WELCOME!

COUNCIL FOR WATERSHED HEALTH

GETTING TO GREEN

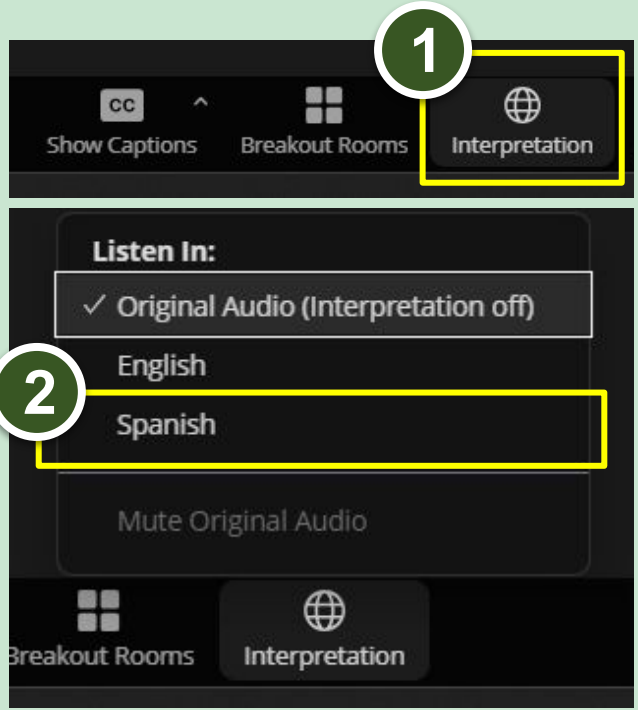
A Virtual Forum on Creating Living Schoolyards in Los Angeles County

Cómo acceder a la traducción al español

Enable Spanish Interpretation

1. Navegue hacia los botones en la parte inferior de la ventana de la reunión. Seleccione “Interpretation”
   Navigate to the buttons at the bottom of meeting window. Select “Interpretation”

2. Seleccione “Spanish”
   Select Spanish

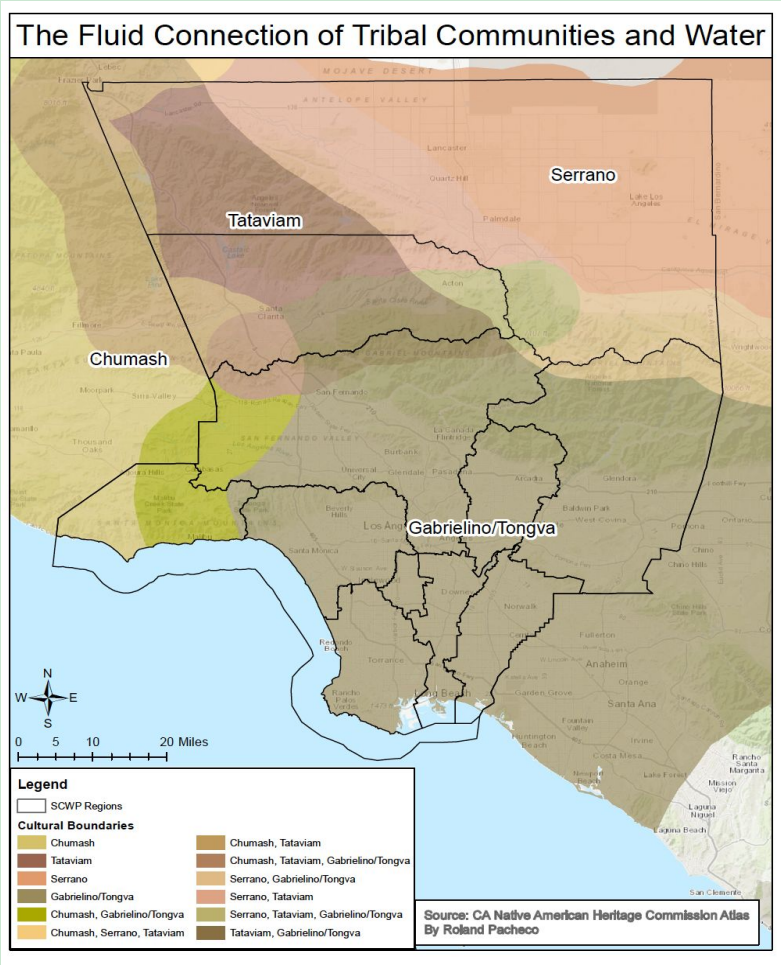


Gracias a nuestros intérpretes
Thank you to our interpreters

Gabriela Moya
Pablo Minafra
Lex Lingua Court Interpreters, Inc.

We acknowledge that the geographic area represented at this event is the unceded ancestral homelands of the Gabrielino Tongva, Ventureño Chumash, Gabrielino Kizh, and Fernandeño Tataviam Nations. We recognize that these Tribes are still present and that they are the original stewards of this land and waters. We make this acknowledgement out of respect for their long-standing connection to and protection of this area's watersheds. We honor their elders, both past and present and the descendants who are citizens of these tribes. Furthermore, we uphold the responsibility to carry out actions in unceded lands that will meaningfully involve citizens of these tribes.

Acknowledgement of Native American Ancestral Homelands



AGENDA

Introduction

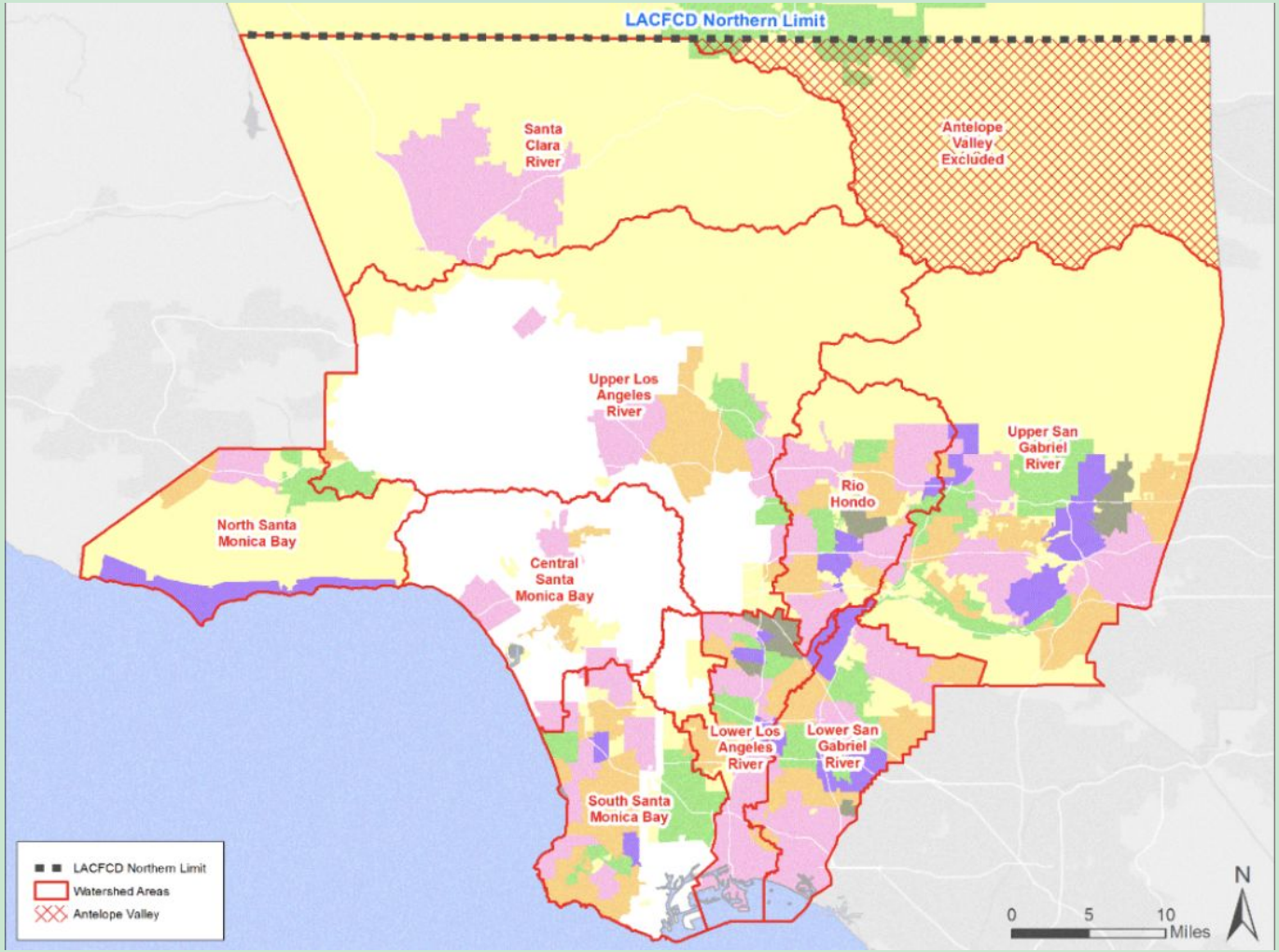
Panel 1: Living Schoolyard Assets

Panel 2: School District + Water Agency Partnerships

Breakout Rooms by Geographic Area

Closing

Which geographic area are you representing today?


LACFCD Northern Limit
Santa Clara River
Antelope Valley Excluded
Upper Los Angeles River
Upper San Gabriel River
Rio Hondo
North Santa Monica Bay
Central Santa Monica Bay
Lower Los Angeles River
Lower San Gabriel River
South Santa Monica Bay
LACFCD Northern Limit
Watershed Areas
Antelope Valley
0
5
10
Miles
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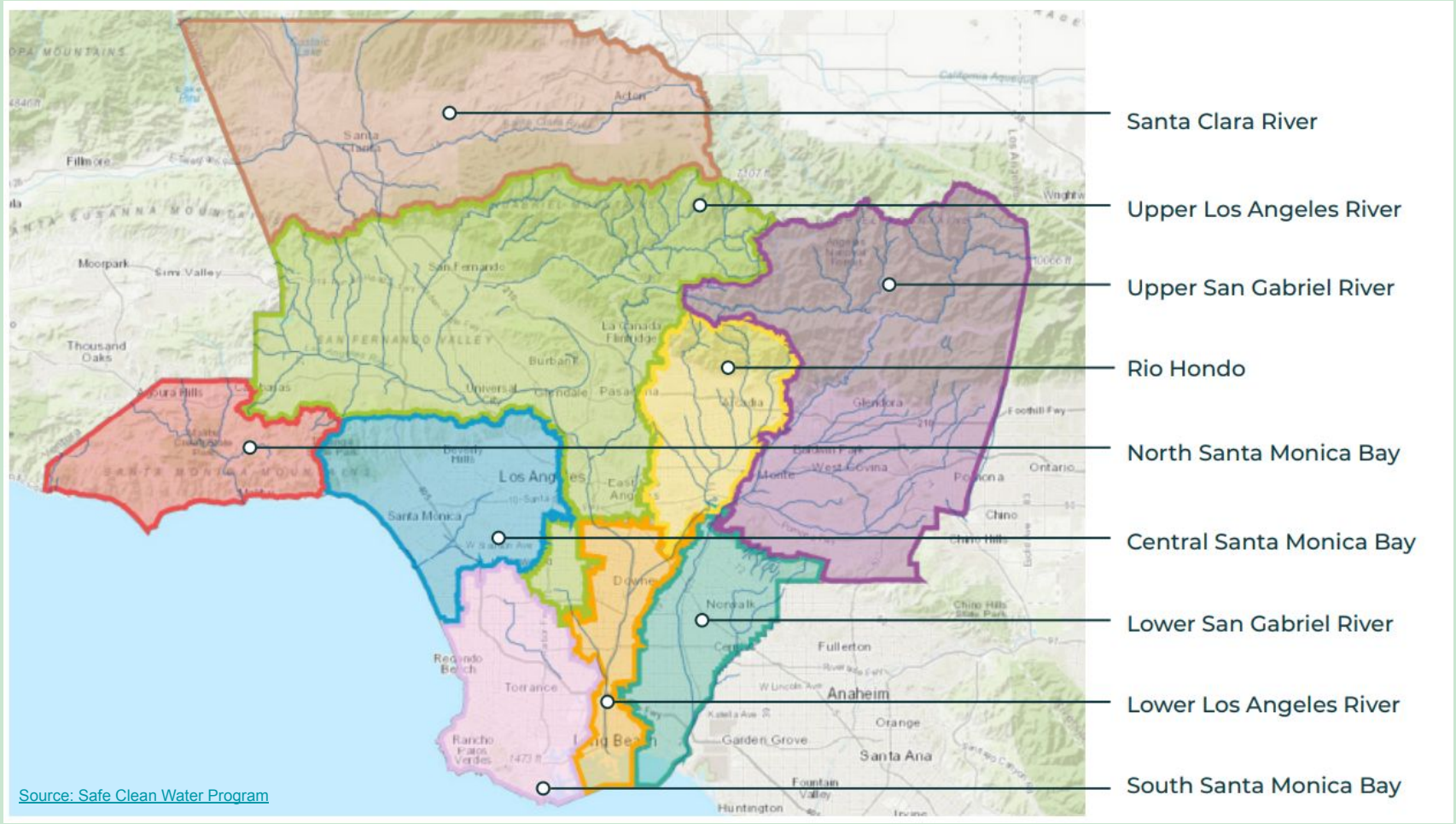
Safe Clean Water Program Watershed Areas
Áreas de Cuencas Hidrográficas del Programa de Agua Segura y Limpia



28% are unfamiliar with living schoolyards.

56% don’t clearly understand the process to create living schoolyards.

60% don’t clearly understand how to bring external partners into living schoolyard projects

84 school districts in Los Angeles County

2,175,000

million youth* in Los Angeles County

** youth age 0-17 in 2021 in Los Angeles County*

More Trees, Less Asphalt at School

Published: Aug 16, 2023

WHAT YOU NEED TO KNOW: To protect kids from extreme heat, California distributed another $73 million for schoolyard greening – for a total of $120 million – to transform schoolyards.

SACRAMENTO – Governor Gavin Newsom announced another $73 million from CAL FIRE for schools to replace asphalt with green spaces, trees and vegetation to provide more protection against extreme heat for our kids. Adding to the $47 million that was announced in July, California has distributed $120 million for these projects.

What is a living schoolyard?

"...richly layered outdoor environments that strengthen local ecological systems while providing place-based, hands-on learning resources for children and youth of all ages. They are child-centered places that foster empathy, exploration, adventure and a wide range of play and social opportunities, while enhancing health and well-being and engaging the community.

Well-designed living school grounds model the ecologically-rich cities we would like to inhabit, at a smaller scale, and teach the next generation how to live more lightly on the Earth ... When implemented comprehensively and citywide, living school ground programs have the potential to become effective components of urban ecological infrastructure, helping their cities address many of the key environmental issues of our time."

- ***Sharon Danks, Green Schoolyards America***

[B]eautiful, green communities that reflect the needs of the families and children they serve. Community-led, nature based flourishing schoolyards that are open to the public provide opportunities for every child to thrive, play, engage and explore.

- ***LA Living Schoolyards Coalition***

James Denman Middle School, San Francisco
Green Schoolyards America, Tamar Barlev

Insert eagle rock - local example from LSC - claire L.

How do we create a process for doing this?

How do we get from grey to green?

What makes a school greening process successful?

SCHOOL DISTRICT POSITION DEDICATED TO SCHOOL GREENING / CAMPUS ECOSYSTEMS

UNDERSTAND THE DISTRICT'S PROJECT PROCESS

UNDERSTAND THE DISTRICT'S PROJECT PROCESS
BUILD CAPACITY

DEVELOP DESIGN GUIDELINES

BE FLEXIBLE AND ADAPTIVE

TAKE A WATERSHED APPROACH TO A SCHOOL CAMPUS

MOVE FROM MAINTENANCE TO STEWARDSHIP

UNDERSTAND THE BENEFITS OF LIVING SCHOOLYARDS

EVALUATING SITES

ENGAGE THE SCHOOL COMMUNITY
TEACHER TRAININGS

DEVELOP ECOSYSTEM / STEWARDSHIP WORKFORCE

DEVELOP PARTNERSHIPS

CURRICULUM CONNECTIONS

APPRECIATE THE SCHOOL CAMPUS AS AN ECOSYSTEM

PANEL 1 Asset Mapping and Gap Analysis

Evaluating Stormwater Capture and Use on Schools in LA County
Sonali Abraham, Pacific Institute

The next generation of school yards: lessons from the watershed discovery campus
Laura Villegas Ortiz, Earth Economics

Caring For your New Native Plant/Stormwater Capture Campus—A School Foundation and District Partnership Model
Monica Campagna, Franklin Elementary Native Beds (Glendale Unified School District)

Curriculum Connections
Cindy Hardin + Emily Cobar, Nature Nexus Institute

PANEL 1 : Moderator

Mikaela Randolph

Senior Watershed Specialist

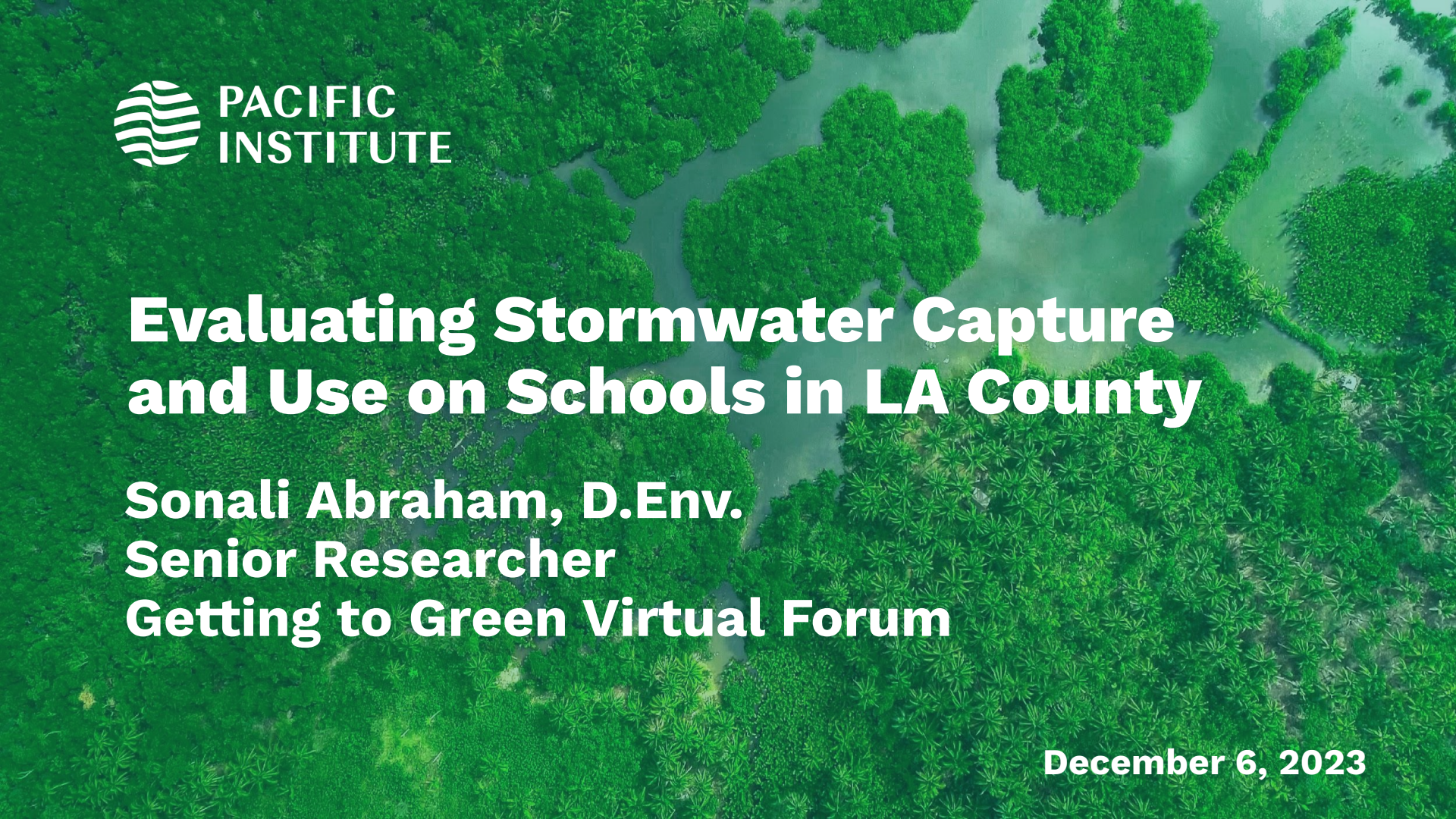
HEAL THE BAY

PANEL 1 : Evaluating Stormwater Capture and Use on Schools in LA County

Dr. Sonali Abraham

Senior Researcher

PACIFIC INSTITUTE



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Evaluating Stormwater Capture and Use on Schools in LA County

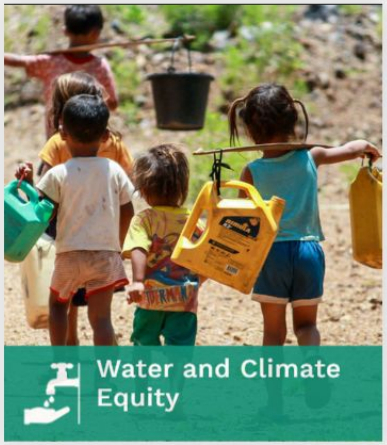
Sonali Abraham, D.Env.
Senior Researcher
Getting to Green Virtual Forum

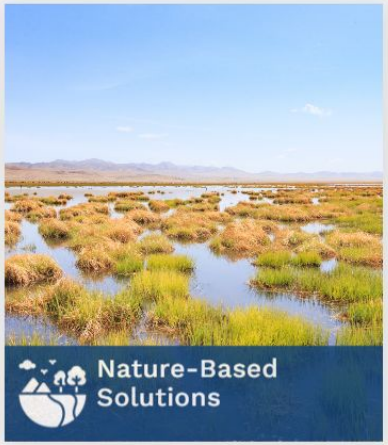
December 6, 2023

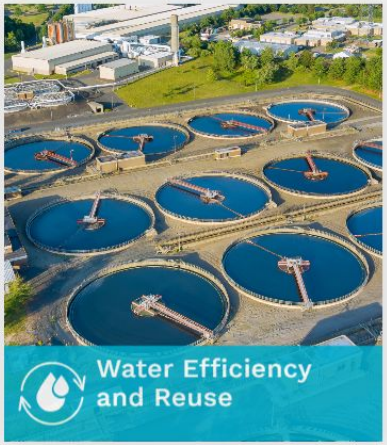
Presentation Outline

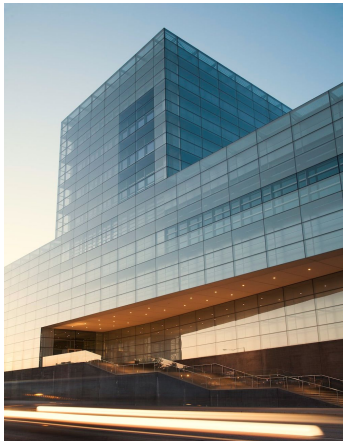
1. Who is the Pacific Institute
2. Setting the Stage for this Project
3. Project
4. Next Steps

About the Pacific Institute









Setting the Stage

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The Safe Clean Water Program Insights

- “Measure W”— a 2.5 cent per square foot parcel tax on impervious surface on private land parcels within the LA County Flood Control District to fund multi-benefit stormwater infrastructure.
- Only 6 of the 101 funded projects will create a new park space or green a school => **Only 30.3 acres of hardscape have been removed** by construction projects over Rounds 1-3
- Schools have struggled in getting funding
  - Zero LAUSD-led projects were funded (10 applications)
  - “Considering that greening of schools is a priority, these results suggest more outreach and support may still be needed to ensure smaller entities can effectively compete for funding.” (LA Waterkeeper, 2023)

NGO partners are key in getting school greening projects funded.

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

In 2022, Pacific Institute evaluated volumetric stormwater capture potential statewide.

Hydrologic Region	Urban Stormwater Capture Potential (AFY)		
	Low Precipitation	Medium Precipitation	High Precipitation
Central Coast	20,000	89,000	140,000
Colorado River	11,000	11,000	36,000
North Coast	31,000	82,000	130,000
North Lahontan	3,000	7,000	10,000
Sacramento River	84,000	250,000	350,000
San Francisco Bay	85,000	300,000	460,000
San Joaquin River	40,000	110,000	170,000
South Coast	260,000	620,000	1,400,000
South Lahontan	12,000	23,000	63,000
Tulare Lake	34,000	90,000	180,000
Total	**580,000**	**1,600,000**	**3,000,000**

Notes: Numbers are rounded to two significant figures. Totals may not equal column sums due to rounding.

Evaluating Stormwater Capture and Use on Schools in LA County

PACIFIC INSTITUTE

Key Questions

GOAL: To develop information that will help organizations be more competitive for stormwater-related funding on schools in LA County.

Key Questions:

- What is the volumetric amount of stormwater that can be captured on school grounds in LA County?
- What additional co-benefits can be gained through greening of schools and who will receive these benefits?
- Creator of the analytical tool:

Opportunities and Barriers in uptake of school greening projects

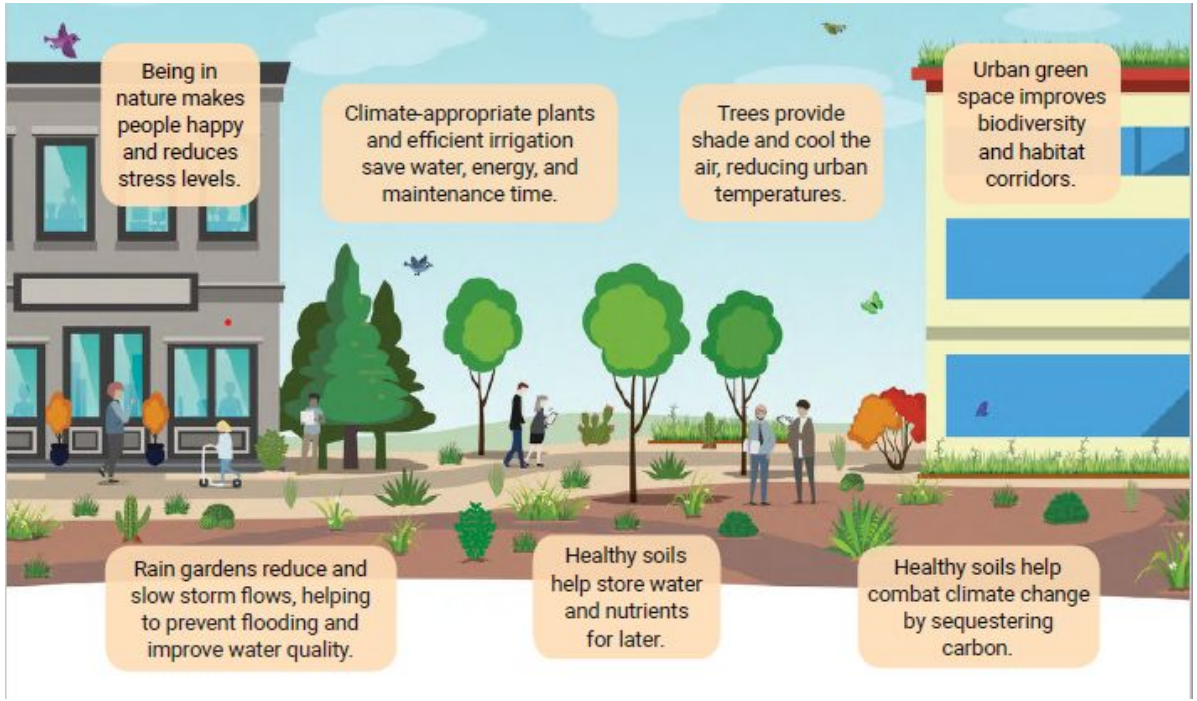
Opportunities

- Multiple benefits to multiple parties
- Enhances climate resilience
- Owner benefits: Reduces cost, management issues onsite

Barriers

- Limited funding opportunities
- Stakeholders with varying priorities
- Highly regulated spaces

Multiple Benefits of Stormwater Management



What will this resource provide?

Stormwater managed (gal/yr)

Stormwater pollution mitigated (ton/yr)

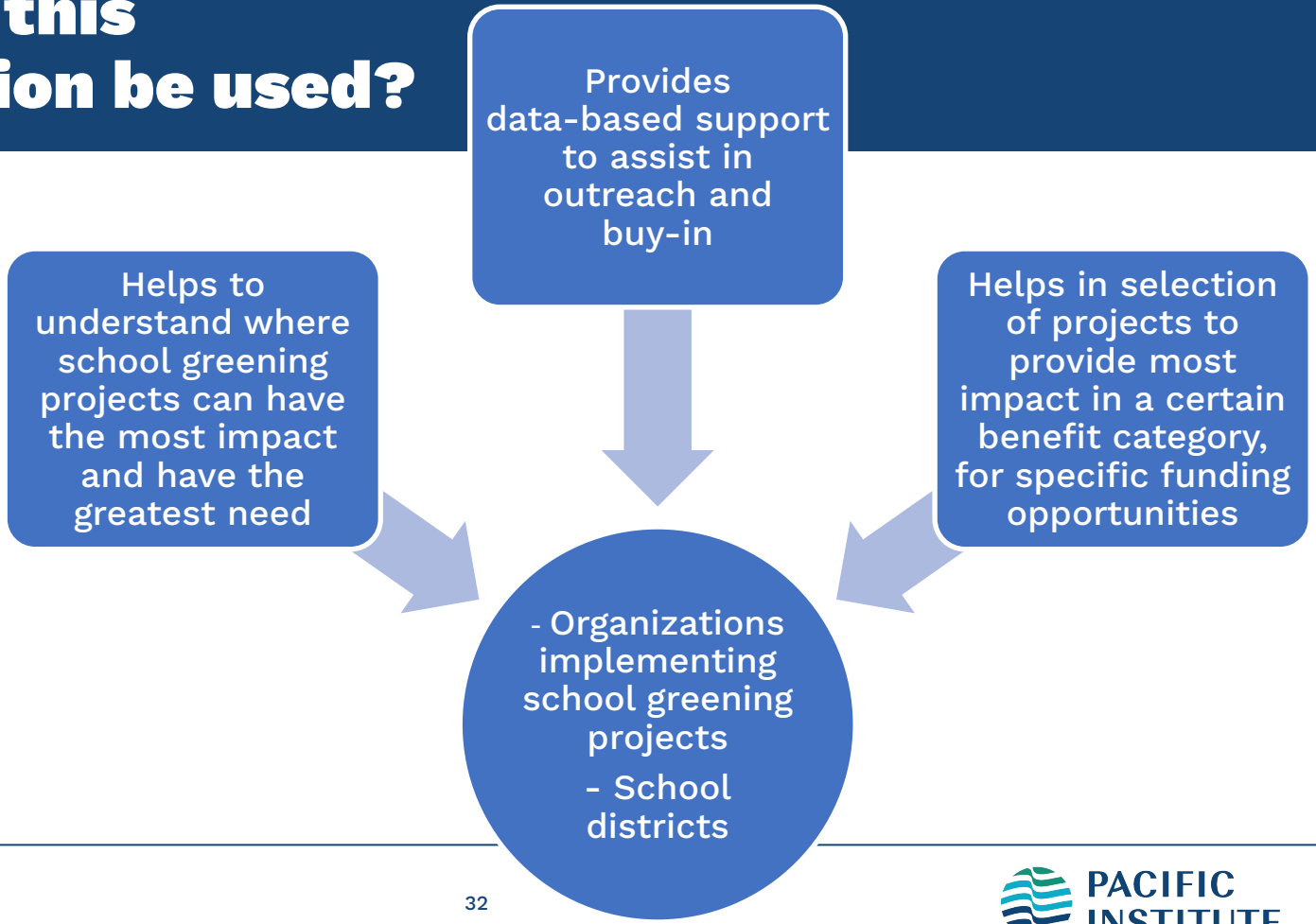
Impact within environmental justice communities

Suggested Prioritization of schools based on

Water Supply Water Quality

Flood Risk Community Uplift

How can this information be used?



Thank you!

Sonali Abraham

sabraham@pacinst.org

PACIFIC INSTITUTE

PANEL 1 : Measuring the Benefits of School Greening

Laura Villegas

Senior Researcher

EARTH ECONOMICS

MEASURING THE BENEFITS OF SCHOOLYARD GREENING

LAURA VILLEGAS, PhD| GETTING TO GREEN| DECEMBER 6, 2023

EARTH ECONOMICS

Overview

- Earth Economics and Amigos de los Rios
- Greenspaces for Children in Altadena, CA
- The Watershed Discovery Campus
- Benefits of Green Schoolyards
- Communicating and Measuring Benefits
- Lessons on Metrics for CBOs, Schools, and Funders

Earth Economics and Amigos de los Rios

The Ingrid Rasch Legacy Fund enables Earth Economics to provide pro bono technical assistance to one non-profit or community-based organization each year to advance local solutions to environmental injustice, climate hazards, and the threats of displacement.

2022 RECIPIENT: AMIGOS DE LOS RIOS

We are pleased to present the inaugural Ingrid Rasch Legacy Fund award to Amigos de los Rios, a non-profit based in Los Angeles, California. For nearly 20 years, Amigos de los Rios has been committed to improving the built environment and bolstering civic engagement in under-served communities. They work to empower community members with shared values of environmental stewardship, cultural awareness, and the power to effect positive change.

THE EMERALD NECKLACE

Amigos de los Rios is working to create the Emerald Necklace: a natural infrastructure network of green spaces, green schools, parks, and trails throughout under-served communities in the Los Angeles Basin. As part of this initiative, they've transformed schoolyards at 16 schools and counting across Southern California. Greening schoolyards comes with a host of benefits: climate-friendly solutions to the heat island effects created by outdated, often toxic asphalt blacktop schoolyard models; opportunities for regenerative open play spaces; stormwater runoff solutions; and improved mental and physical health for students and educators.

THE VALUE OF GREENING SCHOOLS

Earth Economics will partner with Amigos de los Rios to measure the impact

Greenspaces for children in Altadena

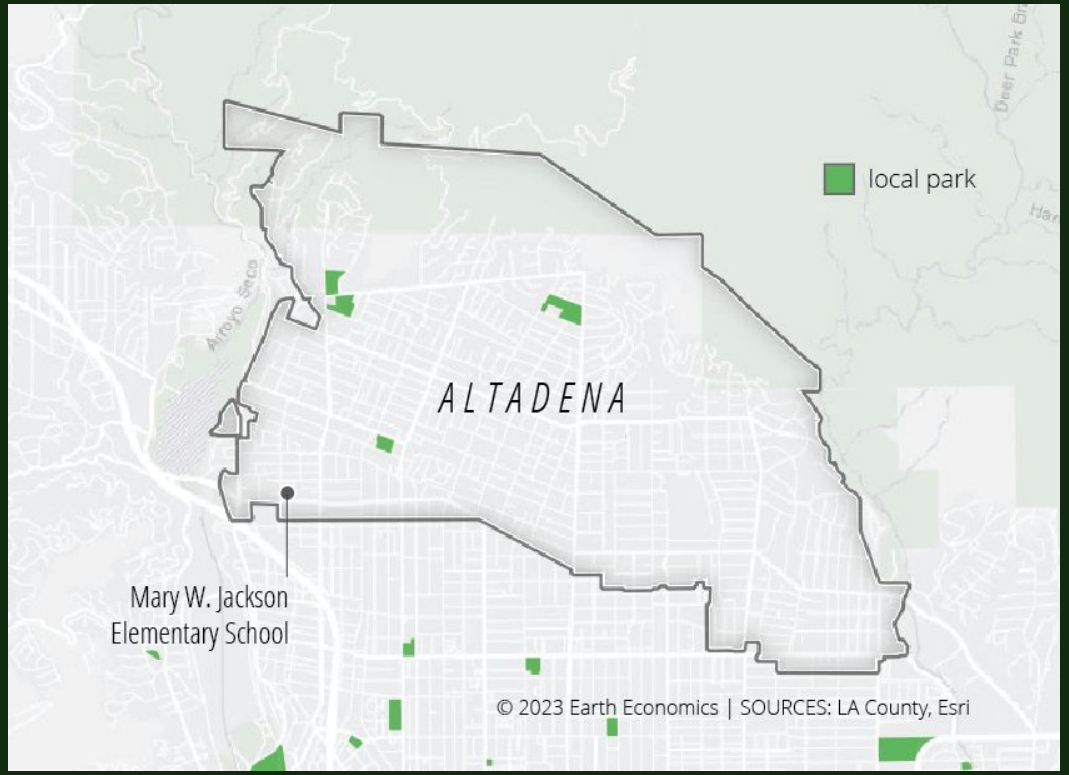
Many urban children have limited access to parks. In Altadena:

ONLY 32%
of residents live within half a mile of a park

7 TIMES LESS
recreational space than in L.A. County overall

As of 2023, children in Altadena experience
AT LEAST A WEEK OF EXCESS HEAT DAYS

By 2050, Altadena residents may experience as much as
THREE WEEKS OF EXTREME HEAT DAYS EVERY YEAR



The Watershed Discovery Campus

ALL PHOTOS COURTESY OF AMIGOS DE LOS RIOS

The Watershed Discovery Campus

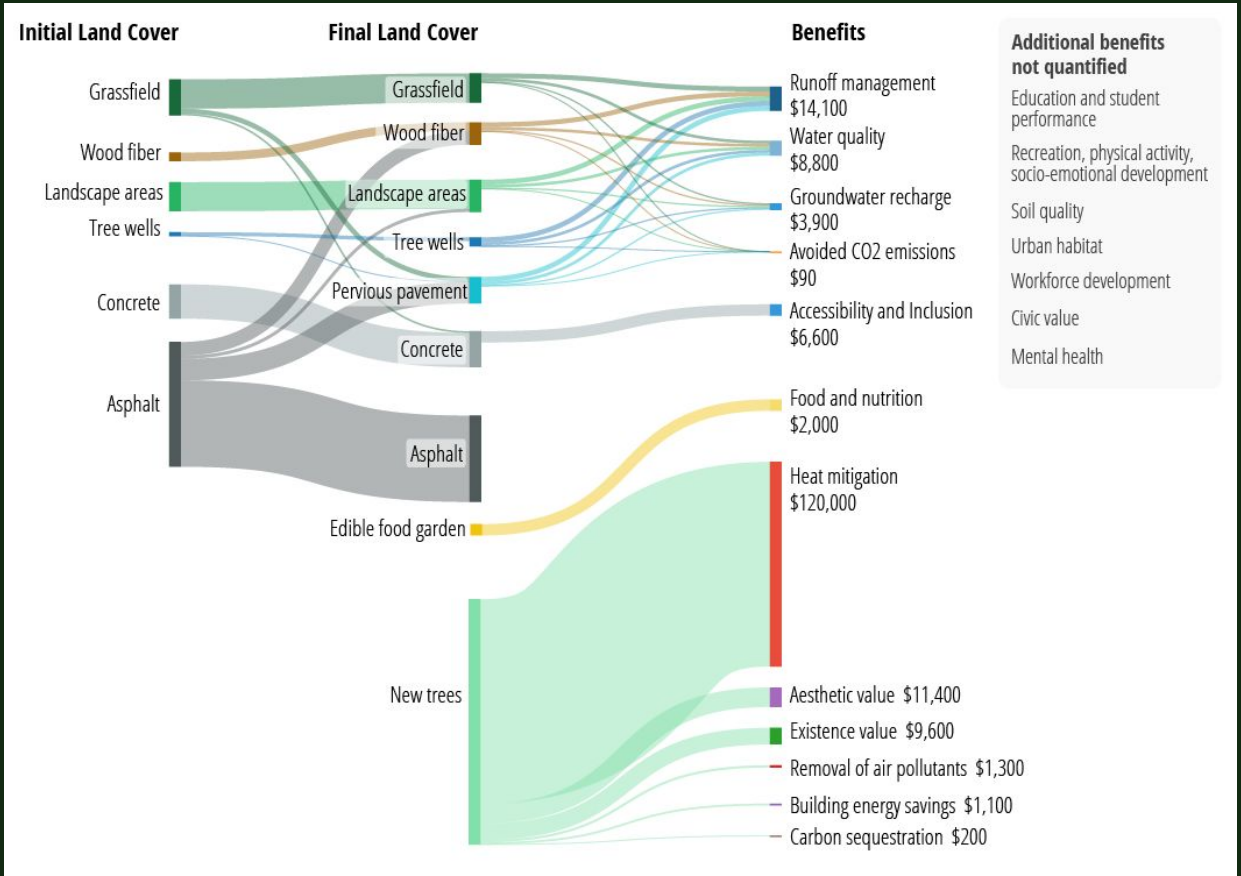
Benefits of Green Schoolyards

Communicating Benefits of Green Schoolyards to Decision Makers

Measuring green schoolyards benefits using an Ecosystem Service Framework

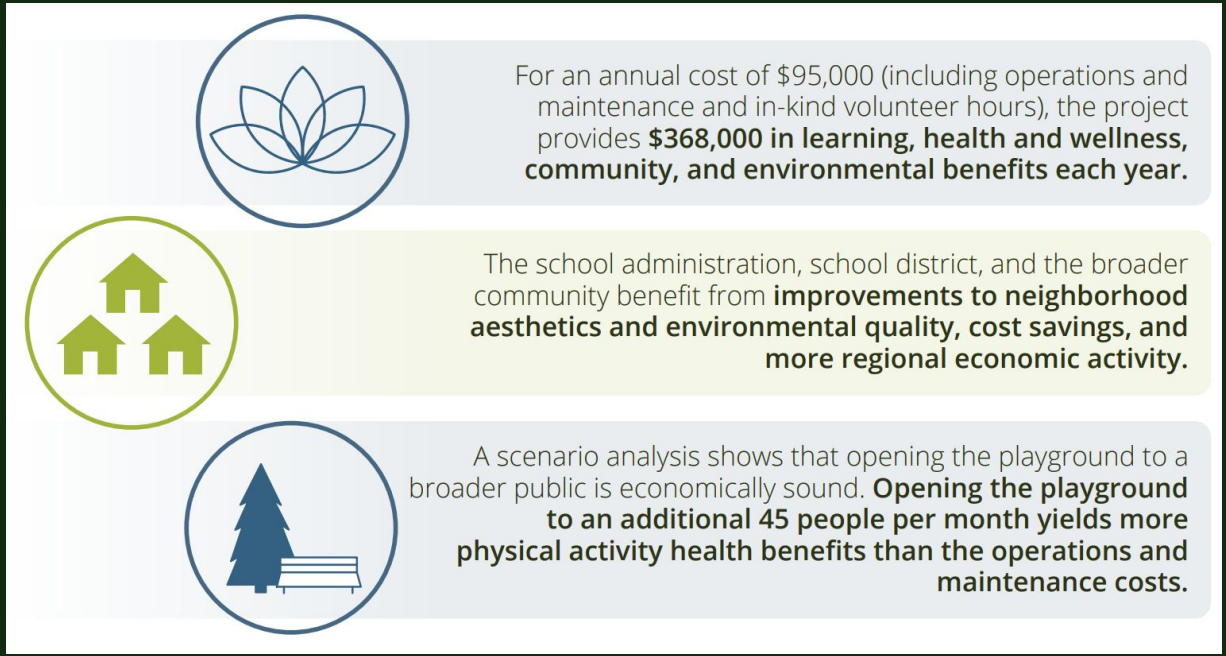
Measuring green schoolyards benefits

Measuring green schoolyards benefits



Measuring green schoolyards benefits

Every dollar invested in greening, operating, and maintaining the schoolyard yields at least $3.60 in community, economic, and environmental benefits.



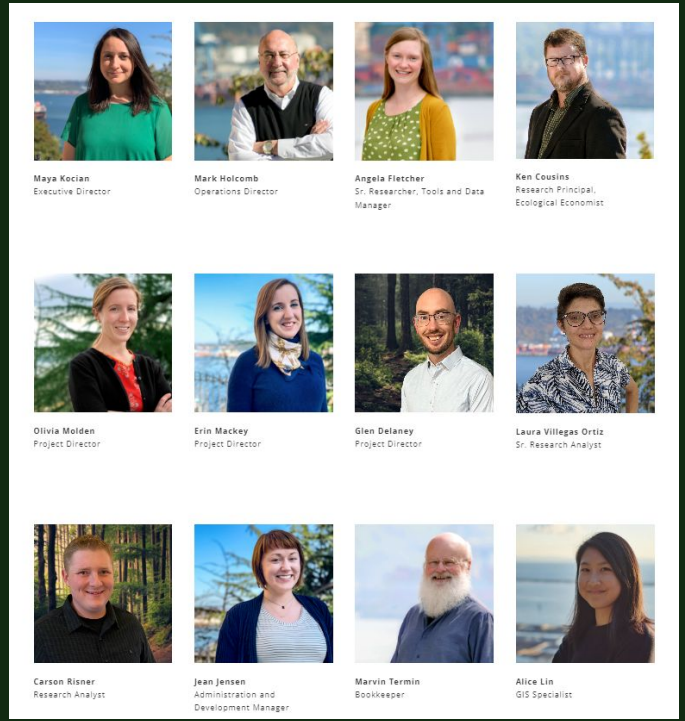
Lessons on metrics

If it is not counted, it doesn't count…

- Developing performance metrics/ evaluation framework
  - What are your values?
  - What are good indicators?
  - What data to collect?
    - Who is measuring performance?
    - What can be measured (e.g. biophysical, socio-emotional, behavioral, economic)?
- Can the Ecosystem Services Framework help you?
  - Can you collect data before starting and collect data at a reference site?
  - Can you develop baselines at site and reference sites?

Contact us at: info@eartheconomics.org

Contact me (Laura Villegas) at: lvillegas@eartheconomics.org



Find our work: https://www.eartheconomics.org/

The Benefits of Schoolyard Greening:
https://www.eartheconomics.org/all-publications/2023/10/31/the-benefits-of-schoolyard-greening

Principles for the Next Generation of Multi-Benefit Projects:
https://www.eartheconomics.org/all-publications/2023/2/28/the-collaborative-advantage-principles-for-the-next-generation-of-multi-benefit-projects-in-los-angeles-county

ARLA's SCWP Benefit-Cost Analysis Tool:
https://acceleratela.org/wp-content/uploads/Appendix-E-ARLA_s-SCWP-Benefit-Cost-Analysis-Tool.pdf

Highlighting 30 years of LA Waterkeeper's Legal Impact in the Los Angeles Region:
https://www.lawaterkeeper.org/reports/litigation-impact

Thank you!

¡Gracias!

PANEL 1 :

Caring For your New Native Plant/Stormwater Capture Campus
A School Foundation and District Partnership Model

Monica Campagna

Lead Caretaker

FRANKLIN ELEMENTARY NATIVE PLANT BEDS
(GLENDALE UNIFIED SCHOOL DISTRICT)

Maintaining your Living Schoolyard!

A Foundation/School District Partnership Model

Presented by Monica Campagna

Lead Caretaker of Franklin Elementary Native Plant Beds (GUSD)

Before

During

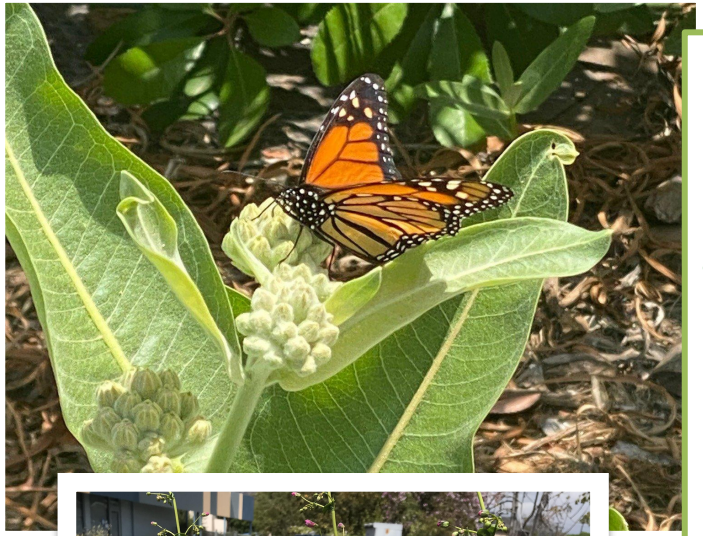
Franklin Elementary's campus was converted in 2016 with funding from a $1 Million "Urban Greening Grant" using Prop 84 funding c/o The California Natural Resources Agency

After

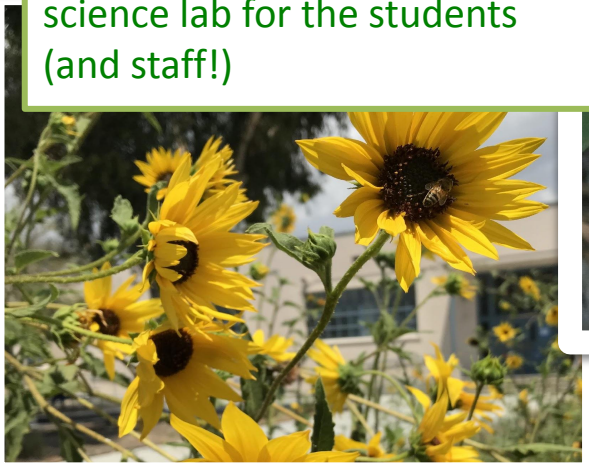
45,000 sq. ft of asphalt surfaces were replaced with rain gardens, bioswales, permeable paving and water capture systems. Now, water goes to the plants and replenishes groundwater.


Bioswales empty (left) and in action (right) during storms of Winter, 2023!

The grant was written by three Franklin moms who also founded the Benjamin Franklin Elementary Foundation (BFEF) in large part in order to be able to write this grant. The process of writing the grant and collaborating with all partners (Northeast Trees, NAC Architecture and GUSD) to bring this project to fruition took 5 years.



North East Trees installed our campus, which includes a learning garden and over **1500 low-water native CA plants & trees** providing shade, beauty and food for songbirds, pollinators & monarch butterflies. Our campus supports our region's unique biodiversity and is a living science lab for the students (and staff!)



Sprouts Learning Garden

MAINTENANCE is a PARTNERSHIP!

Our MOU agreement: The Benjamin Franklin Elementary Foundation (BFEF) made a commitment to care for this investment for a minimum of 20 years. The BFEF allocates $5-7,000 annually to fund Green Team expenses.

Annual Budget of $5K - $7K:

- 10 hrs caretaking weekly
- New Plants & Trees
- Garden Equipment
- Educational Signage
- Educational Workshops

CORE TEAM OF 4

1 x BFEF Green Team Lead (parent volunteer)

3 x Paid Caretakers ($15/hr, 10 hours total per week combined. Summers also, but less hours.)

BFEF GARDEN CREW DUTIES:

- Weed
- Prune
- Mulch
- Buy & plant new plants
- ID irrigation issues
- Divide & transplant plants
- Weave vines
- Water new plantings
- Help sweep mulch and leaf litter back into beds

GREEN TEAM CHAIR DUTIES:

- Train and organize parent volunteers
- Organize large mulching events (1-2x annually)
- Assist with educational programming (vermicomposting etc)
- Create and disseminate Garden Newsletter for teachers & volunteers
- Apply for grants
- Educational signage
- Support “Sprouts Learning Garden” (food garden)
- Provide Tools & Supplies for adult and student caretakers

GUSD FACILITIES IS OUR PARTNER!

GUSD Garden Caretakers:

- Tend pre-existing shrubs/trees including exterior and much of perimeter of school.
- Dispose of larger piles of weeds or tree prunings that don't fit into our green bins.
- Help with tree and deer grass pruning as needed.

GUSD Irrigation Specialist:

- Addresses any irrigation issues and works with GT lead to test system annually.

GUSD FASO Crew:

- Cleans out storm capture drains annually.

GUSD Custodian:

- Helps blow leaves/mulch back into beds

North East Trees
Bringing Nature Back

Our steadfast partners!

- Visit campus and help troubleshoot issues;
- Help annually with “sprucing up”, including things like fixing edging, pruning trees, and addressing any issues that have come up;
- Reprogram irrigation system as needs change;
- Collaborate on new “mini” projects as additional funding sources become available

ANNUAL SPRING CLEAN UP & MULCH EVENT

- In past, City has provided mulch.
- 70 + parents and kids have come out to help for this event!
- We have 1-2 big events on the weekend per year for parents that work on weekdays.

ADDITIONAL RESOURCES

- **Franklin Webpage – www.thebfef.org/urban-greening-grant**
- **Monica's Native Plants for School Campuses recommendations - https://docs.google.com/spreadsheets/d/185z_o2lCepzisoLZZMpRYPGPRdSUThkLy-ggO9ULL1U/edit?usp=sharing)**
- **Example Franklin Annual "To-Do" List - https://docs.google.com/document/d/1xh67l-IBee3AxG4q7qsaekmwf3lU39eC9-PO34Us_Oc/edit?usp=sharing)**
- **North East Trees – www.northeasttrees.org**
  (Campus conversions with native CA palette, collaborative grant writing)
- **Theodore Payne Foundation – K-12 Native Plant Resources theodorepayne.org/learn/k-12-education/**
- **One Tree Planted – www.onetreeplanted.org**
  (Tree and plant donations for volunteer activities)
- **Enrich LA – https://www.enrichla.org**
  (An organic regenerative garden in every LA schoolyard)
- **Trust for Public Lands – www.tpl.org/community-schoolyards-campaign**
  (Community School Yards Program - Collaborations between City and Schools)

CONTACT MONICA CAMPAGNA: trip@tripdance.org

PANEL 1 : Schoolyard Greening - For the Planet and the People

Cindy Hardin

Director of Outdoor Education

Emily Cobar

Community Programs Director

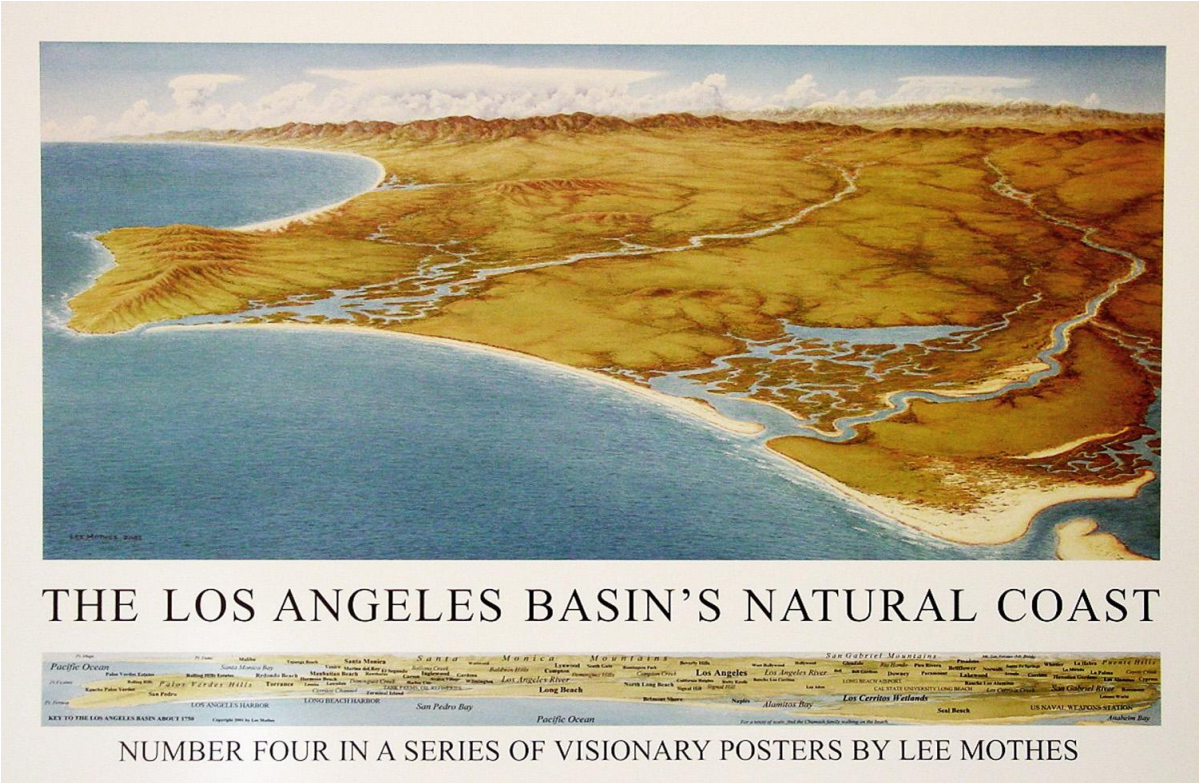
NATURE NEXUS INSTITUTE

Schoolyard Greening

For the Planet and the People!

Cindy Hardin & Emily Cobar
Nature Nexus Institute

Los Angeles - Then



20th Century approach to water management

Leo Politi Elementary School 2009- Present

Summer 2009

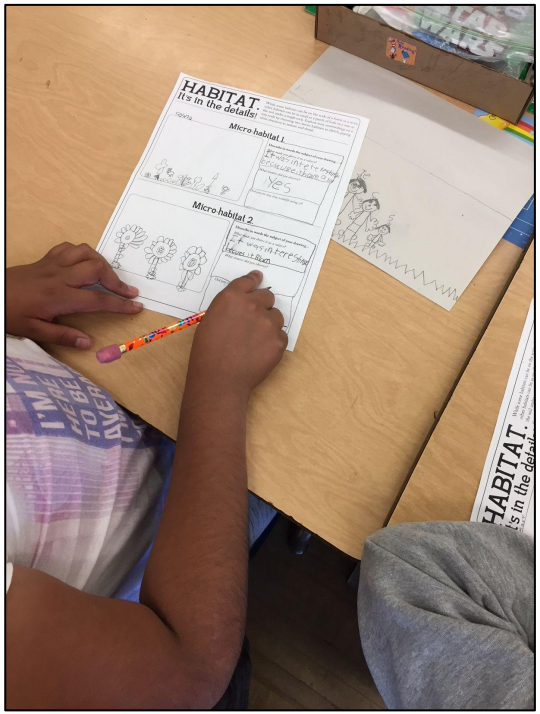
Esperanza Elementary School 2016- Present

Sequestration of Water

- Rechargers Aquifers
- Like a bank account of water
- Tool in times of drought AND heavy rain season

Schoolyard Habitat as a Teaching Tool

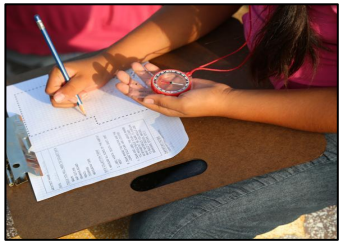
Victory Elementary School - DROPS Project

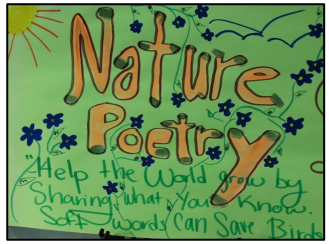


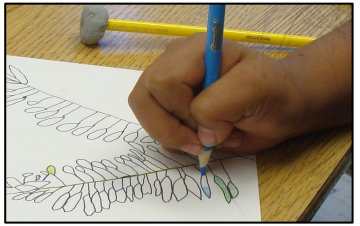
Drought Response Outreach Program for Schools

Schoolyard habitat can serve as a dynamic learning space where students connect with a range of concepts...

- Math & Engineering: measuring and scale
- Language Literacy: nature-themed poetry based on observation and description
- Social Studies: local history, land-use decisions
- Art: drawing from life, idea-gathering
- Life Science: direct observation, data collection
- Geography, geology, and more...







Additional Benefits

- Test scores go up when kids get outside
- Supports State Science Standards
- Mental health benefits for students, staff, and visiting parents too!
- Better for the Planet- Keeps the air cooler, absorbs Carbon Dioxide, prevents contaminated street runoff from reaching the Ocean.

Thank you

Visit our website: naturenexusinstitute.org

Cindy Hardin

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Emily Cobar

- ecobar@naturenexusinstitute.org

Great Horned Owl at 186th St Elementary in Gardena!

DISCUSSION

PANEL 2 School District / Water Agency Partnerships

Community Partnerships Beyond the Classroom
Evelyn Reyes, San Gabriel Valley Municipal Water District

Each School Project as a Microcosm of the Watershed
Claire Robinson, Amigos de los Rios

Green Stormwater Infrastructure Program
Emma Melvin, The School District of Philadelphia

PANEL 2 : Moderator

Eileen Alduenda

Executive Director

COUNCIL FOR WATERSHED HEALTH

PANEL 2 : Community Partnerships Beyond the Classroom

Evelyn Reyes

External Affairs Manager

SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT

SAN GABRIEL VALLEY
MUNICIPAL
WATER DISTRICT
AZUSA | SIERRA MADRE | MONTEREY PARK | ALHAMBRA

Community Partnerships Beyond the Classroom

Presented by Evelyn Reyes
External Affairs Manager

ABOUT US

SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT
AZUSA | SIERRA MADRE | MONTEREY PARK | ALHAMBRA

SWC
STATE WATER CONTRACTORS
FOUNDED 1982

LEADERSHIP

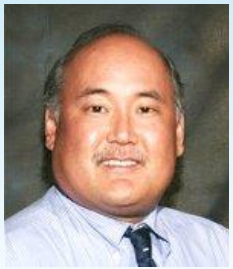
Mark Paulson
President
Division 1
Alhambra

Dr. Steve Placido
Vice President
Division II
Alhambra & Monterey Park

Mike Eng
Board Member
Division III
Monterey Park

Miles Prince
Secretary
Division IV
Sierra Madre

Bruce Knoles
Treasurer
Division V
Azusa



PROJECTS IN MEMBER CITIES

Sierra Madre Elementary School

Azusa – Paramount Elementary School

Monterey Park Demonstration Garden

Alhambra City Hall

SAFE, CLEAN WATER PROGRAM

- 2018 - Property owners within the Los Angeles County Flood Control District voted on Measure W to create the Safe, Clean Water Program.
- The program invests in multi-benefit stormwater capture projects and programs.
- 2019 - SGVMWD partnered with Garvey Unified School District and awarded funding to the Council for Watershed Health to provide technical assistance for school greening projects at Hillcrest Elementary and Monterey Vista Elementary in Monterey Park.

Hillcrest Elementary

Monterey Vista Elementary

SITE MAP: HILLCREST ELEMENTARY

SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT
AZUSA | SIERRA MADRE | MONTEREY PARK | ALHAMBRA

Flooding

There are several locations on campus that currently experience flooding when it rains. These locations are indicated on the map in blue.

Slopes of Concern

The steep hillside along the northern and eastern border of the school, indicated in yellow, are areas in which there is moderate concern over the stability of the hillside.

Debris Flow

There is one instance of debris flow which occurs when it rains on the ramp leading form the school buildings up to the playground and field. The location is indicated in organge.

Zen Garden

There is a plan to build a Zen Garden in the southwest corner of the school adjacent to several classrooms. This area will serve as an outdoor classroom for students and is indicated in green.

POTENTIAL OPPORTUNITIES: HILLCREST ELEMENTARY

Potential Grasscrete Stabilization Area

Potential Bioretention/ Biofiltration Area

R Existing Roofdrain

CB Existing Catch Basin

Potential opportunities were identified based on observations about where stormwater flows and collects on campus, existing infrastructure and site constraints, and the school district's priorities for the site.

SITE MAP: MONTEREY VISTA ELEMENTARY

SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT
AZUSA · SIERRA MADRE · MONTEREY PARK · ALHAMBRA

Flooding

There are several locations on campus that currently experience flooding when it rains. These locations are indicated on the map to the right in blue.

Slopes of Concern

The steep hillside in the center of the school campus indicated in yellow are areas in which there is moderate concern over the stability of the hillside.

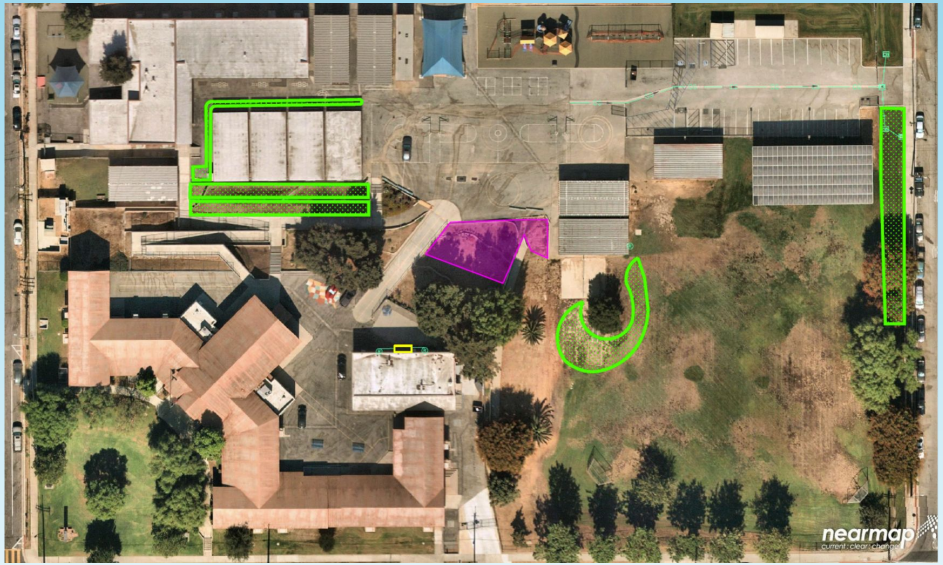
Debris Flow

There is one instance of debris flow occurring during storm events between the "slope of concern," the handball court, and trailer in the center of campus. The location is indicated in orange.

Garden

There was once a production garden in the center of the school campus. It was managed by a teacher who retired. During the COVID-19 pandemic, school staff restarted a garden in this same location.

POTENTIAL OPPORTUNITIES: MONTEREY VISTA ELEMENTARY



Potential Bioretention/ Biofiltration Area

Cistern

Potential Areas to be Irrigated with Captured Stormwater

CG — Existing Concrete Gutter

SD — Existing Storm Drain

R — Existing Roofdrain

CB — Existing Catch Basin

Potential opportunities were identified based on observations about where stormwater flows and collects on campus, existing infrastructure and site constraints, and the school district's priorities for the site.

RESULTS AND LESSONS LEARNED

- Both schools have potential opportunities for green infrastructure projects.
- Identified an opportunity to apply for a FEMA Hazard Mitigation grant at Hillcrest Elementary.
- Completed a 30% plan for a bioretention project at Monterey Vista Elementary.
- Additional funding is needed to complete the designs.
- Staffing changes at the school district have impacted the project timeline.
- Next step: Finalize preferred project and apply for funding.

CONTACT INFORMATION

Evelyn Reyes, External Affairs Manager
San Gabriel Valley Municipal Water District

Email: ereyes@sgvmwd.com

Website: www.sgvmwd.com

PANEL 2 :

Claire Robinson

Executive Director

AMIGOS DE LOS RIOS

AMIGOS DE LOS RIOS

EMERALD NECKLACE

LANDSCAPE SCALE CONSERVATION
'WATERSHED APPROACH'
Olmsted Bartholomew Plan 1930/First Peoples
501©3 Founded 2003

Who We Are ?

We plan & implement community based natural Infrastructure projects in direct response to EJ issues and are creating an

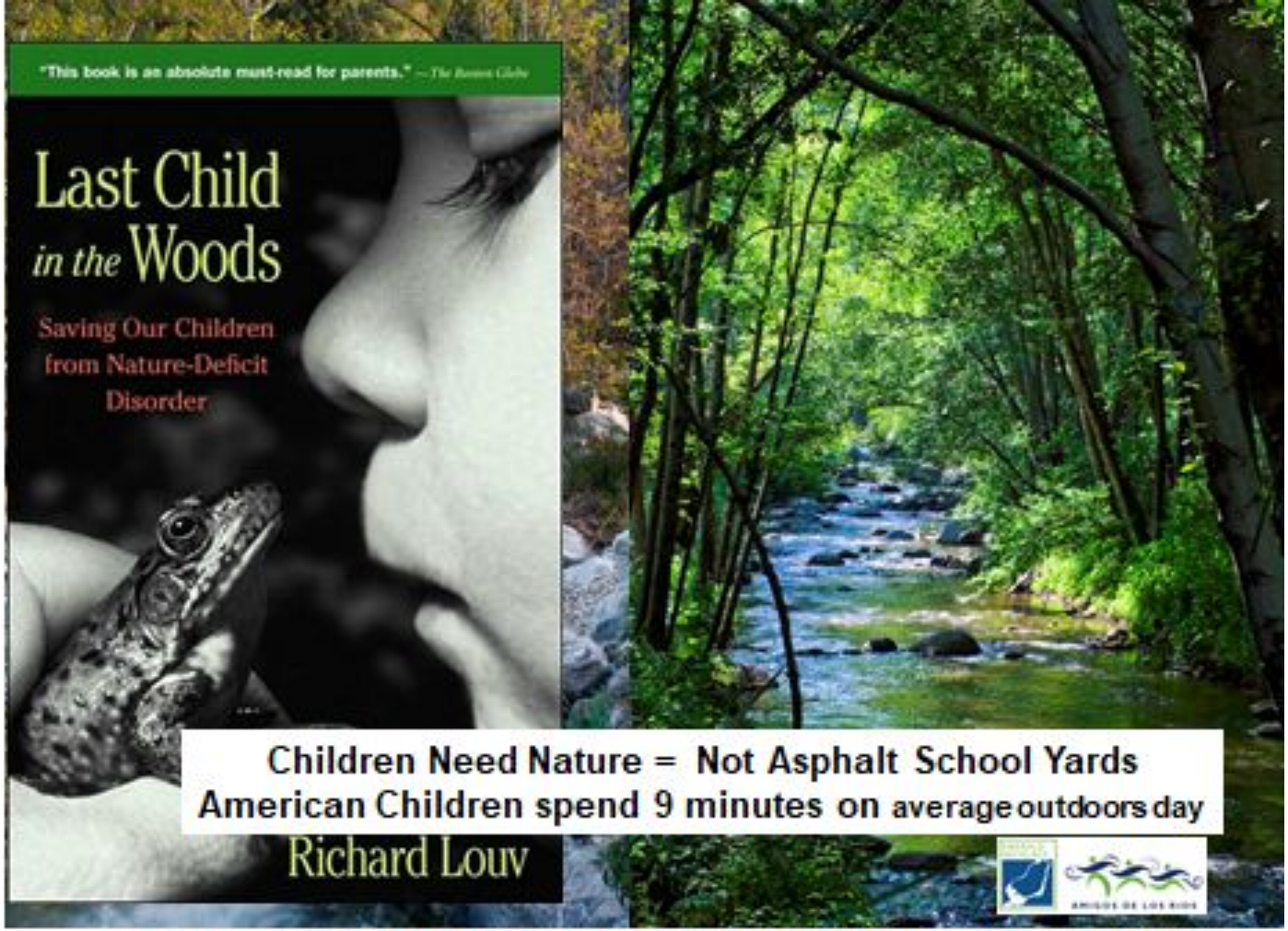
'Emerald Necklace - Mountains to Sea' network of sustainable parks, trails & schools for East Los Angeles

to protect public health, address climate change & increase equitable access to Nature for All.

Physical Fitness
Greater Variety of Opportunities

Mental Health
Anxiety Reduction
Mindfulness & Focus

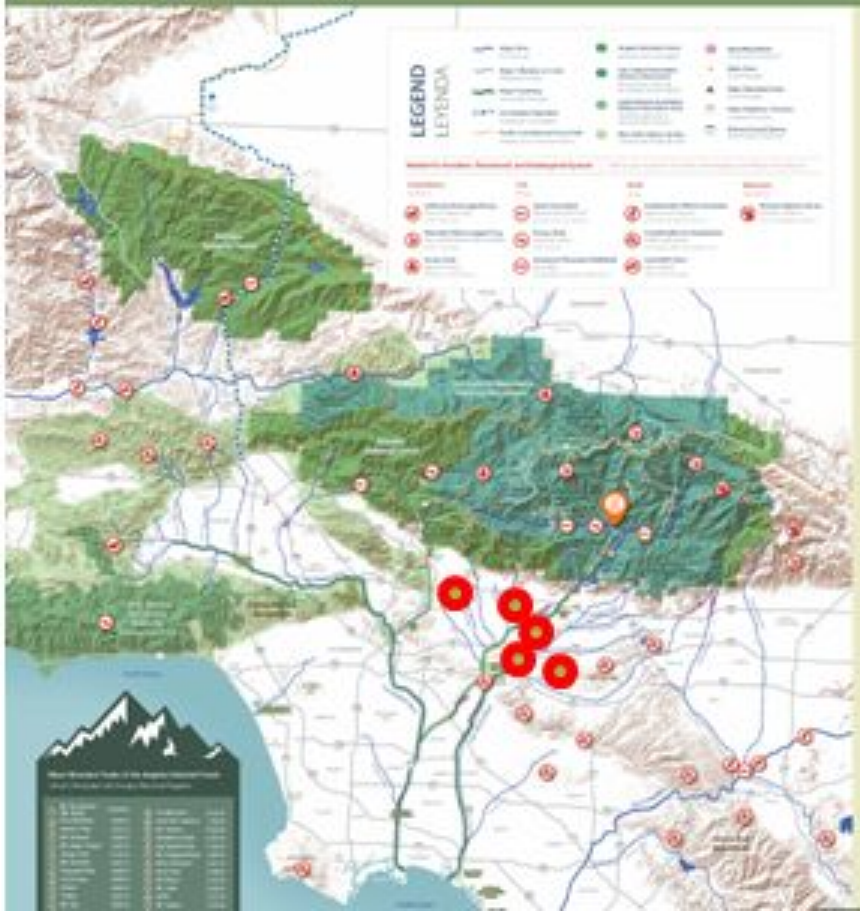
Immersive Lessons
Campus as Living lab
Outdoor Learning Opportunities



CONNECTING URBAN STUDENTS TO NATURE

Our Greater Watershed

Nuestra Cuenca Regional



Rivers and streams in our forest are an important source of water for wildlife, plants, and people. 50 percent of our regional water supply comes from mountain springs and streams fed by snowmelt. The Angeles National Forest filters and regulates this water from upper watersheds, providing clean water to communities and habitats within the Los Angeles River, San Gabriel River, Santa Ana River, Santa Clara River, and Antelope Valley watersheds, among others.

Our mountain ranges and the Angeles National Forest contain some of the greatest biodiversity in the country, including five wilderness areas that provide critical habitat for threatened and endangered species. Forest habitats are not only key to ecological function but also vital to human health. Without these resources provided by the forest, the Greater Los Angeles Metro Area and high desert communities would not be able to support the more than 18 million residents who live here.

Los ríos y arroyos de nuestro bosque constituyen un importante recurso de agua para animales, plantas y personas. Treinta por ciento de nuestro suministro regional de agua proviene de los manantiales montañosos y arroyos alimentados por el deshielo. El Bosque Nacional de Angeles filtra y regula esta agua de las cuencas superiores, suministrando así agua limpia a las comunidades y hábitats del área de vertientes de los ríos Los Angeles, San Gabriel, Santa Ana, y Santa Clara del Valle del Antílope, entre otros.

Nuestras cadenas montañosas y el Bosque Nacional de Angeles contienen parte de la mayor biodiversidad del país, los cuales incluyen cinco áreas naturales que proporcionan un hábitat muy importante para las especies amenazadas y en peligro. Los hábitats de los bosques no sólo son claves para la función ecológica, sino que también son vitales para la salud humana. Sin estos recursos que nos da el bosque, el Área Mayor Metropolitana de Los Angeles y la comunidad del alto desierto no podría soportar a los más de 18 millones de residentes que viven aquí.

Angeles National Forest

Bring the Forest into the School Yard

MULTI BENEFIT GREEN SCHOOL PROJECTS

EMERALD NECKLACE

PECK ROAD WATER CONSERVATION PARK

VETERANS MEMORIAL PARK

RIO VISTA PARK

LASHBROOK PARK

GIBSON MARIPOSA PARK

DURFEE THOMPSON GREEN SCHOOL

EMERALD NECKLACE GREEN SCHOOLS

Emerald Necklace Green Infrastructure | Los Angeles County

DURFEE-THOMPSON SCHOOL JOINT USE TRAIL

JOINT USE PROJECT, EL MONTE

www.amigosdelosrios.org|908 E Altadena Dr |Altadena, CA 91001|t:[626]791.1611|f:[626]791.1771

> amenities

>Outdoor Classroom

>Therapy Area

>Educational Signage

>Nature Trail

Emerald Necklace Green Infrastructure | Los Angeles County

MADRID EXERCISE & NATURE TRAIL

JOINT USE PROJECT, EL MONTE

www.amigosdelosrios.org|908 E Altadena Dr |Altadena, CA 91001|t:[626]791.1611|f:[626]791.1771

>exercise & nature

Our LESSONS on Public School Greening

In order to Create Community on campus w/Trees:

- Understand & Respect the Sacred Geometry of Sports
- Integrate Natural Infrastructure w/ADA compliant access to outdoor spaces ... lots more fun for everyone
- Incremental Long Term Partnership Approach
  - Soil Stewardship is engaging
  - Capturing Storm Water is a art and science - great math game!
  - Asphalt removal is exhilarating...
- Students are hungry to be active stewards & happier in nature based school settings .... Find way to allow them to participate
- Green Schools foster a new state of mind for entire school community – Environmental & Social Justice
- Integrate Community Hands on Power & Professional Experts for impactful Implementation

AMIGOS DE LOS RIOS

EMERALD NECKLACE

"Landscape"

Vague Term
used to refer to all
Exterior
Spaces on a
School ground in Current
Campus Master Plans
& Bond Measures

The Jeff Seymour Family Center (JSFC) is community hub for families providing comprehensive programs to promote overall family wellness. Administered by the El Monte City School District, the JSFC unites the county and community to strengthen individual, family, and neighborhood protective factors and increase social connectedness, community mobilization, and access to needed support and services.

The Jeff Seymour Family Center Green Infrastructure Campus was designed and developed by Amigos de los Rios, a 501(c)(3), in partnership with the El Monte City School District and community stakeholders. Amigos de los Rios' unique expertise in sustainable and community-based design includes youth training programs, environmental education, and community outreach.

Funding for this project has been provided by t
Gas Reduction Fund through the California De
Fire Protection (CAL FIRE), Urban and Comm
Additional funding provided by the Environme
Mitigation Program through the California Dep
Resources, and from REI.

Jeff Seymour Family Center

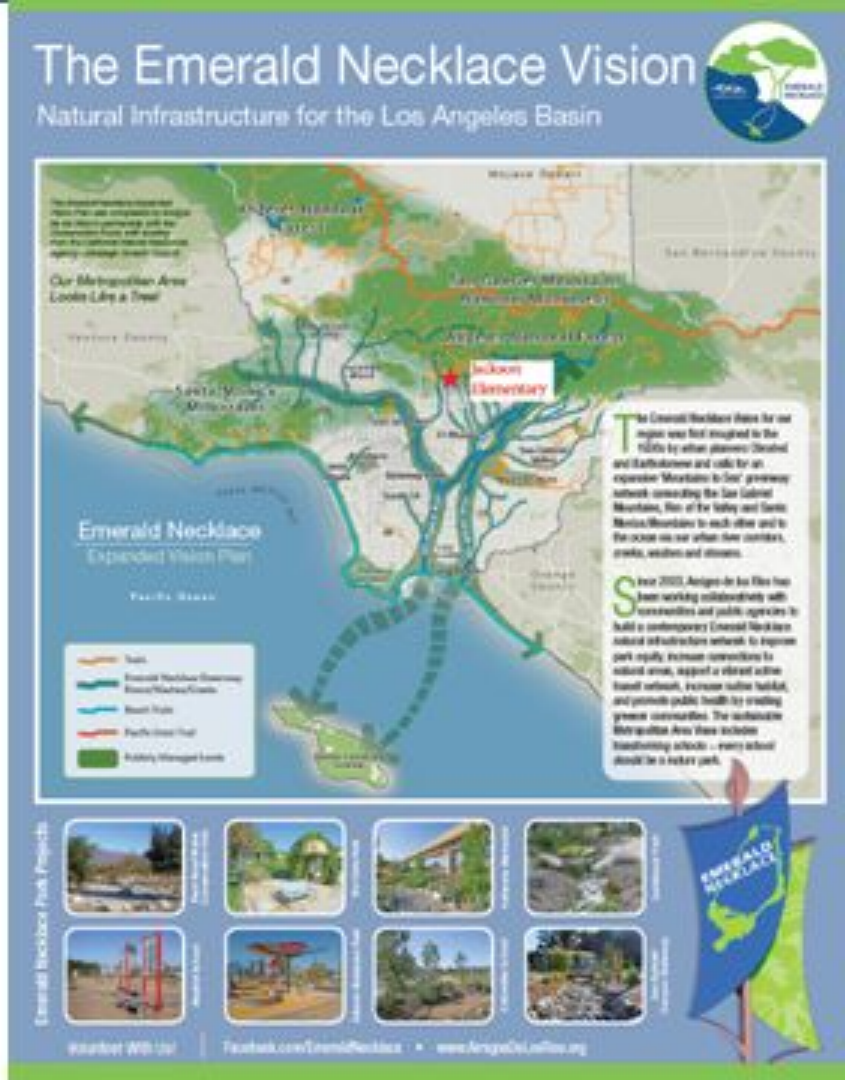
Native Plants

Tongva Use of Native Plants

The native plants featured at the Jeff Seymour Family Center are culturally significant to the original inhabitants of the Los Angeles Basin, the Tongva (Gabrielino). Their knowledge and use of native plants extend from the medicinal and spiritual, to construction and dietary. Spiritual plants are used for religious preparations and rites of passage. Constructional plants are used for building houses, making tools, basketry, and clothing. Dietary plants are key elements of the Tongva (Gabrielino) diet. Medicinal plants are used for all types of healing – from colds to wounds.

Native Plants Conserve Water

Each School Project as a Microcosm of the Watershed



Jeff Seymour Family Center

Green Infrastructure Campus

10900 Mulhall Street
El Monte, CA 91731

Green Infrastructure Elements

A Urban Community Forestry
Habitat • Heat Island reduction
Stormwater capture • Carbon sequestration

B Rain Garden
Stormwater capture • Habitat

C Bioswale
Stormwater capture • Habitat

D Rain Modules
Stormwater capture

E Stormwater Basin
Stormwater capture • Rain modules

F Bike Safety Track
Cool pavement / Heat Island reduction
Bike training / active transportation
Stormwater capture • Habitat

G Community Garden
Food production • Education

H Bike Park / Skills Track
Bike training / active transportation
Nature-based play

I Walking Paths
Physical fitness • Habitat

J Interpretive Elements
Education • Community Science

= Location of Green Infrastructure Signage

Campus green infrastructure plan implemented through a community-based process by AMIGOS DE LOS RIOS, a 501(C)3
We hope you enjoy! • www.amigosdelosrios.org

EMERALD NECKLACE
AMIGOS DE LOS RIOS

Funding for this project has been provided by the California Greenhouse Gas Reduction Fund through the California Department of Forestry and Fire Protection (CAL FIRE), Urban and Community Forestry Program.

Emerald Necklace Mary Jackson Watershed Discovery Campus

CALIFORNIA natural resources AGENCY

Mary Jackson

Incremental Approach

1. Plant trees
2. Convert Front Grass Habitat Landscape
3. Soil Conditioning – Storm Water Garden
4. Watershed Discovery Conversion – Asphalt/
5. Workforce training


W. CROSBY STREET
LEGEND
N. SPALDING PLACE


SUNBELT RENTALS
JCB


Bioswales
Capture Water

Science Scope & Sequence

Grade	Unit 1	Unit 2	Unit 3	Unit 4
K	August - Nov	November - Feburary	Feburary - May	
	Animal Needs (LS1-1)	Weather Conditions (ESS2-1)	Pushes and Pulls (PS2-1)	N/A
	Habitats (ESS3-1)	Weather Patterns (ESS2-1)	Speed and Direction	
	Organisms' Impact on	Weather Hazards (ESS3-2)		
	Environments (ESS2-2)	Energy from the Sun (PS3-1 & PS3-2)		
	Reducing Human Impact			
	(ESS2-2, ESS2-3)			
1	August - November	November - Feburary	Feburary - May	
	Parts of Plants (LS1-1)	Sound (PS4-1)	Patterns in Space (ESS1-1)	N/A
	Parts of Animals (LS1-1)	Communication (PS4-6)	Seasonal Patterns (ESS1-2)	
	Plant Survival (LS1-1)	Behavior of Light (PS4-2)		
	Animal Survival (LS1-1)			
	Plant Trait Inheritance and			
	Variation (LS3-1)			
	Protecting the Young (LS1-2)			
	Animal Trait Inheritance and			
	Variation (LS3-1)			
2	August - November	November - Feburary	Feburary - May	
	Properties and States of Matter	Mapping our world	What Plants Need	N/A
	Properties of materials	Forms of water on earth	Animal and Plant Dependence	
	Building blocks of matter	Quick Changes to Land	Diversity to Living Things	
	Changes from heat	Slow Changes to Land		
3	August - November	November - Feburary	Feburary - May	
	Life Cycles	Weather and Climate	Objects and Motion	N/A
	Inheritance and Variation of Traits	Impacts of Natural Hazards	Electic and Magnetic Forces	
	Social and Group Behavior			
	Survival of the Fittest			
	Environmental Traits			
	Env. Changes and Effects			
	Adaptions			
	Fossils			
	Plant and Animal Extinction			
4	August-October	October-December	December-January	January-March
	Sense Receptors	Energy and Speed	Wavelength and Amplitude	Rock Patterns
	Plant and Animal parts	Transfer of Energy in Collisions	Motion of Waves	Changing Land
	Light Reflection	Using Stored Energy		Plate Tectonics
	Technologies	Re/Non-renewable resources		Natural Processes
5	August - September	September - December	December - January	January - March
	Gravity (PS2-1	Matter is Everywhere	Matter and Energy in Plants (LS1-1)	Earth's Systems Interactions
	Earth's Rotation (ESS1-2)	(PS1-1)	Food Webs (LS2-1)	Water Sources
	Observing the Stars	Changes to Matter (PS1-2)	Ecosystems (LS2-1)	Reducing Human Footprint

JACKSON STEM
Dual Language Magnet Academy

Immersive Lessons

Campus as Living lab

Outdoor Learning Opportunities tied to State Standards

Science Teacher
John Newell


Mary W. Jackson Magnet Elementary
Watershed Discovery Campus Map
Natural Infrastructure Elements

Plymouth School Project

Project Stormwater Drains

MONROVIA
UNIFIED SCHOOL DISTRICT


CAUTION

Plymouth School Neighborhood Stormwater Capture Demonstration Project

Project Benefits

- Reduce Water Demand
- Improve Water Quality
- Improve Flood Management
- Practice Resources Stewardship
- 0.11 within a DAC
- 3.1 acre-feet stormwater capture capacity of project
- 12.4 acres of area that will benefit from improved stormwater drainage

AMIGOS DE LOS RIOS
EMERALD NECKLACE


LEGEND
Lawn
Native Plants
Permeable Pavement
Bioswale/Rain Garden
Cool Pavement
BOLEY ST.
DORAY CIRCLE
GRASS TO BE REMOVED
ADA RAMP
PERMEABLE PAVEMENT RAIN ENTRANCE
RAIN GARDEN
ADA RAMP & ENTRANCE
ADA PARKING
KINDER AREA
ADA ENTRANCE
SPECIAL EDUCATION CLASSROOM
CAFETERIA/AUDITORIUM
MAIN OFFICE
OUTDOOR DINING
OUTDOOR CLASSROOM
OUTDOOR CLASSROOM
ALL ENTRANCES ADA ACCESSIBLE
BIOSWALE
RAIN GARDEN
OUTDOOR CLASSROOM
COMMUNITY GARDEN
OUTDOOR CLASSROOM
HANDBALL
FOUR SQUARE
PLAYGROUND
SWINGS

Plymouth School Quads


Plymouth Elementary School

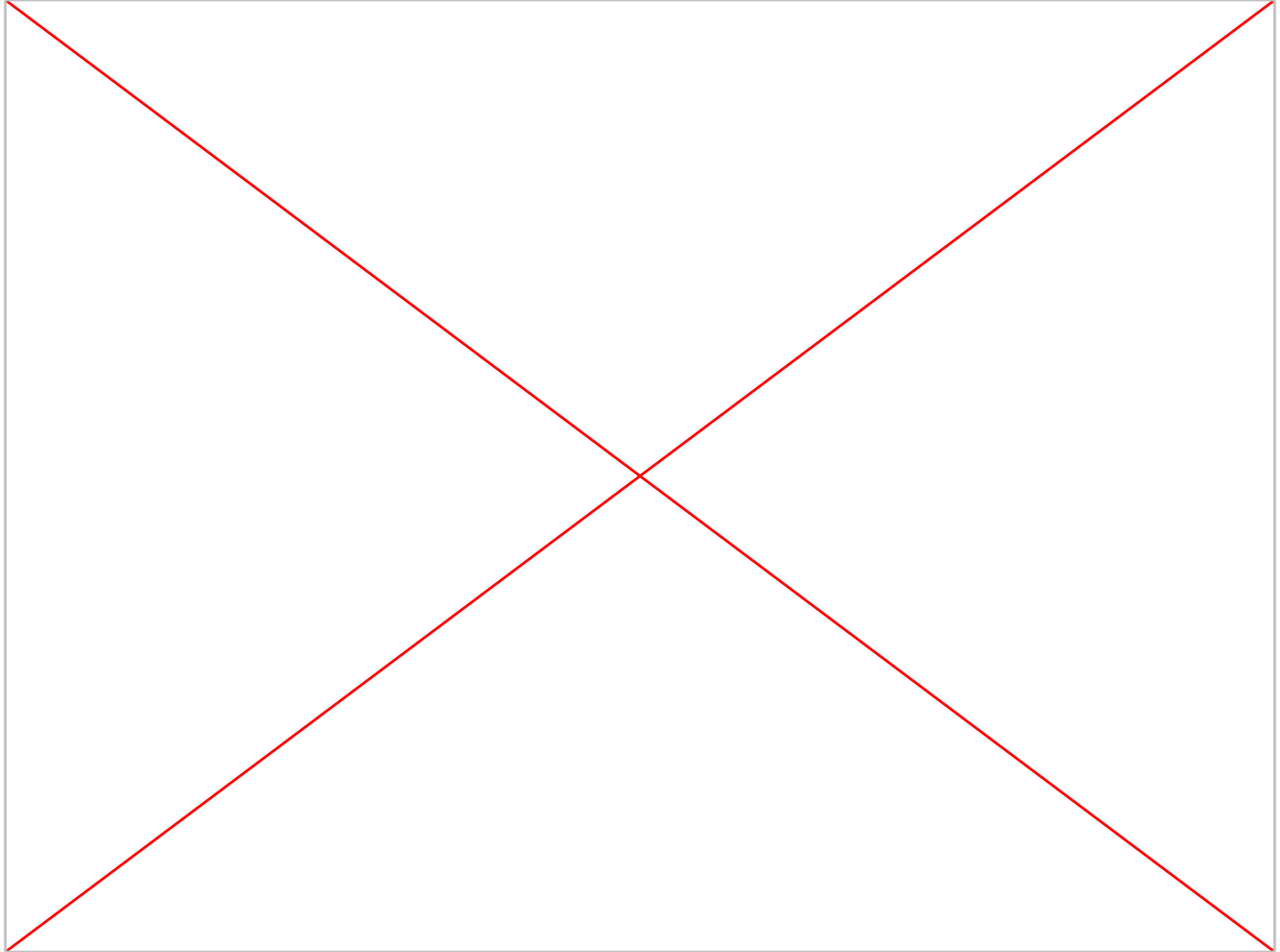

EMERALD
NECKLACE


EMERALD
NECKLACE


EMERALD
NECKLACE


EMERALD
NECKLACE

‘INSIDE OUT’ CLASSROOMS




EMERALD
NECKLACE

Long Term Sustainability of Green Campuses Depend on many Groups Collaborating

- Non Profit Lead/ Instigator

- Superintendent/ Board of Education/ District Facilities Team
- Bond Measure Master Plan/ Implementation Team

- Site Principal / Site Janitorial Staff/ PTA
- Core Teachers - EG. Science - Climate Action Curriculum
- Physical Education Teacher
- Garden Education Leader

- Emerald Necklace Volunteer Stewards – Students Community Service/ Service Orgs /Businesses
- Philanthropy

PANEL 2 :

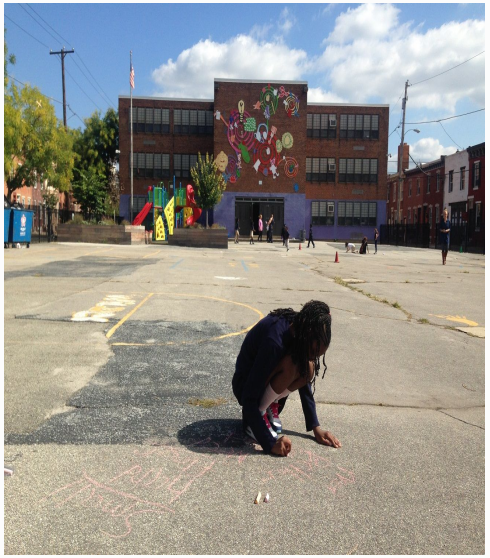
Emma Melvin

Green Infrastructure Program Manager

THE SCHOOL DISTRICT OF PHILADELPHIA

THE SCHOOL DISTRICT OF PHILADELPHIA

Green Stormwater Infrastructure Program



History of stormwater management at School District of Philadelphia

2006

First stormwater management on SDP properties

Many buildings in the District were not affected by stormwater management until redevelopment requirements were instigated

2008

SDP constructed its first LEED Platinum certified building

SDP has multiple LEED certified buildings including innovative stormwater, including water re-use. Kensington CAP was the nation's first LEED Platinum certified school building

2014

First PWD partnership schoolyard project

PWD designed, installed and maintained Nebinger Schools GSI schoolyard

2019

SDP GSI program

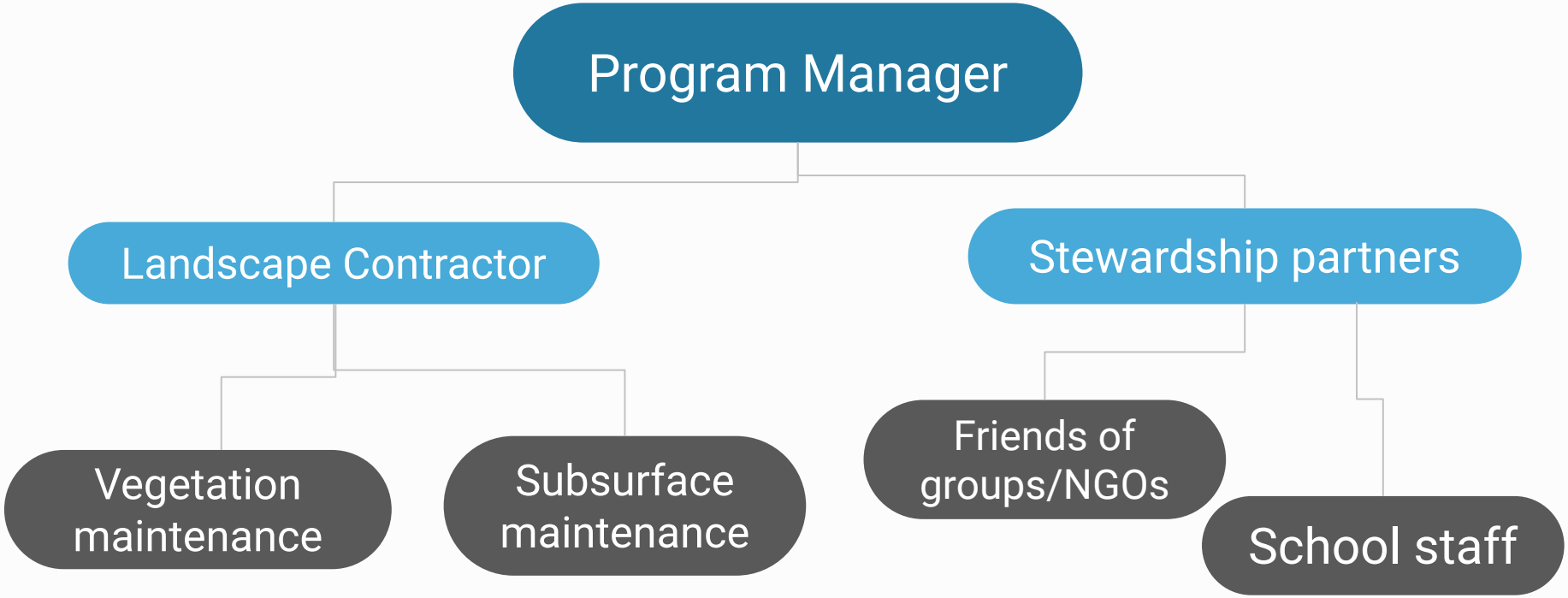
Through William Penn Foundation funding SDP hired a program manager and developed a GSI maintenance

2023

62 GSI sites installed at SDP campuses

57 sites currently maintained through contract landscaping with 5 sites under construction

GSI Program details



Stewardship

- In review, the need to school and student participation in stewardship was identified.
- Grant funded tools/supplies and plant material to provide the support for schools and Friends of groups to participate in stewardship activities.
- Initiated at 4 schools with schoolyard GSI systems
- Expanded to schools working on smaller scale greening projects

Maintenance

- RFP for contracted services from specialized landscaping company who is trained to maintained GSI systems for a 3 year contract
- Contract includes both vegetation maintenance and subsurface maintenance. Allows for additional services on request including engineering services, geo-technical service, specialized maintenance/repair needs
- Current contract covers maintenance for 62 school sites with all types of GSI, rain gardens, bio-swales, subsurface infiltration beds, greenroofs, cisterns and porous pavement

Integrating into the classroom

- Understanding the function and appropriate interactions with GSI we found imperative for continued functioning
- Instigated facilities training for facility managers, one-one walk-throughs and direct communications with school staff
- Promoting PWD Fairmount Waterworks *Understanding the Urban Watersheds* curriculum developed in partnership with SDP
- Developing need education units to engage students positively with the green around them

Dec 6, 2023

The Office of Capital Programs

Emma Melvin GSI Program Manager
emelvin@philasd.org
215-400-5788

THE SCHOOL DISTRICT OF PHILADELPHIA

IN BREAKOUT ROOMS...

1. Introduce yourself
2. What motivated you to attend the event today?
3. What is a question you're left with or what would you like to do a deeper dive on in the future?

EVENTS + RESOURCES

RESOURCES

- Green Schoolyards America website
- LA Living Schoolyards Coalition
- LAUSD DROPs Interactive Storymaps
- Children & Nature Network resources website
- Angelenos 4 Green Schools website
- Guidance for Stormwater and Dry Weather Runoff CAPTURE at Schools report
- Unlocking Collaborative Solutions to Water Challenges in the Los Angeles Region: The Power of Schools
- Green schoolyards for Los Angeles The Smart Policy Solution For Equity, Health, And Climate Resilience
- Youth Climate Commission Survey

EVENTS

- Green Schools & Stormwater Tours hosted by Safe, Clean Water Program Watershed Coordinators
- Sustainable Facilities Forum 2024
- Green California Schools & Higher Education Summit 2024

Please take a few moments to fill out the exit survey.

Are you interested in connecting with a Watershed Coordinator? Someone else at the today?

FINAL SURVEY

THANK YOU!

COUNCIL FOR WATERSHED HEALTH

GETTING TO GREEN

A Virtual Forum on Creating Living Schoolyards in Los Angeles County