

# *Aqua Science*

"When It Has To Be Pure"

301 Nooseneck Hill Rd.  
Wyoming, RI 02898  
(401) 539-0500  
1-800-767-8731

June 5, 2009

Mr. Matthew R. Miller  
P.O. Box 40278  
Providence, RI 02940-0278

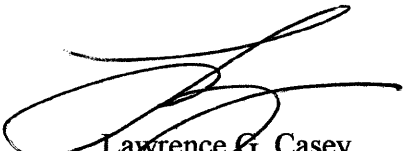
Dear Matt:

Enclosed is some vital information with regard to water softeners and their discharge. This is current information that has been developed through WQA and the National Onsite Waste Water Recycling Association.

Also included is some information with regard to the California potential ban on water softeners. I have worked closely with this committee in the past and it is vitally important that our Rhode Island professionals are kept up to speed with these issues and we are going in the same direction as our national partners with regard to this issue.

I hope this vital information will be adopted by Rhode Island Ground Water Association and they follow the WQA and Eastern Water Quality Association's position in order to strengthen our common goals.

I remain sincerely yours,



Lawrence G. Casey  
Direction of Operations

/swk

Enclosures



## The Facts About Salinity and Softeners

The vast majority of salinity comes from sources other than residential water softeners.

- Water softeners often make a convenient target for regulation, since they are so visible. However, studies have shown that the vast majority of salinity in waste water – close to *90 percent* – comes from natural processes, mainly farming techniques and other sources. Water softeners contribute only slightly more than *one-tenth of the salt*.
- The “2006 Salinity in the Central Valley” report by the California Regional Water Quality Control Board, Central Valley Region, lists *eight sources* and activities that cause salinity, including industry, municipal sources and natural process.
  - Agriculture alone is called one of the “significant sources” of salinity.
  - Water supplied by federal and state sources brings the equivalent of *40 railcars of salt* every day in the western San Joaquin Valley.
- Just two years ago, the Water Board of the Central Valley Region called for more study of the issue, stating: “The first task that must be undertaken in order to create a long-term salinity management plan for the Valley is to compile, review and analyze as much of the existing relevant information and data as possible, and identify and informational and data gaps.”

Softened water offers environmental benefits by extending the life of appliances and clothes and making cleaning easier.

- Hard water significantly harms pipes and appliances, filling up landfills and meaning more energy consumption.
  - In one study of the hospitality industry, use of softened water was proven to lead to substantially lower plumbing repair costs. Half the study subjects required essentially no plumbing repairs necessitated by hardness minerals once they switched to softened water. It is not hard to translate such savings to the private home with softened water.
  - According to a New Mexico State University study, water heaters can require up to *30 percent more power* to operate with hard water because of calcium and magnesium.
- Clothing and household linens are harmed by hard water. The minerals in hard water act as an abrasive on clothing, causing fibers to break. Hard water can cut the life of clothing by as much as *one third* and linens can wear out twice the normal rate, depending on how hard the water is.

**Close to 20 percent of California households have water softeners.**

- Despite some claims to the contrary, nearly 20 percent of California residences currently operate with water softeners. Despite this, softeners contribute only about 10 percent of the salinity in waste water. High hardness levels in some areas of the state make water softeners a virtual necessity for appliances and using water for cleaning.

**Softeners are becoming more efficient and will continue to be improved.**

- Most consumers don't realize it, but a water softener bought today will use much less salt per gallon of water than one purchased thirty or even ten years ago.
- Modern efficiency rated water softeners use *50 percent less salt* than previous models. Today's units do this by employing meter-controlled or sensor-controlled water softener regeneration valves instead of the former time clock control valves and by being independently tested and certified to achieve 4,000 grains or more of hardness removal per pound of salt used. A first step in reducing waste water salts from self-regenerating household water softeners should be to replace the older water softeners that may be still existing in homes.

**New government authority would be necessary to remove softeners from homes, and homeowners would probably not receive compensation.**

- For any ban on softeners to have a meaningful impact, municipalities would have to be granted authority to remove devices from residences. The State Water Resources Control Board has indicated that homeowners will not be compensated for their loss.
- Government resources would likely have to be directed to a new black market in illegal water softener sales and installation. Illegal softeners would probably not feature the salt-saving elements of contemporary devices.

**The state of California and water treatment industry have worked cooperatively to find solutions to salinity for the past 30 years.**

- The state and researchers in the water treatment industry began looking at the problem together in 1978. That is when California created efficiency standards for water softeners. The state set up guidelines to make sure that before a community bans water softeners, independent scientific studies show such a measure will significantly improve local ground conditions. The current proposal on water softener bans would overturn this balanced and sensible approach.

**A ban on water softeners will lead to many business and jobs being lost in California.**

- There are about 300 water softener dealers in the state. With an average of five employees per business, bans statewide could lead to as many as 1,500 people losing their jobs and millions of dollars in taxable revenue being lost.



*Water Quality Association  
International Headquarters & Laboratory  
4151 Naperville Road  
Lisle, Illinois 60532-3696 USA  
Phone 630 505 0160  
Fax 630 505 9637  
A not-for-profit organization*



National Onsite Wastewater  
Recycling Association  
2010 CENTRAL AVENUE - SUITE 200 - CHICAGO, ILLINOIS 60641  
PHONE 773 441 4501 FAX 773 441 4501

## **Guidance for the Use of Water Softening and Onsite Wastewater Treatment Equipment at the Same Site.**

by

**Matt Byers, Joe Harrison, and Allison Blodig**

This guidance document is a collaboration between the Water Quality Association (WQA) and the National Onsite Wastewater and Recycling Association (NOWRA)

The use of water softening and water conditioning equipment in America is necessary in many homes. The use of onsite and decentralized wastewater treatment technologies, commonly called septic systems, at American homes is also necessary. Both water softening/conditioning and onsite wastewater treatment systems are commonly used together, and in the majority of these cases no problems are indicated. Yet there have been sporadic, mostly anecdotal reports of issues related to the use of both kinds of equipment at some sites. Experts in both fields are working together to better understand the interactions involved between water softeners and onsite wastewater systems. In the mean time the WQA and NOWRA have collaborated herein to offer advice based on available knowledge.

1. All onsite wastewater systems require maintenance on a regular basis to ensure proper function. The nature and frequency of maintenance activities is dependent upon the type of system used. Seek guidance on this from state or local regulatory agencies, operation and maintenance manuals of treatment components, or through a qualified local service provider. Be sure your onsite wastewater system has adequate access points for maintenance that are watertight, secure and tamper-resistant. Access should be brought to grade. Potential maintenance points include septic tanks and effluent screens, pumps and controls, treatment devices, and soil distribution components. Service, repair, and replace equipment as recommended by the manufacturer, regulatory authority, or installer.
2. Maintain your water softener system on a regular basis. Ensure that your water softener is installed correctly and is functioning properly. Ensure that your softener has been set to reflect the water hardness and iron level in your water supply. If the unit is a timer operated softener, make sure you seek the help of your local water treatment dealer in setting up the regeneration frequency to the optimum level, and not more frequently than needed. When the system is not being used, such as during a vacation, be sure to temporarily turn it off. Replace equipment as needed.
3. The use of excessive bleaches & detergents, strong disinfectants, "every-flush" toilet disinfection chemicals, caustic drain cleaners should be avoided. Do not flush expired drugs, other pharmaceuticals, motor oil, brake fluid, paints and thinners, solvents, herbicides, pesticides, anti-freeze, gasoline, chemical wastes, and excess grease out to your onsite wastewater system. The items

listed should be excluded from ANY waste plumbing system, but can create significant problems and even ruin onsite wastewater treatment systems.

4. Be sure to inspect your home for possible sources of excess water consumption such as leaking toilet flappers and valves. Excess water flow to onsite wastewater systems is one of the largest issues related to onsite wastewater treatment system failures. Leaking household water can also create an extra and unnecessary load on your water treatment system. Be sure sump pumps, floor drains, and roof drains do not discharge to the wastewater system as well.
5. When selecting a new water softener, consider using equipment determined to be 'high efficiency'. These systems include the demand initiated regeneration (DIR) water softeners that regenerate only when needed thereby conserving both salt and water. Again, ensure that your water softener has been set to reflect the water hardness and iron level in your water supply.
6. When installing new onsite wastewater equipment, consider the fact that some onsite system manufacturers require that water softener regeneration water not be discharged in their wastewater treatment systems. Thus, ask that those manufacturers provide an alternative for routing the water softener regeneration water around the waste treatment device that meets your local regulations or requirements as well as your site conditions. The local wastewater system installer should be able to accommodate the manufacturer's instruction.
7. If an issue arises and a water softener/onsite wastewater system interaction is suspected, inspect and assess the onsite wastewater system with a local expert on onsite wastewater systems and the water softener with a local expert on water softening/water conditioning systems. Generally, there are very few experts that have skills in both areas. The local experts should consider using the screening tool that has been developed by this collaborative group as the guide and return the information to either the WQA or NOWRA for tracking and evaluation purposes.

**If you have further questions and/or need more information please contact us.**

**The National Onsite Wastewater Recycling Association (NOWRA)**  
3540 Soquel Ave, Suite A  
Santa Cruz, CA 95062  
Phone: (800)966-2942 or (831)464-4884  
Fax: (831)464-4881  
Website: [www.NOWRA.org](http://www.NOWRA.org)

**The Water Quality Association (WQA)**  
International Headquarters & Laboratory  
4151 Naperville Road  
Lisle, IL 60532-3696, USA  
Telephone: (630)505-0160  
Fax: (630)505-9637  
Website: [www.WQA.org](http://www.WQA.org)

## California legislature poised to pass new ban

WQA is urging its members in California to write their local legislators in opposition to AB 1366. As with last year's proposed softener ban, AB 1366 would give regional water boards broad power to allow local water softener bans. The bill is quickly moving through the California Assembly. Here is some advice on how to make contact:

(1) Find your legislator here: <http://www.leginfo.ca.gov/yourleg.html>

(2) You may use the following draft language for your letter:

Dear <LEGISLATOR>:

As an <EMPLOYEE/OWNER> of <COMPANY NAME>, doing business in your district, I am writing to strongly oppose AB 1366. This bill threatens not only my business and its employees, but also the water quality of many homeowners in the area. By allowing bans on water softeners with simple "findings," this bill would overturn decades of sensible policy and possibly shut the doors on my company.

The water treatment industry supports effective approaches to the problems that this bill is supposed to fix. But AB 1366 will throw many people out of work during this recession without providing any long-term solutions.

PLEASE OPPOSE SB 1366.

Sincerely,

(3) Please fax your letter to WQA's lobbyist Pete Conaty. Fax: 916 492 8957. Pete will personally

deliver your letter to your representative. An updated Web site in opposition, [savemysoftener.com](http://savemysoftener.com), has also been developed. WQA members and the public can learn information about softeners and easily send emails in opposition to the local legislator.

## Iowa considers chloride release rules

WQA, local members and Iowa WQA will be attending public hearings in Iowa this summer. Following a lawsuit by environmental organizations, the state is moving toward setting very low limits on chloride discharges into the state's rivers. Along with Iowa WQA, the international organization is seeking to get these limits raised, attending public sessions, and setting up meetings with the Iowa Department of Natural Resources. Regardless of the outcome in Iowa, similar issues may begin to appear in other states. WQA is asking members to be on the lookout in every state.

## Water Softener-Wastewater System Workshop announced

The Water Environment Research Foundation (WERF) and the USEPA are organizing a national workshop to be held on July 8-9, 2009 in the Washington DC area. Participation will be limited to about 50 selected invitees and to include representation of all views from representative states, counties, USEPA, WQA, and NOWRA.

## EPA to take WaterSense comments

The US EPA has announced the release of a revised draft of its Water-Efficient Single-Family New Home Specification. This draft includes revisions to existing criteria, including those for water softeners and homeowner education. The EPA is giving interested parties the opportunity to submit comments on the revised draft until July 7, 2009. Additionally, the EPA

*cont. on next page*

cont. from first page

will be conducting a public meeting on the revised draft specification in June 2009 in Washington, DC.

WQA has been working with the EPA during the development of this draft and will continue to provide advice and assistance.

Questions should be directed to the WaterSense Helpline at [watersense@epa.gov](mailto:watersense@epa.gov).

## More education options on Web

WQA unveiled a new education resource at [wqa.org](http://wqa.org) that offers members quick and easy access to a collection of materials to help them stay on top of key issues and even keep up their certifications.

The new site, at [wqa.org/education](http://wqa.org/education), offers technical bulletins on contaminants and treatment, recent convention proceedings, publications, and a wealth of training materials. Members will also find a link to 15 years of presentations from WQA conventions organized by topic.

WQA Education Director Tanya Lubner, PhD, stressed that the variety of materials is presented not only for certification. The new collection has been designed to offer everyone a simple method to find information and data on any topic that might arise in their field.

## Major WQA research projects moving forward

Results of a number of research projects, through the independent Water Quality Research Foundation, will be delivered in the upcoming months. Some of the information will be preliminary but is expected to be helpful. The goal is to provide new information that can support our industry claims and provide support for sound public policy. The major studies are:

- *Water Heater Efficiency Improvements on Softened*

*Water by Battelle Memorial Institute* – This will be a landmark study to demonstrate water softeners to be one of the very best energy savers in residences. On April 22, 2009, a WQA team visited the Battelle research site. The water softener and laboratory equipment installation has now been completed.

On April 24, 2009 Battelle began cycling the water heaters for the beginning of the 90-day research tests. The final research report is scheduled for September 8, 2009. Already some hard water versus softened water effects in the showerheads are being noticed. WQRF is now considering to ask Battelle to test longevity and other effects on devices.

- *Soap and Detergent Study* – This investigation of the enhancement of performance of laundry

### Don't forget ...

#### Mid-Year Leadership Conference:

- September 16 - 18, 2009

#### WQA Aquatech USA 2010

- Early bird booth reservations available
- Suggest educational topics

More information at [wqa.org](http://wqa.org) in *Industry Forum & Events*

detergents, dishwashing detergents, and fabric softeners by the use of soft water by Scientific Services S/D, Inc., will investigate water

hardnesses for three different representative detergent brands, varying water temperatures, and nine stains in dishwashing. Hard water minerals deposited on the fabrics cause part of the harsh texture developed in laundered fabrics. The study will quantify those effects using ASTM standards for softness and static and comparing clothes laundered with soft, hard, and very hard water using several detergent-softener systems, including no detergent with very soft water.

*Coming soon..*

## WQA to announce scholarships

Watch this summer for more information about WQA's new scholarship program for children of members. Five \$500 awards will be granted.



# SAVE MY SOFTENER!



HOME

BENEFITS OF SOFT WATER

WORKING TOWARDS A SOLUTION



**WQA Launches New Print Ad Warning Voters about Sacramento politicians are at it again. They're back to try to take you away. When will they ever learn? Download the ad.**

## DON'T LET THE POLITICIANS TAKE YOUR WATER SOFTENING

Many homeowners in California have purchased water softeners in good faith to remove calcium and other hard minerals from their water supply. Soft water has a number of benefits for homeowners including lower energy bills and longer lasting appliances and thus for many, adjusting their water supply from hard to soft water can be a necessity.

In recent years, water softeners have been unfairly criticized for contributing largely to the state's salinity woes. The Water Quality Association (WQA) shares concerns about salinity and the environment, however, removing residential water softeners is not the answer.

During the previous legislative term, we fought hard to educate legislators and consumers on the threats to homeowners that a bill banning residential water softeners would bring. We are grateful that Governor Schwarzenegger chose to protect consumers from this unnecessary legislation and with his veto message, the Governor stood up for consumers and homeowners against intrusive government regulation.

Read Governor Schwarzenegger's veto letter to the State Assembly.

*Learn more about*  
**THE BENEFITS OF SOFT WATER**

Allowing government regulators to remove hard water damage and taking away an in households is not the solution.

**However, our fight is not over. New leg rights to purchase and own a water softener and we will need your help in defeating**

The Water Quality Association remains committed to working together to solve California's water issues for everyone. We will continue to work together on solutions that will create a healthier environment and water future.

HELP SPREAD THE WORD



# SAVE MY SOFTENER!


[HOME](#)
[BENEFITS OF SOFT WATER](#)
[WORKING TOWARDS A SOLUTION](#)

## BENEFITS OF SOFT WATER

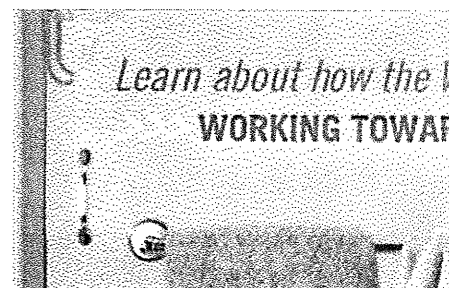
The use of a water softener puts money back in the hands of consumers who see reduced costs in their energy bills, appliance repairs, cleaning and detergent supplies, and clothing and linens.

Forcing homeowners to use hard water will lead to higher costs for appliances, plumbing and even clothes.

- According to a New Mexico State University study, water heaters can require up to 30 percent more power to operate with hard water. Results of the study can be found [here](#).
- Large appliances wear out faster when forced to operate with hard water - which means less spending money for you and higher piles of refuse in our landfills.
- Hard water can even cut the life of clothing by as much as one third, and linens can wear out at twice the normal rate, depending on how hard the water is.

Hard water is bad for the environment as it requires more soap and detergent for all cleaning applications, directly putting more chemicals back into the environment when the goal of removing water softeners is to reduce environmental impact.

For a fact sheet on salinity and softeners, please [click here](#).



## RESEARCH

A number of research projects, through the Water Quality Association Foundation, will provide new information that will provide support for sound public policy. They are:

- **Water Heater Efficiency Improvement Study** - This study will reinforce that water softeners are a cost-effective appliance in the home.
- **Soap and Detergent Study** - Designers will determine savings that can be claimed for cold water laundry applications.

Please stay tuned for more information.

HELP SPREAD THE WORD

