
Natural Resources

The Environment

The Tennessee Department of Environment and Conservation (TDEC) safeguards human health and the environment for all Tennesseans by protecting and improving the quality of land, air, and water for present and future generations. In 2010, the department effectively managed through a variety of challenges, including the continued comprehensive response to the extraordinary 5.4 million cubic yard coal ash spill at TVA's Kingston Fossil plant in Roane County; implementation of the unprecedented federal stimulus package delivered through the American Recovery and Reinvestment Act of 2009; and exceptional response and recovery activities related to the historic May 1-2, 2010 flooding events in West and Middle Tennessee.

Water Quality – Tennessee is blessed with more than 60,000 miles of rivers and streams featuring some of the most biodiverse waterways in the nation. The Division of Water Pollution Control is responsible for protecting the state's waters through a coordinated approach of permitting, monitoring, compliance assessment, and water quality management that focuses planning and regulatory programs in a way that makes sense to the public, the regulated community, and partner agencies.

Water quality samples are collected across Tennessee. These data are analyzed and interpreted in order to indicate the quality of the state's waters and inform citizens of the progress being made to improve Tennessee's water resources. Through these efforts, the public gains a better understanding of how activities in individual watersheds affect the quality of water in adjoining watersheds. The U.S. EPA has

recognized Tennessee for national leadership in water quality evaluation, reporting, and restoration.

Siltation continues to be one of the largest causes of water quality impairment in Tennessee streams. Particular planning and outreach addresses development and stormwater protection activities. TDEC and its partners have updated existing training courses for erosion prevention and sediment control to reflect most current design tools to aid local governments and the construction industry.

TDEC continues to help communities across the state improve their wastewater treatment services. Tennessee awarded more than \$135 million to local governments from the Clean Water State Revolving Fund in fiscal year 2010.

Water Resource Management – TDEC continues to implement the Inter-Basin Water Transfer Act of 2000. This law addresses increasing demands for water and protects supply for downstream users. In fiscal year 2010, TDEC issued five inter-basin transfer permits, reflecting an upgrade for three grandfathered activities to regulated activities and issuance of two new permits. We have received annual reports from utilities whose water transfers required permit decisions from the department. Carefully considering the average flows in Tennessee's water bodies, current inter-basin transfers are assisting communities in meeting water demand while redistributing manageable and sustainable amounts of water.

Also related to water resource management, TDEC supports the Water Resources Technical Advisory Committee created by statute in 2002, as this group assists with development of a drought management plan

and regional water supply planning activities for Tennessee.

Drinking Water – More than 98 percent of Tennessee citizens receiving public drinking water are served by public drinking water systems meeting all the federal requirements - one of the highest rates in the United States.

Tennessee awarded more than \$37 million in funds from the Drinking Water State Revolving Fund in fiscal year 2010 to improve local drinking water treatment facilities.

Ground Water Protection (GWP) – Tennessee's varied topography requires effective programs to protect both its surface and subsurface water flows. GWP regulates the on-site disposal of wastewater in Tennessee through site evaluation, plans review, construction and repair permit issuance, inspection, and complaint resolution for subsurface sewage disposal systems. GWP directly administers the onsite wastewater program for 86 of Tennessee's 95 counties and maintains general oversight for the other nine county-administered programs.

GWP also evaluates property subdivision proposals and provides soil-mapping services to the public. GWP permits subsurface sewage disposal system installers, septic tank pumpers, and maintenance providers for advanced treatment systems.

Air Quality – Tennessee continues working toward attaining new, more stringent federal air quality standards. The goal is to achieve cleaner air for citizens and meet federal standards in order to avoid the designation of non-attainment. The Division of Air Pollution Control maintains a state-wide air quality monitoring network, issues emission permits, and conducts site inspections of major air pollution sources while working with the State Air Pollution Control Board to establish rules that promote a balanced

approach to cleaner air and economic development.

While fine particulate matter (PM_{2.5}) pollution levels were formerly a statewide problem, the only area in violation of the new, stricter federal PM_{2.5} standard is the East Tennessee River Valley. TDEC is working with TVA to switch to lower sulfur coals and install flue gas desulfurization equipment on critical power plants. TDEC is also working to ensure that the fuels used for vehicles meet the new lower sulfur content standards. These two programs should continue to reduce the formation of fine particulate pollution.

The most recent data for ground-level ozone shows that ozone levels decreased in Tennessee in 2009, but increased in 2010. The likely explanation for this was a combination of weather conducive to the formation of ozone, decreased availability of hydroelectric power production as opposed to coal fired power production, and the recovering economy. The continued progression of air pollution control measures that are being implemented would tend to offset some of the rising trends observed. However, the federal government is expected to promulgate an even more stringent ground level ozone standard and is anticipate to make final announcement of this standard in July 2011. New National Ambient Air Quality Standards for lead, nitrogen dioxide, and sulfur dioxide have recently been promulgated, and the Division is assessing Tennessee's status related to these new standards.

Working with nine other southeastern states, TDEC has also prepared a federally mandated plan to improve and protect visibility in special areas of the state such as the Great Smoky Mountains National Park.

Radiological Health – The Division of Radiological Health conducts a comprehensive radiological health program to protect public health and safety and the environment from the potentially harmful

effects of ionizing radiation from all sources. Additionally, the division responds to citizen concerns and questions about radiation issues.

Major program activities include regulating the use of x-ray equipment and radioactive materials; protecting workers and the general public from excessive or unnecessary radiation exposure; preventing contamination of the environment; and conducting planning, training, and exercise activities. The division also works with federal and state agencies to improve security at facilities using radioactive material and emergency response to radiation incidents while preventing illicit trafficking in radioactive materials.

Solid and Hazardous Waste – In 2010, the Division of Solid Waste Management (SWM) continued to regulate more than 800 permitted nonhazardous waste facilities including Class I, II, and III/IV landfills, coal ash fills, county convenience centers, land application operations, transfer facilities, and tire storage facilities, as well as solid waste processors. SWM also conducted more than 2,100 inspections of facilities that generate and manage hazardous waste, universal waste, and used oil. Staff reviewed approximately 2,400 annual reports from hazardous waste generators, transporters, and treatment, storage, and disposal facilities to ensure the proper management of hazardous waste. Additionally, the division investigated more than 600 illegal solid waste disposal complaints.

SWM also houses the Toxic Substances Program, which protects the people of Tennessee from environmental and health hazards caused by three toxic substances: lead, asbestos, and polychlorinated biphenyls (PCBs). State and federal statutes and regulations are the foundation of this compliance monitoring and enforcement program.

SWM provided a range of solid waste financial and technical assistance to local governments and businesses. Since 2003, nearly \$55 million has been distributed to local governments through solid waste assistance to help plan and execute comprehensive programs for solid waste management. Grants were also provided for recycling waste tires, used oil, and other commodities. Technical assistance was provided through contracts with the University of Tennessee, Development Districts, and the Recycling Marketing Cooperative of Tennessee. The state's mobile household hazardous waste collection program conducted 35 events and provided 5 milk runs serving 11,784 households. Approximately 832,000 pounds of household hazardous waste were collected preventing their disposal at local landfills. SWM has provided training and consulting services for counties to conduct electronic scrap recycling collection events. Counties reported recycling approximately 1,350 tons of electronic scrap in fiscal year 2010.

The Division also drafted rules and continues to work with the Solid Waste Disposal Control Board in revising Tennessee's waste reduction and diversion goal.

Cleanup of Contaminated Lands – TDEC directs investigations and cleanup activities at inactive hazardous substance sites, brownfield sites, and drycleaner sites. These investigations and cleanups put previously contaminated properties back into productive use. Addressing these sites is also paramount in protecting drinking water and surface water resources.

The Division of Remediation works with entities to assess and cleanup abandoned or underutilized properties that may have real or perceived contamination so they can be returned to productive use. This is accomplished utilizing private and federal funds as well as dedicated state programmatic funds such as the Dry

Cleaners Environmental Response Fund and the Hazardous Waste Remedial Action Fund. Returning these properties to productive use helps create jobs, generate state and local taxes, as well as make more property available for beneficial reuse by citizens of the state. Several recent success stories include: acquiring EPA grant funding for local governments to assess and cleanup Brownfields; supporting housing developments in Memphis; completion of mixed use development in the Nashville Gulch; expanding parks, “rails to trails,” and greenway reuse in several areas; and reducing pollution to North Potato Creek and the Ocoee River.

Petroleum Underground Storage Tanks –

The department takes action to prevent future petroleum Underground Storage Tank (UST) releases and clean up existing petroleum underground storage tank contamination. Through fiscal year 2010, TDEC was able to close 28 percent of the active UST remediation cases, representing 138 case closures. The number of active cases was reduced from 505 in fiscal year 2009 to 486 in fiscal year 2010. TDEC inspected 48 percent of the open facilities in the state in fiscal year 2010, representing 2,532 inspections of 5,295 active facilities. The division also continues to provide diverse educational opportunities for all tank owners while earning recognition as a national leader in completing cleanups.

Environmental Assistance - TDEC’s Office of Environmental Assistance features a range of programs providing information and non-regulatory support to businesses, schools, local governments, industries, organizations and individuals in order to prevent and reduce environmental impacts. Particular emphasis is placed on education, outreach and partnerships for communities and small businesses. A number of these environmental programs have received national recognition from the U.S. EPA for their results and performance.

The department’s Fleming Training Center in Murfreesboro is a key reason Tennessee is a national leader for water programs. Fleming offers cutting-edge technology and advanced classes in a variety of water areas to assist certified operators with ongoing training and services as they complete their continuing education requirements. It educates and certifies thousands of treatment plant and water management staff every year.

Fair Enforcement to Ensure Compliance –

To achieve compliance with environmental laws, the department has developed an online application that enables the public to search the enforcement database. This searchable database is a valuable public information tool for citizens and will contribute to better environmental performance in Tennessee. The department continues to move swiftly against those who break environmental laws. TDEC issued 850 enforcement orders and assessed more than \$10.1 million in penalties plus \$123,761 in damages for fiscal year 2010. Natural Resource Damages Assessments included a total of \$599,145 for 2010.

In addition, the Department is working with the Office of the Attorney General on a joint enforcement initiative focusing on the Petroleum Underground Storage Tank (UST) program. The enforcement initiative is targeting repeat violators, the submittal of false information, false claims against the UST Fund, and subrogation actions.

Parks and Conservation

Tennessee’s state parks and natural areas afford Tennesseans and visitors a wide range of recreational and educational opportunities. State parks and conservation initiatives also protect ecologically significant lands and preserve important cultural and historic sites.

State Parks – Tennessee State Parks was recognized as the best state parks system in

the nation for 2007-2008 as selected by the National Recreation and Park Association. This prestigious Gold Medal Award recognized Tennessee State Parks' key accomplishments, including system access improvements, service enhancements, effective conservation practices, and promoting parks professionalism among staff.

In fiscal year 2010, Tennessee State Parks and Natural Areas added more than 3,880 acres of total parklands and hosted more than 28 million visits. Park staff presented 17,900 interpretive programs to more than 650,000 participants.

Demand for State Parks' inn rooms, cabins and dining tends to mirror broad economic trends and consumer confidence. In fiscal year 2010, guest volumes and revenues for State Parks' hospitality services demonstrated slight improvement over prior year but still reflected a slow economic recovery. Meanwhile, State Parks' hospitality services continued their aggressive expense control programs in order to improve overall efficiency and reduce waste. These management efforts produced results for State Parks' hospitality facilities that moved the system toward achieving operational self-sufficiency targets.

Two significant capital projects were completed with the opening of eight new villas at Montgomery Bell and seven new cabins at David Crockett State Parks. The environmentally friendly cabins at David Crockett are the first U.S. Green Building Council LEED Silver certified vacation homes in any state park in the nation.

Targeted capital improvements for turf, equipment and facilities on the Tennessee Golf Trail produced increased rounds played and higher revenues, as well as greater operational efficiencies and improved player experiences.

In fiscal year 2010, researchers from the University of Tennessee released *Economic Impacts of Tennessee State Parks* that projected \$725.2 million in annual direct expenditures by state park visitors supported almost 12,000 jobs across Tennessee. Combining direct and indirect expenditures, the impact of Tennessee State Parks to the state's economy was \$1.5 billion in total industry output.

Researchers from UT noted state parks has a significant impact on Tennessee's economy and creates thousands of jobs in many rural areas of the state where jobs are needed most. The direct benefits visitors gain also have significant economic benefits to Tennessee by reducing physical and mental health costs and increasing overall productivity. Tennessee's economic well-being is also improved by state parks increasing the state's attractiveness to outside industries, retirees, and people seeking to relocate in areas rich in natural amenities.

Natural Areas and Scenic Rivers – State Natural Areas feature 81 sites that protect Tennessee's biological diversity by conserving ecologically significant areas and habitat for rare plant and animal species throughout Tennessee.

The 13 legislatively designated State Scenic Rivers preserves valuable selected rivers in their free flowing natural or scenic conditions and protects their water quality and adjacent lands.

Heritage Conservation Trust Fund – The Tennessee Heritage Conservation Trust Fund was established so the state could better respond to emerging opportunities for preservation of priority open spaces. Since 2005, the Heritage Conservation Trust Fund has approved more than \$30 million dollars in grants to leverage \$117,609,000 in conservation purchases to protect approximately 42,600 acres of priority land in Tennessee. The Trust Fund continues to support and promote land conservation

across Tennessee through acquisition, donation, and easement activities by leveraging the state's seed investments through effective public-private partnerships. For fiscal year 2010, the Trust Fund acted to protect acreages valued at more than \$10.3 million. State contribution to this total valuation was \$1.6 million; \$4.3 million came from federal funds; and \$4.4 came from private sector or donated funds.

Recreation Education Services – The Recreation and Planning Resources section maintains three regional offices serving the state's grand divisions. This section provides planning, grant, and technical assistance to recreation professionals across the state and coordinates the state's greenways and trails program through the Greenways and Trails Advisory Council. The Land Management and Funding Resource section provides oversight and record management of department-owned lands. It also provides monitoring of financial compliance for all acquisitions made through the State Land Acquisition Fund program.

In 2010, the department processed 102 grants for the Recreation Trail Program, Local Parks and Recreation Fund, and Land and Water Conservation Fund programs, totaling more than \$15.2 million. In addition, land acquisitions of 3,880 acres

through the State Land Acquisition Fund and other fund programs were completed, totaling approximately \$5.8 million.

Other milestone accomplishments include the release of our ten-year state recreation plan, *Tennessee 2020: Vision for Parks, People and Landscapes*. This Plan outlines a number of initiatives, including meeting the recreational and informational needs of the public and conserving vital recreational resources and using them to benefit economic development in Tennessee's rural communities. The division has also developed a parks and recreation benchmarking tool for local governments to compare their performance against peer entities. There are 28 benchmarked communities in Tennessee using this system to value the quality and effectiveness of their recreation services.

Archaeology - The Division of Archaeology added 325 new sites to the total statewide database of more than 24,500 known archaeological sites in 2010. The division also issued 30 permits for archaeological investigations on state lands while reviewing and commenting on 750 federal projects that could have involved archaeological sites. The division also achieved a 100% response rate for requests for archaeological information, assistance, and advice.