NEMO and Nonpoint Source Pollution

The Southwestern United States, including the state of Arizona, is the fastest growing region in the country. Because the region is undergoing rapid development, there is a need to address health and quality of life issues that result from degradation of its water resources.

Water quality problems may originate from both “point” and “nonpoint” sources. The Clean Water Act (CWA) defines “point source” pollution as “any discernable, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged” (33 U.S.C. § 1362(14)).

Although nonpoint source pollution is not defined under the CWA, it is widely understood to be the type of pollution that arises from many dispersed activities over large areas, and is not traceable to any single discrete source. Nonpoint source pollution may originate from many different sources, usually associated with rainfall runoff moving over and through the ground, carrying natural and manmade pollutants into lakes, rivers, streams, wetlands and ground water. It is differentiated from point source pollution in that, for some states such as Arizona, there are no regulatory mechanisms by which to enforce clean up of nonpoint source pollution.

Nonpoint source pollution is the leading cause of water quality degradation across the United States and is the water quality issue that NEMO, the Nonpoint Education for Municipal Officials program, and this watershed-based plan will address.

The National NEMO Network, which now includes 32 educational programs in 31 states, was created in 2000 to educate local land use decision makers about the links between land use and natural resource protection. The goal of the network is to “help communities better protect natural resources while accommodating growth” (nemonet.uconn.edu). One of the hallmarks of the NEMO programs is the use of geospatial technology, such as geographic information systems and remote sensing, to enhance its educational programs.

Nationally, NEMO has been very successful in helping to mitigate nonpoint source pollution. The goal of NEMO is to educate land-use decision makers to take proactive voluntary actions that will mitigate nonpoint source pollution and protect natural resources. In the eastern United States (where the NEMO concept originated), land use authority is concentrated in municipal (village, town and city) government. In Arizona, where nearly 80% of the land is managed by state, tribal and federal entities, land use authorities include county, state and federal agencies, in addition to municipal officials and private citizens.

In partnership with the Arizona Department of Environmental Quality (ADEQ) and the University of Arizona (U of A) Water Resources Research Center, the Arizona Cooperative Extension at the
U of A has initiated the Arizona NEMO program. Arizona NEMO attempts to adapt the NEMO program to the conditions in the semiarid, western United States, where water supply is limited and many natural resource problems are related to the lack of water, as well as water quality.

Working within a watershed template, Arizona NEMO includes comprehensive and integrated watershed planning support, identification and publication of Best Management Practices (BMP), and education on water conservation and riparian water quality restoration. Arizona NEMO maintains a website, www.ArizonaNEMO.org, that contains these watershed based plans, Best Management Practices fact sheets, Internet Mapping Service (IMS), and other educational materials.
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