
Is your water
going green?
SUSTAINABILITY
360°
Real-world green strategies
to cut costs and return cash
to our classrooms

Real-World Smart Water Management Strategies Cut Costs and Return Cash to Classrooms

Case Studies presented by:

Chris Manchuck, HydroPoint Data Systems

HydroPoint® data systems, inc.
The proven leader in Smart Water Management℠

Erik Anderson, Hydro-Scape

HYDRO-SCAPE
IRRIGATION & LANDSCAPE SUPPLIES

AIA CEU

A 360° Approach to Sustainability

- Self-funding technology solutions.
- Best practices and lessons learned.
- Real-world results; **cash to classrooms**.

The Greening of Schools

- Budget shortfalls.
- Efficient management of building and project costs.
- Renewable resources create a better sustainability model for future generations.

The Water – Energy Nexus

- One gallon of water saved equates to four watts of power saved. *(EPA)*
- 19% of CA energy use as directly attributed to water. *(CA EPA and DWR)*
- Landscape irrigation represents the greatest area of urban water waste in CA by almost 2x over other uses. *(AWWA, DWR, CUWCC)*

Focus on Outdoor Water Use

- Landscapes are overwatered by up to 300%
- Easiest target for large scale water savings
- Greatest target for compounded benefits beyond water savings

The Bottom Line

- Green schools use 32 percent less energy.
- Green schools use 33 percent less water.
- If every school in the U.S. were to go green, the dollar savings would reach **$20 billion** by 2020.

Source – Greening America's Schools: Costs and Benefits, by Greg Kats

SCHOOLS CASE STUDY – K to 12 District
Davis School District, Farmington, UT

Davis School District

CHALLENGE	§ 1,500 acres of landscape maintained by irrigation staff of four. § 23 campuses recognized as Energy Star-certified. § 1 million square feet of new construction since 2008. § 20% increase in students served predicted by 2024.
SOLUTION	§ Installed WeatherTRAK smart controller at pilot site, saving 1.6 mil. gallons of water in first 90 days – 38%. § Reduced maintenance visits from 22 to 2, saving 44 man hours. § Prioritized install of 50 more smart controllers with central internet control at and implemented over 36 day period.
RESULTS	§ Returned $78,000 of savings to General Fund in 2010. § Achieved project ROI in less than 24 months. § Supports Energy Committee's goals to reduce utility use and expenditures by 20% and garner additional EPA awards each year.

SCHOOLS CASE STUDY – K to 12 District
Campbell Union School District, San Jose, CA

Campbell
UNION SCHOOL DISTRICT

CHALLENGE	§ 12 elementary school campuses with over 100 acres of turf. § Heavy use of athletic fields by community groups and programs. § Antiquated controllers required frequent manual changes. § Water agency audit revealed that irrigation was 85% of water use.
SOLUTION	§ Replaced outdated controllers with WeatherTRAK controllers and Central Internet Management across 12 campuses. § Project financed with water agency rebates to accelerate payback. § Easy implementation; ability to install in 5 days.
RESULTS	§ Returned $111,000 back to District's General Fund in Year One. § Reduced irrigation maintenance time by 20%. § Achieved project ROI within 12 months. § Reduced water use 38%, saving 39 million gallons of water.

SCHOOLS CASE STUDY – K to 12 District
Berryessa Union School District, San Jose, CA

CHALLENGE	§ Antiquated irrigation systems across the district. § Need to protect local watershed from soil erosion and run-off. § District directed staff to generate cash savings from facilities budget to fund critical infrastructure projects.
SOLUTION	§ Upgraded to WeatherTRAK controllers at 11 campuses in 2009. § Reduced truck rolls and time in field with automated scheduling. § Central Internet Management tools delivered remote visibility, advanced reporting capabilities and email or text alerts.
RESULTS	§ Water use reduced an average of 45% per site, district-wide rollout. § Completed project payback in first nine months, saving 1.1 million gallons of water. § Secured additional financing for irrigation upgrades with agency rebate programs.

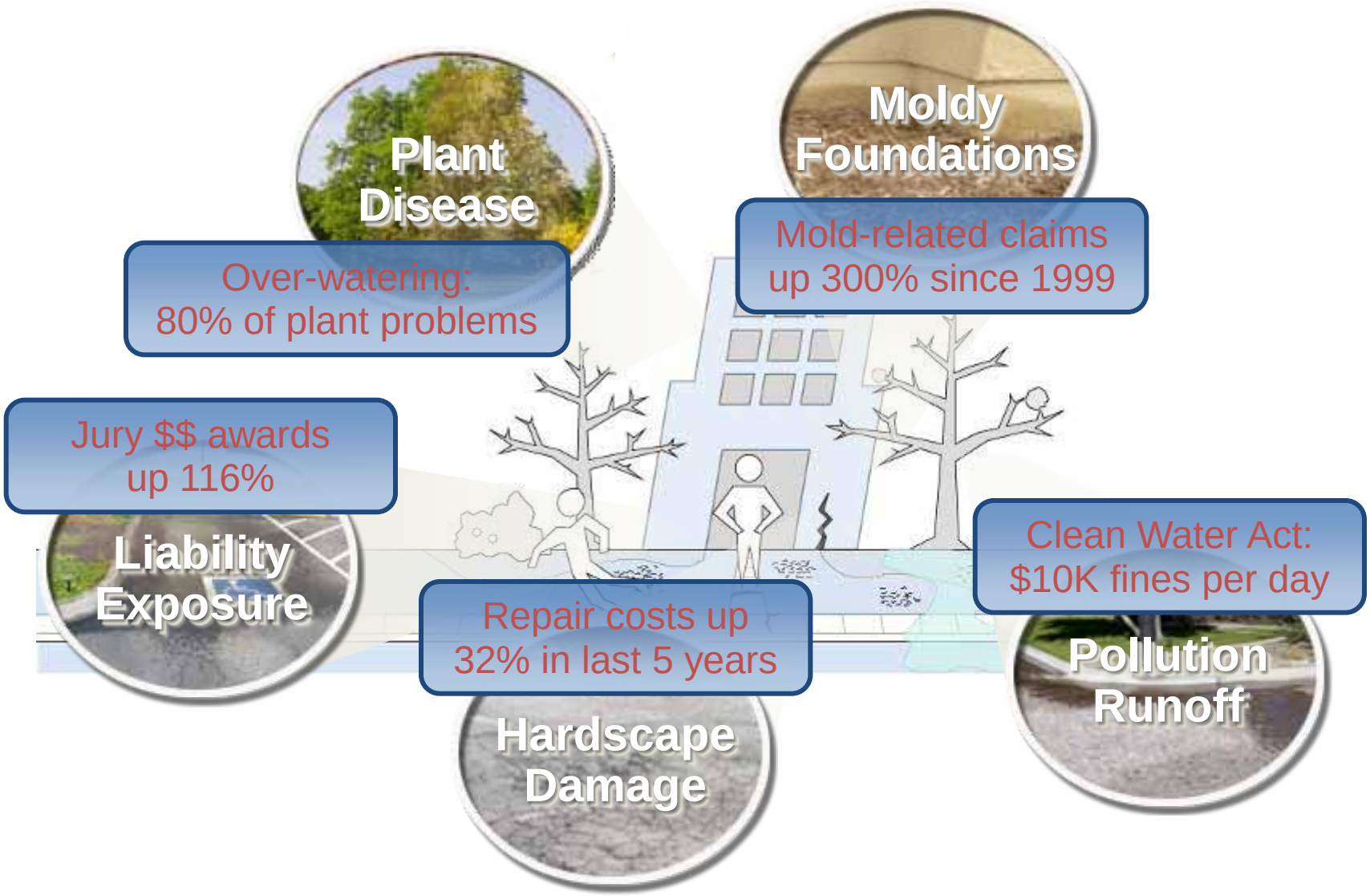
SCHOOLS CASE STUDY – K to 12 District
Escondido Elementary School District , Escondido, CA

CHALLENGE	§ Multiple broken heads and non-working master valves. § Over-watering causing muddy fields, flooding and extensive hardscape damage. § Inconsistent system shut-offs during rainy weather.
SOLUTION	§ Installed ET-based controllers with central internet management. § Repaired flow sensing features and master valves. § Ongoing training provided for field personnel on central control operations.
RESULTS	§ Achieved 25% water savings for District. § Created dry, safe walkways; Eliminated algae growth and run-off. § Remote alerts resulted in immediate sprinkler head repairs by field employees.

SCHOOLS CASE STUDY – K to 12 District
Orange Unified School District, Orange, CA

CHALLENGE	§ Outdated irrigation controllers in need of repairs. § Old hydraulic irrigation valves; expensive to replace. § Inconsistent watering causing dry spots, wet spots, burned fields. § Watering schedule conflicting with sports and recreation activities.
SOLUTION	§ Upgraded controllers to Central Control, ET-based system. § New controllers provided ability to program water during non-use hours. § Relocated misplaced heads. § Updated outdated control valves with new hydraulic converters .
RESULTS	§ Consistently green landscape and healthier fields. § Central control enables open master valves and coupler hose down of lunch areas with minimal water use. § Automated rain pause and seasonal programming significantly reduce labor costs and man hours.

Why Outdoor Water?



A Roadmap

Starting your assessment:

- Gather information
- Historical water use
- Evaluate your sites
- Evaluate your systems
- Evaluate your plant material

Campbell Union School District

Design and Site Efficiencies

- Sprinkler Heads and Nozzles
- Sensors and Valves
- Drip Irrigation
- Mulch and Ground Materials
- Xeriscape and Drought Tolerant Plants
- Turf Improvements

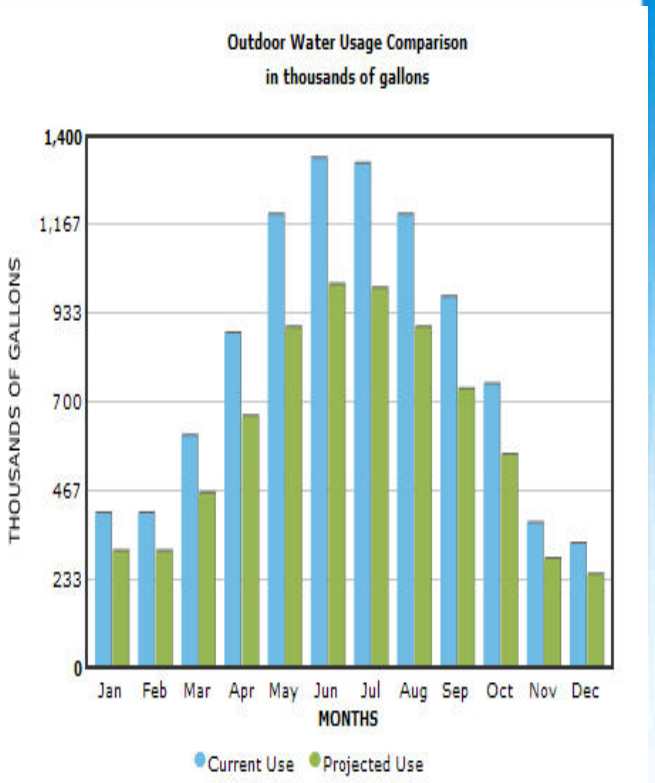
Davis School District

Integrating Smarter Technology

- Master control valve and flow sensors
- Internet management and monitoring
- Smart Phone applications
- ET data and weather adjustments
- Smart irrigation controllers

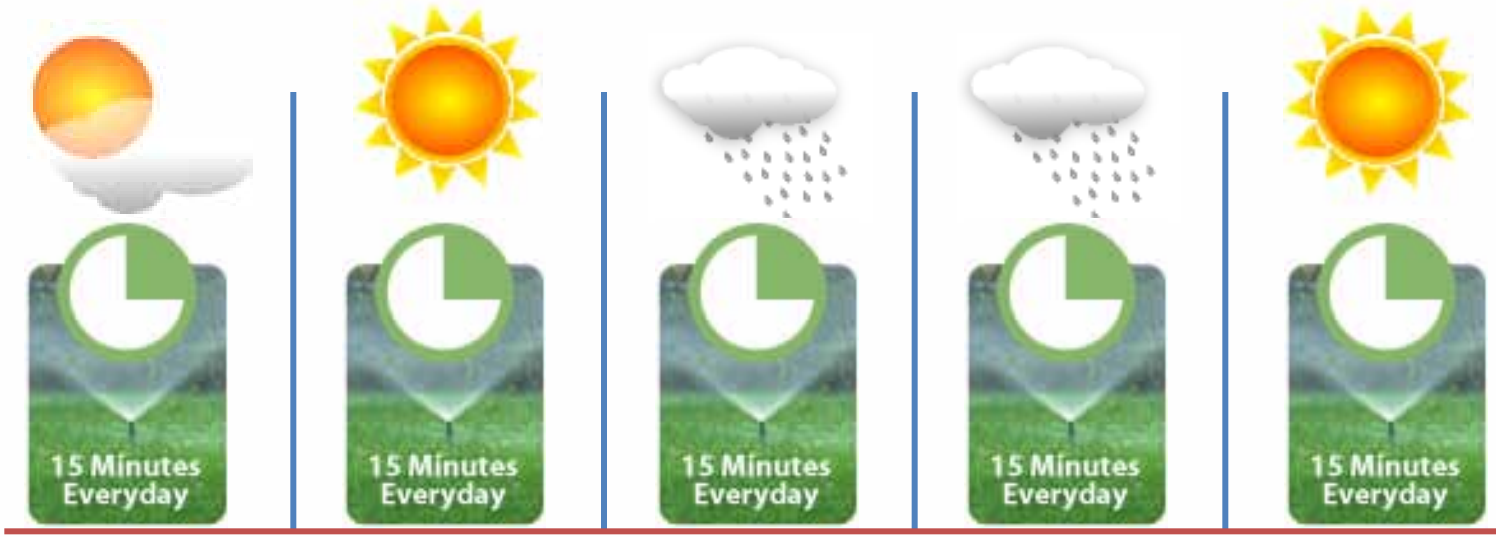
Smart Controllers

"The primary goal of a smart controller is to reliably match the actual irrigation application to the theoretical irrigation requirement of the landscape or the crop being irrigated." ***Irrigation Association***



Today's Reality: "Traditional" Irrigation

Old Timer



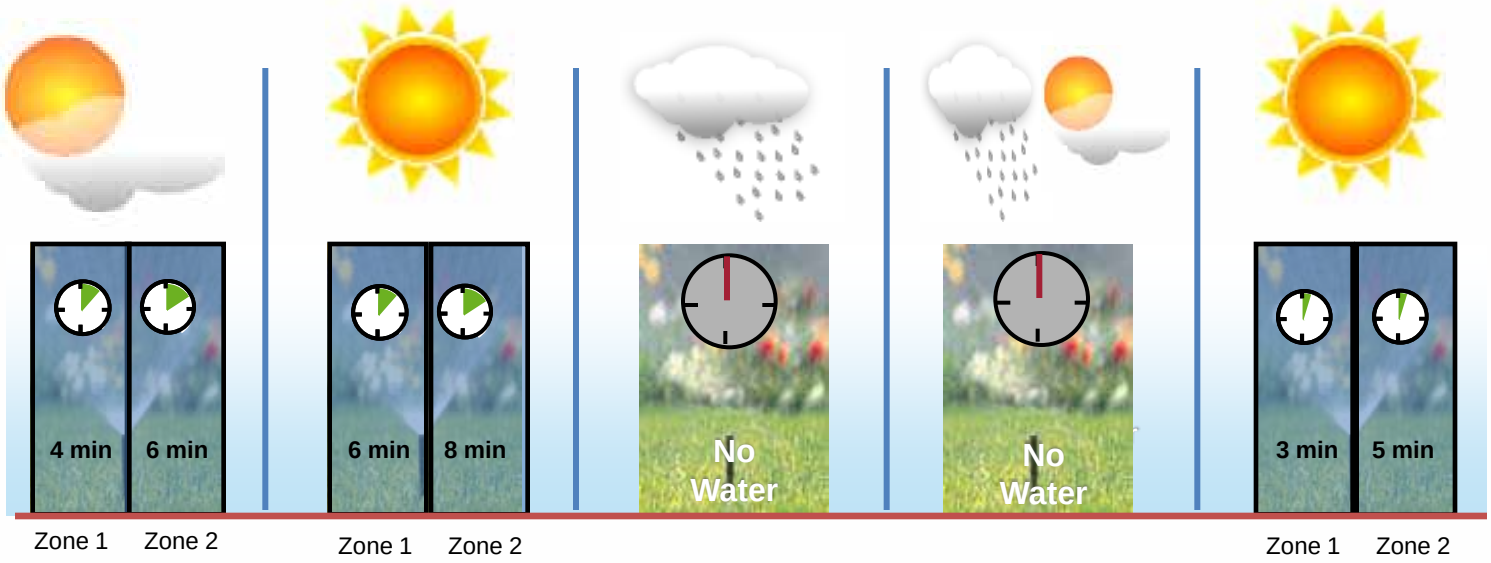
Up to 3x Wasted Water

Standard controllers fail to recognize actual landscape needs based on:

- Plant Type
- Soil Type
- Slope
- Sprinkler Type
- Exposure
- Wind
- Temperature
- Solar Radiation
- Humidity

Smart Controller Irrigation

Smart Water Management



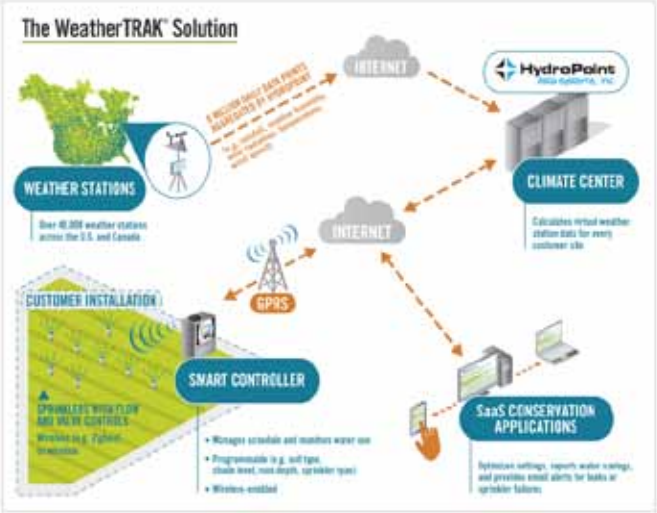
25%+ Average Water Use Reduction

Smart Soluitons Uses site-specific landscape data plus local weather data

- Plant Type
- Soil Type
- Slope
- Sprinkler Type
- Sun Exposure
- Wind
- Temperature
- Solar Radiation
- Humidity

Smart Controller Keys

- Accurate and reliable weather data
- Automated horticultural scheduling
- Flexible and customizable
- Site based Central Control capable
- Tested and proven results



Funding Resources

Community Funding for Athletic Fields:

- MLB grants
- NFL Youth Fund
- US Soccer Foundation

Berryessa Union School District

Local Water Agency Rebates and Partnerships

Self-Funding Smart Controllers and Water Technologies:

- Accelerated project ROI
- Cash savings on first water bill

Proven By K-12 Schools Districts

Los Angeles Unified School District

Campbell Union School District

Santa Barbara School Districts
Excellence for All

Educate · Inspire · Empower
Oxnard School District

Petaluma City Schools

Novato Unified School District

Davis School District
Fostering Educational Excellence

Orange County Department of Education

Berkeley Unified

Brentwood School

Santa Margarita Catholic High School
Caritas Christi
1987

Wilson County Schools
"Meeting Tomorrow's Needs Today"
Tennessee

Bend La Pine Schools
Educating Thriving Citizens

Temecula Valley Unified School District

Santa Rosa City Schools
Excellence is our Common Ground

Lake Elsinore Unified School District

Proven By Higher Education

Q & A

We Welcome Your Questions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Real-world green strategies
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