REPORT

City of Bellingham
Water Conservation Branding Study
Focus Group Report

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INTRODUCTION

The City of Bellingham Public Works Department is working to develop a water conservation program complete with a clearly researched brand. The target of the campaign is residential water users, particularly single-family residences. Single family residences are the customer class that consumes the largest portion of all water in the city.

The goal of the research was to determine effective messages for the water conservation campaign. To address this, people's familiarity with the water system, accessibility of facts about the system and misconceptions about problems and potential program elements were explored.

BACKGROUND

The City of Bellingham is one of only two cities in Washington State that does not have a fully metered water system. These flat rate water customers are 15,000+ single-family residential accounts. A voluntary metering program has been in place for many years, but only about 20% of water customers in single family residences have one. New construction, remodels and multifamily homes are all required to have meters. The State has mandated that by 2017 Bellingham will need to have 100% of residential water customers metered. The city estimates it will cost $10 million to install meters on the remaining unmetered homes (about $637 per house).

A key issue impacting water supply in Bellingham is that the source of drinking water – Lake Whatcom – has been listed as a polluted water body by the Washington State Department of Ecology.[1] Of particular concern is the level of phosphorous in the water, which creates large algae blooms in peak summer months. Some sources of phosphorus are runoff from soils (which increases when land is cleared or disturbed for development) and fertilizers. The city has been working to control runoff from development and has outlawed the use of yard care products that add phosphorous to the soil, but levels have continued to climb. The algae blooms clog filters and produce extra maintenance problems, adding to costs and decreasing the volume of water readily available to customers. With low water volume can come lower pressure, which may result in problems in the case of a high demand event, such as a major fire.

Water use in Bellingham doubles from about 10 million gallons a day most of the year to up to 20 million gallons a day during the peak summer months of July and August. This is believed to be primarily due to increased outdoor water use for lawns and landscaping. The combination of

[1] http://www.ecy.wa.gov/programs/wq/tmdl/LkWhatcom/LkWhatcomTMDL.html

peak use with peaking algae problems means that residents need to decrease their water use during summer months.

Water conservation is the least expensive approach to reducing the costs and troubles caused by high consumption, especially in the summer months. Although the city has had a water conservation program in place for many years, outreach, marketing and education are an increasingly high priority as problems persist.

METHODS

Researchers met with city stakeholders and marketing contractors to discuss and develop a focus group discussion plan (see Appendix A). Participant names and contact information was provided by the City of Bellingham for water customers in neighborhoods near Lake Whatcom. The households were specifically targeted if they were in an area that is a high-cost water delivery territory. Twelve residents were recruited (the recruitment script is in Appendix D), five cancelled, and one participant brought a neighbor. The 90 minute discussion was held at Bloedel Donovan pavilion in May.

GROUP CHARACTERISTICS

Each participant completed a brief introductory survey (see Appendix C). Five men and three women attended the discussion. They were a relatively older pool of participants (median age 65.5), which is typical of homeowners, especially in the neighborhoods targeted by the city for this project. Most lived with one or two other people. All of them reported watering judiciously (no more than 2x/week) during peak summer months.

	Median	Minimum	Maximum
Years lived in Bellingham	33.5	10	67
Age category	65.5 years	46-55	76+
Number of water users in your home	2	1	3
Frequency of summer outdoor watering	1x/week	Less than weekly	1-2x/week

Water saving was already salient to some of the homeowners. One had a high-efficiency, front-loading clothes washer; half (4) had all low flow toilets in their homes and three had all low-flow shower heads. Just one person had no low flow toilets nor any low-flow shower heads in their homes.

FINDINGS

Participants were presented with a handout of City Water Facts (see Appendix B). These facts constituted information that the City felt could be important for people to know and understand in order to raise awareness and concern about the water supply. After reviewing the sheet, participants were asked which items were familiar, which were surprising, and which were confusing, if any.

Few of the items were surprising to most participants. One raised a great deal of questions: The portion of city water used by single family residences (37%). The problem of phosphorus and algae in the lake also generated a good deal of discussion, and was considered the most compelling information on the sheet.

The portion of water used by single family residences was described as having "incomplete implications." Without more context, the statistic raised the question "Why wouldn't it be?" from one participant.

City Water staff added information in response to the question, including that commercial makes up 18% and multifamily makes up 17%. But participants were interested in comparisons and a better understanding of the size of each customer class in the water customer base. Here is an excerpt of some of the discussion around this topic:

> *Speaker A: What difference does it make? As long as you have the capacity what difference does it make who consumes the water?*
>
> *Speaker B: That's not a surprising number*
>
> *Speaker A: I don't know what a city our size relative to our supply system is in the United States. As far as I'm concerned this 37% is plucked out of the air. I don't know what relevancy it has to the big picture*
>
> *Speaker C: It doesn't mean anything the way it is.*

If the City wants to describe the use of water in Bellingham, it will need to provide a very clear, thorough description that relates to the number of customers and how Bellingham's use compares to other cities of a similar size. It may not be very useful to give such information center stage in a campaign since these people did not find it a compelling statistic. It is recommended that any development of additional descriptions of water use patterns in the city should be reviewed by homeowners for feedback before publishing.

The problem of phosphorous in the lake was discussed at some length. One participant was particularly vocal about her concerns regarding the impacts of treating water with chemicals on human health, as well as the impacts of lake pollution on lake users. For example, she said,

> *We're having to put more chemicals into the water for outdoor use. … I don't want more chemicals. And I don't want phosphorus either. And I don't like these notices that say, boil your water and kids can't swim and ecoli - I mean this is like, serious stuff.*

Later, the same participant offered:

> *I want to have good clean water and I don't want to be having more chemicals.*

Others offered their observations as well, focusing their attention on the causes of the pollution.

> Speaker A: *Pollution that occurs in that area is just naturally going to cost more to treat.*
>
> Speaker B: *More people more development more houses more decay in the quality of the water and more expensive to keep the water clean….I think we're not facing the fundamental truth of that.*
>
> Speaker C: *I think we're doing that with buying up land…*
>
> Speaker B: *We've got to protect the watershed*
>
> Speaker C: *Exactly*

Prevention is an important issue that goes beyond conservation of drinking water in the home and went hand in hand with the concerns the City Water Facts raises. As one participant said:

> *The more water you treat the more chemicals you're going to use but it doesn't solve anything to stop the issue in the lake.*

Most participants were aware that phosphorus occurs naturally, and the facilitator offered that is could also be due to lawn care practices. One had watched water treatment video on BTV 10.

An important issue the City will need to attend to is the persistent question of the impact of Georgia Pacific paper plant closing on lake water quality. One participant asked if anyone knew whether the high volume of water that used to leave the lake for the plant's use didn't produce

some kind of flushing effect that might have prevented algae in the past. Although it does not need to be addressed in the core portion of the program, it is recommended the City have a ready response and information posted somewhere on the website for people to review if they want to learn more about what is known.

EXISITING CITY CONSERVATION EFFORTS

Participants were shown a variety of props that showed what the city is doing to help people use less water. They included:

- Water Conservation Kits, which are offered free of charge and include low flow showerheads, aerators, things people can do to reduce their water use, and information on installing water-saving devices like front loading washers and low-flow toilets. These have been available for about eight years.
- The City promotes a voluntary watering schedule that asks people to do their outdoor watering on specific days of the week during the summer depending on their house numbers. This program has been in place for the past three years. It is promoted via sandwich boards on the sidewalks, street signs, as well as media coverage.
- Voluntary Metering Program where flat rate water customers can have a water meter installed at no cost so they can benefit from any conservation they undertake.
- Rainwater capturing with rain barrels. The City provides workshops and general sadles of rain barrels.

One participant had experience with the Water Conservation Kit. He said he was disappointed that none of the hardware included fitted his newer fixtures. Although he was a conservation kit user, he was unaware of the rebates available for the low-flow toilets he installed within the past few months and that it was in partnership with the Community Energy Challenge. Finding ways to publicize these cost-saving opportunities more broadly could be fruitful. If enough people discover the rebates, a stronger word-of-mouth effect might be seen.

The Voluntary Watering Schedule was familiar to all but one participant. Two said they had followed it in the past. Many suggested they don't water aggressively either because they don't want to mow often, or that they know the lawn will come back even if it goes brown. Although this isn't yet normative behavior in Bellingham, it's certainly an aspect of lawn care in the Pacific Northwest that is well-understood. While the aesthetic of a brown (or "gold") lawn may not easily catch on, it could become a visible symbol of taking personal responsibility for the community concern of protecting the water supply. The labor saving benefit could be an adjunct part of the message.

Rain barrels were a curiosity, generating a lot of conversation and consideration of the ingenuity of capturing rainwater for outdoor use. Two participants mentioned having one at their homes. The group viewed them as an effective water conservation tool, though one requiring some skill

and time to install and maintain. Recapturing water is a popular concept, and participants were curious about the City's work regarding greywater as well. Ultimately however, nearly all of the participants objected to the look of the rain barrels (even one that already has one), stating that either they or their spouse would be unwilling to install a blue barrel at their homes for aesthetic reasons.

The discussion around voluntary or mandatory meters brought to light many beliefs and questions people have about the city's water system. There was the basic question of what water would cost in a metered system. City staff explained there is a base fee then a $1.43 charge for every 748 gallons (one hundred cubic feet of water). Participants' assumption was that if they had a meter, they would likely be charged more for water than the flat rate currently charged by the City. However, participants were told that nearly all of the households who have meters now pay less than the flat rate for their water. Members of the group deduced that if everyone was on a meter, the city's water revenue would decrease, likely resulting in the city raising its water rates. City staff confirmed that the current rate schedule is considered out of date, that customers are not bearing the current true cost of providing safe water and that a rate study is pending.

The question of metering was tied directly to the question of the cost of providing water for residences. One participant expressed concern that the impact fees charged to developers and builders should be sufficient for supporting and upgrading the existing system as needed. Cost controls are needed to preserve housing affordability. The overall cost of installing mandatory meters was raised ($10 million or about $637 per currently unmetered household). They also raised questions about the need for upgrades to treatment facility capacity, and what plans there might be to make improvements.

Ultimately, participants were not interested in using meters to help them save water. They preferred not knowing how much they used, were concerned they would end up paying more, and that they would be the first to have to pay a higher rate if the City raised rates.

Best choice program elements

When asked if they thought a technological solution (e.g. high-efficiency appliances) was better than behavioral focus, people landed on the behavior as a preferable approach. They preferred a program that required people to take personal responsibility for the problem and providing a solution. Since the problems are seasonal, year-around solutions did not seem necessary.

The most popular mechanism for helping people save water was the Voluntary Outdoor Watering schedule. It seemed well targeted for the key problem of peak use during algae-intensive months and free of costs to the homeowner. As one participant said,

Voluntary watering program is a step in the right direction. It doesn't cost anybody anything (unintelligible).. a little more aware of their watering habits … There are exceptions but for the most part people follow the rules … people want to do their fair share.

MESSAGES

Participants were asked what their biggest take-away would be from the discussion – what they would be likely to talk to others about or remember six months later. One participant said:

What's the purpose of this? Is the city concerned that we're running out of water here? I've always been under the impression that we have the water reservoir capacity to sustain domestic habitability in this town for up to 200,000 people.

I hear "conservation conservation" which is all well and good, but I don't understand where the big concern is that all of a sudden we're running out of water.

If you want me to use less, he said, just tell me why. In addition, one said,

There's a lack of good old fashioned hard facts and information

Show the big picture not just partial sound bites that make people feel good. It has to be true facts that can be backed up… It has to be complete and factual.

Participants were also asked what they would recommend the City focus upon in their campaign. The consensus was that the Water Facts don't seem troublesome enough to warrant a lot of expense and effort. The campaign focus needs to be on managing people's use of water, not the misnomer that there is a water shortage. Clarify that there is not a shortage but that the cost of treatment and capacity of system are the issue. One said,

It's not a lack of water; it's the volume in your system and the cost of treating of bad water.

Transparency and highly visible outreach were recommended, making it clear all the work the City is doing to help solve the problems in the lake and manage the water system effectively. From one participant's perspective the City needs to show it's in it with the water customers.

> *Part of the sale is that we're not NOT doing something about it… it's good to have something on the schedule that you're working towards to improve the situation.*

Another brought up the idea of creating an esprit de corps approach to bringing about the program. The focus here is to make it a grassroots effort and a discussion of shared benefits:

> *It has to be sold as a team effort for the community. People are going to resent it if the city is talking down to people and saying "this is what you have to do." People have to have a sense of community that it's all for their own good, for their good, there are advantages of it otherwise they'll say "here comes the city again."*

The benefits of pollution prevention and impacts on human health need to be a focal point as well:

> *Education on what we can do to help fix this lake to prevent some of this stuff from getting in there.*

> *Conservation equals less money and better health. Water conservation is going to cost less, and that needs to be made clear.*

CONCLUSION

The feedback provided by this focus group suggests that the City needs to build a program that is highly informative and that motivates people to take the initiative to conserve water, especially during the critical summer months. The program should be backed by a good deal of ready information about the city water system, its customers and problems with the lake. It should reward and recognize the community for successful buy in to conservation, and it needs to show itself as being equally motivated to solve the problems, highlighting its own efforts to support and improve the water system. Finally, the City will need to be very persistent about providing detailed information to the public and responsive to questions in order to build trust and transparency.

APPENDIX A: CITY OF BELLINGHAM WATER CONSERVATION PROGRAM BRANDING

FOCUS GROUP PLAN

Applied Research Northwest
Introductions – 6:30-6:45

Hand out/Display of City water facts: 6:45-7:00

1. Maintaining an adequate volume of treated water in the 14 storage areas around the City is necessary for maintaining water pressure to customers and for emergencies like a large scale fire.
2. Summer weather conditions and too much phosphorus input to Lake Whatcom can contribute to higher than normal algae growth. Too much algae in the water drawn from Lake Whatcom by the City's Water Treatment Plant (WTP) makes treating the water to drinking water standards take longer and cost more.[2]
3. City-wide water use peaks in summer, with the increase primarily attributed to lawn and outdoor watering. During the summer, water quality issues within Lake Whatcom can affect the ability of the City's WTP to treat and deliver the quantity of water needed to meet demand.
4. In order to maintain current summer treatment capacity, the City must invest in adding new equipment to pre-treat water withdrawn from Lake Whatcom. New costs are also created by the need to reduce bacteria and phosphorus inputs to Lake Whatcom as required by a federal/state water quality improvement project (also known as the Lake Whatcom TMDL).
5. Chemical and energy costs for the City's water treatment plant and distribution system are lower when less water is used by the community.
6. Single-family households are the largest consumer of the City's treated water supply, accounting for 37 percent of overall consumption.

Discuss and identify best issues to focus on. (20 minutes) –

- ☐ Which were they aware of already?
- ☐ Which are compelling, if any?
- ☐ Which are hard to understand?

[2] Takes longer due to the need to take filters off line more often to clean. Costs more because of increased power usage and use of more chemicals in order to meet required purity levels.

Components of the City's Water Use Reduction Program: – (7:00-7:15)

Water use reduction measures the City implements:

1. Fixture retrofits in households – The City provides free water use reduction kits with low-flow faucet aerators, a low-flow showerhead, and toilet leak detection tablets. Water use reduction rebates are available for those participating in the Community Energy Challenge for purchase/installation of low flow toilets, high efficiency clothes washers and qualifying outdoor water use reduction measures.

2. Promotion of a voluntary summer outdoor watering schedule - The odd/even address, every-other-day schedule seeks to moderate peak water demand in the summer months. Bellingham is part of a county water alliance whose members all use this strategy to increase awareness of and encourage responsible summer water use.

3. Rainwater catchment for outdoor water use- Rain barrel interest is established in Bellingham. Future focus will be on use of larger cisterns and use of collected rainwater for outdoor watering, toilet flush and clothes washing.

4. Voluntary metering program - 98% of those who have signed up pay less than the flat rate. [Research shows that people who have installed meters through the VMP are reducing their water use].
    a. The State of Washington has mandated that water utilities must meter water use by 2017. Bellingham is one of only two municipalities/water purveyors in the state which do not have a fully metered water system. The other is Everett.
    b. Since 2005 the city has had a Voluntary Metering Program in place that has ~800 households participating. On average, participants are paying $100-120/year less than the flat rate.
    c. The meter and installation are free.

Process

- ☐ Most effective
- ☐ How familiar are people with these resources? Is anyone using any of them?
- ☐ Are any interesting to them at the outset? What makes them interesting?
- ☐ What questions do you have about these approaches?
- ☐ What additional information and/or resources do you think are needed to motivate people to use less water?
- ☐ Would you need to try them out before you would commit to using one?

Motivations for conserving water: 7:15-7:35

When people have meters and can see their monthly consumption, they can choose how to reduce how much water they use by using technology that does it for them (like low flow fixtures or high-efficiency appliances) or by doing things differently (like watering their lawn less often or taking shorter showers).

- ☐ Which would you more be more likely to do, use technology or do things differently?
- ☐ What have you done in the past?
- ☐ How much does the cost of water enter into your thinking about how much water you use?
- ☐ If flat rate: Do you think that will change when your home becomes metered?

Messages: 7:35-7:55

- ☐ Thinking about all we've discussed tonight, what parts do you think will really stick with you after you go home?
- ☐ What would you be most likely to share with or repeat to others?
- ☐ Which of these phrases do you think align most with your perspective on the issue?
- ☐ Are there others that you think would better communicate the issues?

Save water
Conserve water
Conserve our local natural resources
Protect your water supply
Know how much you use
Sustainable Water Management
Less is More
Saving Water = Saving Money
Saving Water=Saving Energy
Saving Water=Saving the environment
Saving Water=??? (name your topic)
Don't wait for a water crisis: Save water now

Materials to bring

Beverages, cups, napkins, snacks (zero waste)
Table cloths, note pads and pencils
Name tags, roster of attendees, sign in sheet
Handouts and display of City Water Facts
Flip chart for taking notes – pre-populated with potential slogan ideas
Easel
Digital recorder

COB Provides

Water conservation kit (2 would be great so they can pass it around)
Voluntary watering sign
Clear, simple visual representations (ideally the actual items) of Rain Barrels and Meters. If these are pictures, please provide either 12 copies or a display large enough for a group of 8-12 to view easily.

APPENDIX B: CITY OF BELLINGHAM WATER FACTS HANDOUT

1. Maintaining an adequate volume of treated water in the 14 storage areas around the City is necessary for maintaining water pressure to customers and for emergencies like a large scale fire.

2. Summer weather conditions and too much phosphorus input to Lake Whatcom can contribute to higher than normal algae growth. Too much algae in the water drawn from Lake Whatcom by the City's Water Treatment Plant (WTP) makes treating the water to drinking water standards take longer and cost more.

3. City-wide water use peaks in summer, with the increase primarily attributed to lawn and outdoor watering. During the summer, water quality issues within Lake Whatcom can affect the ability of the City's WTP to treat and deliver the quantity of water needed to meet demand.

4. In order to maintain current summer treatment capacity, the City must invest in adding new equipment to pre-treat water withdrawn from Lake Whatcom. New costs are also created by the need to reduce bacteria and phosphorus inputs to Lake Whatcom as required by a federal/state water quality improvement project (also known as the Lake Whatcom TMDL).

5. Chemical and energy costs for the City's water treatment plant and distribution system are lower when less water is used by the community.

6. Single-family households are the largest consumer of the City's treated water supply, accounting for 37 percent of overall consumption.

APPENDIX C: INTRODUCTORY SURVEY

WELCOME!

PLEASE TAKE A MOMENT TO TELL US A LITTLE BIT ABOUT YOURSELF

1. How many years have you lived in Bellingham: _____

2. How old are you?

   ☐ 25 or younger ☐ 46-55 ☐ 76 or older
   ☐ 26-35 ☐ 56-65
   ☐ 36-45 ☐ 66-75

3. How many people live in your home that regularly use its water? _____

4. Are you

   ☐ Male
   ☐ Female

5. Do you have any low-flow toilets in your home?

   ☐ Yes, all of them
   ☐ Yes, some of them
   ☐ No
   ☐ Don't know

6. Do you have any low-flow shower heads in your home?

   ☐ Yes, all of them
   ☐ Yes, some of them
   ☐ No
   ☐ Don't know

7. In peak summer months, how often do you typically water your lawn and/or plantings outdoors?

   ☐ Daily
   ☐ Several times a week, but less than daily
   ☐ 1-2 times a week
   ☐ About 1x/week
   ☐ Less than weekly
   ☐ I do not water

8. Do you have a high-efficiency, front loading clothes washer?

   ☐ Yes
   ☐ No
   ☐ Don't know

APPENDIX D: RECRUITMENT SCRIPT

Hi, my name is <*name*>, and I'm calling on behalf of the City of Bellingham Department of Public Works, specifically the part that deals with providing water to city households.

1. Are you an adult who has a part in paying your household's utility bills?

   ☐ No – *ask for someone who does and restart when they get on the phone*

   ☐ Yes – continue

2. I'm calling city water customers to invite them to a discussion about city water. According to utility records you are the owner of <address>. Do you also live there?

   ☐ No - I'm sorry to have bothered you. In order to be qualified to participate in the discussion you have to live at the address that was selected

   ☐ Yes – *Continue*

3. Do you have a water meter at your house?

   ☐ No – *If you already have 8 flat rate households say*: "I'm sorry to have bothered you. In order to be qualified to participate in the discussion you have to have a meter at your house." *Otherwise if you have <8 keep going.*

   ☐ Yes – *Continue*

We'd like to invite you to a Focus Group, to get your feedback as a city water customer. It's on Thursday May 12, at 6:30pm, at the Bloedel-Donovan pavilion. The discussion will last about 90 minutes and light refreshments will be served.

4. Would you be able to attend?

   ☐ No – Thank you for your time, have a good evening.

   ☐ Maybe - We can only accept 12 people to attend, so if you're not sure about whether you can make it or not, I can call other people on the list.

   ☐ Yes - *Continue*

5. Do you know where the pavilion is? (it's the small community building beyond the gym, down towards the lake)

6. Can I get your first and last name?

7. We'll be giving you a reminder call on Tuesday May 10th. What is the best number to reach you that evening?

8. *Finally, use this language:* So we can count on seeing you there on the 12th? (*and wait for their answer – it really cements the commitment*)