NATIONAL ASSOCIATION OF
WASTEWATER TRANSPORTERS, INC.

336 Chestnut Lane
Ambler, PA 19002-1001
1-800-236-NAWT (6298)
215-643-6798
267-200-0279 Fax
info@nawt.org
www.nawt.org

Water Softeners and Onsite Systems Workshop Update

Many of us have our personal feelings as to the pros and cons of having a water softener when the home also has an onsite wastewater treatment system (septic system). Well the rest of the related world has their opinion too. The water softener people say 'with 20 million water softeners out there we would have heard of problems by now. We haven't!' The scholars say 'the discharge from water softeners upset the biological balance in the septic tank' or 'the additional salts are harmful to the soil structure and will cause premature failure of the drainfield'. Etc, etc, etc. The truth of the matter is that nobody really knows because the issue has not been studied thoroughly.

With financial assistance from the EPA, a workshop on the subject was held on November 2-3, 2009 in Alexandria, VA. The goal of the workshop was to identify a list of issues that need to be studied and, since there is never enough money to get everything done, prioritize the list so that work can begin answering our questions on those issues determined to be of most importance.

A task force was formed comprised of interested parties including the US EPA, the Water Quality Association (the water softener people), WERF (the Water Environment Research Foundation), NOWRA (academia and service providers from the onsite industry), CIDWT (the Consortium of Institutes for Decentralized Wastewater Treatment), NAWT, and others interested stakeholders. NAWT was been invited to bring the pumpers perspective to the task force.

To present the NAWT members' perspective a survey was conducted using the *Pumper* listserver, the Cole Publishing online Forum, and direct email from the NAWT office. Thirty (30) respondents checked in with their responses falling into one or more of five (5) categories.

1. Hydraulic Overloading – caused by excessive regeneration water and/or the water softener valves leaking
2. Settling Upsets – septic tanks were seen that did not have the proper stratification into scum layer, clear zone, and sludge layer
3. Chemical/Biological Upsets – septic tanks reported to have no scum layer or appeared to look like a 'milk shake'
4. Structural Problems – excessive corrosion was reported as a common result of water softener discharge
5. Clogging – excessive clogging of effluent filters, media filters (sand and peat), and the soil absorption area were seen frequently

These survey results were reported to the attendees of the Water Softener Workshop and were consistent with concerns identified by other stakeholders.

Remember this was not a study, but rather a workshop to come to a consensus of a prioritized list of research necessary to completely understand the relationship of softened water and water softener regeneration water with onsite systems.

In conclusion after two days of presentations and small group input, the five highest priority research projects were:

1. Do a survey of onsite systems to determine if there is statistical evidence of water softeners causing harm to onsite systems.
2. Characterize wastewaters from homes with and without water softeners.
3. Study the impact of regeneration water on soils.
4. Study the settleability characteristics in septic tanks with and without water softeners. This relates to the relationship of Sodium and Calcium ions in the septic tank.
5. Study the effect of septic tank effluent in cases where:
    a. Softened water and regeneration water go into the septic tank
    b. Softened water goes into the septic tank, regeneration water goes elsewhere
    c. Non-softened water

This workshop did not give us any conclusions, but out of this workshop will come proposals for research projects to EPA, WERF, and other funding institutions.

Keep your eye on the NAWT website, www.NAWT.org, for further updates.