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Sustainable Water Savings through Comprehensive Irrigation Management and Public Private Partnerships

New Partnerships – New Initiatives

Kenneth Cook

CEO & Managing Partner

Acequia, LP

A BlueGreen Synergy, LLC company



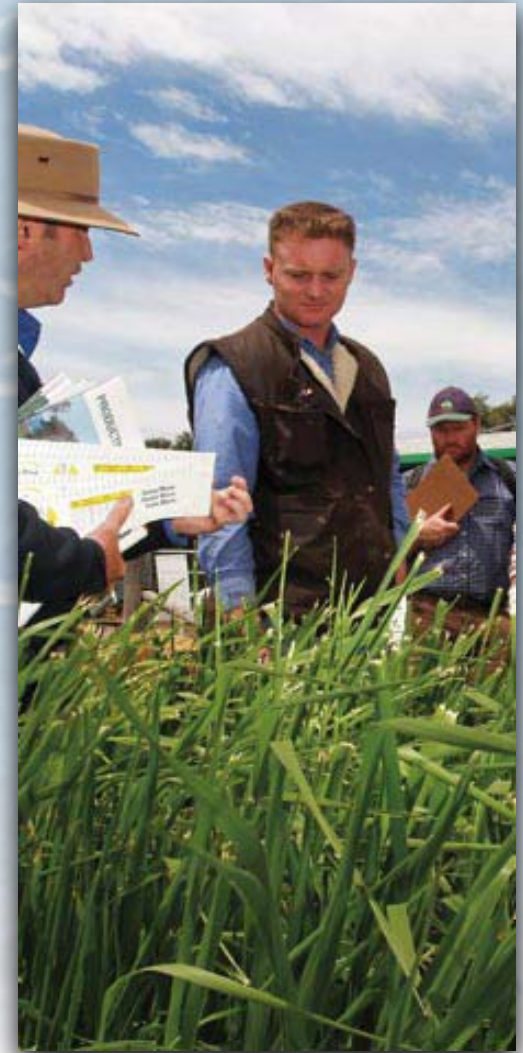
New Partnerships – New Initiatives

Background Kenneth W. Cook

- Financier of intense irrigated agriculture, upper Texas Gulf Coast (Farm Credit System)
- Turf grass farming (Quality Turf Grass, Inc./Crenshaw & Doguet)
- Turf breeding and research (Texas A&M University)
- Landscape maintenance/ construction/ irrigation
- Golf course development/ management
- Consolidator of commercial landscape companies (TruGreen)
- Pioneer of professional water management – commercial landscape (Acequia)
- Delegate North America/ Australia 2009 – Climate Shift & Drought (Austrade)
- Legislative Representative – Water Issues (Irrigation Association & Private)



- ***Acequia*** is an old Spanish term meaning *Water Steward*
 - Selecting this term as our company name unknowingly defined the path our company would take
- ***Our Core Values***
 - Produce extraordinary water savings
 - Provide unparalleled customer service & environmentally sustainable solutions
 - Lead by example in protecting our green environment and water resources



Australia Experience – Lessons Learned

If we had only known what we now know...

South Australia Water (Nov 2009)

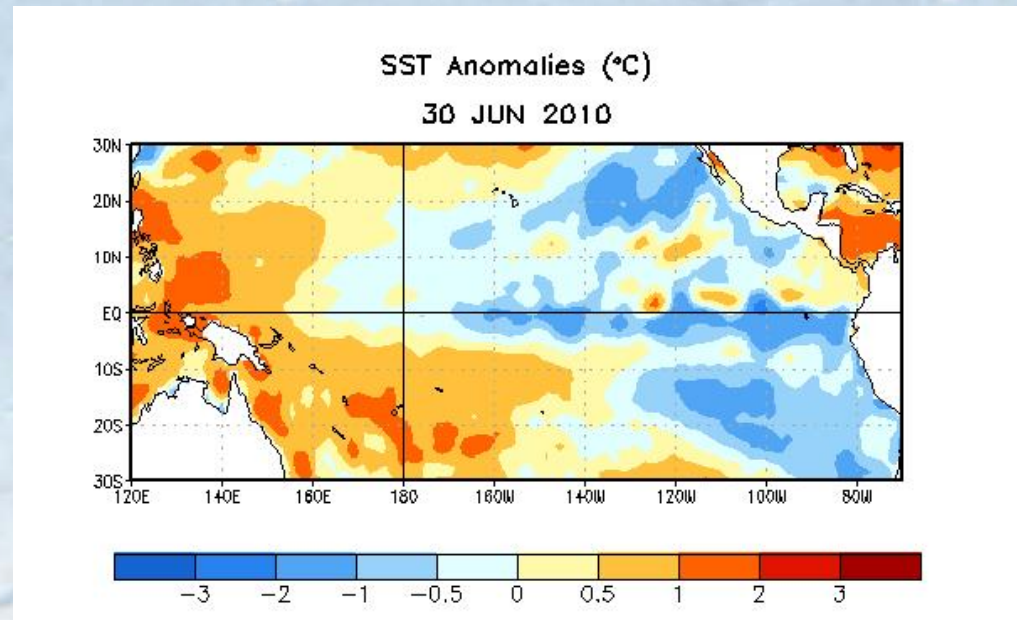
John Ringham, COO

- Improve efficiencies and use in urban landscapes
- Make efficiency changes in the landscape early on; too important for all stakeholders to get to point of no water availability for irrigation
- Real estate values affected by as much as 30%
- Population upset Utility allowed this to happen; blamed poor planning



NOAA Climate Prediction Center – July 8, 2010

Preliminary research indicate potential for La Nina and resulting drought conditions starting summer 2010 through 2011




(Climate Prediction Center – July 2010)


Understanding the Challenge


“Future of long-term savings potential will increasingly be derived from customized commercial, industrial and landscape programs.”

(MWDSC 2010)



 Adequate Reserves

 Depleting Reserves

 Reserves for Emergencies Only (670,000 AF)

(www.mwdh20.co)

Landscapes at Risk

- Turf removal programs
- Green building programs reward for no irrigation
- Reduced vegetative cover in urban areas leads to reduction in evapotranspiration



Benefits of landscapes overlooked:

- Pollution and H₂O contamination filtration
- Reduces heat island effect
- Provides oxygen
- Human health and well being (landscapes proven to reduce stress, reduce crime rates, improve overall physical health)
- Increased property valuation



Breaking Down the Problem

- Landscape irrigation accounts for 60-75% urban potable water consumption
 - Excessive scheduling
 - System integrity
 - Operation in rain/ wet conditions
- Landscapes blamed despite proven studies
 - indicating vital importance of landscapes to human health and well-being,
 - crime reduction,
 - heat island reduction,
 - filtering pollutants from water runoff, and
 - increased property valuation
- Irrigation system infrastructure suffering degradation similar to our antiquated water and wastewater infrastructure
- Economic pressures on operating expense to maintain system integrity
- Commoditized relationship between commercial property owner and landscape irrigation contractor; not conducive for sustaining water savings from conservation investments
- High turnover rates among property managers and landscape contractors
- Investments in landscape conservation historically unsustainable and immeasurable, leading to imposed water restrictions.
- No protection for early adopters

Sizing Up Opportunity

- EPA estimates daily potable water landscape > 7 billion gallons
 - 50% water value unrealized
 - Waste caused by inefficiencies, leaks and excess application beyond plant water requirements
- \$10.2 billion annually - *more than enough to support this proposed new industry*



Landscape Dynamics

- Ever changing environment
- Commoditized relationship between commercial property owner and landscape/irrigation contractor discordant with conservation investments and sustainable water savings
- High turnover rates among property managers and landscape contractors
- Economic pressures on operating expense to maintain system integrity
- Resulted in a devalued service with zero compensation and no attention to delivering irrigation water efficiently and effectively



Prelude to Change

CURRENT CHAOS

WaterSmart Innovations 2009 – US EPA Stakeholder Open Forum

Common Thread: Stakeholder fragmentation and disconnect

- Landscape professional held responsible for conserving water
- Irrigation manufactures disputed claims regarding documentable savings
- Irrigation professionals assuming control of water, blamed for excessive application
- Regulatory agencies not accountable
- Water utilities imposing restrictions & blaming landscapes

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Industry in Formation

- Integrating water management model with existing service industry
- Redefine roles in landscape water management
- Formation of professional landscape water management industry



Proactive Scenario

Comprehensive Irrigation Management:

- Restoration of antiquated irrigation systems,
- Implementation of new control and sensor technologies,
- Enhance system operating efficiencies,
- Instill Best Management Practices,
- Supplement maintenance of system integrity
- Direct changes in landscape management cultural practices
- Source non-potable water sources
- Preserve beneficial landscapes.



Saving energy,

Saving water,

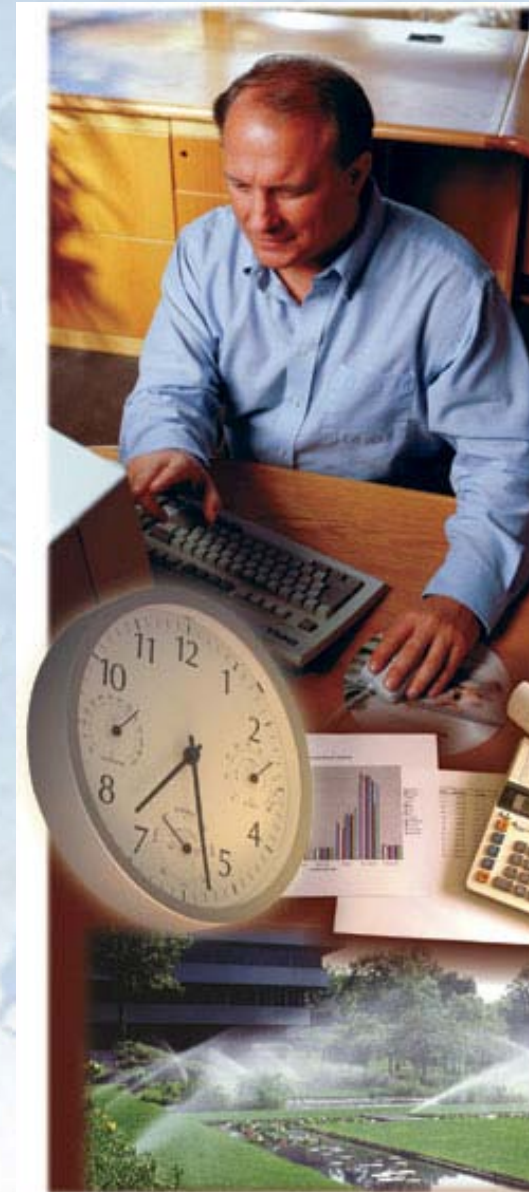
Sustaining our environment.



New Partnerships – New Initiatives

The New Landscape Water Manager

- Accept responsibility for overseeing necessary components
 - Maximize
 - Measure
 - Document
- Become the central hub for landscape/ irrigation providers and property stakeholder
 - Sustained water conservation regardless of changes between property stakeholder and service provider
- Educational background in Agronomy
- Cooperative relationship with landscape service providers
 - Prescribed work scope complimentary to water conservation
- Cooperative relationship with irrigation service providers
 - Notify need for irrigation repairs to property stakeholder
 - Provide financial detail for irrigation repairs





New Partnerships – New Initiatives

Landscape Water Management...

More than controlling irrigation,

- Dedicated commitment to BMP's by water managers, landscape and irrigation professionals
- Water utility providers will provide significant role in mass adoption of industry via conservation incentives
- Hatchet restrictions can be converted to water saving incentives
- Value of water lost in landscapes could surpass total annual revenues generated by the green industry
- Development of new industry provides landscape and irrigation professionals with greater assurance of protecting their livelihoods and preserving access to well maintained green spaces



Creating Alignment

Public Private Partnerships

- Use of savings created to fund consumer awareness programs
- Managed solution to landscape irrigation
 - Water Budget/ Comparison based on irrigated area
 - Bundles conservation programs; maximize water ROI
 - Incorporates move to non-potable sources
- Correct funding mechanism contributing to lack of small business engagement
- Supports long-term environmental issues regarding landscape value and water quality
- Meets American Recovery & Reinvestment Act 2009 goals of green job creation and sustainable water and energy conservation
- Creates water **today**



Partnering Opportunities

- Mandate Irrigation Audits
 - **Annual Audit (Licensed Irrigator)**
 - **Score (Pass/ Fail)**
 - Pass- Refund audit cost in water bill
 - Fail – Disconnect water supply/ re-test
 - **Incentivizes owner to maintain systems**
 - Reimburse passing cost on first audit
 - Provide contemporary comparison
- Implement Comprehensive Management Programs
 - **Variance for early adopters**
 - **Rebate separate meter capital recovery over time**
 - **Performance – based rewards for sustained results**
- Seed private investment funds
 - **Matching fund**
 - **Required reinvestment**
 - **Minimum performance standards**



A BlueGreen Rain Fund Example

- Matching Conservation Seed Loan Program
 - Leverage 1:1 with private investment
 - **Commit \$5M** for seeding fund
 - Require 50% reinvestment for 5 years
 - **\$35,000,000** Compounded investment (5yrs)
- Minimum level of results required 50% sustained over time
 - Generates 17,503 AF savings annually at 60 mo.
 - Doubles every 18-20 months
- Self-funding public awareness campaign
 - Allocate 2.5% of fund to marketing and PR
 - Display measurable in real-time
- Reward savings through based on water savings and sustained period
- Comprehensive solutions approach
- Reduce landscape dependency on potable water sources



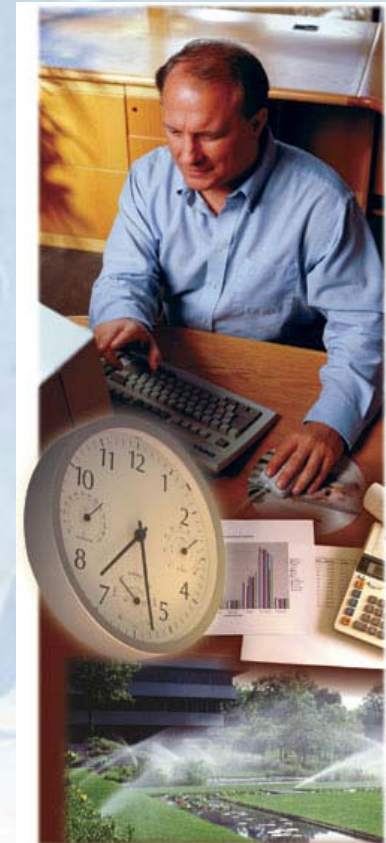
Potential Water Supplier Benefits



- Reduce enforcement costs
- Increase public awareness and involvement
- Enhanced marketing effort
- Leverage public funds with private funds to maximize return
- Reward performance results
- Return water to environment
- Monitor and document compliance
- Measure actual results with minimal internal costs

A BLUEGREEN SOLUTION

- **COMPREHENSIVE LANDSCAPE IRRIGATION MANAGEMENT**
 - Real-time network implementation
 - Focused water application to landscapes by trained Agronomist
 - Managing rain events
 - Detecting leaks and inefficiencies
 - Reporting and alarming service
 - Escalation and repairs management and funding
 - Precise, volumetric application
 - Range-based need
- **RESULTS AT 8th YEAR**
 - 2008 US EPA WELA Award
 - Sustained 64.7% savings
 - 1.6 billion gallons documented
 - Seven state management arena





BALANCE IS KEY

Effective Technology + Effective Management + Private Investment =
Sustained Water Supply



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Kenneth W. Cook
CEO Acequia, LP
Chairman BlueGreen Synergy, LLC

PO Box 271
Athens, TX 75751

Phone: 800-276-1507 x 4
Email: kwcook@acequia.com

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