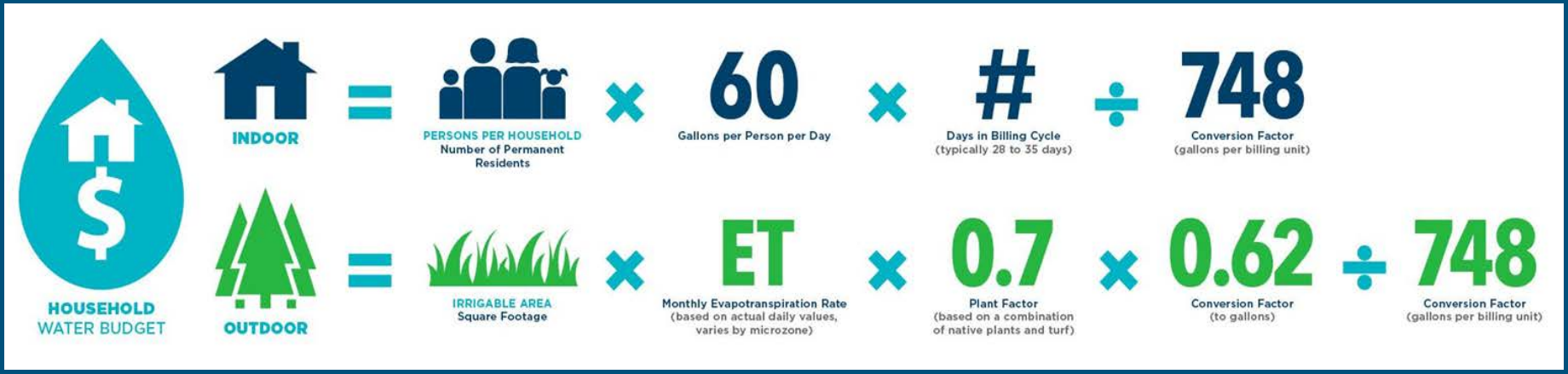
Water Data by Census Block

Data granularity

- Water usage data (~ 53,000 observations)
- Total usage over budget : Tier 3, 4, 5 usage
- Months of maximum and minimum usage
- Identify areas of inefficient usage
- Over budget customers: Typically customers with high outdoor water use



Water Data by Census Block

Census block characteristics

- Number of homes

Household characteristics

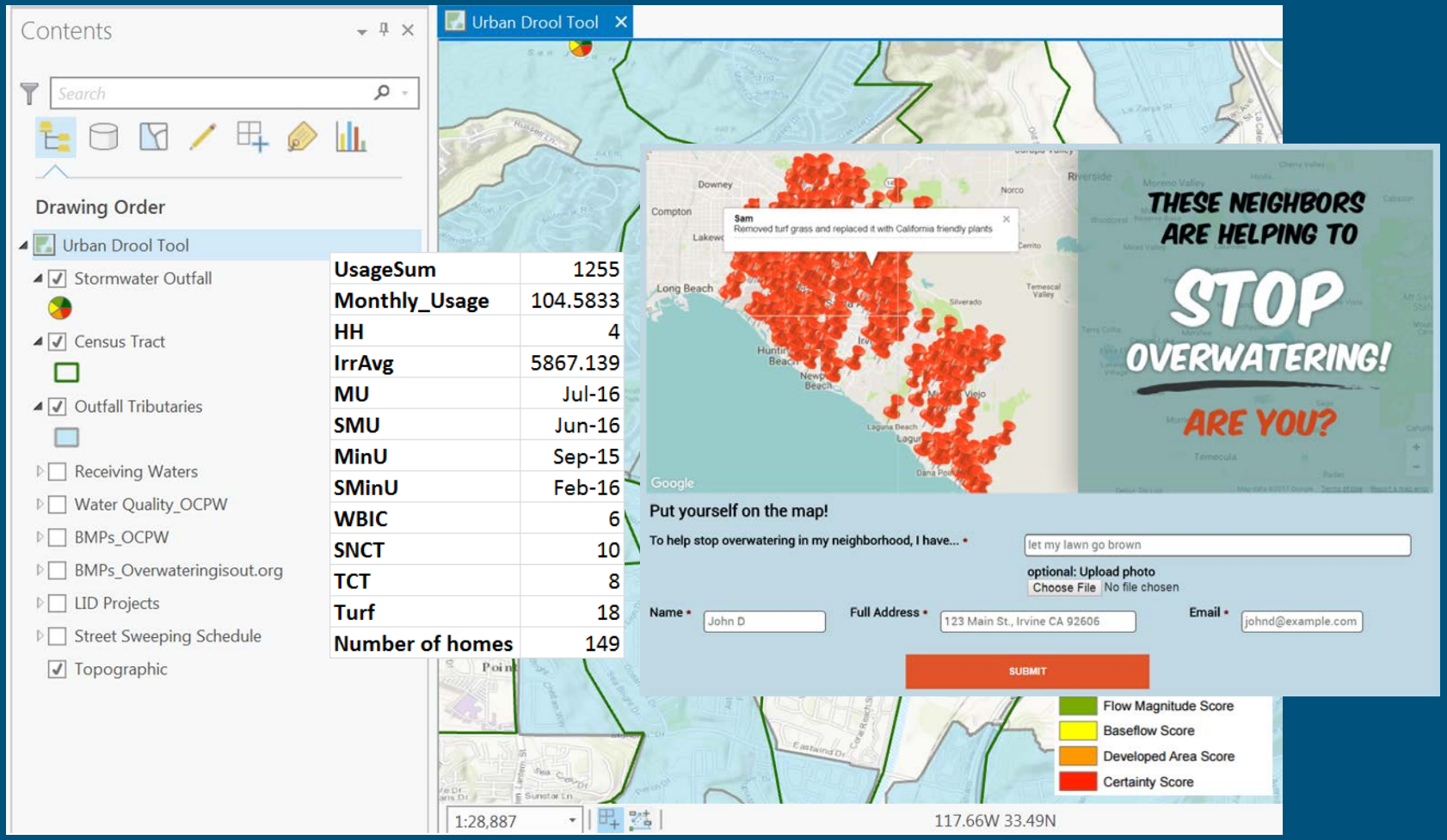
- Average household size
- Average irrigated area

Rebate participation

- Turf replacement
- Smart timers

Internal-Facing Application

Public tool layers · Outfall flow data · Water quality data · Asset management



A Targeted BMP Approach

Non-structural BMPs

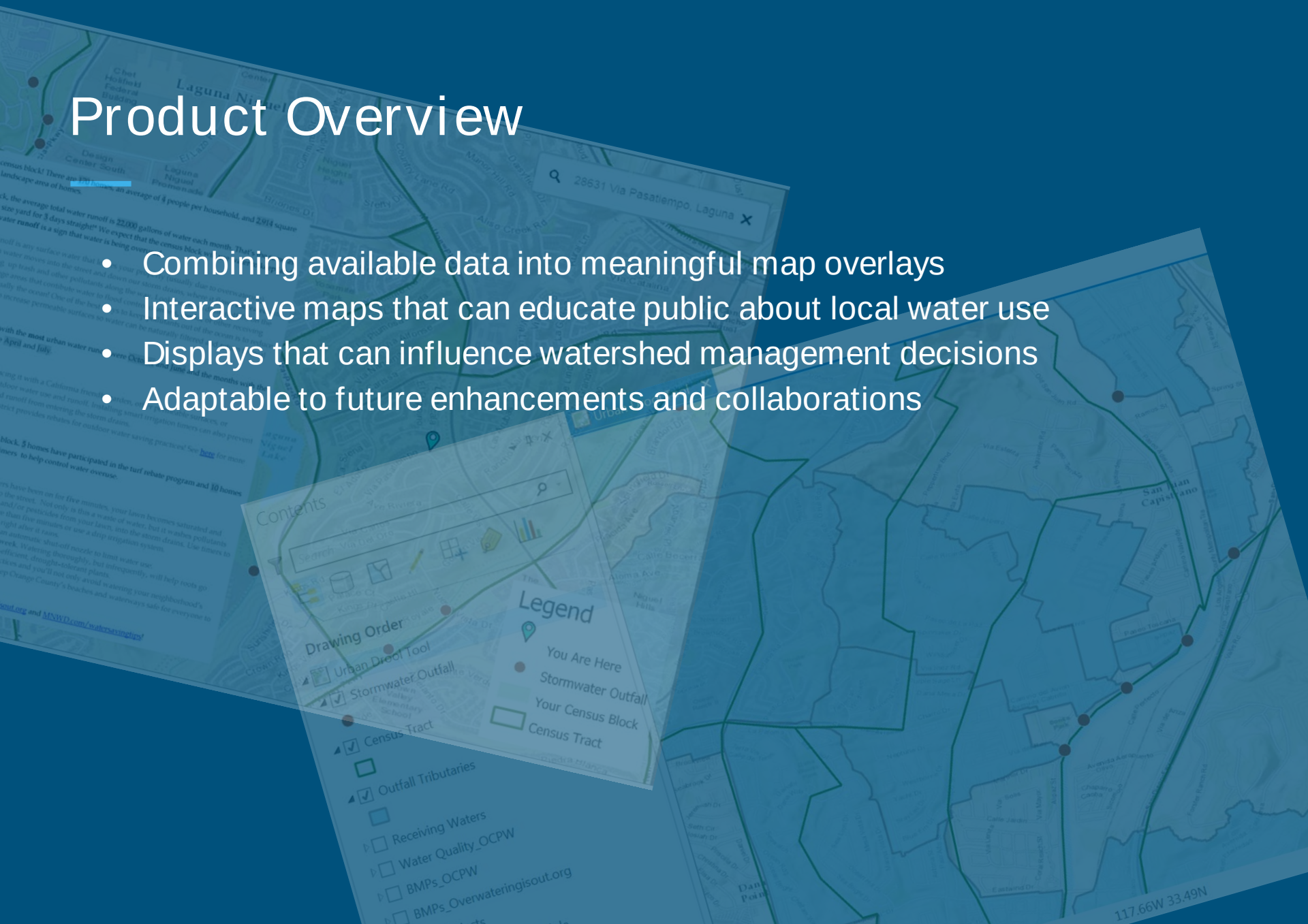
- Awareness/ Education
- Incentives
- Street sweeping

Structural BMPs

- Diversion
- Capture
- Treatment
- Infiltration

Product Overview

- Combining available data into meaningful map overlays
- Interactive maps that can educate public about local water use
- Displays that can influence watershed management decisions
- Adaptable to future enhancements and collaborations



Next Steps

Through the California Data Collaborative:

- Expanding to more Water Districts within Orange County
- Possibly expanding to other watershed management areas

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