



North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

TO: Sen. Dan Clodfelter, Co-chair, Environmental Review Commission
Sen. Bob Atwater, Co-chair, Environmental Review Commission
Rep. Lucy Allen, Co-chair, Environmental Review Commission
Rep. Pryor Gibson, Co-chair, Environmental Review Commission
Marilyn Chism, Director of Fiscal Research

FROM: Dee Freeman, Secretary

RE: Annual WaDE Program Report

Session Law 2001-452 requires that the Department of Environment and Natural Resources report to the Fiscal Research Division on implementation of the Wastewater Discharge Elimination Program. Enclosed is this year's report. If you have any questions, please contact Ted Lyon at (919) 715-3274.

CC: Kristin Walker

N.C. Wastewater Discharge Elimination Program

**2009 Annual Report to the
North Carolina General Assembly**

January 4, 2010

North Carolina Department of Environment and Natural Resources
Division of Environmental Health
On-site Water Protection Section
Wastewater Discharge Elimination (WaDE) Program

Program Goals and Description

The North Carolina Wastewater Discharge Elimination (WaDE) Program is based in Asheville and serves 23 western North Carolina counties. The primary goals of the program are to survey watersheds to identify straight pipes and failing septic systems, and work with county health departments to resolve violations found during surveys. Repairing failing systems and directing straight pipes back into septic systems improves the quality of surface waters in watersheds, which are often used for drinking water or recreation. The WaDE program also acts as a conduit for education about the importance of properly functioning septic tank systems to public health and the environment.

The program operates within the On-site Water Protection Section of DENR's Division of Environmental Health and was established pursuant to S.L. 1996-18es2, Section 27.26 to identify and eliminate discharges from straight pipes and failing septic systems. Funds currently appropriated by the N.C. General Assembly support two staff to address the straight pipe and failing septic system issues in certain watersheds in western North Carolina.

Additional financial support has been secured through grants from the N.C. Clean Water Management Trust Fund (CWMTF) in 2002 and 2005 and U.S. Environmental Protection Agency 319 Non-point Source Program in 2003. These funds have been used to hire additional staff and to provide limited financial assistance to aid low-income property owners in correcting straight pipes and failing septic systems. This financial assistance is in the form of grants and deferred loans, provided by CWMTF, which are distributed by WaDE through regional councils of government or local non-profit community action agencies.

Survey work in watersheds with impaired water quality is prioritized through collaborative efforts with the Division of Water Quality and Public Water Supply Section of the Division of Environmental Health. The WaDE Program also relies on information from local health departments to identify other watersheds that present potential threats to public health. Community development agencies, the public, various media and environmental groups are also involved in determining where to best conduct surveys and provide assistance. This collaborative effort assures that priority is given to streams used as public water supplies and for recreational purposes. These are the most important to public health and the economic vitality of the region. This multi-agency approach to restoring a watershed has received positive attention from the EPA and is now being applied to several other watershed restoration projects in North Carolina as well as other states.

The program's surveyors visit homes along designated streams to locate the straight pipes and failing systems. Information about problem systems is forwarded to the local health department in the county where the survey is occurring. These local health departments take this information and use it to issue permits to the property owners to eliminate straight pipes or repair failing septic systems.

The WaDE Program provides public education concerning septic tank systems and the effect of improperly functioning systems on public health and environmental issues. This information has been offered to the public through public service announcements, community meetings in survey areas, door-to-door visits by trained WaDE surveyors, local newspaper articles, teachers' guides and videos for school children, outreach to the N.C. Real Estate Commission on property disclosure requirements, and slide show presentations geared toward local, state and national audiences.

Program Accomplishments (1997-2009)

During the first four years of the WaDE Program, the WaDE staff assisted four independent surveys in Watauga/Alleghany/Ashe Counties (Appalachian Health District), Jackson County, Madison County and Avery/Mitchell/Yancey Counties (Toe River Health District). These independent county projects were funded by the CWMTF, N.C. Department of Commerce's Division of Community Assistance (DCA), Appalachian Regional Commission and N.C. Rural Communities Assistance Project (NCRCAP).

In 1998 the WaDE team also directed their own survey project in Buncombe County on the Ivy River Watershed in collaboration with the Buncombe County Health Center, the Town of Weaverville and Land of Sky Council of Government. With participating agency input from the first four years and the experience gained from the Ivy Watershed Project, the WaDE team proposed an improved model for achieving the goals of the program. This model was approved and funded in 2002 for three years by the CWMTF (\$1.2 million over three years) and the EPA 319 Non-point Source Program (\$500,000 over three years). This new funding enabled the WaDE Program to add temporary surveyors to the original two-person staff. WaDE surveyors assisted all homeowners who identified problems with their on-site wastewater systems, giving homeowners substantial time to resolve the problem. A second grant of \$1.5 million was awarded to the WaDE Program from CWMTF for 2006-2009. In January of 2009, CWMTF granted the WaDE Program a one year extension from May 31, 2009, to May 31, 2010.

Since January 2002, the use of CWMTF and EPA grant funds in addition to appropriated monies has enabled survey projects to be conducted by WaDE staff in approximately 18 areas across western North Carolina. During this time, approximately 12,966 homes were visited and about 1,934 violations were identified in these survey areas. Table 1 contains the WaDE Program statistics for January 2002 through October 2009. Currently, more than 60 percent of all violations identified since 2002 have been corrected including the additional 31 out of the 84 violations that were discovered in the past year.

Table 1. January 2002 – October 2009

Repair Results	
Total Homes Visited	12,966
Completed Surveys	8,298
Violations	1,934
Violations Corrected	
Repairs Completed	1,176
Repairs with WaDE Financial Assistance	175
Total WaDE Financial Assistance	\$551,996

The WaDE Program continues to provide financial assistance for septic system repairs in participating survey areas throughout western North Carolina. Financial assistance is being provided through collaboration with CWMTF with additional assistance at times being arranged with U.S. Department of Agriculture's Rural Development Program and DCA. Of the 1,176 repairs completed since 2002, 175 of them received financial assistance. The average cost for correction of a straight pipe or repair of a failing septic system is \$3,154. The WaDE program assists county officials and homeowners in locating other sources of funding whenever possible.

Environmental Impact of Violations

The septic system repairs completed as a result of the WaDE program are environmentally significant. The 1,176 violation corrections from Table 1 (at 240 gallons of wastewater per day per two bedroom house) have returned 282,240 gallons of wastewater per day to proper subsurface treatment, or about 103.02 million gallons per year. The violation rate of the 8,298 homes where surveys were completed in western North Carolina was just over 23 percent.

2008-2009 Program Activity

The WaDE staff focused on visiting homes and identifying violations for the reporting period 2008 to 2009. The recent economic situation has allowed local health departments' staff more time to assist the WaDE staff in identifying violations as well as permitting and reporting existing septic system repairs. The assistance of the health departments' staff aids the WaDE Program staff in meeting its goals regarding the correction of violations. Fees paid by the WaDE Program last year to participating health departments for issuing repair permits was \$33,300. This year, the program paid approximately \$53,250 for permit fees, which included 27 violations identified and corrected in prior years but not reported to the WaDE program until this year. Survey activity from Oct. 31, 2008, to Oct. 31, 2009, is listed in Table 2.

Table 2. October 2008 - 2009

Repair Results (WaDE and counties combined)	
Total Homes Visited	236
Completed Surveys	170
Violations	84
Violations Corrected	
Repairs Completed	219
Repairs with WaDE Financial Assistance	23
Total WaDE Financial Assistance	\$75,077

A brief description of the WaDE Program's involvement in various projects is presented below. In addition, updates on items from previous reports are also provided below.

Haywood Waterways Association Collaboration, Haywood County

During the 2008-2009 reporting period, the WaDE Program continued its collaboration with the Hyatt Creek watershed improvement project in Haywood County. The project is being managed by the Haywood Waterways Association in partnership with Haywood Soil and Water Conservation District, Southwestern N.C. Resource Conservation and Development Council, Haywood County Health Department, N.C. DENR Divisions of Water Quality and Soil and Water Conservation, N.C. Environmental Enhancement Project, N.C. Wildlife Resources Commission, Tennessee Valley Authority, U.S. Department of Agriculture's Natural Resources Conservation Service, N.C. Department of Transportation, N.C. State University, University of Tennessee-Knoxville, EPA, and multiple landowners. The major goal of the project is to remove Hyatt Creek from EPA's 303d list of impaired waters.

The Hyatt Creek project started three years ago with all the surveying occurring in the first year (2005-2006), so the number of homes visited did not change, but the number of violations corrected and homeowners given financial assistance did increase during the 2007-2008 reporting period. Thus far, WaDE staff have surveyed 201 homes, identified 38 violations and helped repair 31 failing septic systems or straight-pipes. Nine were corrected with financial assistance from the WaDE Program. One point to note if examining numbers from the 2008 report: WaDE staff discovered a duplicate entry for a site surveyed last year, and since no additional homes were surveyed this year, the number was reduced from 2008 to 2009 by one. For a more detailed description of the Program's staffs work on this project, please see Table 3 below.

Table 3. Hyatt Creek Survey Activity - Current to Oct. 31, 2009

Project Status	
Total Homes Visited	359
Completed Surveys	201
Homes With Compliant Systems	158
Abandoned Homes	4
Refused Entries	5
Doorhangers (Survey not complete)	153
Wastewater Violations	38
Repairs Completed	31
Pending Permits	1
Repairs with financial assistance	9

WaDE Program Partners with Youth Volunteers

The WaDE Program participated again this year in another multi-organization effort coordinated by N.C. Rural Communities Assistance Project, involving septic system corrections for low-income homes in western North Carolina. Church-sponsored middle school, high school and college-age volunteers from across the nation came and helped correct septic violations by digging trenches for new septic system lines. Septic system product vendors also donated materials for the projects. Projects like this one using volunteer labor helps extend grant-funded financial assistance funds and promotes environmental issues awareness.

During the summer of 2009, the WaDE Program, NCRCAP, Land-of-Sky Regional Council (LOS), ReCreation Services (ReS) and the Emmanuel Lutheran Church of Asheville (ELCA) worked on nine low-income homes with failing septic systems or straight-pipes. The initiative partners provided the following items:

- WaDE – Site selection, limited homeowner financial assistance, labor safety training, labor, labor supervision, technical oversight and funding for septic system repair and safety materials/equipment;
- NCRCAP – project coordination, repair permitting and oversight, logistical support and labor;
- ReS and ELCA – labor, labor housing and transportation, and home rehabilitation materials;
- LOS – Financial assistance qualification and fund disbursement through WaDE; and
- Madison, Buncombe County Health Departments – permitting support.

Other 2009 WaDE Program Activities

The WaDE Program has had more requests for door-to-door surveying by various watershed groups and local and state agencies. The program's staff conducted a small door-to-door survey in a Buncombe County neighborhood at the urgent request of the DWQ Surface Water Protection Section again this year.

New surveys have been implemented in 2009 at the request of the division's Public Water Supply Section on the Cartoogechey River, which is the public water supply for the Town of Franklin in Macon County and the Richland Creek watershed in Haywood County. Another survey has been initiated by the WaDE Program in Jackson County at the request of the DWQ to improve a stream impaired by bacteria. Another survey is underway in Graham County to identify straight pipes and failing septic systems in an area known for wastewater infractions.

Future Goals and Needs

Based on the 1990 and 2000 U.S. Census data, approximately one half of the state's wastewater infrastructure is reliant on on-site wastewater disposal systems. Although the WaDE Program is performing well within its mandate and scope, grant funding must be maintained in order for the program to continue to locate problems and assist with repairs.

The WaDE Program provides an excellent model for addressing failing septic systems and straight pipes. Use of this model holds promise for addressing areas of nutrient sensitive waters, such as the Falls Lake reservoir. Falls Lake has been designated as an EPA 303d impaired water body. Portions of the Falls watershed could benefit greatly from a similar multi-agency approach to watershed restoration.

Summary

The WaDE Program has continued to focus efforts on addressing existing septic system violations found during surveys conducted from 2002 to 2009. The WaDE staff also focused on visiting homes and identifying violations for the reporting period 2008 to 2009. While much of this activity initially fell to WaDE staff, the recent slow down in new home construction work has allowed local health departments' staff more time to review records, write repair permits and report to WaDE their straight pipe eliminations and septic system repairs. This year, the WaDE program paid approximately \$53,250 for county repair permit fees, which included 27 violations identified and corrected in prior years but not reported to the WaDE program until this year.

Follow-up surveying is expected to occur in the Hyatt Creek watershed in 2010 as part of the larger Richland Creek watershed improvement project. The WaDE staff has been notified by the N.C. Division of Water Quality's Aquifer Protection Section staff that Hyatt Creek will be removed from the 303d list of impaired streams within a year due to the stream clean-up efforts.

This year, the WaDE Program participated in another multi-organization effort coordinated by N.C. Rural Communities Assistance Project, involving septic system corrections using volunteers for nine homes with straight-pipes or failing septic systems at low-income homes in western North Carolina. Middle school, high school and college-aged volunteers from church-based organizations across the nation came and helped correct these septic violations by digging trenches for new septic system lines.

The WaDE Program's staff provided septic survey assistance in several watersheds at the request of the Public Water Supply Section of the Division of Environmental Health, the Division of Water Quality and several local health departments. However, repairs remain the current focus of program efforts.