

Consumer Profiling: The Analysis of Consumer Behavior Regarding The Use of Residential Water Softeners.

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Introduction

The goal of this research project was to study consumer's behavior in decisions regarding residential water softeners. These decisions include the purchase, usage, removal, and replacement of such devices. Research identifies that there are three key constituents involved with residential water softeners: water utilities, the private industry, and the consumers. Conflicting interests and, sometimes, misguided decisions by the constituents contribute to increasing levels of salinity in water resources. Project analysis indicates that significant reduction in salinity levels can be obtained if individual interests for each constituency are re-aligned with no major compromise required.

Based on extensive research and investigations with water utilities (public agencies), water softener providers (private industry), and information from comprehensive interviews with consumers, seven Key Principles are derived and categorized into three categories: Constituent Interests, Behavioral Management, and Communications. It is the principal investigators' opinion that, for any given geographical region where residential water softener usage is a significant contributor to water resource salinity level, through the implementation of a program that involves these seven Key Principles significant salinity reduction can be expected. The recommended action items for each of the seven Key Principles are stated in detail in the content of this project report and are summarized as follows:

Constituent Interests

1. Re-alignment of interests.

The three major constituents (consumers, utility agencies, and private industry) have different and, at times, conflicting interests in regards to residential water softeners: consumers enjoy the water softness; utility agencies are concerned with the increasing salinity levels; and industry is concerned with sustaining a viable business. It is possible and important that these interests be re-aligned so as to allow and promote collaboration among the three constituents in the reduction of salinity levels.

2. Emphasis should be on salt, not water softeners.

Focusing on the removal of softeners leaves the utility agency and private industry at odds with each other. The goal of the agencies should be on salt reduction, rather than focusing solely on the removal of water softeners. This change in strategy will allow industry to collaborate with the utility agency in jointly promoting improving unit efficiency and salt conservation.

3. Consumers are generally willing to use less salt but will not remove their water softeners.

Most consumers with existing water softeners are not willing to stop using or to remove their units. But a significant majority is willing to use their units more efficiently and some homeowners are willing to make personal compromises in the operation of their units. The utility agency is more likely to convince three households to each use one-third less salt than one household to voluntarily remove their softener.

Behavioral Management

4. Consumers generally trust their utility agency. The agency can influence behavioral change in consumers.

Utility agencies have the trust of the public and the ability to modify consumer's attitude towards water softener use and operation in the long run. They are considered an honest and reliable source of information and resources for the consumer, however agencies will need creative ways to market/promote themselves in the future.

5. Timed intervention of consumers is critical (Decision Intersections).

Consumer's acquisition of a water softener generally occurs at certain specific events, such as the purchase of a new residence, the birth of a child, or marriage. Timely intervention at these particular events—which are defined in this study as “decision intersections”—can be particularly effective in modifying consumer behavior.

Communications

6. Consumers are, at times, not informed and/or misinformed about the water softener's impact.

The specific benefits and disadvantages of water softeners are generally not well understood by consumers. With better information available, consumers can make more appropriate environmental and health choices regarding future use of water softeners.

7. The utility agency needs to establish reliable channels of communication with consumers.

There are no consistent, reliable channels of communication between consumers and the utility agency for conveying information about water resource related issues within their district. Utilities need to determine a number of potential strategies that can be used to communicate with consumers regarding a broad array of issues and information that affect all constituents. The introduction of non-traditional “branding” issues that the utilities can introduce and cultivate, such as increasing salinity, specific services that the utility provides consumers (e.g., product use and efficiency information, rebate and incentive programs) creates a new and vital relationship between the utility and the consumer. It evolves new avenues in which to interact and inform customers and direct focus.

1. Design of experiment

The focus of the research conducted in this study has centered on individual consumer motivations and trends as they related to the purchase and continued use of residential water softening devices. This research adopted an individual-centered approach (focus was placed on specific individuals in one-on-one interviews), aiming to gain a personal perspective and more accurate opinions from consumers regarding decisions to purchase, use, remove or replace water softeners.

Initial research on consumer behavior (“Consumer Behaviors and Trends Surrounding the Use and Impact of Chloride-Based Water Softeners”, Kim Knight & David S. Kung, Ph.D., Claremont Graduate University, August 2003) regarding this project explored the basic attitudes surrounding the use of chloride-based water softeners by consumers utilizing group-centered and experimental information gathering techniques. During the administration of the previous research, data generation was accomplished through the use of focus groups, questionnaires/surveys, and a pilot incentive program designed to encourage existing softener owners to either remove their units and those seriously committed to the purchase of a unit to acquire newer, more efficient models. From these resources preliminary data from households regarding ownership and operation of chloride-based water softeners was captured and analyzed. The results of this data gathering pointed to the conclusion that consumers were inconsistent in responding when asked about their true intentions surrounding the use and/or retention of a water-softening device in their home. Group pressures and motivations played a notable role in the attitudes of consumers in public, but when given the opportunity to change out or significantly upgrade their unit every softener owner contacted was unwilling to part with them. These results motivated the need for a more individual-centered approach (individual-focused research procurement) to gather data and get accurate opinions from respondents in subsequent investigations.

After a review of the potential market research alternatives to be utilized, it was determined that the most efficient approach to securing meaningful data from consumers for this project was to conduct extensive “one-on-one interviews” with existing softener owners or those participants who were seriously interested in purchasing a

softener (determined to be a purchase within the next six to twelve months). This method of evaluation was selected to test consumers' loyalty to softeners and their willingness to change the operation of their units or their consideration of a purchase, given the impact of increased salinity levels in southern California. Consumers who did not own or operate softeners and/or who were not seriously committed to the immediate purchase of a unit were not considered for evaluation in this research since the chances of these subjects changing their current behavior were not considered significant for purposes of this study.

As a result of the initial findings it was determined that approximately forty individuals who own or intend to purchase residential water softeners would be invited to participate in one-hour interviews utilizing a structured interview format. Within this group, 30 participants would be selected who currently own water softeners in their residences and 10 participants would be included who would express the intention to purchase a water softener within the next twelve months. From a per capita demographic perspective the prospective group was divided equally between households earning an annual income of above or below \$65,000. Within each of the two income categories the participants were further divided into households where the water softener was less than four years old (5 of the 15 households) or more than four years old (10 of the 15 households). The recruiting plan is summarized in the following table:

Table 1: Designed recruiting quota for one-on-one interview

		Existing users	Potential users
Income above \$65K	Softener <4 yrs old	5	N/A
	Softener >4 yrs old	10	N/A
	Total	15	5
Income below \$65K	Softener <4 yrs old	5	N/A
	Softener >4 yrs old	10	N/A
	Total	15	5
Total		30	10

The final determinant for selection was geographic—half of the group was from Orange County, California and half was from the Inland Empire region of southern California, comprising cities in portions of Los Angeles, San Bernardino, and Riverside counties.

To supplement the individual sessions and the observations with empirical results, a total of three data-capturing dimensions were developed as follows:

One-on-one interview session questionnaire—a script was developed to structure the conduct of the interview. The objective was to let the participants answer the questions regarding their use of water softeners and other issues in an open question environment unprompted and unaided in order to explore what was their “root” behavior. Each interview was videotaped and at least two independent observers, along with a moderator, attended each interview session taking detailed notes. This information was used for qualitative analysis. The session is explained in further details later in this report.

General survey questionnaire—a general-purpose questionnaire was developed to capture relevant data surrounding each participant in terms of demographics, education, per capita income, and information regarding how the respondents acquired information and data for decision-making. Normally interviewees would begin filling out the questionnaire prior to their interview, if they arrived early for their session, and complete it prior to their leaving.

“Top two ranking” questionnaire—a short post-interview survey asking participants to rank why they would or would not be willing to compromise their use of a water softener was administered at the close of the interview. Additional questions were also posed to interviewees regarding why they use a water softener, what they are willing to do to help alleviate the problem, and what considerations went into the decision to purchase or use an existing

unit in their home. The purpose of this questionnaire was to summarize participants' opinions during the session and code them into a database for future analysis.

2. The one-on-one interview

The one-on-one open question interview format was developed for the project to gain a personal perspective from participants and to discover what they really thought about their continued or potential use of soft waters in the face of evidence that increased salinity in local recycled water was due in part to the continued use of chloride-based water softeners. The experiment was designed to measure each participant's level of commitment to the process of reducing salinity. The objective of this experiment was to gain honest feedback from respondents as to their true feelings about water softeners and their willingness to remove their unit or significantly modify how they operated it in the future.

To develop a statistically diverse sample of participants for the study, residential databases were secured from two different populations—Orange County through the assistance of the Irvine Ranch Water District and the Inland Empire region through the use of independent market research sources.

A screening questionnaire was designed to use in conjunction with the telephone solicitation for participants. Target participant research was developed utilizing existing databases (Irvine Ranch Water District) and additional market research utilizing independent sources (the Inland Empire region through outside market research sources). Calls were kept to a minimum time to identify potential attendees and enlist/secure their commitment to attend the one-on-one session. A financial incentive was offered to each potential interviewee to further secure their willingness to participate.

Once an individual was registered, a package of materials outlined above was mailed to each interviewee confirming their appointment and location. With every confirmation for the one-on-one interview that was sent to interviewees, a compendium of reading materials outlining the challenges resulting from the continued and increased usage of chloride-based water softeners was included in the mailing. Interviewees were asked to read the materials prior to their scheduled interview.

Two locations were selected for conducting the interviews in order to accommodate the diverse population selected. Meeting space at the Irvine Ranch Water District headquarters building in Irvine and at the Claremont Graduate University in Claremont was secured along with adjoining areas set aside for participants to wait for their interviews and fill out surveys/questionnaires.

In order to thoroughly capture data from the interviews a minimum of two independent observers were employed to record the information provided by the interviewees during each of the sessions. In addition, each of the interviews was recorded on videotape to allow observers to review the sessions should there be questions or conflicting analysis concerning any of the interviews.

Prior to the one-on-one interview, three "scripts" were developed for these approximately hour-long sessions, open-ended in format, specifically designed to elicit responses that would measure each participants' reaction to the issues of salinity and its treatment, and how much they were willing to do personally to help alleviate the issue. Two scripts were focused on those interviewees who were or had been operating a water softener in their residence at the time of the interview—in one case where the unit had been purchased independently and in the other case where the unit came with the purchase of the home (an "inherited" unit). The third script was focused at those participants who were seriously considering the purchase of a softener within the coming six to twelve months. A brief review of the material sent prior to the interview preceded the main thrust of the session.

Interviewees were then guided through the reading materials previously sent to them and a brief synopsis of the current challenges involving increased salinity with an emphasis placed on the impact of continued water softener use might have on the issue. A series of open-ended questions were then posed to participants asking for their feelings about operating their softeners and what they might be able to do to help alleviate the problem. The interview script allowed the moderator to probe each interviewee individually regarding their sensitivity to the potential crisis of softeners and salts, what specifically they might personally do to help reduce salinity with their existing softener or possible purchase, and how much personal responsibility each participant was willing to put into

the operating or purchase decisions they would make. Each interview was videotaped and at least two observers, along with the moderator, attended each interview session taking detailed notes. This information was used for qualitative study.

After completion of the interview individuals were requested to complete and turn in their general survey questionnaire and the top-two ranking questionnaire—like the interview script, created for participants who either presently owned/operated a softener and those interviewees who were seriously intending to purchase a softening unit. Release forms for the taping were secured from each of the participants and a stipend was paid for their time and assistance.

The analyses of the observations from the interviews are stated in the following sections.

3. Analysis of Findings

Since this study was mostly qualitative in nature, conclusions were mainly drawn from interview session observations. Analyses were then summarized from observations of participants' answers to each of the questions. Statistical analyses were conducted through the general survey questionnaire and top-two ranking questionnaires. Main findings of this experiment are listed below.

- ❑ *Public Awareness*
While the findings showed many opportunities for individual interpretation and misinformation to exist among water softener consumers, it represents a larger opportunity to influence, educate, and hopefully modify consumer behavior by presenting them with persuasive factual information through various informative channels and campaigns.
- ❑ *Reduction of Use*
Study results showed that regardless of the information presented, most respondents were unwilling to remove their units. However, consumers were found willing to compromise their use of softeners by taking one or a few options, which could reduce the use of salt. The analyses showed that instead of insisting on the complete removal of the unit, modifying the use of water softeners, such as using the unit more efficiently, appeared to be the most successful way to effectively bring about the desired reduction in salinity.
- ❑ *Decision Intersections*
The research found the decision to purchase a water softener usually occurred at certain events throughout the consumer's life. Identifying these "decision intersections" and performing active "timed intervention" posed a significant opportunity for outside influences to affect or modify consumer behavior.
- ❑ *Life style Choices*
Research found that health was a notable element of misinformation from respondents as it related to their purchase of a residential water softener. Consumers sometimes misunderstood the potential benefits and disadvantages to operating a softener in their home as it related to their physical well-being. Water utility agencies could establish their role in health and nutrition to address the importance of water issues and help consumers use water wisely.

The following sections explore the results in greater detail.

3.1 Public Awareness

Analyses showed that individual interpretation and/or misinformation exists among water softener current and potential users. Operation or purchase of a water softener at times was based on misunderstood information and purpose.

Water utility agencies could benefit from achieving “public awareness”, which could be defined as, “consumers who possess an understanding of water softening systems as it relates to resources for product and process information—the intended use of the devices (including their limitations), how they function, and what effect they have on the environment and (potentially) public health.” By information messaging (developing specific and targeted marketing programs, language, and materials geared towards the consumer and their habits/tendencies), water utility agencies could expect to change consumer attitudes about the importance of making responsible purchasing decisions and properly maintaining water conditioning equipment, which were important to the water utility agencies’ ability to achieve collaboration with consumers in solving salinity and other water-related problems.

Medium of Information (or information messaging)

Information available to consumers varied greatly concerning the types of residential water softening and processing systems. While respondents used a variety of resources when seeking information on water softening systems, there was no primary source uniformly identified when asked where they searched, or would investigate, for information. Understanding how consumers collect information and their knowledge of water softening systems is an important step in identifying the “messaging” or “language” that is incorporated at the tactical level of marketing strategies.

In attempting to recognize alternative ways in which consumers looked for information and identified potential venues for messaging (other than suppliers, who were ranked first as sources of product information during the interview), respondents were asked how they learned about water softeners and the water conditioning process. This was incorporated into the interview process to estimate a credibility threshold on the information they received. For example, does “credible information” require scientific fact or will recommendations from a friend or family member suffice? (Table 2 below summarizes the results.) Surprisingly, the second most prominent way new owners and those intending to purchase sought information (with the exception of those who stated they had “grown up” with a water softener and were familiar with its capabilities), was through speaking with family or friends or experiencing softened water somewhere outside the home. Further inquiry with the respondents led to an understanding of when consumers think about purchasing a water softener – this is discussed in detail under Decision Intersections in Section 3.3 of this report.

Industry suppliers were the most logical source of information to the consumer, although results show that there has been a limited amount of factual information available when considering the purchase of residential water softeners—more specifically, issues surrounding environmental impact and potential harmful health effects. There was no mandatory regulatory requirement or expectation for disclosure by suppliers, and it appeared that the information was not mentioned or provided when the product or service was presented to the consumer. Many respondents claimed they were never informed, or were unaware (and subsequently shocked—as noted in the videotaped footage of the interviews conducted) when they learned of the potential damage to their health and the local environment their residential water softeners potentially could be causing. This was also relevant to consumers who intended to purchase a unit and their subsequent willingness to consider alternative (i.e., non-chloride) softening systems increased once they were informed. (See Section 3.3 “Decision Intersections” for details of these findings).

Table 2: Information resources before purchase

	% of total responses
Local Water District	5%
Water softener suppliers	31%
Home improvement stores	12%
Somebody you know	26%
Media (TV, website)	26%
Total	100%

Calculating which respondents received the correct information before purchasing a water softener, it was determined that only 17% of those we interviewed had been told about the resources noted above. More importantly, 83% of consumers with whom we interviewed were given no information or misinformation (Table 3 below summarizes the results). This statistic presents a significant opportunity for utility agencies to determine

ways to “reach out” to consumers and develop a relationship whereby they are viewed as a resource for credible information. This effort is intended to help consumers make better choices should they decide to purchase.

Table 3: Summary of information resources before purchase

	% of total responses
Good information	17%
No information or misinformation	83%

Because consumers view utility agencies as credible sources, they have an apparent expectation that utilities would provide them with neutral, factual information. All other sources cited were perceived by interviewees as potentially biased or inaccurate, assuming that the information these sources were providing was in the interest of promoting their own product or service. While this information was viewed as somewhat suspect, consumers in many cases accepted the “data” without fully researching all of the options available to them. More importantly, when respondents were asked where they would go for information, only 5% of the target audience chose the water agency as a resource. This finding suggests two points in consumer information gathering: (1) the utility/agency is not playing a vital, integral role as an information resource to the consumer, and (2) there is an element of time compression (a significant lack of time) when researching and making a final purchase decision on the part of consumers, causing them to default to the information they are provided by those whom they perceive as “knowledgeable”.

Intended use

In an effort to gain insight on why individuals consider the purchase of water softening systems, an attempt was made to identify the major reasons why consumers thought they needed a water softener. While there was no single response that dominated, there were important differences between those respondents who already owned a water softener versus those who intended to own. The two motivators for owning or wanting a water softener were that the unit “extends the operational life of home appliances and clothing” and that conditioned water “feels good.” Table 4 below summarizes the three main reasons why consumers use water softeners.

Table 4: Why use/consider a water softener

	Intended owners (% of total responses)	Existing owners (% of total responses)
Economically motivated	64%	60%
Holistically motivated - feels good	36%	30%
Healthier (inaccurate perception)	0%	10%
Total	100%	100%

“Extending appliance and apparel life” is a relatively easy concept for consumers to understand and embrace. This motivation is economically driven in that there is a perception that a water softener saves them money in the long run. Perceived savings were communicated as the use of less laundry detergent, softened water was easier on clothes – colors and fabrics, and that it minimized or eliminated the build up of calcium and magnesium inside residential plumbing and household appliances. All of these concepts translated into monetary value (savings) in the eyes of consumers and contributed to the perception that a water softener was a good investment.

The “feels good” category was a bit more complicated to quantify and varied greatly between softener owners and the audience who “intended to own”. It was observed that the owners of water softeners (both chloride and non-chloride) were acutely aware of how the water “felt” on their skin. This feeling was communicated as more holistic in nature and was considered tactile and pleasurable. (Some softener owner respondents stated that they recognized a significant difference in water “quality” when they were away from home, and communicated dissatisfaction for the way it felt on their skin.)

Finally, some respondents who owned softeners commented that, in their mind, conditioned or softened water was “healthier”—a significant misperception that appears to be confined to a small population and should be easy to clarify and educate with the proper messaging and information provided to the public.

How water softeners function—the “black box”

While respondents were aware of the location of the water softener in their residence and understood that some sort of “salt” was added to the unit in order to make it operational, there was little understanding related to how the unit functioned on a day-to-day basis for most individuals surveyed. In their minds, it was some sort of magic “black box.” Few participants knew specifically how the units operated and others perceived the softener’s operation as simplistic and somewhat mysterious—“you simply put salt in and it makes a noise every other night . . .” One respondent referred to their softener as being “a little like black magic”. It is interesting to note that many respondents had spent, or were planning to spend, thousands of dollars on a water treatment/water softening system and few knew what notable operating features their system included (timer versus sensor, a bypass valve, potassium and/or sodium-capable system, easily programmable, how the system was plumbed to the water delivery system) or how to program the unit so that it operated in an efficient or high-performance manner. This “blind faith” behavior on the part of consumers regarding the operation of water softeners provides another substantial opportunity for utility agencies to influence and significantly modify the purchase process by providing existing and potential softener owners a checklist of questions to ask when purchasing a water softener.

Gender issues also played a notable role in the results from interviews as it related to the operation of the softener. The first observation was that men in the household were generally responsible for operation of the unit, including the purchase and addition of salt to the units (largely because of the physical labor involved in transporting and loading the salt). Some of the female respondents stated they “... don’t go near the unit, I just know where it sits in the garage.” However, if they were offered detailed and thorough instructions on how to operate the softener more efficiently, most women respondents stated they would be willing to adjust or operate the unit themselves if it were as simple as described. Both men and women participants stated they would be willing to allow their water agency or a representative from the utility in their homes to evaluate and possibly adjust their units for greater efficiency.

Environmental damage and potential health risks

As noted earlier in this study, most consumers claimed they were never informed at point of purchase (or during any of their research utilizing manufacturers’ sites and resources) of the possible environmental damage or potential health risks associated with water softeners. Similar to the respondents in previous research, participants expressed surprise when they learned of the damage chloride softeners were said to be causing the environment. In spite of the evidence that pointed to the negative effects of continued water softener use by consumers and even when offered incentives to remove their existing units or replace them with high-efficiency units, consumers were extraordinarily reluctant to part with their water softeners. In addition, health concerns regarding the ingestion of softened water and hypertension did not seem to dissuade owners’ reluctance to give up their appliance. Even the threat of mandatory removal or curtailment of use did little to dissuade owners from considering changes to their current behaviors. Consumers were bothered by their contribution to environmental damage, but as previous research pointed out, there appears to be a significant trade-off cost associated with clearing social conscience.

The research concluded that environmental reasons alone do not change a consumer’s behavior. Most participants claimed an economic rationale for not changing behavior (a need to recoup a significant monetary investment—anywhere from \$300 to over \$3,000) and would prefer to wait until their units became inoperative or when they had received their “perceived” return on investment before removing or modifying a softener. This period of time was not formally calculated in this study, although the older the unit in place, the more likely consumers were to consider an environmentally friendly option if there was a reasonable inducement.

In addition to environmental concerns most respondents were equally surprised to discover that they had never been informed about the increased sodium content in softened water. While most participants had a reverse osmosis or carbon filter attached to their cold water line in the kitchen for drinking and cooking, they stated that not knowing about all of the potential health risks could have been a problem. One respondent, who had been diagnosed with high blood pressure, shared that she was going to ask her doctor why no inquiry had been made by him regarding the presence of a water softener in the home as a potential source of sodium in her diet. It would appear that another

source of reliable communication with the public could be via the medical community as a credible, highly effective medium for discussing medical consequences involving chloride softeners and drinking water in the home.

It is important to note at this juncture is, that while chloride water softener users were not ready to change or surrender their unit, both environmental and health issues that were now known by participants prompted a willingness on their part to consider alternatives (e.g., a “green” water softener) when the time came to replace. This “flexibility” on the part of the consumer is critical and should be considered when planning the message strategies. Consumers will not see or hear relevant decision-assisting information until they are ready for the message or find themselves in need of the product or service being offered. This particular “decision intersection” is considered a “conversion fringe” market—those who convert or change their behavior *eventually*, on *their* terms and timeline for making the purchase. This presents another significant opportunity to change and/or modify the consumer’s decision-making process

Summary

As identified in the previous research study, and validated further with the research conducted in this project, the findings show many opportunities for individual interpretation and/or misinformation to exist among water softener consumers. While the wide range of interpretation is troublesome, it represents a larger opportunity to influence, educate, and hopefully modify consumer behavior by presenting them with persuasive factual information. All interviewees welcomed the fact-sheet that they received prior to their interviews and commented on the importance of it coming from a neutral, trusted source. Chloride water softener owners commented that they would have preferred to have the information provided before they had made such a significant investment on their units. Those intending to purchase softeners felt they would now be able to research their acquisition better and make a more “informed” decision before purchase. They did not, however, commit to completely eliminating a chloride-based softener from purchase consideration.

Recommendations

Changing consumer attitudes about the importance of making responsible purchasing decisions and properly maintaining water conditioning equipment are key to establishing the role of the water utility as an organization committed to more than merely providing competitively priced, clean, safe water to customers. Agencies have the unique opportunity at this point in time to take advantage of their role as an unbiased provider of information that the public can use in purchase and lifestyle decisions, but utilities will have to radically change their relationship towards consumers and adopt a more customer-friendly proactive approach when dealing with the public in the immediate future and beyond.

Utility agencies have an extraordinary opportunity to accomplish three very important objectives:

- ❑ *Objective 1: Establish channels of communication with the consumer*
Because consumers do not normally consider their water agency top-of-mind for information about water softeners, chances are, they do not consider them for other important issues as well. Building relationships with the consumer can have long-term benefits. As other water issues and challenges emerge, (ones requiring consumer support) the mind-share will have been established through the salinity program and can continue as the utility is identified as “the trusted resource for any and all information regarding water.” These channels will need to be consistent and constant over an extended period of time and should be utilizing unique communication vehicles. Stuffers in the water bill alone *will not* accomplish the objective of “getting the message across” to consumers.
- ❑ *Objective 2: Influence consumer behavior regarding major purchases*
Information about water softener performance, proper operation, and maintenance of the unit is scarce and oftentimes inaccurate. Other utility agencies are viewed as a credible source of information and can have a tremendous amount of influence on the consumer’s behavior. Providing the correct information, at the right time presents the possibility of “intersecting” the consumer’s purchase decision-making process before the actual purchase is transacted.
- ❑ *Objective 3: Demonstrate community leadership*

The expectations of consumers regarding what their utilities can and should be communicating to and doing for them continues to rise. Utility agencies have recently recognized the importance of brand development and management in building their relationships with consumers—in spite of the unique “monopoly” that utilities possess with the public. The interaction between provider and the customer has become more consumer-friendly via the Internet, important information announcements, special rebates and offers, programs for resource conservation, etc. (e.g., Southern California Edison’s and Southern California Gas Company’s recent campaigns geared towards building/strengthening customer relationships). Companies not offering these services and programs will most likely struggle to gain consumer recognition and support when it is needed. Managing public perception through a relationship with consumers will be more important as resources become limited. Consumers have been shown to be more likely to participate at greater levels to meet more demanding conservation objectives when programs were well-defined, effectively communicated, and goal-oriented.

Increased public awareness and consumer participation can be accomplished through the use of some or all of the following tactics:

- ❑ *Public Education—Water Awareness Campaign*
Information delivered to the public on water issues (i.e., salinity, effective use and availability) via a specifically themed campaign is more likely to be retained over time. In addition to consistent marketing materials and messages, a “mascot” or character that is associated with the program could be an effective way to gain “buy in” from consumers. Smokey the Bear, Woodsy the Owl, and Chief Iron Eyes Cody are notable examples of such a practice.
- ❑ *Website and 800# Consumer Information Hotline*
Set up a website or add to an existing site for consumers to access and obtain information on water softeners and other pressing issues surrounding water and salinity. The website should consist of informative factual information on the effects of water softeners to the environment and the potential health risks for consumption, how to adjust a chloride softener to use less salt and how to choose a softening system. A toll-free telephone line could also be used to supplement the website and answer more pressing questions from the public.
- ❑ *Provide information—“How to Choose a Softener”—Take-Away Brochure*
Design and develop a brochure to distribute as a “take-away” for consumers. The materials should be designed for use at all potential venues of exhibit and public events where utility agencies are present. (The brochures could be used on a regional or larger basis, if designed with a “clean” panel for imprinting the relevant contact information.)
- ❑ *Elementary & Middle School Education*
Focus on creating collateral materials that are designed and written specifically for a younger audience. This model was used in law enforcement agencies with a character named “McGruff”, the canine sleuth. A “mascot” could be developed to keep the program memorable and fun. Include information on the value of water as an asset and pertinent environmental issues (e.g., the potential damage caused by pesticides, fertilizers, salinity, and animal waste runoff).
- ❑ *Water Softener Placement list*
Work with industry to develop a comprehensive list of chloride-based water softener owners, ideally capturing owner information on units over 4 years old. Contact information where factual materials from the water utility can be sent would be vital. This would be a targeted attempt to intersect and ultimately influence repurchase behavior.
- ❑ *Mobile Marketing program*
If the consumer will not take time to contact utility agencies, then the agencies should be prepared to take the information to the consumer. A mobile marketing program—one that travels to schools, local malls, fairs, local sporting/community events, and other community-oriented venues—could be established to educate the local population on the value of water, important issues concerning conservation, and water softeners among other vital water-related issues.

- ❑ *Health/Retirement Industry Messaging*
Enlist the support of the medical community to deliver the message of the potential health risks surrounding the consumption of water softened by chloride-based units. The information could be distributed via take-away brochures or other appropriate vehicles. Organizations such as AARP could provide similar communication to the senior population or other “at risk” populations (e.g., heart patients).
- ❑ *Mass Messaging (Mobile Campaign)*
Consider promoting website and hotline number information in areas that can be viewed by commuters. Mass transit locations, such as Metrolink, bus sides and shelters, or billboards are traditional and potentially effective modes of advertising. Visuals for the program will need to have enough “impact” to capture the attention of traditionally pre-occupied commuters. Other opportunities could be identified as consumer profiles are developed—e.g., if 60% of softener owners have pets, a possible venue such as Petco or Petsmart could be a distribution point for additional information. (Consider potential health risks for pets consuming softened water?)
- ❑ *Community Presence*
Utility agencies should partner with local community organizations (chamber of commerce, Kiwanis, Rotary, Jaycees) and political representatives to reinforce the importance of this issue to the community and use local venues and events to speak publicly about the voluntary reduction program. Activities such as a speaker’s bureau, multimedia presentations to schools, and community event sponsorship lend themselves to more effective grass roots involvement and marketing to the local cities and their populations.

3.2 Reduction of Use

The previous study explored consumers’ willingness to give up their chloride-based softeners and determining whether the damage the units were causing to the environment was enough to encourage consumers to surrender (most likely with a monetary incentive) or stop using their units altogether. Study results showed that regardless of the information presented, most respondents were unwilling to remove their units without a “mandatory” ban initiated by the water agency. While a ban on the future sale of chloride softeners would certainly contribute to the long-term reduction of salinity, it would not solve the immediate problem of reducing current levels. More importantly, consumers were not pleased at the prospect of local government interfering with their personal choices where it concerned water treatment processes that historically had been considered acceptable options.

This study was designed to re-frame and assess the consumer’s thinking around the concept of “reduction of use”. This concept theorizes that if water agencies could convince two consumers to “voluntarily” use half the salt they current consume in their water softeners, it would be the equivalent of the removal of one chloride-based softener from the population. The research concluded that this approach was clearly the best alternative to regulatory behavior and was perceived by consumers as a significantly less painful option to banning softeners. However, to understand the levels of consumers’ willingness to compromise (use less salt) and to attempt to identify a “language” to which they might respond when creating public messaging was critical to developing an alternative program of salinity reduction involving water softeners. Furthermore, developing additional understanding of consumers’ underlying motivations for their initial purchase was equally important for us to comprehend. The results from the interviews uncovered some of the reasons, perceived or real, people used or wanted water softeners in their homes. Further research was conducted to identify differences in user behavior.

Options for reduction of use

Identifying consumers’ willingness to compromise and what they were willing or unwilling to do was an important step in defining the target audience with the highest opportunity for behavioral change. Respondents for this research study were divided into two groups—“existing users” of water softeners and “potential users”—in an effort to observe differences between the two groups. To further segment the audience respondents were asked why they would or would not be willing to compromise their use of softeners, and were provided specific reduction of use options for doing so (see below). Further segmentation allowed cross tabulation against age, income, children in

the household, and other factors providing the opportunity to *dissect* and *associate* specific audience characteristics that help when choosing which marketing mediums will best reach the intended audience.

During the course of the interviews each participant was introduced to the idea of making some level of sacrifice as a result of helping to reduce salinity due to the operation of water softeners. Five specific options were presented:

- Removal of the unit from the home
- Replacement with a high efficiency unit
- Using less salt in the operation of a new or existing unit
- Adjusting the timer (on applicable models) to extend the period between regeneration
- Re-plumb the unit to the hot water line only

The approach of this research was to specifically solicit the level of willingness on the part of each constituency to consider or execute a number of behavior modifications

Existing users—how they will compromise and what affects their choices

Once interviews were completed the results were segregated into two major factions: (1) results from existing water softener owners, and (2) results from potential owners. Of the responses from existing owners, seventy percent (70%) of respondents who owned a chloride-based softener were willing to participate in at least one of the “reduction of use” options mentioned above, twelve percent (12%) would completely remove the unit and the remaining eighteen percent (18%) were willing to replace their existing unit with a high efficiency model (Table 5 below summarizes the results.) Of the seventy percent (70%) willing to actively participate in at least one reduction selection, the predominant options selected were: (a) hooking up the softener to the hot water only, (2) adjusting the timer to regenerate less often, and (3) a (reluctant) commitment to replace their older units with high-efficiency models (See Table 6 below for a summary of results.) *(It is important to note that respondents who stated a willingness to replace an existing softener with a high-efficiency model, would only be willing to do so when they felt the economic life of the existing unit was exhausted and/or when the unit expired.)*

Table 5: What existing users are willing to do

	% of total responses
Remove their unit	11%
Replace with high efficiency unit	19%
Use less	70%
Total	100%

Table 6: What existing users are willing to do (specific options for “use less”)

	% of responses
Use less salt	17%
Adjust timer	30%
Turn unit off	20%
Operate on hot water only	33%
Total	100%

Willingness to use less was also correlated to the age of the user. The younger (31-45) and older (60+) age groups surveyed were more willing to reduce their use of salt than the middle age group (46-59). (Table 7 below summarizes the results.) Of the nearly 40% middle age group respondents not willing to compromise or use less,

many commented that because they recently found themselves “empty nesters”, and had spent time sacrificing for their children, they simply were not interested in compromising. Conditioned water was perceived as somewhat of a deserved luxury at this point in their lives and they would likely not be a recommended target audience (at least initially) for agencies, since conversion cost (the cost of getting the consumer to significantly modify their behavior relating to the use of water softeners) would likely be very high.

Table 7: The effects of age relating to behavior modification

	31-45	46-59	60+
Not willing to compromise use of chloride-based water softener	9%	38%	29%
Willing to compromise use of chloride-based water softener	91%	63%	71%

Other elements of participants’ willingness to compromise related to whether or not there are minor children in the household and level of income.

As noted in Table 8 below, however, respondents without children in the household appear significantly more willing to compromise on water softener use than the respondents with children. This is an important understanding. As noted in an earlier segment of this report, early conditioning and information is critical to future behavior. The possibility to change consumer behavior may therefore exist by utilizing elementary and middle schools as a vehicle for distribution of informational material regarding water and salinity issues. The information would be sent home via the child and delivered directly to the parent—increasing the likelihood of review thereby creating increased awareness.

Table 8: The effects of children relating to behavior modification

	No Children	Have Children
Not willing to compromise chloride-based water softener	31%	55%
Willing to compromise use of chloride-based water softener	69%	45%
Total	100%	100%

Income also appeared to have a significant effect on participants’ willingness to compromise. Water softener owners in the lower income bracket (<\$65,000) were less willing to compromise on their units’ operation than owners in the higher income bracket (>\$101,000) (Table 9 below summarizes the results). This was most likely due to the greater financial commitment that a water-softening unit represented as a percentage of income. This stronger purchase commitment would lead to participants’ resistance to remove or modify their units, particularly during the early years of their operation in the home. While higher income bracket participants were equally reluctant to part with their units, they appeared more willing to consider modifications since this posed less of a financial burden to them.

Table 9: The effects of income relating to behavior modification

	<\$65,000	\$66,000-100,000	>\$101,000
Not willing to compromise chloride-based water softener	57%	50%	33%
Willing to compromise use of chloride-based water softener	43%	50%	67%
Total	100%	100%	100%

Good Citizenship

As respondents were interviewed many stated the importance of doing the “right thing” and likened it to their participation in voting and being a good citizen. As this trend emerged, an effort was undertaken to identify whether or not the willingness to compromise the use of a water softener had any relationship to participation in desirable societal activities. Respondents were subsequently asked to provide detailed information on their participation in voting, charitable giving, recycling, and volunteering. While overall participation in positive societal activities appears to be important, there are some differences requiring further study to be conclusive. (Table 10 to Table 13 summarizes the results from this study.) Additional research would therefore be recommended to gain greater insight as to the reasons behind these findings.

Table 10: The effect of age relating to voting

	31-45	46-59	60+
Do not vote	18%	0%	14%
General only	0%	0%	14%
General & primary	82%	100%	71%
Total	100%	100%	100%

Table 11: The effect of age relating charitable giving

	31-45	46-59	60+
No	27%	13%	0%
Yes	73%	75%	100%
N/A	0%	13%	0%
Total	100%	100%	100%

Table 12: The effect of age relating recycling

	31-45	46-59	60+
No	0%	25%	0%
Yes	100%	75%	100%
Total	100%	100%	100%

Table 13: The effect of age relating volunteering

	31-45	46-59	60+
No	36%	25%	57%
Yes	64%	75%	43%
Total	100%	100%	100%

Why participants are willing to compromise

According to the interview results (see Table 14 below) most respondents were not told at the time of purchase that rising salinity levels could eventually negatively impact the environment, and therefore they did not feel completely responsible for the current rising salinity problems.

Table 14: Why participants are willing to compromise

	Own (% of total responses)	Intend to own (% of total responses)
Not aware of the problem	30%	56%
Right thing to do	14%	0%
Safer for environment	48%	44%
Don't want to "look bad"	3%	0%
Health concerns	5%	0%
Total	100%	100%

From the table above both water softener owners (50%) and those intending to own (44%) expressed a genuine concern about the environmental damage their units might be causing and were willing to contribute to a solution. They viewed "using less" as an effective alternative—a way that their needs could still be met while they would still feel good about doing the right thing for the environment.

Early conditioning

Early conditioning of the consumer is considered critical to changing user behavior. For respondents who owned a water softener, one of the most important reasons they used it was to "feel better" (see Table 4 in Section 3.1). The longer a consumer experienced softened water, the stronger the emotional connection to the softener and the less likely they were to remove the unit or even compromise its operation by using less salt. The opportunity on which utility agencies should focus would be to begin building consumer awareness very early in consumers' lives. Recognizing earlier comments about educating children and young consumers (See recommendations under Section 3.1: Public Awareness), utilities would be well served if they focused efforts on early school education concerning water conservation, water quality, and salinity reduction as a way of "preventative medicine". Discouraging unstructured or irresponsible softener use in young people and public awareness education as a long-term solution should be cornerstones of any salinity reduction program introduced.

Potential owners

With proper timing and information, the ability to influence the consumer's purchase decision appears to be possible. From Tables 15 and 16 below, while there were no respondents who were seriously investigating the purchase of a softener willing to refrain from buying a unit, 29% of those surveyed were at least willing to consider an alternative softening technology once they were made aware of the damage to the environment. The primary focus for this particular audience wanting a water softener was economic (extending appliance life). Of the 71% who remained insistent on purchasing a high efficiency chloride softener (regardless of the information provided) 40% were willing to hook up the softener to the hot water line only.

Table 15: What are potential owners willing to do

	% of responses
Not buy	0%
Buy an environmentally friendly unit	29%
Buy a high efficiency chloride unit	71%
Total	100%

Table 16: What are potential owners willing to do (specific options for "buy a high efficiency chloride unit")

	% of responses
Buy a high efficiency chloride unit & use less salt	20%

Buy a high efficiency chloride unit & adjust timer to extend regeneration time	20%
Buy a high efficiency chloride unit & turn off when away for extended periods of time	20%
Buy a high efficient chloride unit & hook up to hot water only	40%
Total	100%

Summary

Consumers are willing to compromise their use of chloride-based water softeners for environmental reasons and concerns. Instead of insisting on the complete removal of the unit, using the softener more efficiently appears to be the most successful way to effectively modify consumer behavior and bring about the desired reduction in salinity. Identified options for reduction of use include: (1) replacement with a high efficiency unit, (2) using less salt in the operation of a new or existing unit, (3) adjusting the timer (on applicable models) to extend the period between regeneration, and (4) re-plumb the unit to the hot water line only. The establishment and administration of a “voluntary reduction” program has the ability to have an immediate impact on salinity levels in and around the southern California area. The following recommendations are therefore proposed.

Recommendations

The results of the research point to a large-scale willingness on the part of consumers to actively participate in some sort of organized program to help reduce salinity. The development of a voluntary salinity reduction campaign by water utilities would be a logical next step in effectively approaching the public with new and acceptable behaviors surrounding any continued use of chloride-based water softeners.

Consumers, the water conditioning industry, and government need to create convenient, effective ways to reach consumers, capture information, and create databases concerning the households with water softeners—older established units, newer units with improved technology and units serviced by an independent service supplier (portable exchange). As units and households are identified and targeted, a comprehensive program should be implemented that could include most, if not all, of the following aspects.

- ❑ *A water softener "tune-up" program*
A program to service softener units already placed in the home should be implemented. This project should target older, less efficient softeners that use too much salt or units that are currently improperly programmed to accurately and effectively condition water for the current residents. The lead organization for such an endeavor most likely would be the local water or sanitation agency since many respondents expressed a distrust of manufacturers or service providers conducting an unbiased evaluation of their water quality and the fear of being pressured into buying new and likely unneeded equipment. It should be noted that the utility's active endorsement of a program might be enough to calm consumers' concerns about working solely with manufacturers and service providers. One service provider is offering this service locally for a fee of \$35. A similar program was conducted in Lake Geneva, WI with the Culligan organization and the local water agency with a resulting reduction of salinity of approximately 15%.
- ❑ *Manufacturer/ Supplier Conditioning*
Encouraging suppliers to use the water agency's reduction initiative to strengthen their existing customer relationships would allow for the development of information flow between the consumer and the supplier. Enlisting companies such as Culligan and Rayne to offer the same tune up program to their existing customer base when servicing existing units or those in need of repair and capturing information about these households would aid in the creation of a softener database which could be used for follow-up research and sampling.
- ❑ *Voluntary Reduction Program*
Agencies could offer generic instruction to their constituencies on “how to . . .” for using less salt in their water softening, re-plumbing the softener to hot water only, extending regeneration times on timer units, re-programming their units to more accurately reflect the number of home residents and the amount of water

to be softened, and tips for [non] operation when homeowners are away for extended periods (applies primarily to older units).

Utility agencies need to take the lead in providing consumers with accurate, informative facts about the current problems with increased salinity, its sources, and what the public can be doing to alleviate the problem. The research has shown that citizens want to be part of the solution, particularly where environmental issues are concerned. Inviting them to actively participate in solving the salinity “crisis” will allow both government and industry to partner with the consumer to voluntarily modify existing behaviors in a way that allows for major to little or no significant sacrifice on the part of the consumer.

3.3 Decision Intersections

One of the more interesting facets of the research involved trying to determine when major decision-making events took place where the decision to purchase a water softener was concerned. As interviews continued and deeper study of the level of consumer awareness developed, significant patterns began to emerge surrounding events that “triggered” the consideration or purchase of a water softener. These “trigger events” we have defined as “decision intersections” (i.e., the moment the consumer is presented with the opportunity and motivation to make a choice). This “intersection” poses a significant opportunity for outside influences to affect or modify consumer behavior. Message content, the medium in which it is delivered, and the location in which it is placed offer distinct opportunities to positively intervene on behalf of the utility in the consumer decision-making process.

What “triggers” a consumer to consider or purchase/operate a water softener?

During the course of this study it was noted that the idea of purchasing a water softener was usually triggered by a significant life event. Three specific events that ranked high with the research on respondents were:

- The purchase of a home
- The imminent arrival of a child into the household
- Marriage

Specific results were tracked from the survey in answer to the question of what influenced consumers to purchase or continue operation of a water softener. Table 17 below summarizes the results. Sixty percent (60%) of respondents stated that they considered a softener purchase as a specific result of moving into a new residence or refinancing and almost half (46%) decided to continue the operation of an existing unit merely because it came with the house. Besides replacement of an inoperable unit, the influence of friends/neighbors/family in the purchase of a unit was considered significant. This translates to earlier observations that recommendations by others were an important aspect of the consumer purchase decision-making process. Consumer education should take on even greater importance as a result of these findings since potential softener purchasers place so much importance on the opinions of others.

Table 17: What triggers a consumer to consider/purchase a water softener

	Potential owners (% of responses)	Existing owners (% of responses)
Moving/Refinancing	60%	31%
Visiting friends or family	0%	0%
When something breaks	20%	0%
Friends or family mentioning	20%	15%
Time of year	0%	0%
Came with the house	N/A	46%
Other	0%	8%
Total	100%	100%

Timed Intervention – Softener Owners

Timing of the information, or what we refer to as “timed intervention”, appears to be a critical component when influencing behavioral change (See Table 18 below). Of those respondents who “inherited” a water softener (i.e., the softener came with the purchase of their home) all (100%) were willing to compromise by choosing at least one of the options presented to reduce salt use. This contrasted against participants who had made a deliberate decision to purchase a softener; only 50% of respondents were willing to compromise by choosing one of the salt reduction options offered during interviews. This finding implies a greater emotional involvement and connection to their softener as a result of a deliberate purchase choice versus a unit that was in place at the time of home purchase.

Table 18: “Inheritance” of a water softener vs. self-purchased

	% of participants who are willing to compromise their use of water softener
Came with the house	100%
Purchased independently	50%

Economic reasons also appeared to contribute to this rationale. When acquiring the unit independent from the house purchase, there seemed to be a higher level of awareness by participants regarding the expense outlay and ensuring that the unit’s useful economic life was close to full amortization before abandoning the unit or being willing to modify their usage behavior. The decision intersection and the likely opportunity for intervention with this particular population would be when the unit stopped working altogether or was in need of repair. In contrast, those who “inherited” the unit were significantly less connected to the thought of using the softener under the current regeneration schedule or even retaining it at all. There was much more openness to changing the operation of the appliance regardless of the age or modus operandi of the unit.

To further explore when intervention may take place, respondents were asked whether or not a realtor, an agent, or the previous owner had made them aware of the unit’s existence at the time of purchase. Table 19 shows the results. Sixty-seven percent (67%) of respondents said that the unit had been promoted as a featured amenity when the home was purchased.

Table 19: How consumers are informed about the existence of the unit at the time of purchase

	% of participants
Offered by the builder	0%
Informed by owner/agent	67%
Discovered on own	17%
Other	16%
Total	100%

The willingness to remove a softener or to compromise on its operation appears to be related to the overall emotional investment the consumer has made during the purchase process. Respondents who invested significant time, energy and an independent outlay of cash (versus part of a home’s purchase price) were much less willing to compromise than those who “inherited” their units. It can be deduced based on participants’ responses during their interviews that the cost of the “inherited” softer was buried in the purchase price of the house and, relative to the total price, its specific value was viewed as insignificant.

Timed Intervention – Intend to Own

As stated earlier, seventy-one percent (71%) of respondents “intending to own” a water softener stated that they might not be are willing to refrain from buying a chloride softener despite the information that was presented to them during the course of the interviews (see Table 15 in Section 3.2). However, if they were to make the purchase, they would definitely be willing to participate in a “reduction of use” compromise option. Twenty-nine percent (29%) of the participants were willing to consider an alternative technology in their choice of units.

Summary

Pro-active and time-sensitive messaging for potential users is critical to behavior modification. Because most consumers tend to filter advertising or messaging for a product until they are interested in purchasing, it is recommended that the utility agencies create broad, ongoing and visible messages that will create a constant “undercurrent of awareness” that would allow the potential softener owner to hear the message on their timeline, i.e., when they commence serious research and evaluation into the purchase of a water softener.

Recommendations

A media “presence” within the community on an ongoing basis will create a higher level of awareness of the salinity issue, which should translate to a higher level of consumer response and message recall. By placing the utility agencies’ message at the consumer’s decision-making intersection point(s) the likelihood of behavioral change is enhanced and the agency has a better opportunity to modify consumers’ behavior within the decision-making timeline. Some of the more important locations to consider are:

- ❑ *Home Improvement Centers*
Displays and collateral materials where softeners, water heaters and dish & clothes washing appliances are displayed are logical locations. These are high traffic areas where consumers are captive and already possess the mindset of improving or repairing their homes.
- ❑ *Baby stores*
Retail establishments that cater to infants are also logical locations for messaging concerning water softeners. Information about the health issues surrounding softeners and correcting possible “misinformation” about what the units can and cannot do for water quality, purity, and cleanliness should be available to expectant parents.
- ❑ *Shopping Malls*
While probably consisting of a smaller potential audience, the food court and common areas of this location were mentioned in respondent interviews as worth considering. A thorough assessment of shopper demographics should be undertaken if this is to be considered a viable channel of consumer marketing.
- ❑ *Home Shows & Expos*
Logically a utility would conduct the same messaging approach as was utilized for home improvement centers. Audiences at these venues are giving serious consideration to major changes in their homes.
- ❑ *Realtors/Agents*
Utilities should seriously consider actively intervening in the removal of water softeners when a house that has one comes up for sale. Since homeowners who “inherited” a softener for the first time were somewhat ambivalent about using or removing the unit, it would be in the utility’s best interest to have the unit removed at the time of sale. An incentive program with realtors and agents when listing homes, providing a cash payout to sellers for the removal of chloride-based water softeners prior to the sale of the home, would provide a way to remove units from the community without confronting existing softener owners.
- ❑ *Homebuilders & Developers*
Developers currently offer water softeners as a featured amenity in many new homes and housing developments. Since the primary motivation for the inclusion of up-scale additions is higher profit margins, utilities should work with builders to develop alternatives that provide comparable profitability but without similar detrimental effects on the watershed. At the very least developers should be seriously dissuaded from including softeners in any package of options.

3.4 Lifestyle Choices

Health was a notable element of misinformation from the respondents as it related to their operation of a water softener in the home. As discussed in the “public awareness” segment of this research, ten percent (10%) of softener owners claimed that water softeners were associated with better health. Some respondents perceived their water softener as “healthy”, although there was never really a clear description given as to what “healthy” really meant to them. It appeared to be associated with water quality, although there was little to no awareness in the minds of

participants of the potential unhealthful elements. This perception possibly may be driven by how product suppliers and manufacturers are marketing these products. The research supports the view that point-of-purchase marketing and advertising likely contribute to this perception. Some advertisements for softeners and portable exchange service incorporate visuals of infants and young families, possibly implying that a softener is a needed addition to a healthy family unit and can contribute to the health of the family purchasing the unit or acquiring the softener service. In order to statistically validate this hypothesis, further research would need to be undertaken. But there is enough potential misinformation being provided to warrant serious work on the part of utilities to correct the perspective being marketed by suppliers.

Recommendations

When participants were made aware of the potential health risks associated, they were offered suggestions for channels of this information. Those that elicited the strongest response were:

- ❑ *Health expos & fairs*
Local HMO's or media companies usually sponsor these activities where consumers attend to seek relevant health information.
- ❑ *Health or retirement industry representatives*
The movement for consumers to take more responsibility for their healthcare is gaining momentum and more people are searching independently for knowledge on how to improve their health and lifestyle. Many of these organizations publish informational brochures; free to the public in doctor's offices, urgent care centers and hospitals. Additionally, they may also have websites with informational links that consumers could use as a resource for information, in an effort to promote overall wellness within the community.

Messaging through medical professionals, healthcare providers or retirement organizations (e.g., HMO's, AARP, etc.), may be an effective way to communicate the potential health risk of drinking softened water. These organizations and their representatives are viewed as credible sources of information and can help the utility agencies by informing their audiences in a way that *complements* and *supports* the agency's public message(s).

- ❑ *Public relations effort with local network TV stations*
Expert medical advice is regularly offered on the evening news segments. Topics that are of public interest and would have an impact on the consumer's health could be utilized in "sound bite" segments, including salinity.
- ❑ *Utility agency resident health & nutrition expert*
A utility could consider the creation of a corporate identity around a nutrition or health expert that addresses the importance of water and correlative issues. They might create public health messaging about the effects and importance of water in the body, diet, and nutritional elements, (e.g. sodium, lead, carcinogens etc.) This could be an outside nutritionist, MD, or possibly a group of MD's willing to write articles for the utility.

These articles could also serve as a potential for formal PR releases to consumer publications (Shape, Health & Fitness, etc.) that are always looking for health facts or stories of special interest to include in their publications.

4. Conclusions

The research has shown that forcing consumers to make a significant change in their behavior as it relates to their use of water softeners through traditional channels such as mandatory regulation is, at times, an ineffective approach for utility agencies to take. It also will provoke negative re-actions from consumers in respect to the utility agency and deny them of benefits that they desire. Utility agencies should view the goal of decreased salinity through the

adoption of an approach stressing immediate but modest changes by more individuals making smaller behavioral modifications and planning more significant grass roots major consumer behavioral changes and accelerated technological advances in the long run. By allowing consumers to voluntarily “adapt” to achievable behavior, reinforced with consistent messaging, the utility agency increases the probability of creating the modified longer term behavior ultimately desired. In addition, utility agencies should invite the collaboration of private industry to accomplish the goal of salinity reduction in water resources. Private industry has made significant technological improvements in terms of more efficient use of salt in residential water softeners in past few years and will continue to develop new technology towards even more efficient and environmentally friendly units in the future. Through collaborations among the three constituents, utility agencies can operate within salinity level requirements, while the private industry can continue to sustain a viable business, and consumers can continue to reap the benefits of using residential water softeners, all on a voluntary basis.

Based on the analyses of collected data and information, seven Key Principles, classified in three specific categories—communications, behavioral management, and constituent interests—form the basis of findings and recommended actions stated above.

Communications

- ❑ Consumers are not informed or misinformed regarding the benefits and risks of residential water softeners.
- ❑ Utilities are well advised to develop themselves into resources for information regarding softeners and other water-related issues with consumers.

Behavioral Management

- ❑ Utility agencies are in a unique position to influence behavioral changes in consumers by providing factual information and being involved within the community as a visible resource.
- ❑ Utility agencies need to provide pertinent information to consumers as they reach “decision intersections” when considering actions or purchases involving water treatment. Such consumer-based focused marketing efforts will most likely take targeted and broad-based communications programs from the utility with a consistent message.

Constituent Interests

- ❑ Emphasis needs to be placed on reducing the amount of salt used by softeners, not necessarily on the number of softeners being operated.
- ❑ Consumers, ultimately, are willing to use less salt and make modifications to their units, plumbing, and possibly their lifestyles. But softener owners, especially long-time users, will not give up their units except in the direst of circumstances.
- ❑ In order for any meaningful long-term change to take place there needs to be a “realignment of interests” between consumers, the utility agencies, and the water treatment industry. While each of these constituents has different objectives that they pursue, it appears that many of their divergent interests can fall under certain common objectives (e.g., a common interest between consumers and agencies on improving the environment, a common desire for water softening services between consumers and the water treatment industry). Identification of areas of commonality—where objectives can be consolidated, provides an opportunity for all three areas of focus to collaborate, i.e., to seek solutions to solve the salinity issue.

To accomplish these goals utility agencies must begin creating lasting partnerships with consumers and private industry today. The idea of realigning interests between the three constituencies—consumers, industry, and government—is a new approach to behavior modification and one that may be easier to accomplish than most, if not all, of the traditional approaches attempted to date.

Many utility agencies have discounted the value of non-traditional “branding” because the consumer really does not have a choice in the service with which they are provided (water, gas, electric, etc.). However, it is now recognized that branding and building customer relationships are vitally important to the long-term success of utility agencies

and should be viewed as a way to preserve the focus and cooperation of the consumer in the future. More specifically, the introduction of non-traditional “branding” issues that the utilities can introduce and cultivate, such as increasing salinity, specific services that the utility provides consumers (e.g., product use and efficiency information, rebate and incentive programs) creates a new and vital relationship between the utility and the consumer. It evolves new avenues in which to interact and inform customers and direct focus. Industry can be equally responsive to consumer needs such as product efficiency ratings and more open communication about knowledgeable and effective operation of their products.

Using the issue of salinity (or water availability, water quality, or any other related issue) where areas of commonality can be established within the three constituents provides the opportunity for all parties to creatively collaborate on solutions that will ultimately foster stronger and more successful working relationships, and ultimately successful solutions to many of today’s water issues.

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