



## **WSCAC Meeting**

May 4, 2016 - 10:00 A.M.

Location: MWRA Facilities in Southborough

### Members in Bold in Attendance:

**Whitney Beals, WSCAC Chair, NE Forestry**  
**Gerald Eves, Trout Unlimited**  
**Michael Baram, BU & CLF**  
**Bill Fadden, OARS**  
**Kurt Tramosch, Wayland Wells**  
**Terry Connolly, Town of Ware**

Andrea Donlon, CRWC  
Martha Morgan, Nashua River Watershed  
**Paul Lauenstein, NepRWA**  
Adriana Cillo, BWSC  
Martin Pillsbury, MAPC

### Non –Members in Attendance:

Lexi Dewey, WSCAC staff  
Heidi Waugh, WSCAC staff  
Frances Yuhas, WaterSmart  
Eric Hooper, Sharon Water

Andreae Downs, WAC staff  
Subodh Nayer, WaterSmart  
Beth McCann, MassDEP

### WSCAC Business

Members and guests introduced themselves for the purposes of the recording. Whitney Beals then made a motion to approve the draft April Meeting Summary as distributed. The summary was unanimously approved.

Lexi Dewey announced that the June WSCAC meeting will be held at the Quabbin Reservoir. The meeting will consist of a tour of Shaft 12 and the Quabbin power and security improvements. Lexi stated that more information will follow via email.

Lexi discussed the issues surrounding proposed transfer of NPDES delegation and notified the committee of the upcoming meetings she will be attending regarding the topic. She added that the Executive Committee would be discussing the subject at their upcoming meeting on May 17<sup>th</sup>.

The North Reading DEIR comment letter has been drafted. Lexi asked Executive Committee members to send their feedback to the office by the end of the week.

### **WaterSmart Software: Delivering actionable customer engagement with Subodh Nayer**

Subodh Nayer of WaterSmart Software, Market Development, began his presentation by explaining his history with the company. He then outlined his presentation. Following an introduction to WaterSmart Software, Subodh planned to address the overarching utility problems the product aims to solve and explain the concept of measurable results in action.

WaterSmart was founded in 2009 and the company's headquarters are located in San Francisco. WaterSmart has three customers in the greater Boston area. Sharon is the first community to utilize the software, and Acton and Medford are in the process of implementing the program. WaterSmart software is currently being used by approximately 400 systems.

WaterSmart software, Subodh explained, addresses the concerns and challenges faced by water utilities. For instance, utilities are facing rising operating costs and an increasing demand for investment in infrastructure. Additionally, customers are seeking greater data transparency and more digital engagement with their utilities. WaterSmart targets the need for creating an evolution in customer engagement. Their model builds ratepayer support for investing in real water loss reduction by educating apathetic customers to the point that they become engaged supporters. WaterSmart communicates planned improvements, rate impacts, and the consequences of deferring such improvements. WaterSmart then demonstrates ways in which customers can actively manage increases in costs. Subodh explained that customers must have information in order to act and control what they pay on a monthly basis for water.

Subodh explained the process of implementing WaterSmart in a community. Once WaterSmart profiles a community and determines the water uses of the community, they disaggregate the data in order to determine how each individual customer uses water. WaterSmart can then inform the utility about how water is being used by customers. For every single cohort (user group that has a uniquely similar profile) identified within a community, WaterSmart has a control group – a group that they are not providing with information. The control group allows utilities to immediately see that their efforts, and the efforts of their customers, are working.

## Using the WSS platform



Committee members then asked a series of questions about cohorts in communities. Subodh explained that a community like Sharon might have six cohorts, whereas a city like Washington, D.C. might have 100. Cohorts are comprised of many factors, such as demographic/socioeconomic information and property/climate data. WaterSmart gets down to microclimate data, such as evapotranspiration rates for an individual lawn. Subodh continued to discuss how WaterSmart analyses help customers to understand their water use and how they can manage the cost of their water. WaterSmart builds a holistic, integrated process that allows customers to reach a deeper level of engagement, and therefore a deeper level of understanding regarding their water use.

Subodh transitioned to a discussion regarding WaterSmart software and leak detection. WaterSmart will work with individual customers to identify leaks and guide the customer on reporting detected leaks and accessing a utility's credit policy, if applicable.

Bill Fadden addressed Eric Hooper of Sharon Water regarding leak detection throughout the water supply system in Sharon. Bill asked if WaterSmart is able to detect leaks that occur at points other than at the end-user. Eric replied that Sharon does acoustic leak detection.

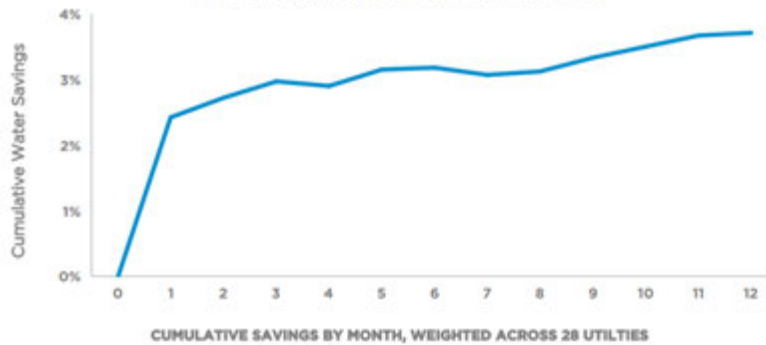
Michael Baram commented that the implementation of WaterSmart could have three potential impacts on a community. The software could influence voluntary changes in user behavior, the rate structure could change, and regulatory watering bans/new rules could be introduced. Eric commented that he believes there is a fourth component – environmental advocacy group involvement. Eric believes the argument can be made that environmental groups are failing to convince the Commonwealth not to use water indiscriminately; that failure has led to water departments assuming a new role. Eric's approach is to work collaboratively with the watershed group that exists within his community. He believes you must have that component – users cannot depend on water departments to go it alone and solve the problem.

Subodh then shared the results WaterSmart has seen over the course of their work. In addition to sustained increases in water-use efficiencies, WaterSmart has a record of creating high impact customer engagement. Customers are receiving, reading, and responding to water-use reports. A communication program is integrated within the WaterSmart model – customers are asked how they feel about the utility. Once the program has been in place for a period of time, WaterSmart asks customers how they feel again and ask if they feel a greater sense of control. An increase of about one-third in an individual's sense of control is typical.

## Measurable sustained increases in water-use efficiency

**2-5%**

**SUSTAINED REDUCTIONS IN USE**



Subodh explained that WaterSmart asks each utility if they would recommend the program to a fellow utility. The highest score is a 100 and WaterSmart has been scoring a 100 – a fact they are particularly proud of. Subodh said he appreciated the committee's attention and questions. He opened the floor to additional questions.

Kurt Tramosch asked where Subodh thinks the program is headed – how does Subodh see the program evolving and growing? Subodh said the company is investing in new features, such as improved messaging. WaterSmart is trying to empower utilities to better use the tools that constitute the program.

Michael commented that neighbors in his town are setting up daycare centers and Airbnbs (vacation rentals, homes, and apartments for rent). Michael asked how WaterSmart captures these trends that impact water use. Subodh stated that they would update the user profile and alert the customer that their usage is suddenly much higher. As long as the utility is getting paid for the use, there is not much else to do.

Paul asked how WaterSmart software can help water utilities detect leaks in service lines that connect the distribution line to a customer's house. Paul said that loss is felt by the utility. Subodh said he believes WaterSmart would see a low pressure alert and the home owner could work to detect a leak from that alert.

Kurt stated that he is on a ground water committee for the New England Water Works Association. As such a member, he said he would be curious to know regional trends in private well water use. If he were working for the state, he would want to tap into the system and know how many people are getting off the system and going on to private wells. He asked if there is any coordination with state agencies and other committees regarding data availability. Subodh replied that WaterSmart provides data to the utility – however the utility wants to use that data is up to them. WaterSmart can report trends, but they do not provide specific data to organizations other than individual water utilities.

Michael asked if WaterSmart has considered linking their findings concerning water use to larger resource management challenges at the state level, such as stream flow and ground water depletion. Can WaterSmart's information contribute to the policy discussions regarding these issues? Subodh replied that individual utilities can pass the information they receive from WaterSmart on to other groups – they do not regulate the data they provide to utilities. Looking forward, WaterSmart plans to institute a meta-dashboard that disaggregates the individual data. Currently they could do this process manually.

### **Case Study: Town of Sharon with Eric Hooper, Department of Public Works, Superintendent**

Eric Hooper introduced himself and explained that he would be describing the Town of Sharon's holistic approach to water conservation and use. Eric stated that WaterSmart technology is one piece of that approach. He continued to explain that most water advocacy groups have the perception that water suppliers are simply pumping the ground dry. That is really not the case, Eric said.

In years past, most water departments did not prioritize data collection. Meter reading is also a relatively recent practice – Sharon currently conducts monthly meter readings. Sharon, Eric explained, also conducts outreach programs in their community including educational events, fliers, and rebate programs. Technical aspects have changed as well; mandatory outdoor restrictions, leak detection, upgraded meters, and plumbing code changes all contribute to changed habits.

Eric then discussed what he gleaned from their efforts. He said that manual meter reads are useless in that they do not give you data that can be useful. Eric found that employing the water department as the messenger is not the best approach – statistics cause people's eyes to glaze over. Eric's department changed how they reached out to the community. They worked with the Neponset River Watershed Association to reach out to schools, for instance. Eric believes the conservation message gets stale very quickly; changing the general message and keeping it fresh is critical to keeping people's attention. Traditional message channels weren't effective, so Eric's department made an effort to get onto social media – they work with WaterSmart to put out effective messages to their customers.

Eric discussed how his department gathers information and data from customers. He gave the example of a bill abatement fee waiver; if a user fills out a questionnaire, they receive twenty-two dollars off their water bill. The data gathered from this questionnaire is used to update the WaterSmart algorithm. Consequently, Eric's department receives a more accurate profile of their customer's use.

Paul asked what percentage of the town has signed up. Eric said about twenty percent, so far. That number continues to grow. The program has been up and running for four months. Currently, there are four cohorts.

Eric stated that his department has been dealing with a large amount of unaccounted for water. The department has conducted an aggressive process of leak detection. When they closed off all municipal irrigation systems, the unaccounted for water dropped significantly. WaterSmart software pointed that out. When the department turned the water back on, one of the irrigation fields showed up as different from the other irrigation fields. The problem was not a leak after all; the meter for the field was only recording one tenth of the water that the irrigation system was using. Eric said he would have had no way of knowing that unless the people monitoring the data at WaterSmart told him.

The next step for WaterSmart and the Town of Sharon is the EPay component. Eric needs to have flags showing him if there are odd balls in terms of dollar figures and in terms of gallons of water. Subodh added that Eric could set an alert at any value he chooses – he could be notified if a value was only a little strange, or if it was extremely strange.

Eric continued to discuss the merits of separate irrigation meters. Installing and employing separate meters for irrigation allows you to implement different pricing schemes. It allows for greater control of water use, but there is a cost for installing the meter. There is currently no law for registering irrigation meters – most people don't even have them inspected. WaterSmart Software has helped Eric determine who has an irrigation system; the identification of water use patterns as well as responses to the questionnaire has provided greater insight into irrigation in Sharon.

Kurt asked if Eric has raised rates as conservation efforts have started to kick in. Eric replied that his department raises rates proactively and users are accustomed to the notion that there may be an increase in the fixed rate.

Eric concluded his presentation by summarizing the merits of targeting messaging. The committee thanked Eric and he then opened the floor to questions.

Whit stated that in the case of electric utilities, it is common (in Europe, for instance) for the rate payer to pay less if they use electricity during non-peak periods of the day. He asked if there is a corollary for that in water use – he acknowledged that there always has to be pressure in the water system. Eric said they are not at that point. It would require real-time metering. Paul added that the Town of Sharon applies that concept through the Town's seasonal water rates.

The meeting was adjourned.