NEW WAYS TO ENGAGE THE COMMUNITY:
iPad TABLETS ENCOURAGE INPUT VIA INTERACTIVE EXPERIENCE

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Introduction

Public opposition to major water projects, specifically the implementation of desalination projects, poses serious challenges for utilities and local governments in California.

Besides the time and expense of research, planning and required studies, there is the necessity of conducting a public education and outreach process for the community involved.

How do you inform, educate and bring your community along through the myriad of technical and environmental studies that have been conducted to meet local, state and federal requirements and provide analyses to make informed decisions?

Communication and transparency are paramount for all publicly administered institutions. Public agencies struggle to effectively communicate with their constituencies because they lack an understanding of many important and expanding avenues of engagement; they have become too dependent upon the traditional methods of outreach and have thus become complacent in their expectations', and too often they are confronted with situations in which major community stakeholders have differing and or contradictory interests and understandings. All of the above mentioned problems are further compounded by a lack of available resources to fund public outreach and the generally held public perception that government is inherently inefficient or cannot be trusted. Many public agencies are faced with the existential dilemma of having to do more with less while being challenged to successfully navigate the growing volume of media and communication channels.

The City of Santa Cruz Water Department (SCWD) and Soquel Creek Water District (SqCWD), partnering together as **scwd**[2], are considering seawater desalination as a supplemental source to their current water supply portfolios. Historically, the local community is extremely politically active. There is organized and focused opposition against the potential development of desalination as a supplemental water supply. From the agencies' perspectives, most water conservation measures have been exhausted, surface and groundwater resources have been overtaxed, and reclamation has limited application; leaving few alternatives to the proposed desalination project. This intrepid resistance to a proposed project that has already undergone several years of planning and technical evaluation has sparked a heated debate within the community that is becoming increasingly more emotional.

A robust public outreach program was established using traditional outreach methods and was looking at new and innovative methods of engaging the public to continue the community dialogue and improve understanding of the project. In the fall of 2011, **scwd**[2] decided to implement a supplemental outreach effort using Greenocracy's iPad interview service. This service has enhanced **scwd**[2]'s existing outreach methods by further educating, engaging and obtaining feedback from community members in realtime. Such practices are relatively new and show potential to enhance the way in which community outreach is conducted by public agencies.

scwd²'s Education and Outreach Toolkit and Goals

The scwd² Public Outreach Program has and will continue to engage the public on the proposed desalination project. The primary goals focus on:

1) Building a publicly accepted and understood assemblage of facts and information that can be used for the purposes of educating and providing context as to why this particular project was proposed based on a thorough review of options and significant prior studies.
2) Educating members of the community as to the severity of the water shortage problem faced by the water agencies and how desalination would be utilized as a supplemental water source.
3) Soliciting input from the community on major concerns about the proposed project.
4) Addressing the misinformation and misperceptions related to the proposed project.
5) Maintaining awareness as to how the project and related public outreach are being perceived.
6) Educating the public on how to get involved in the environmental review process so their input could be appropriately considered.

The methods currently being used are typical of those used by public agencies to educate the community and to solicit feedback. These methods include direct mailers, hosting public community meetings, local (small) group presentations, contributing to public periodicals and local publications, maintaining an up-to-date project website, developing and using a monthly email list, and developing an online social media presence. With growing opposition fueled by misinformation and awareness that additional education was needed, **scwd²** decided to try something new.

iPad based Interviews

iPad interviews are custom created, interactive slideshow presentations that are given door-to-door, or by tabling at local community events or gathering spots (e.g. supermarkets and farmers markets). These interviews are able to transcend the self-selecting feedback mechanisms of public meetings and social media because they are organized similar to public opinion surveys. However, they are much more effective than traditional phone surveys because of the dynamic nature of the data and feedback collected. Respondents are able to communicate directly with an agency representative, thus learning about the project, critically engaging with the information and answering survey questions. Living in an era of smart phones, tablets, and other digital platforms, today's information needs to be stimulating, quick, and accessible. Visual information is much easier to grasp than written or orally communicated messages, and it resonates much more effectively because the respondent has to interact with the presentation through the tablet's user interface.

Greenocracy's iPad based tool focuses on targeted outreach interviews via tablet-based interaction that can engage and encourage a higher degree of both direct and viral community engagement. In contrast to both land line (telephone) based surveys and direct outreach via typical clipboard canvassing, Greenocracy's *user centric platform* and outreach methodology can serve to educate communities while also developing an understanding of potential concerns and possible opposition. The tablet based interviews are more interactive than other forms of direct engagement because of the dynamism reflected in the technical functionality.

iPad interviews provide an opportunity to address various concerns a particular individual may have and links it instantly to a database where information is stored and sorted. Interviewees are left with a greater

understanding of why a given alternative is being evaluated or implemented and experiential personal connection that has occurred can help foster a sense of trust between the agency and the interviewee.

A brief analysis of this methodology is outlined below.

- Those interviewed are able to directly benefit from the educational experience through interacting with a knowledgeable person, aided by incorporation of a rich multi-media experience via an iPad tablet.

- Respondents benefit from being recognized as having valuable input worth providing the agency.

- The agency benefits from the positive association derived from the individual's involvement experience and input.

- The agency further benefits directly from the data solicited from individuals, which can be broken down for further analysis based upon key demographics and/or particular questions

Case Study: iPad Based Interviews for scwd[2]

While the City of Santa Cruz and Soquel Creek Water District had independently been searching for a supplemental water supply for more than 25+ years, they both developed independent integrated water plans in the early 2000's comprised of conservation, curtailment, and desalination as a potential supplemental supply. Since the formation of **scwd[2]** in 2007, a variety of extensive technical and environmental studies for the proposed 2.5 million gallon per day seawater desalination project have been conducted to fully inform the upcoming environmental review process. However, many members of the public had not participated or known about the lengthy planning process, and were thus unaware of the extent of the prior planning. In addition, opposition began to materialize and the full scope of the planning process became convoluted and was publicly downplayed as old and outdated. Claims were also made that exaggerated the size of the project, environmental issues such as marine impacts and promoted energy use, and the notion that desalination was an unproven technology.

Greenocracy approached **scwd[2]** in August 2011 about conducting a new type of community outreach campaign that would focus on educating residents about the proposed desalination facility. From August 2011 to December 2011, over 1,000 interviews have been conducted across both agencies' service areas. These interviews were aimed at providing information through a series of images, data sets, and interactive questions in order to give context to the proposed project.

scwd[2] and Greenocracy jointly developed the content for the iPad based interviews in early September. The interview was constructed to be as informative and interactive as possible, to take full advantage of the iPad as an outreach tool. The final result came to resemble a sort of interactive slideshow presentation, complete with images and figures to supplement the information being presented and including a total of 9 questions to gain data and feedback from the interviewee.

The interview includes asking respondents about their previous knowledge of the existing water supply and the shortage problems (Figure 1). A brief overview was then given to those respondents who had not been aware of the existing water supplies and the water shortage problems. Many pictures and graphics were used to illustrate these points further. Following these informational slides, respondents were then

Are you aware of the water shortage issues facing Santa Cruz and Soquel Creek Water District?

☐ Yes

☐ No

Submit

Figure 1

asked about their own personal habits, including how much water they felt they conserved using a slider bar response (Figure 2) and what further conservation measures they would be willing to implement. These types of questions provided dual benefits: (a) it

Question 4

How aware are you of the efforts being taken to solve our local water issues?

nothing   some   a lot

Submit

Figure 2

stimulated interviewees to think critically about their own water impact and what they could do to reduce their use and (b) **scwd²** received feedback to gauge the community's acceptance to implement and/or expand conservation programs.

Figure 3 is an example of one of the graphics used to illustrate how seawater intrusion can occur, which was used to educate about the technical aspects of how seawater contamination can occur when a groundwater is overdrafted.

The final questions focused on common concerns with desalination, namely the energy requirements and effects on the environment. Both of these impacts were accompanied by educational material that put the scope of the project into perspective. For example, to
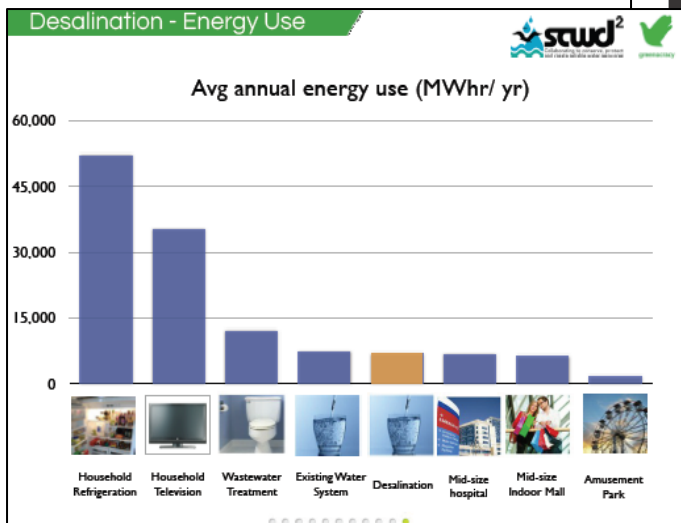
Soquel Aquifer Overdraft

Rainfall

Land surface

Water table

Well

Ocean

Seawater Intrusion

Groundwater basin

Bedrock

In an overdrafted condition, more water is extracted than can be naturally recharged by rainfall - this condition pulls ocean water inward and can ultimately lead to saltwater intrusion.
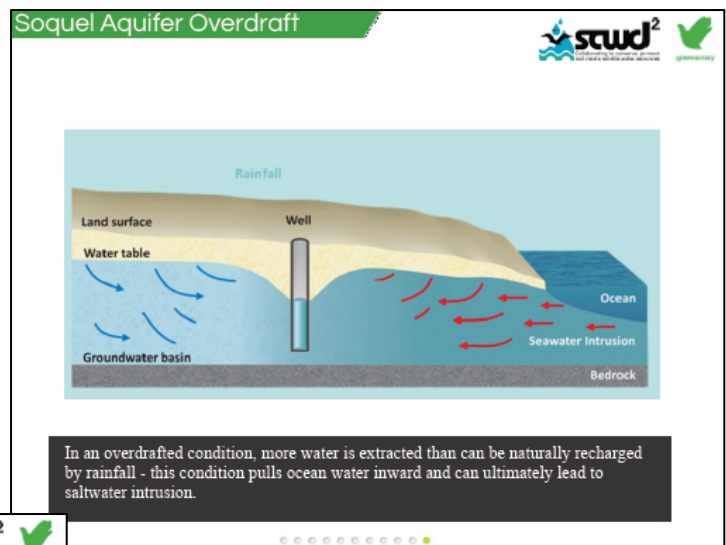
Figure 3

illustrate the relative energy intensity, a graph was shown (Figure 4) that compared the energy use of desalination with household appliances and televisions, as well as a mid-size hospital and a local data center. Furthermore, the slideshow provided images to use as touchstones of information related to brine handling, use of small-slotted intake screens to reduce marine impacts, and the size and scale of the project, Which is much different than the common image of massive plants in the Middle East. These

Desalination - Energy Use

Avg annual energy use (MWhr/ yr)

60,000

45,000

30,000

15,000

0

Household Refrigeration | Household Television | Wastewater Treatment | Existing Water System | Desalination | Mid-size hospital | Mid-size Indoor Mall | Amusement Park

Figure 4

slides were structured specifically to put the scope of the project within the context of other community services with which the respondents would likely be familiar. The purpose was to clarify misinformation about the project scope that may have been exaggerated or misrepresented.

Results and Summarizing Information Gathered

The iPad based interviews are fundamentally different than other forms of outreach because they can serve the dual purposes of educating and surveying people at the same time.

As an Educational Tool
The iPad serves to educate people more effectively than existing methods because it incorporates the use of images and video, is very interactive and the interviews are carried out in person.
Many people are not as receptive to orally communicated information as they are to pictures, so the iPad has an inherent edge over traditional methods in that respect. Furthermore, much of the information presented in print or during public meetings is lost on the community at large. When used in conjunction with an orally communicated interview, the information tends to be synthesized more than once because it is not just heard, it is also seen.
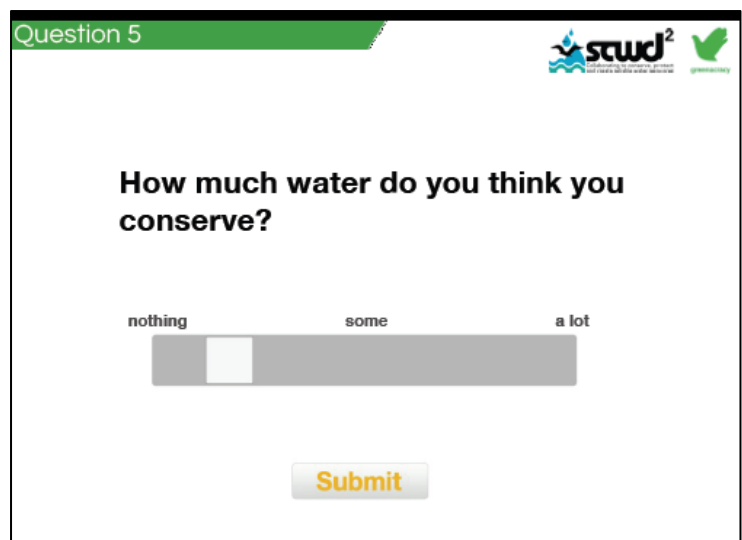
The interviews are also much more effective than other impersonal means of outreach because the respondent is forced to engage with another person. So not only do they hear and see the information, but they also have the ability to ask questions and share the interaction. These encounters serve to both enhance the educational aspects of the presentation and develop a personal connection between the respondent and the agency. The physical presence of the agency's representative fosters a sense of lasting trust that would have otherwise been lost over the phone or through a mailer.

Furthermore, the iPad application is connected to a backend database so it eliminates the need for manual data entry, saving public agencies time and money.

As a Feedback or Survey Tool
The primary reason that iPad based interviews are an effective surveying/feedback technique is that they allow for the respondents to answer each question more directly and in line with their preferences. Specifically, Greenocracy's tool employs the use of its "slider" (Figure 5), to allow people to answer on a continuum, rather than a simple "yes" or "no', or in some defined set of categories. The slider helps to gauge "how likely", or "how much" preferences on a scale between 1 and 100. Not only does this offer the respondent more flexibility in how they answer, but the public agency benefits from having a more accurate approximation of how a particular respondent feels.

Figure 5

The data generated can also be broken down upon a continuum for further analysis based upon intervals. For instance, if a question asks

Question 4: "How aware are you of the efforts being taken to address and solve our local water issues?"

Total

27.0%	4.9%	6.5%	4.9%	6.5%	22.8%	4.6%	7.6%	5.1%	10.1%
10	20	30	40	50	60	70	80	90	100

not at all — somewhat — a lot

Soquel

23.1%	4.4%	5.6%	4.4%	8.8%	23.1%	3.8%	8.4%	5.6%	12.8%
10	20	30	40	50	60	70	80	90	100

not at all — somewhat — a lot

Santa Cruz

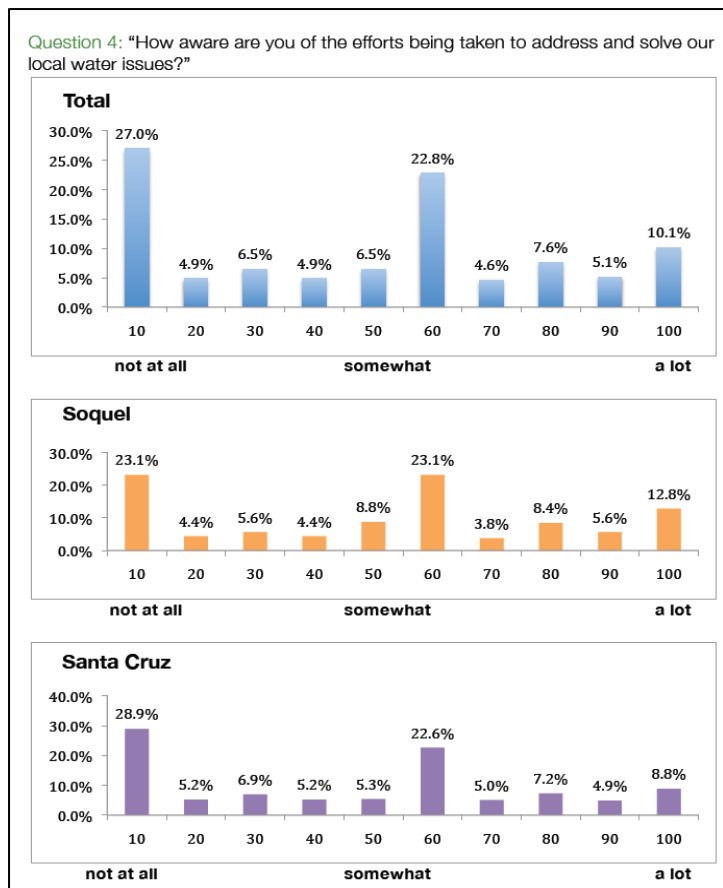|									
28.9%	5.2%	6.9%	5.2%	5.3%	22.6%	5.0%	7.2%	4.9%	8.8%
10	20	30	40	50	60	70	80	90	100

not at all — somewhat — a lot

Figure 6

a respondent how much they feel they conserve, the individual could answer between "little to nothing" and "a lot". If they place the slider closer towards the "a lot" side of the spectrum, e.g. 65/100, then the iPad would automatically record that answer as being in the interval 60-70, however the intervals can be constructed to be as small or as large as deemed necessary. The data generated is then mapped out on a scatter plot for further analysis (Figure 6).

Given the sheer depth and dynamism reflected in the iPad functionality, it is an optimal tool for use by public agencies for community engagement. It both educates and can be used for public opinion polling more effectively than traditional methods. It also has the ability to create a more personable and interactive experience that is enjoyable to the respondent and valuable to the agency. Information can easily be summarized and analyzed from both "yes/no" as well as "slider" responses that can help us gauge and adjust our education and outreach appropriately.

What Did We Learn?

The iPad interview tool has proven to be quite an asset for our **scwd**[2] Public Outreach Program. Interviewees did not seem to shy away and avoid eye contact as is often typical with clipboard/traditional surveys possibly because they were intrigued with the hardware and technology being used. Other benefits include, but are not limited to:

- Quick Results – As more community members were interviewed, we could quickly adjust the information and messaging to adapt and provide information as feedback was submitted. For example, if information on brine disposal was difficult for interviewees to understand, we were able to go in and edit the presentation with new graphics and new text and then reload these back onto the iPad application.

- Engaging Experience – As stated above, the one-on-one experience with the interviewee and interviewer allowed a connection to be established and a heightened level of engagement not just during the interview but hopefully after. It was clearly visible that many of those interviewed enjoyed hearing about the project and appreciated providing their response to help inform the agencies on their viewpoint.

- Information can be streamlined into summary charts – Data is collected electronically which eliminates the need to transcribe and enter in the information taken as is often the case with

traditional clipboard surveys. This reduces processing time and can more efficiently provide feedback to the agencies.

For **scwd²**, we learned that, although some people in Santa Cruz and Soquel Creek Water District are not sold on desalination as the solution to augmenting their water supply, they indeed believe we should continue studying and evaluating the potential impacts. This is helpful as we move forward with the project and the upcoming release of the draft Environmental Impact Report.

Future Steps

A potential next step for continued outreach and education regarding the **scwd²** project may be participation in Greenocracy's interactive web portal as a way of staying connected with the community. The web portal is currently in development and is expected to be fully functional as early as spring 2012. Once in place, it can be used in addition to scwd²'s existing website to engage comments and questions around the project and other water-related issues. Similar to social media networks, community members will be able to post questions and initiate a dialogue with others in the community. While much of the exchange is fostered amongst the portal users, **scwd²** has the ability to provide factual data to correct misperceptions and act as a source of information rather than a direct advocate. Through the process of social learning and interaction, users will be forced to think critically about the information that is being presented.

Conclusion

After 25+ years of looking for a supplemental supply project and two unanimously adopted integrated water plans that identified conservation, curtailment, and desalination as the preferred supplemental supply project to further study, it was imperative to implement a **scwd²** public outreach program to educate the community and foster ongoing trust based on transparency and facts. While the **scwd²** public outreach toolkit contains traditional methods to ensure that community members have the opportunity to access multiple layers of information, it has proven to be viable and also valuable to additionally include the iPad based interview tool. The iPad based interviews are fundamentally different than other forms of outreach because they can serve the dual purposes of educating the community with facts and information as well as simultaneously receive input and comments.