

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com



Can Residential Water Savings Benefit from a “Personal Touch”



Water**Dex®**

WaterDex Remote Control Effectiveness Pilot Study



WaterDex[®]

Irvine Ranch Water District

- 100 unit purchase
- Targeted free distribution to 900+ home community
- Monitoring savings
- Have significant experience with Weather Based Irrigation Controllers
- WaterDex is the “simple, low cost” alternative

Place WaterDex
Remote Control Here



WaterDex Study
For assistance: 949-453-5581
Monthly Watering Guidelines
For weekly WaterDex Settings
Register at: www.waterdex.com

January 30%	February 30%	March 50%	April 70%	May 80%	June 100%
July 100%	August 100%	September 70%	October 50%	November 40%	December 30%

Goals and Objectives

To determine if the WaterDex device provides enough water savings to justify additional staff support and funding needed to implement and expanded program, such as providing customer incentives.

The Pilot Study charted the following two objectives:

1. **Determine whether study participants were able to use the device effectively** and that the participants were satisfied with the devices performance, **given minimal support from IRWD staff and the manufacturer.**
2. **Water savings attributable to the device were observed based on a review of participant's water usage data** using their neighbor's water demand over the same time periods before and during the study, as a benchmark for comparison.

IRWD retained the services of Brown and Caldwell (BC) to develop the initial Pilot Study design and to perform the data analyses. BC was supported by BW Research Partnership, who conducted a customer survey, and Maddaus Water Management, who provided technical guidance, review, and assistance with the documentation.

Outreach

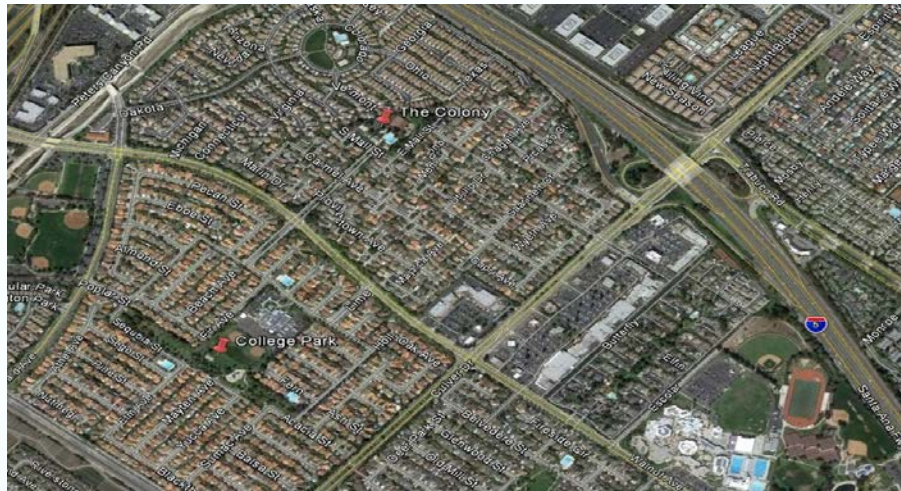
- Mailings
- Web
- Social Media
- Watering Index

Outreach

- IRWD requested participation from the Colony Home Owners Association which includes 931 homes
- **100** participants was established as the goal number to begin the study
- **52** Participants responded from the Colony
- Study was revised to include College Park which has 1018 homes
- Letters were sent from IRWD offering a free device which included free installation
- A total of **98** single family residents volunteered for the Study and **95** were qualified for the study.
- A response rate of **5%**

Pilot Study Area

WaterDex Remote Control Effectiveness Pilot Study



What is the Watering Index?

- Developed by John Wynn at the CA Dept. of Water Resources
- Generally taken as a ratio of today's ET at a given location divided by the 10 year high ET at current location

TODAY'S ET

10 YEAR HIGH ET

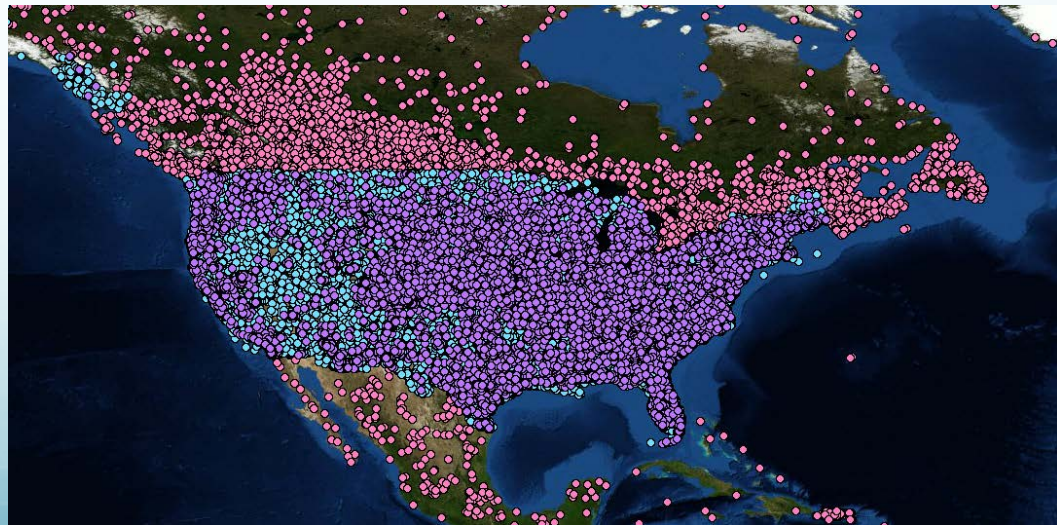
=

83% WATERING INDEX

Watering Index Calculation

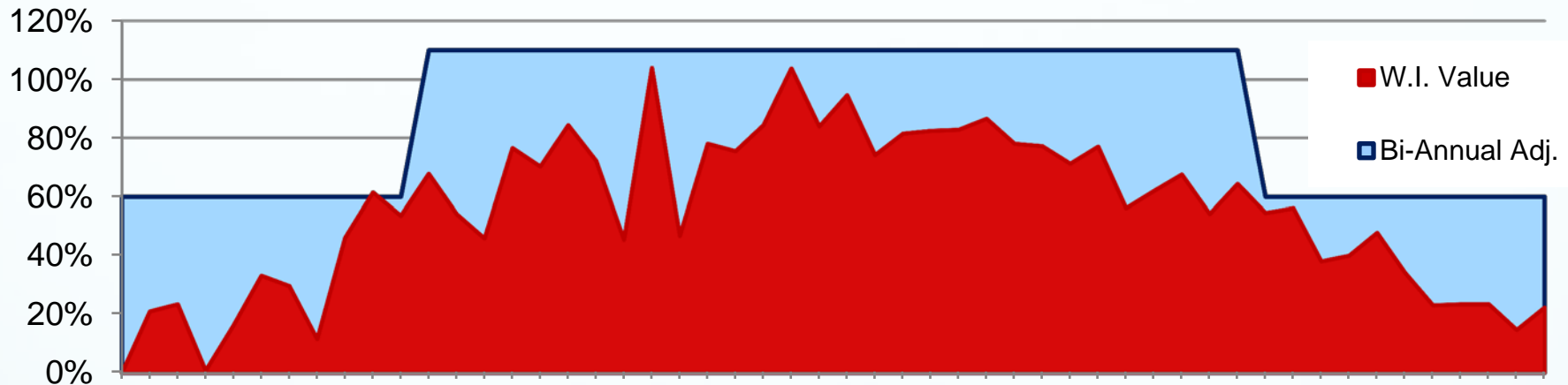
- A Combination of Networked Weather Station Nation wide which include CIMIS and NOAA
- Developed our own algorithms which allow us to calculate daily ET values for every zip code in the country.

It's based on science, ET
It's easy to understand
It's easy to Implement
Watering Index Implementation
Saves Water



Savings Potential

Watering Index Example



- Red Area = 2008 Watering Index Values For 92656 zip code, (Source: Spatial CIMIS)
- Blue Line = Typical, Bi-Annual Sprinkler Adjustment Values (Source: BeWaterWise)
- Water Savings Opportunity (Light Blue Area Between Curves) = 40%
- Typical Residential Outdoor Water Savings Opportunities **May Be as High as 40%**
- **How can the index be effectively implemented?**

What is WaterDex?



Features

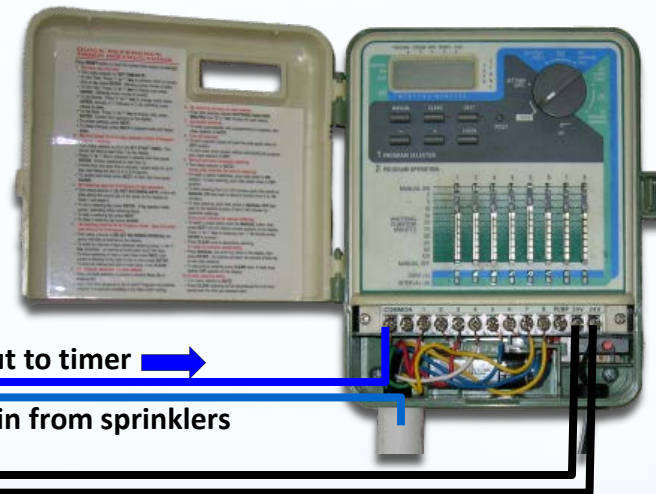
- Retro-fits to any existing controller and enables weather based control
- Conveniently adjust sprinkler system from anywhere in your home
- *Never* reprogram your timer again!
- Keeps the Homeowner “in the loop,” modifies behavior over time



Simple Installation

Your Existing Sprinkler Timer

Mount Receiver
Next to Your
Timer



Common out to timer →

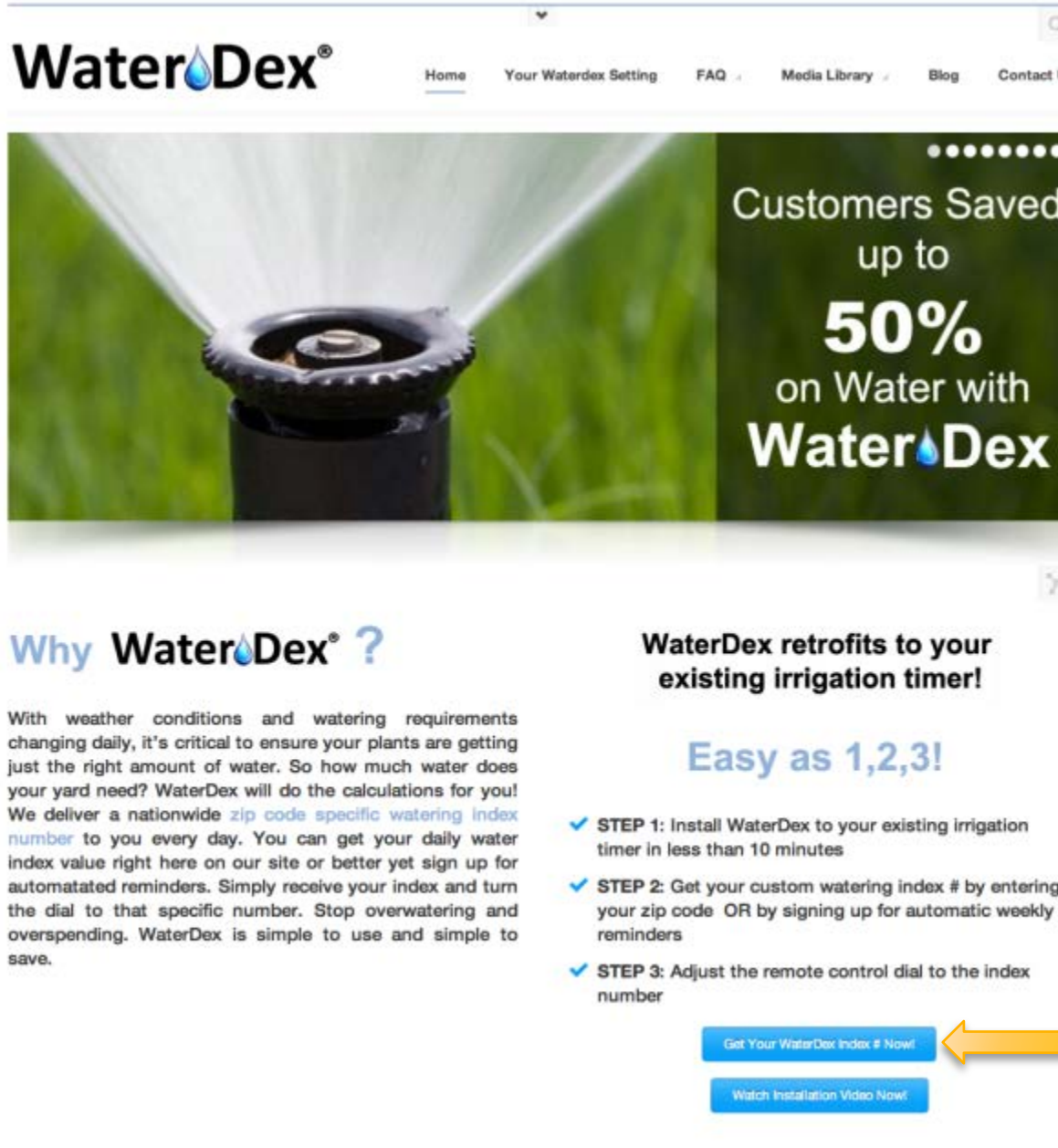
← Common in from sprinklers

→ Connect to power at existing timer

Only 4 Wires to Connect!

Find Your Index

First, visit
www.waterdex.com



The image is a screenshot of the WaterDex website. At the top, the WaterDex logo is on the left, and a navigation menu with links for Home, Your Waterdex Setting, FAQ, Media Library, Blog, and Contact is on the right. Below the navigation bar is a large banner featuring a close-up of a black irrigation sprinkler head spraying water onto green grass. To the right of the sprinkler, the text reads: "Customers Saved up to 50% on Water with WaterDex". Below the banner, the page is divided into two columns. The left column is titled "Why WaterDex?" and contains a paragraph explaining the service. The right column is titled "WaterDex retrofits to your existing irrigation timer!" and "Easy as 1,2,3!". It lists three steps: STEP 1: Install WaterDex to your existing irrigation timer in less than 10 minutes; STEP 2: Get your custom watering index # by entering your zip code OR by signing up for automatic weekly reminders; STEP 3: Adjust the remote control dial to the index number. At the bottom right, there are two blue buttons: "Get Your WaterDex Index # Now!" and "Watch Installation Video Now!". A large yellow arrow points from the right edge of the image towards the "Get Your WaterDex Index # Now!" button.

WaterDex®

Home Your Waterdex Setting FAQ Media Library Blog Contact

Customers Saved up to **50%** on Water with **WaterDex**

Why WaterDex® ?

With weather conditions and watering requirements changing daily, it's critical to ensure your plants are getting just the right amount of water. So how much water does your yard need? WaterDex will do the calculations for you! We deliver a nationwide [zip code specific watering index number](#) to you every day. You can get your daily water index value right here on our site or better yet sign up for automated reminders. Simply receive your index and turn the dial to that specific number. Stop overwatering and overspending. WaterDex is simple to use and simple to save.

WaterDex retrofits to your existing irrigation timer!


Easy as 1,2,3!

- ✓ **STEP 1:** Install WaterDex to your existing irrigation timer in less than 10 minutes
- ✓ **STEP 2:** Get your custom watering index # by entering your zip code OR by signing up for automatic weekly reminders
- ✓ **STEP 3:** Adjust the remote control dial to the index number

[Get Your WaterDex Index # Now!](#)

[Watch Installation Video Now!](#)

Find Your Index



[Home](#)[Your Waterdex Setting](#)[FAQ](#)[Media Library](#)[Blog](#)[Contact Us](#)


Your Waterdex Setting

Home / Your Waterdex Setting

Use the form on the left to get your WaterDex setting.

OR

Use the form on the right to automate the process of retrieving your weekly setting. Pick a subscription plan to get your WaterDex setting automatically emailed to you.



Today's Watering Index for IRVINE, CA is 92%.

92651

Get Watering Index

Enter your zip code and then adjust your WaterDex dial to the value shown above and start saving water!

Select a Subscription

You get a 60 day FREE trial + 1, 2, or 3 years automated e-delivery of custom zip code specific setting. As a courtesy, a message will be delivered to your mobile device 10 days prior to payment being submitted.

GREAT - 60 Day FREE trial & 1 Year Subscription

Only \$9.95 for 14 Months

Sign Up

SMART - 60 Day FREE trial & 2 Year Subscription

Only \$14.95 for 26 Months

Sign Up

GENIUS - 60 Day FREE trial & 3 Year Subscription

Only \$19.95 for 38 Months

Sign Up

Now, Type in
Your Zip Code and
Click "Enter"

Set Your Remote



Today's Watering Index for LAS VEGAS, NV is 71%.

89119

Get Watering Index

Enter your zip code and then adjust your WaterDex dial to the value shown above and start saving water!

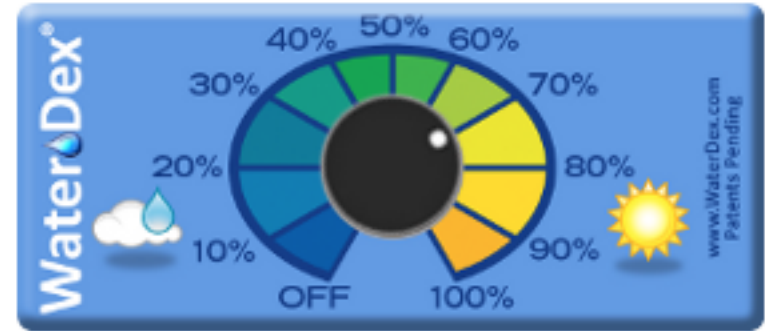
Based on Your Local Weather Conditions, Your Watering Index is Automatically Calculated

Now Simply Adjust The Dial on Your WaterDex Remote Control as Shown Here, And You're Done!

Set Your Remote



Now Simply Adjust
The Dial on Your
WaterDex Remote Control
as Shown Here,
And You're Done!



**Today's Watering Index for LAS
VEGAS, NV is 71%.**

89119

Get Watering Index

**Enter your zip code and then adjust
your WaterDex dial to the value
shown above and start saving water!**

Simple Savings

- Two Key Messages:
 - Whenever your WaterDex setting is below 100% you ***are saving water***
 - You can ***never*** use more water than your current timer is programmed for



Analysis

1. Participant Feedback Survey
2. Billing and Account Data
3. Graphical Analysis
4. Statistical Analysis
5. Recommended Implementation

Participant Feedback Survey

The overall goal of the post study feedback survey for the WaterDex device was to ascertain both opinions and information from the study participants including:

Why customers signed up for the study?

Willingness to pay for the device and how much?

How often did customers use the device; daily, weekly, monthly or seasonally?

Were customers overall satisfied with the device?

Did the participant's unique circumstances lead to unusual data usage patterns (e.g., businesses in the home [daycare], known yet unrepaired leakage, absence from the home for significant periods, etc.)?

Closing the Circle on Outreach

60% of Study Participants completed a phone or web survey following the study

63% of Study Participants were either Satisfied or very satisfied with WaterDex

71% of customers would recommend the WaterDex Device to their friends and neighbors

Closing the Circle on Outreach

Only one responder (approximately 2 percent) used the device to adjust their irrigation schedule on a daily basis.

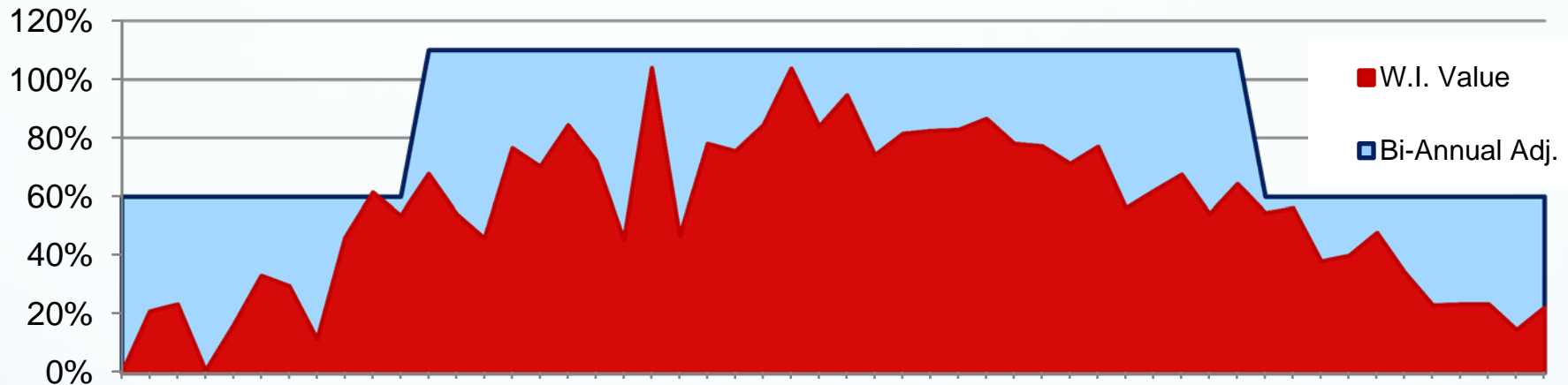
Approximately 47 percent of responders used the device to adjust their irrigation schedules on a weekly basis.

Approximately 16 percent of the responders used the device to adjust their irrigation schedules on a monthly basis.

Approximately 20 percent of the responders used the device to adjust their irrigation schedules on a seasonal basis.

Approximately 14 percent of the responders had never adjusted the device.

65%



In total 65% of Participants changed the dial using the watering index at minimum of 1X per month

Billing and Account Data

IRWD staff performed a detailed query of their billing system and provided other supplemental information as needed for this analysis. IRWD provided the following information:

Detailed information from each participant's pre-survey application and documentation on when the device was installed.

Historical monthly water billing data for each customer within The Colony and College Park dating from January 1996 through November 2011.

Changes in homeownership during the study period (to check participants moving and new residents or foreclosures).

Information on water budget changes over time to better understand water demand trends.

Variances to the water budget-based rates.

Details on rebates issued by account, including when and what type of incentive was received.

Weather ET data for the nearest station applicable to the villages' location.

Graphical Analysis

WaterDex Remote Control Effectiveness Pilot Study

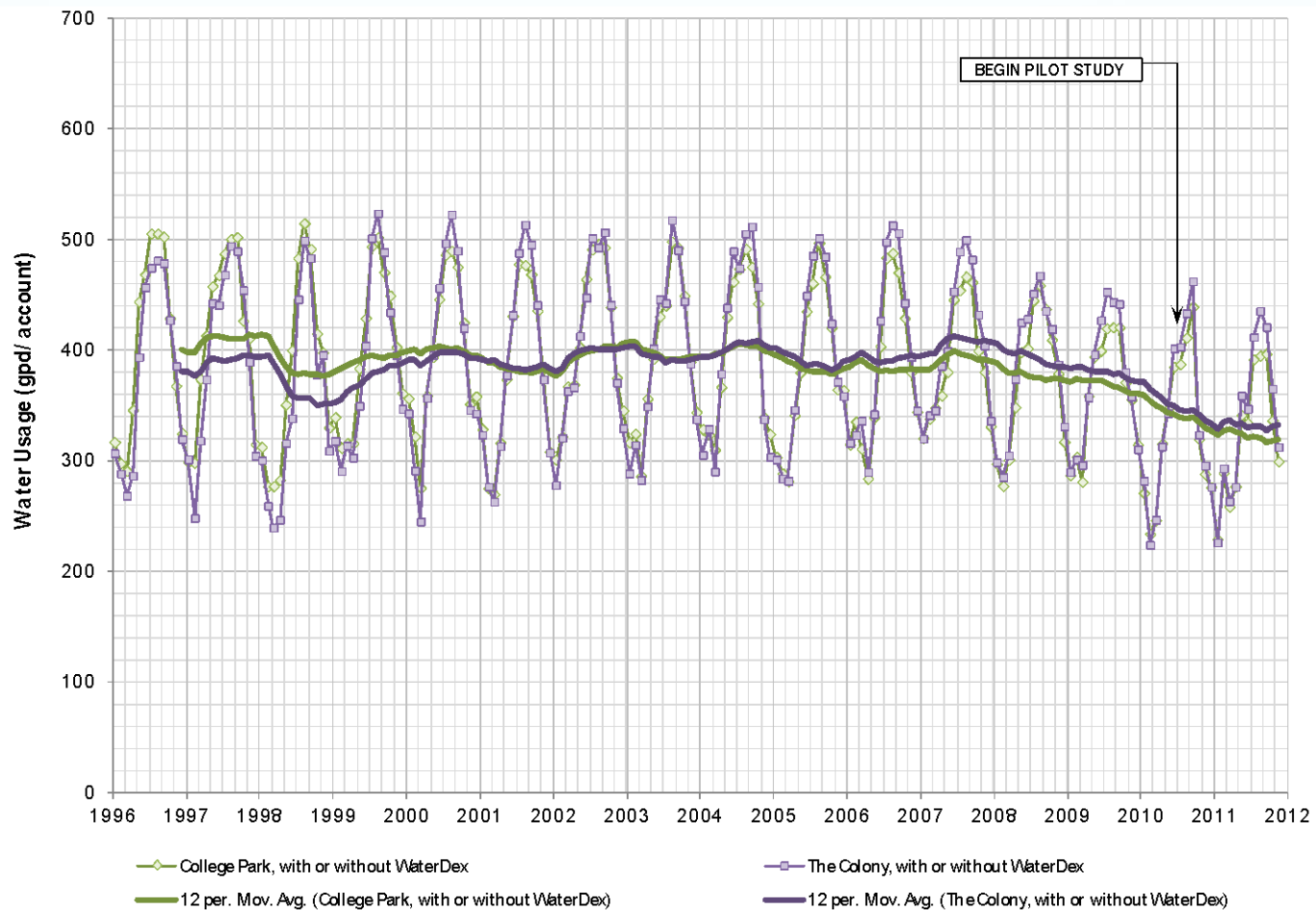


Figure 5. Monthly Water Usage and 12-month Moving Average for The Colony and College Park Customers

Graphical Analysis

WaterDex Remote Control Effectiveness Pilot Study

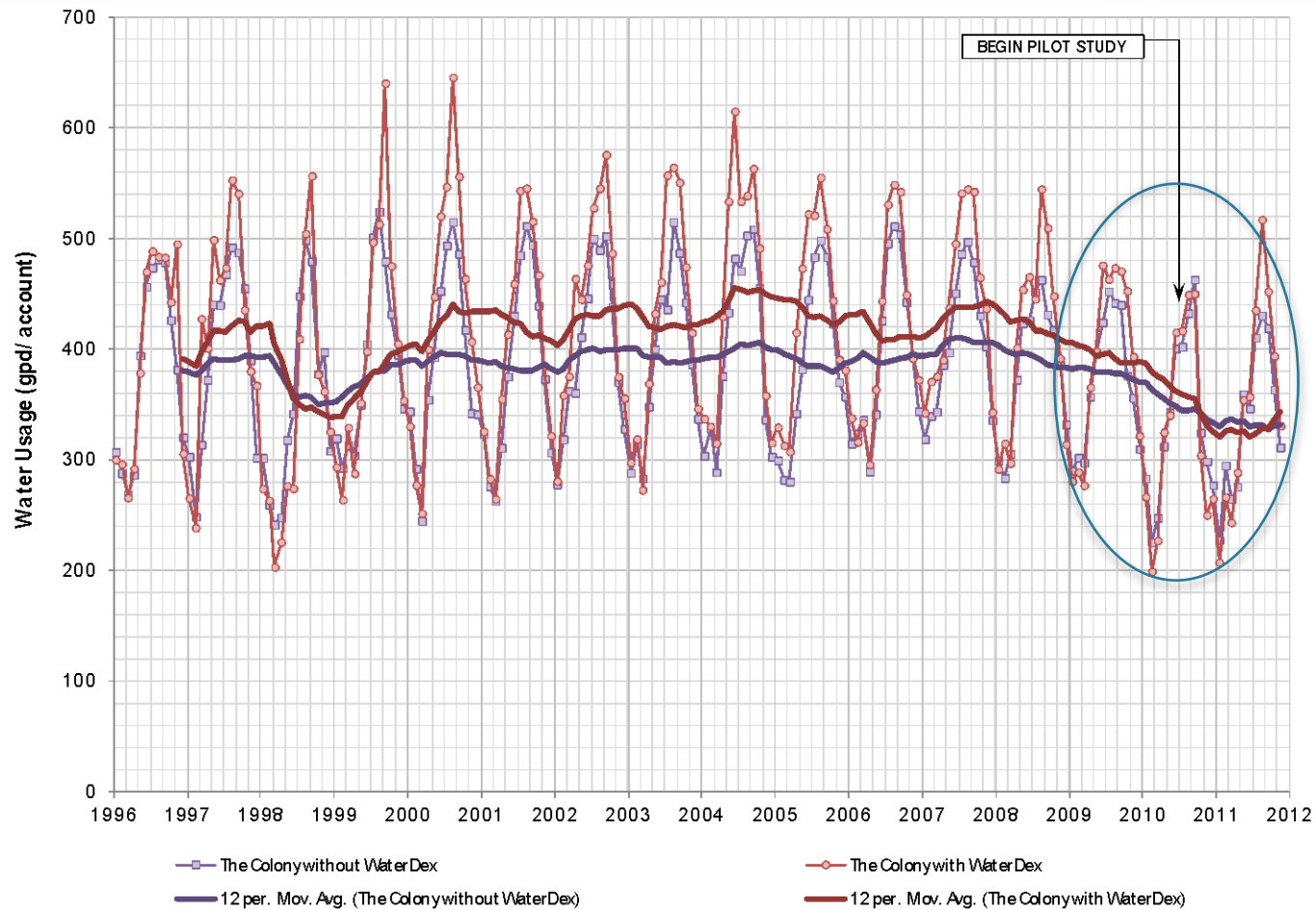


Figure 6. Monthly Water Usage and 12-month Moving Average for WaterDex and Non-WaterDex Customers in The Colony

Graphical Analysis

WaterDex Remote Control Effectiveness Pilot Study

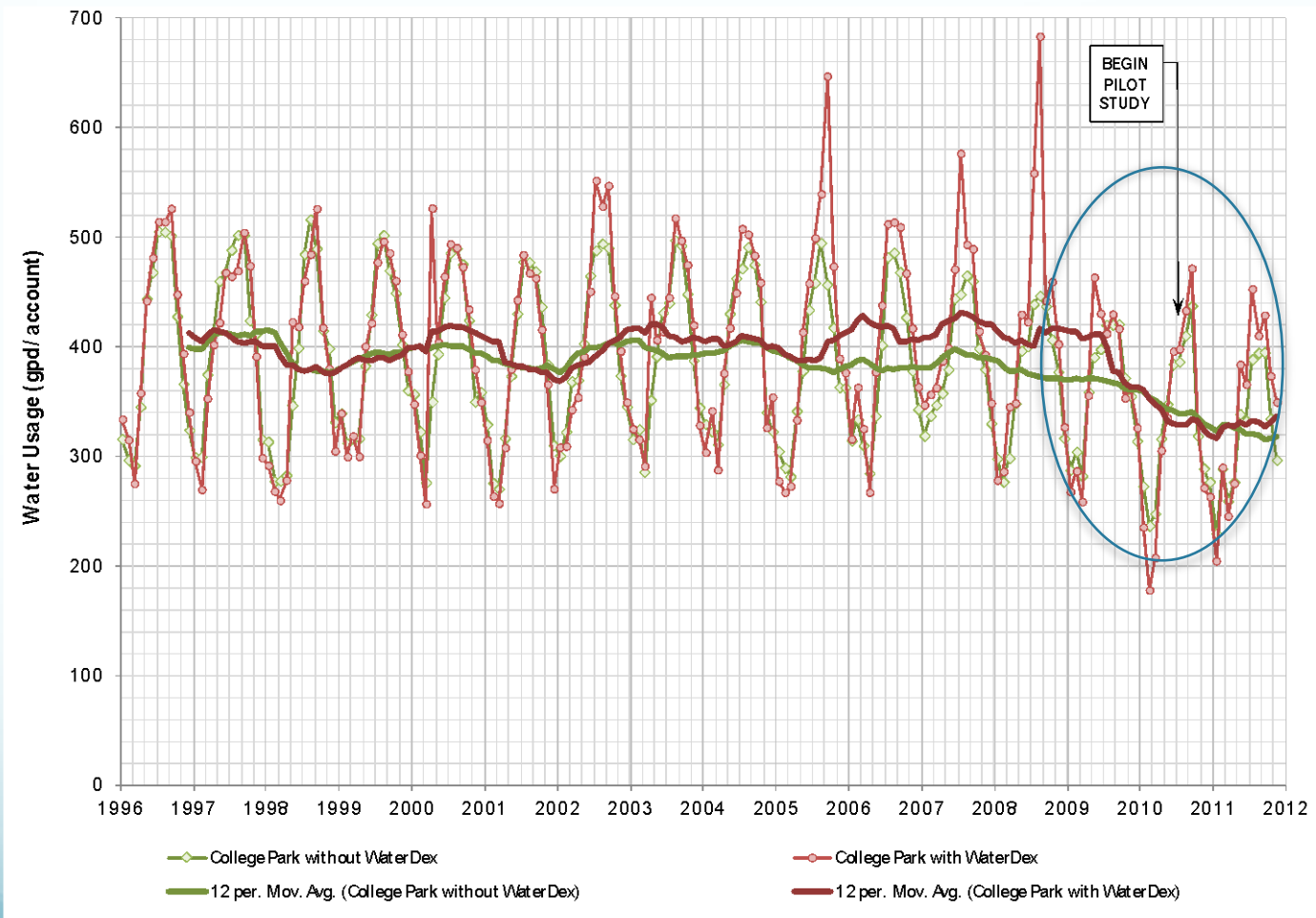


Figure 7. Monthly Water Usage and 12-month Moving Average for WaterDex and Non-WaterDex Customers in College Park

Statistical Analysis

The WaterDex users decreased approximately 70 gpd/account, **or 17 %**.
The non-WaterDex users decreased approximately 58 gpd/account, or **15%**.
The net difference, is approximately **13 gpd/account**, which equates to **3- 4 %** of the pre-installation non-WaterDex usage.

Overall

	Savings with Device	Education Only Savings	Net Savings
2001 Study	37.4 GPD	29.0 GPD	8.4 GPD
2004 Study	41.2 GPD	25.6 GPD	15.7 GPD
WaterDex 2012 Study	70.4 GPD	57.6 GPD	12.8 GPD

Residential Weather-Based Irrigation Scheduling: Evidence from the Irvine “ET Controller” Study (June 2001)

The Residential Runoff Reduction Study (July 2004)

WaterDex™ Remote Control Effectiveness Pilot Study (February 2012)

*Recommendations for Implementation from Study

Use educational and marketing tactics such that they perceive the value of the device

Offer a financial incentive for a customer to purchase, install, and operate WaterDex. (Rebate 50% cost of Device)

*See report at IRWD.COM for all Recommendations

Matt Davenport
mdavenport@waterdex.com
949 540 0645

WaterDex Remote Control Effectiveness Pilot Study



WaterDex®