Written Testimony Submitted for the Record:

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Pharmaceuticals in the Nation's Water: Assessing Potential Risks and Actions to Address the Issue

Honorable Barbara Boxer, Chair
U.S. Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510-6175

April 25, 2008

I am writing on behalf the National Onsite Wastewater Recycling Association (NOWRA) to submit testimony regarding the topic of pharmaceuticals in drinking water. Our association includes engineers, soil scientists, research scientists, academia, regulators, contractors and manufacturing representatives with the common mission of making onsite wastewater systems (including septic systems) a viable part of the nations wastewater treatment infrastructure. We applaud your efforts to protect our nation's water supplies. Protecting water quality and quantity is a common goal we share. Having clean water in adequate quantity is vital to the public's health, protecting the environment and sustaining our economy.

Onsite septic systems and other forms of decentralized wastewater treatment provide approximately one fourth of the nation's wastewater treatment infrastructure. These systems have been relied on for many decades as an effective means of environmental and public health protection when properly sited, constructed and maintained. They enhance natural treatment processes that purify the wastewater before it is returned to the environment. As with any wastewater treatment facility, the water discharged is returned to the environment where it has the potential to impact our potable water supplies. This is particularly true in areas that use groundwater as their primary source.

Decentralized or "onsite" systems are largely contrasted from centralized systems because pretreated wastewater is commonly dispersed into the soil for final treatment, on the site of the building being served. Prior to soil dispersal, onsite system pretreatment processes include septic tanks, secondary treatment processes, and some tertiary treatment processes.

These various treatment processes include a number of opportunities for removal or attenuation of pharmaceuticals. They offer treatment methods that show promise for reducing the risk of pharmaceuticals in our water supplies. These include attenuation through absorption, adsorption and degradation. After these processes comes the dispersal in soil by the drainfield which has been found to have the capacity to remove pharmaceutical compounds. This was demonstrated by a recent U.S. Geolocal study in Lapine Oregon (Report 2005-5055). In the drainfield, pretreated water must pass through the drainfield 'biomat' as it moves downward into the water table. This biomat is a rich organic layer of intense microbial activity. The biomat and the uderlying soils were found to have removed the pharmaceuticals.

While existing research has shown promising results, we do not have a complete understanding of the fate and transport of pharmaceuticals from onsite systems. The U.S. Geological Survey has been a leader in devloping the limited body of knowledge available. They have been particularly successful in identifying the levels of contaminants in surface and groundwaters. Additional research is needed to fully understand the removal variability of pretreatment technologies and soil. *We encourage Congress to provide funding and staff resources to the U.S. Geological Survey and the U.S. Environmental Protection Agency to further this body of knowledge.*

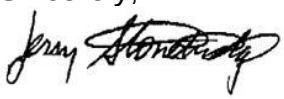
For the last two years NOWRA has been following the debate about the human health and the adverse environmental impacts of pharmaceuticals and other emerging contaminants in wastewater. While it has been stated that many of the pharmaceuticals are well below effective doses, there appears to be particular concern about the group of compounds classified as endocrine disruptors. *We encourage Congress to provide adequate funding and staff resources to the Agency for Toxic Substances and Disease Registry within the Department of Health and Human Services to determine the risks to the public of levels of endocrine disruptors being found in treated wastewater, and in potable water supplies.*

A number of studies have also found adverse pahrmaceutical impacts to the aquatic life in our nation's rivers, lakes and streams. Various aquatic organisms have been found to have reproductive system abnormalities attributed to endocrine disruptors. *Therefore, we also encourage Congress to provide adequate funding and staff resources to the U.S. Environmental Protection Agency to determine the adverse impacts to the natural environment.*

NOWRA has taken an active role in educating the public about how to protect the environment through proper system use. Pollution problems of all types can be adressed in the most cost effective way through prevention programs. Therefore, we have actively promoted programs that teach homeowners not to flush medications down the drain. *Congress could assist in this endeavor by encouraging the U.S. Food and Drug Administration and the U.S. Environmental Protection Agency in developing "take back" programs, where unused medications are returned to pharmacies or other collection centers for proper disposal.* These agencies could partner with state public health programs to assist with implementation.

These combined actions will enable our industry to move in a direction that maximizes both the protection of our nation's drinking water resources and the protection of aquatic ecosystems. Our organization has been a leader in the wastewater field for some time now and we offer our assistance and expertise in developing a strategy to gather the science and to develop sound water supply protection policies. Please let us know if we can assist in any way.

Sincerely,



Jerry Stonebridge, President