# Advancing Stormwater Capture for Greener Schools in Los Angeles



## What is STORMS?



Water Supply



Flood Management







Water Quality





Drought Resiliency







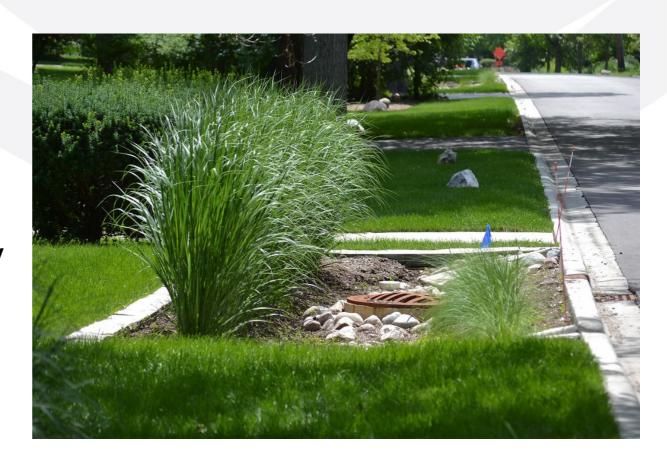
# Leading the evolution of stormwater management

- Change the perspective around stormwater
- Manage stormwater to achieve desired outcomes
- Implement efficient and effective regulatory programs
- Collaborate to solve water quality and pollutant problems

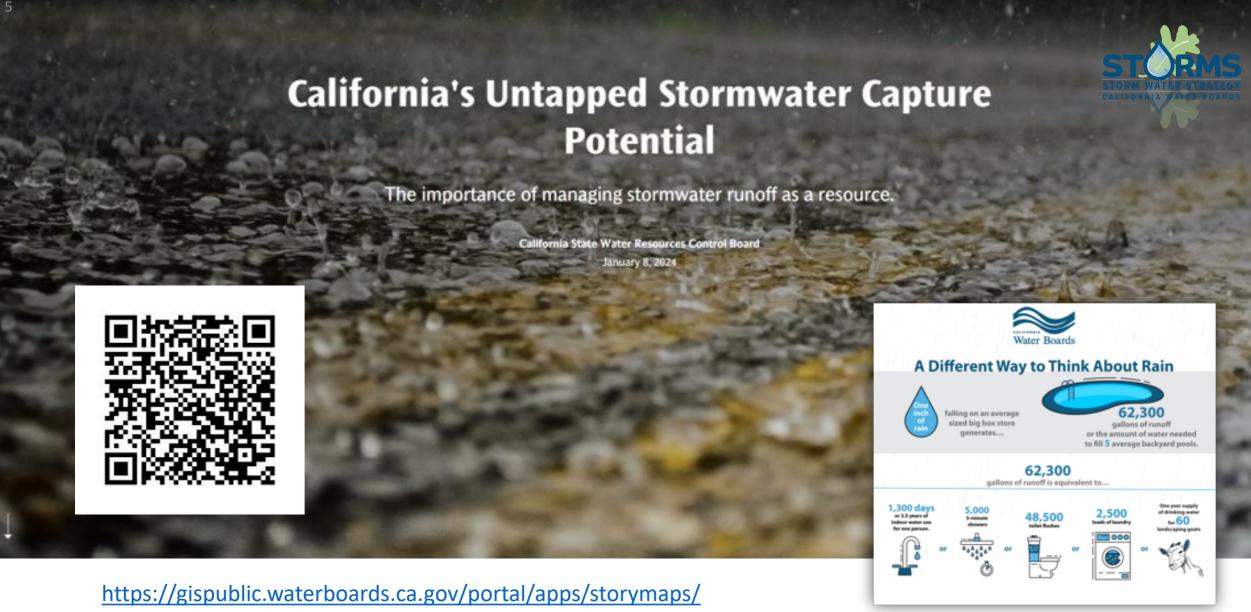


## Stormwater Capture and Use Projects

- Investigative reports:
  - Identify and Eliminate Barriers to Stormwater Capture and Use
  - Identify Funding for Stormwater Capture and Use Projects
- Guidance for Stormwater and Dry Weather Runoff Capture at Schools
- Evaluating Potential Methods to Quantify Stormwater Capture



https://www.waterboards.ca.gov/water\_issues/programs/stormwater/storms/publications.html



stories/3073c5b98ecb4f76969e50b3e9065a79



### What's next?









Strategy to Optimize Resource Management of Storm Water

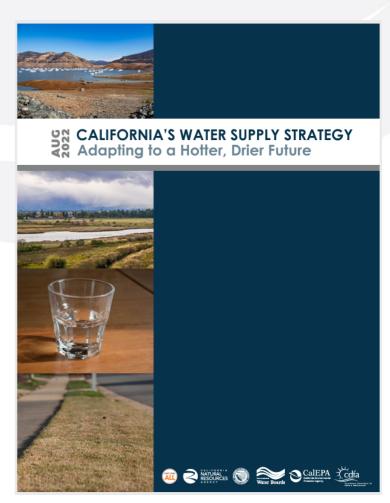
January 6, 2016



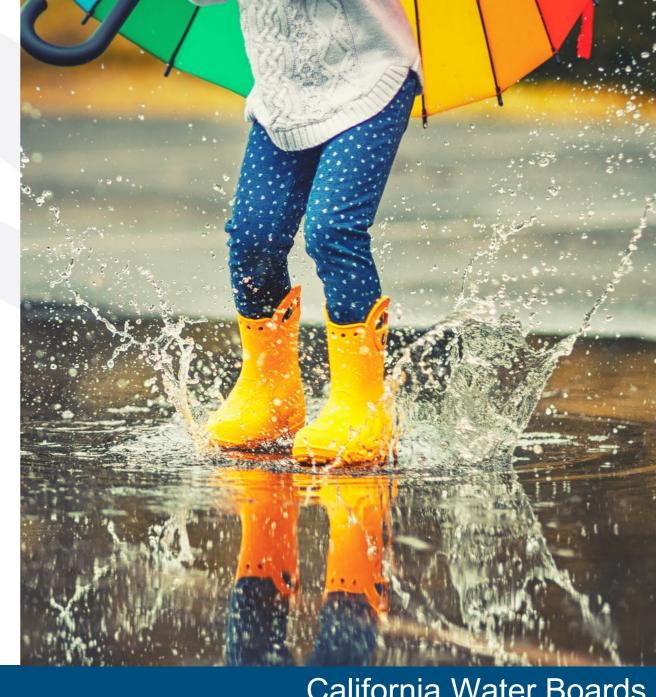
## California's Water Supply Strategy

"Support local stormwater capture projects in cities and towns with the goal to increase annual supply capacity by at least 250,000 acre-feet by 2030 and 500,000 acre-feet by 2040."

- Focus on promoting stormwater capture and use projects
- Explore public-private partnerships
- Encourage urban stormwater infiltration





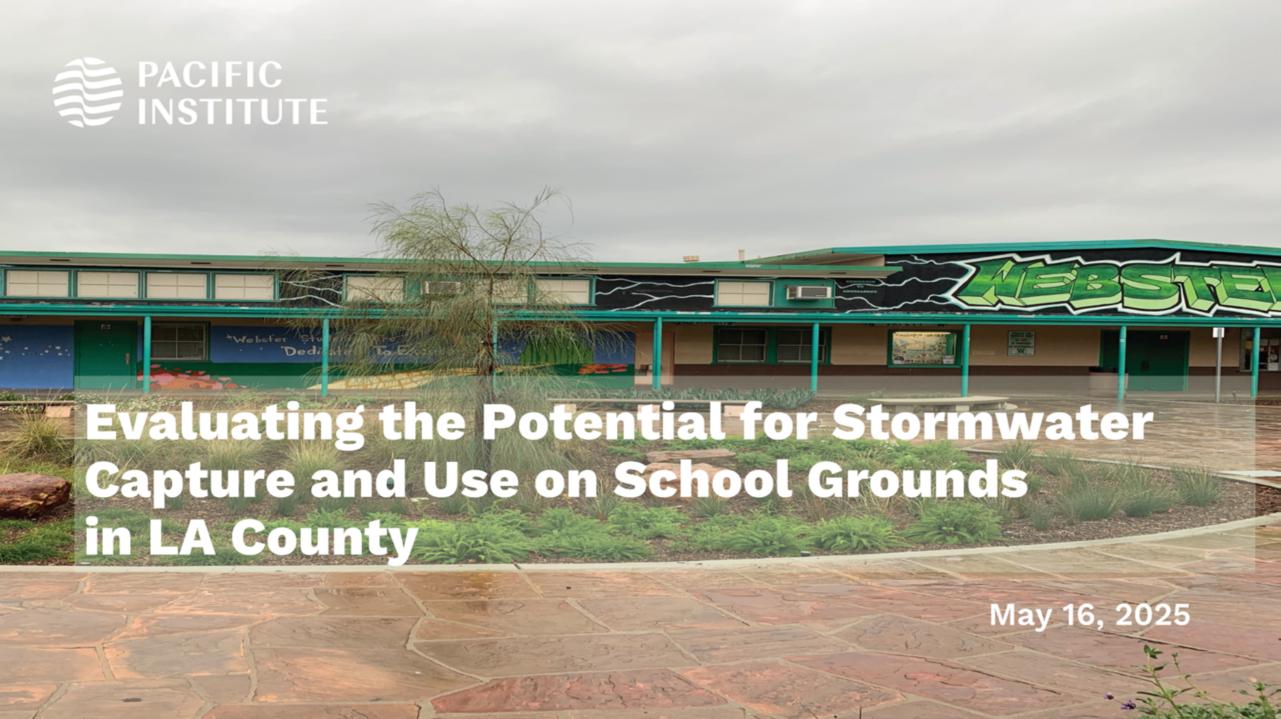


California Water Boards

### Want more information?

- Check out our website: <u>https://www.waterboards.ca.gov/water\_issues/programs/</u> stormwater/storms/
- Sign up for our email distribution list
- Email us! <u>STORMS@waterboards.ca.gov</u>

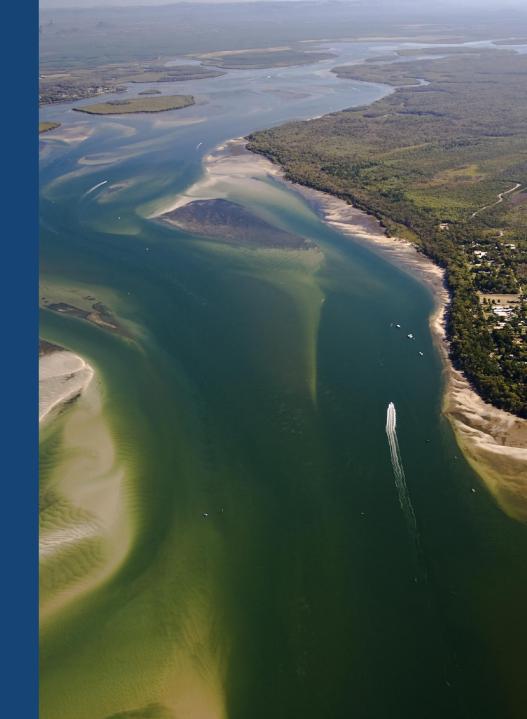




## Agenda

- Background
- Approach
- Findings and Recommendations
- Questions & Discussion





### Speaker Introductions



Dr. Sonali Abraham Senior Research Specialist Pacific Institute



Shannon Spurlock
Senior Engagement Specialist,
Public Policy & Practice Uptake
Pacific Institute



Dr. Catherine Riihimaki Research Director 2NDNATURE Software, Inc.

### The Multiple Benefits of School Greening





## Project Background: The Case for Stormwater Capture on Schools in Los Angeles County

- Public School Districts are often some of the largest landholders in a city and directly serve the community
- Los Angeles Unified School District (LAUSD) is the second-largest school system in the country
- Schools face criticism from parents and community advocates for the lack of green space and intensely hot temperatures exacerbated by asphalt on playground
- Community groups expressed a need to understand the opportunity for stormwater capture to serve as a solution





## **Project Team**

Technical Collaborator

Community-based Collaborators







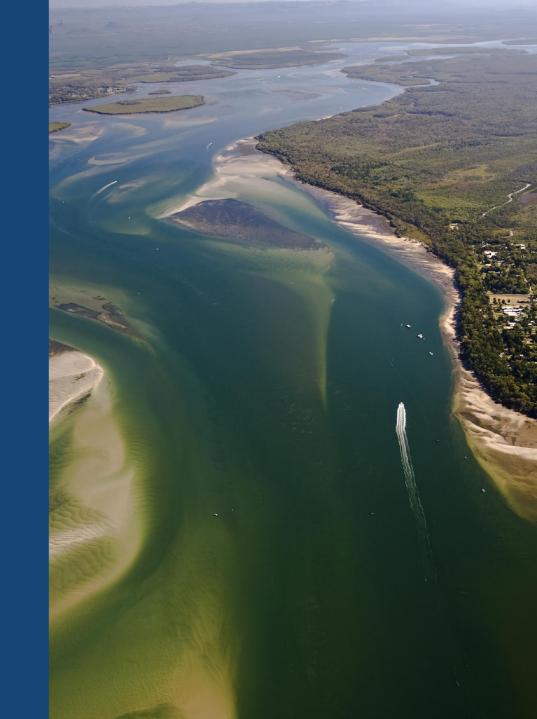


Los Angeles



## **OUR APPROACH**





## Stakeholder Engagement

**WHY**: To ensure our research resonates with on-the ground needs and goals in LA

**WHO**: Community-based organizations, LA-based NGO coalitions, LA County

Flood District, CA State Water Board, LA Unified School District

**HOW**: Advisory group convenings and one-on-one conversations

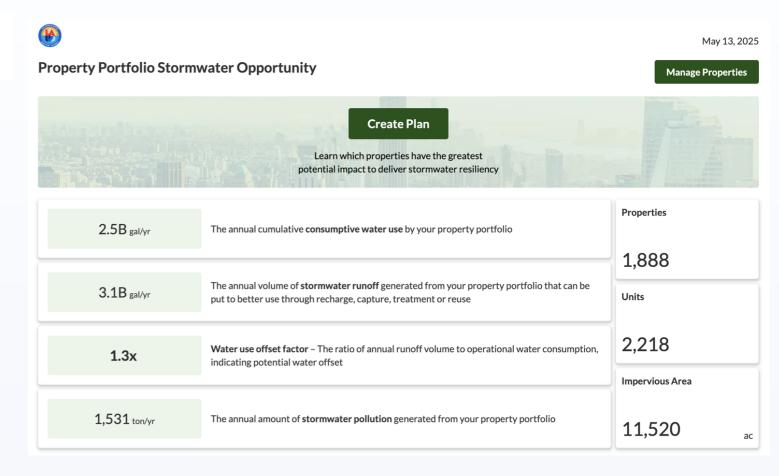


## Technical Analysis





The Rainsteward tool quantifies the volumetric potential for stormwater capture at a highly resolved spatial scale and uses publicly available data sets to estimate cobenefits.

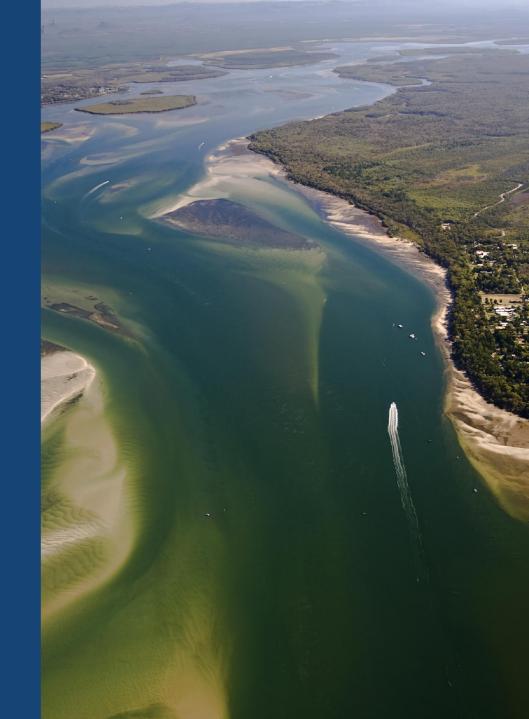




## Rainsteward



251DNATURE



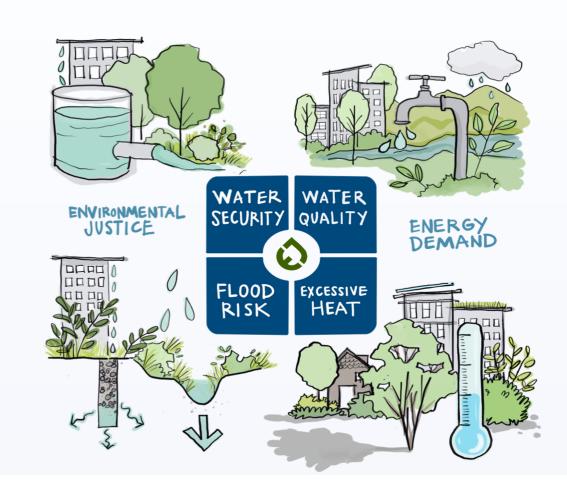
## The Technical Challenge

#### Stormwater Potential Locked Behind Complexity

- LA County school campuses cover 1,000+ acres of impervious surfaces.
- Multi-benefits are many and have different measures so analyses have not been scalable
- Goals are often unclear
- This creates missed opportunities to support Safe Clean Water Program goals

#### **Our work:**

- Identify four key areas of benefits
- Identify metrics within each area to capture key dynamics without redundancy
- Allow users to prioritize different benefits

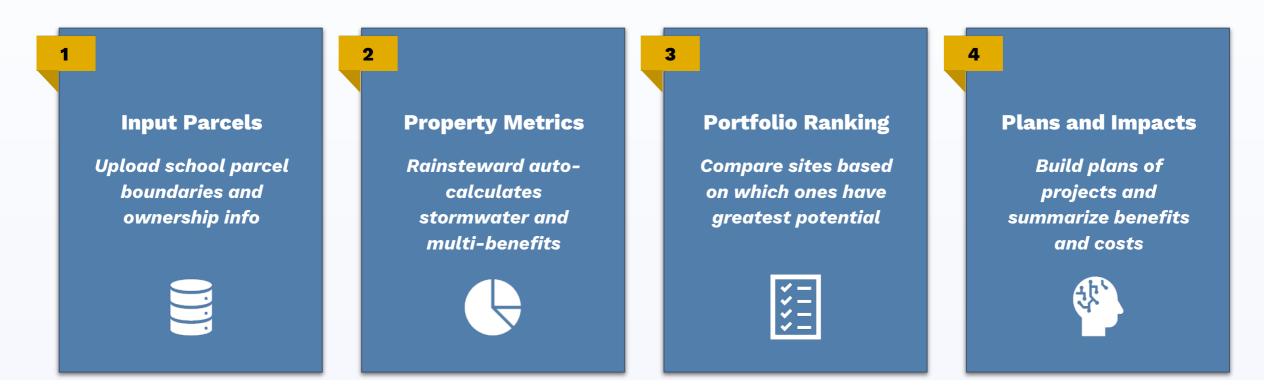






## Rainsteward: Quantify, Prioritize, Act

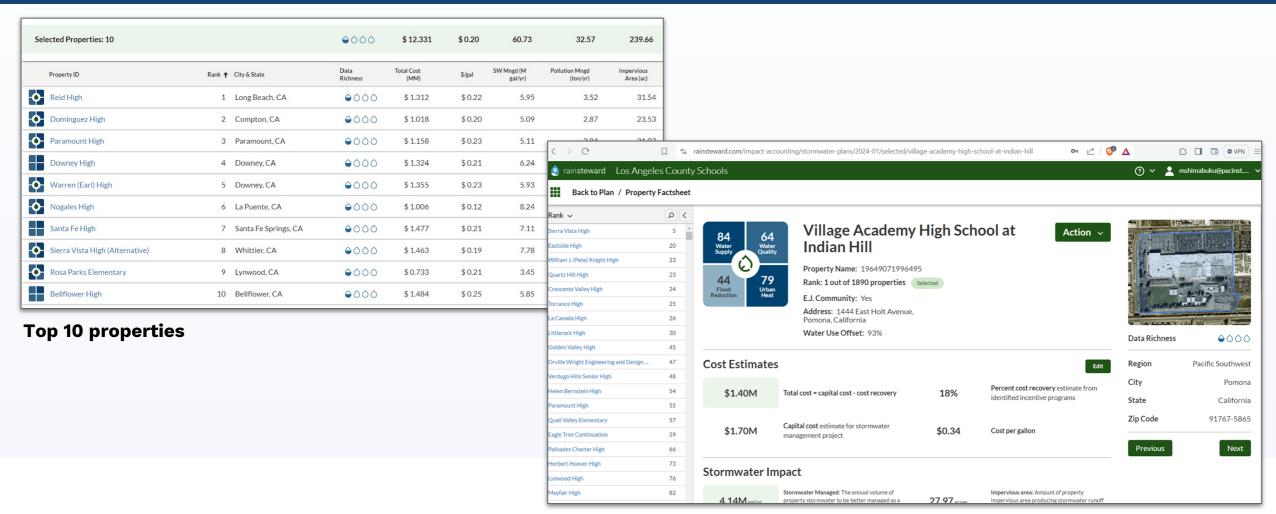
Rank properties instantly, with no custom modeling required







## Rainsteward: Quantify, Prioritize, Act



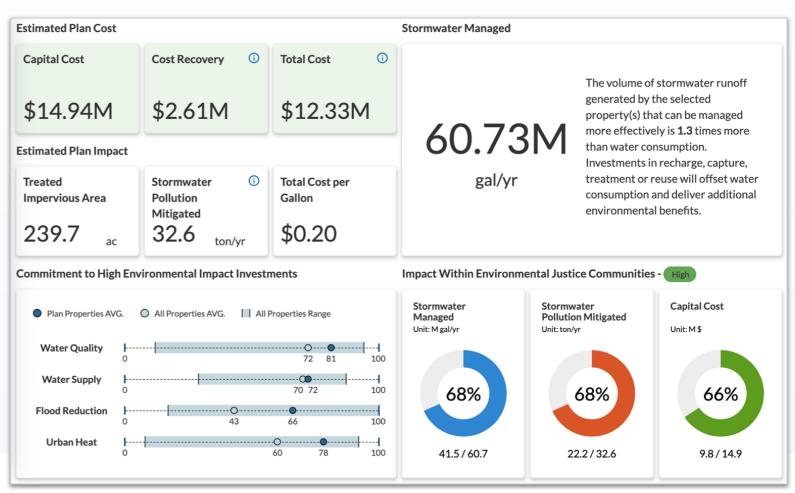


**Property fact sheet** 



## From Data to Dollars: Accelerating Impact

- Bundle properties into specific plans that prioritize certain campuses
- Estimate costs and cost recovery
- Quantify the benefits
- Scalable and repeatable across any school district or landowner portfolio



Top 10 properties





### From LA to the Nation: A Scalable Solution



All public schools in conterminous US

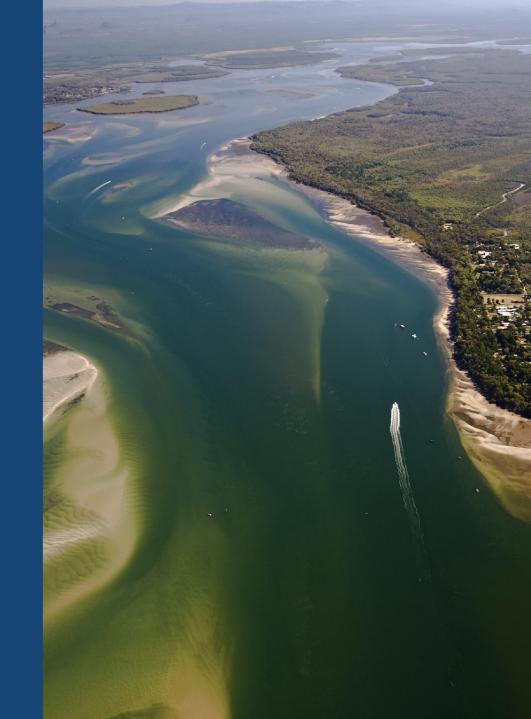
- Every school district sits within a watershed.
- Every campus is an opportunity.
- Rainsteward helps translate land ownership into water stewardship.



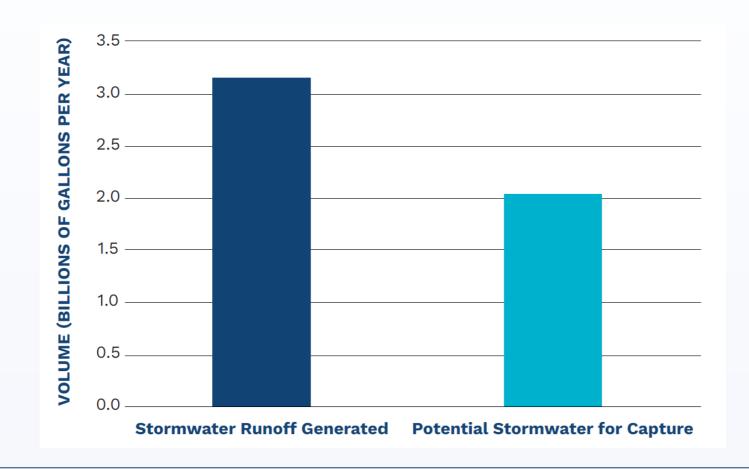


## KEY FINDINGS



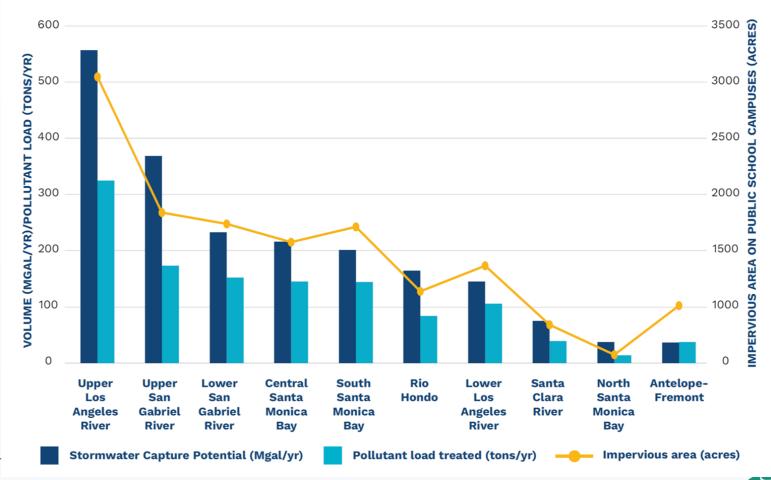


## Total stormwater runoff generated from LA County public school campuses is approximately 3.15 billion gallons/year.





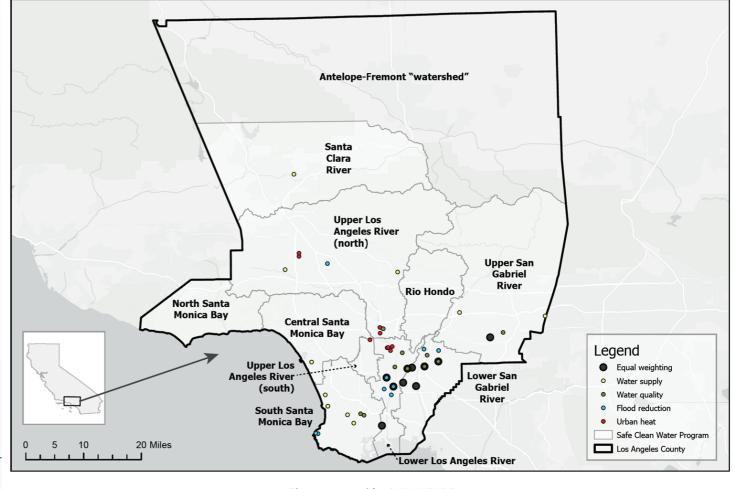
# The stormwater capture potential from schools is greatest in the Upper Los Angeles River watershed, where almost 30% of the total volume is available.

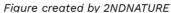




## School campuses with high potential for providing multiple benefits from stormwater capture are clustered in the southern portion of LA County.

Distribution of Public School Campuses with Highest Potential Benefits from Stormwater Capture Across LA County







## Recommendations

FOR Uptake of Stormwater Strategies on Schools in LA

TO Community organizations, school districts, public agencies who work with school greening





## Encourage Strategic Partnerships Between Community Organizations and School Districts



Jackson Elementary School Campus Greening and Stormwater Quality Improvement Project

Round: 3

Total funding requested: \$3.02 million

Watershed: Upper Los Angeles River (ULAR)

Project Lead: Amigos de los Rios (ADLR) and Pasadena Unified

School District (PUSD)

Project Collaborators: Geosyntec Consultants, Inc., Los Angeles County

Department of Public Works





## Engage Students and Staff in the Planning and Implementation of Stormwater Projects on Schools





## Use a multibenefit lens when planning and implementing stormwater projects.





### Prepare for New Regulatory Requirements



JOIN NOW -

EVENTS AND EDUCATION -

LATEST NEWS

**Latest News: Top Stories** 

Preliminary Draft MS4 Storm Water Permit to be Released in December - Includes K-14 Schools

Friday, December 1, 2023













## Thank you! Questions?