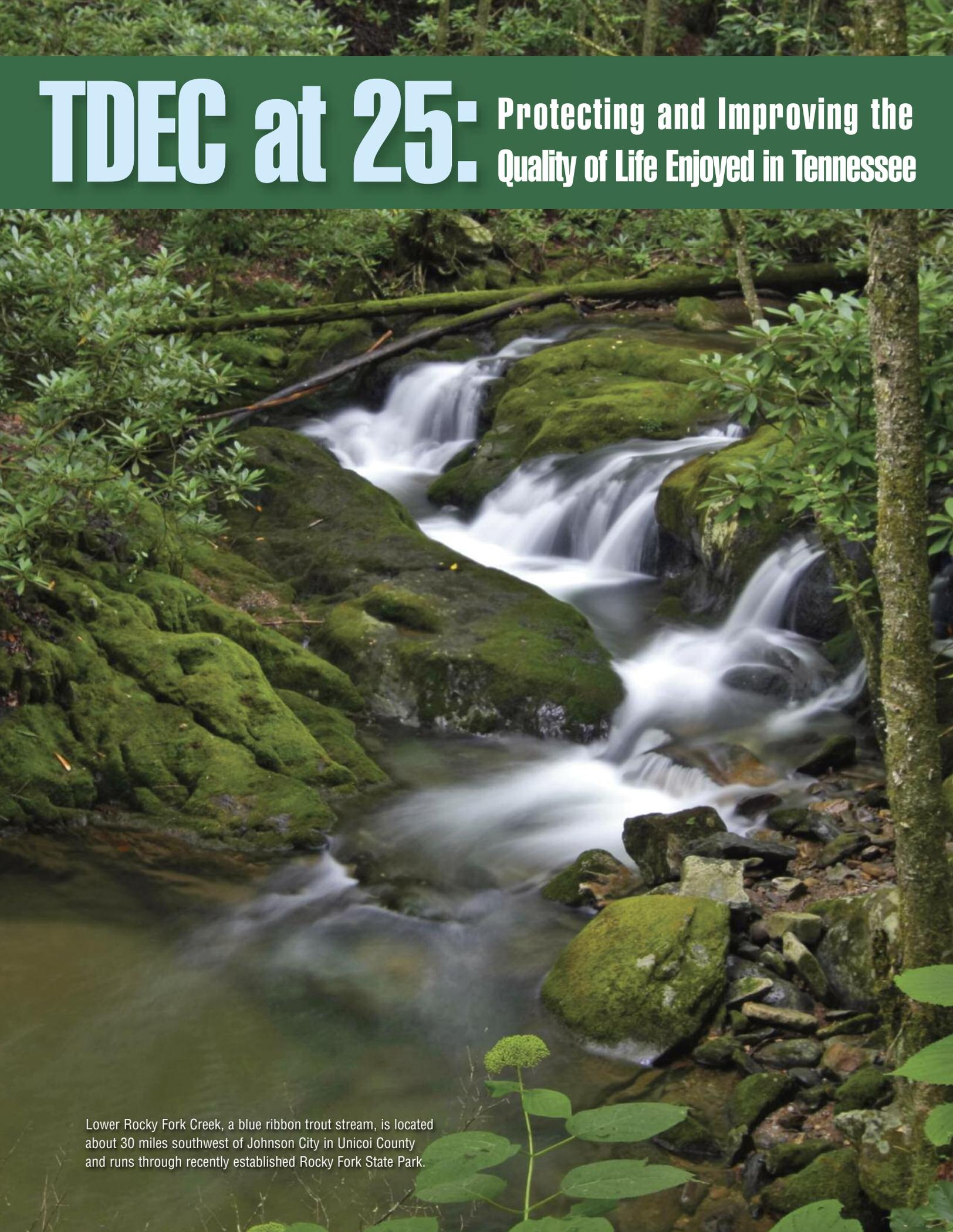


TDEC at 25: Protecting and Improving the Quality of Life Enjoyed in Tennessee



Lower Rocky Fork Creek, a blue ribbon trout stream, is located about 30 miles southwest of Johnson City in Unicoi County and runs through recently established Rocky Fork State Park.

By Robert J. Martineau Jr.

In February 1991, then Tennessee Gov. Ned McWherter combined the environmental protection programs from the Department of Health and Environment with the Department of Conservation to create the Tennessee Department of Environment and Conservation. Gov. McWherter recog-

nized the connection between preserving our natural resources, including our state parks and natural areas, and the need to protect public health and the environment. The creation of one department to oversee these resources and to provide long-term protection for them marked an important milestone in state government.

Gov. Ned Ray Wherter (in cap) models Tennessee State Parks merchandise for J.W. Luna (on his left), the first commissioner for the new Tennessee Department of Environment and Conservation.



Solid Foundation

1991 was a pivotal time for our state and this new department. At the national level, significant updates were happening to key federal environmental statutes as Congress worked to revise many of the command and control approaches first set in motion during the 1970s, including the Clean Air Act and the Resource Conservation and Recovery Act. In Tennessee, Gov. McWherter asked a highly trusted member of his cabinet, J.W. Luna, to serve as the first Commissioner of the new Tennessee Department of Environment and Conservation with the direction: “Environmental issues are of such importance that the state of Tennessee should address these issues through a single agency.”

Commissioner Luna demonstrated his energy and enthusiasm immediately. Working with Gov. McWherter and the Tennessee General Assembly, Luna played a pivotal role in passage of the Solid Waste Management Act of 1991 and

25 Major Events and Achievements from 1991 to Today

1991

- Gov. McWherter’s Executive Orders #41 and #42 created TDEC.
- Solid Waste Management Act of 1991 was passed formalizing TDEC’s responsibility to develop and maintain a comprehensive, integrated, statewide program for solid waste management that is protective of human health and the environment by minimizing solid waste generation through source reduction, reuse, composting, recycling and other methods, and promoting markets for goods made from recovered materials and goods which are recyclable.

- General Assembly established the Environmental Protection Fund to create a repository for fees, civil penalties, and damages collected pursuant to state environmental statutes and ensure that these funds would not revert to the General Fund, but would be available to TDEC for administration of regulatory programs.

- General Assembly authorized a real estate transfer tax dedicated to four land conservation funds, including Wetlands, Local Parks, State Lands, and Agricultural. TDEC has managed the Local Parks and Recreation Fund and State Lands Acquisition Fund programs since then.

A ten-mile segment of Soak Creek in Rhea County was protected 2013 with resources from the State Lands Acquisition Fund (SLAF) that leveraged funding from the federal Land and Water Conservation Fund. With help from The Land Trust of Tennessee, TDEC was able to protect these exceptional waters of Tennessee and connect a variety of key public lands in the region.



“Environmental issues are of such importance that the state of Tennessee should address these issues through a single agency.”

- Tennessee Governor Ned Ray McWherter

the creation of the Environmental Protection Fund.

Changes in the Solid Waste Management Act moved Tennessee from an “out-of-sight, out-of-mind” sense of complacency to recognizing the need for actively managing solid waste. This act provided the basis for modernizing and rationalizing Tennessee’s solid waste collection and disposal systems. TDEC developed new standards for landfill design and construction, emphasizing the need to reduce the amount of solid waste generated each year and began efforts to encourage industry to recycle and reuse solid waste. This helped ensure safe disposal of solid waste, created new industries based on reuse and recycling of solid waste and helped the public understand what they could do to reduce, reuse and recycle solid waste.

Creation of the Environmental Protection Fund (EPF) was pivotal to the continued success of environmental and public health protection. As with most

states, Tennessee faced challenges in maintaining general revenue to support all areas of state government, particularly increased costs of medical care and education. Establishing the EPF required business and industry to pay fees for required regulatory services and share the cost of environmental oversight. This allowed TDEC to meet its state and federal environmental protection responsibilities and encouraged industries to generate less waste, decrease emissions and improve wastewater treatment technologies because a portion of the environmental fees was based on “releases to the environment.” TDEC now had a combination of federal funds, state appropriations and environmental fees collected in a proportional way to support our activities. This approach reflected Tennessee’s common sense and productive engagement with the regulated community and would become a hallmark of TDEC’s first 25 years.

The Power of “And”

The department has not only benefited from sound laws during this time, but we have been guided by an enduring mission: TDEC exists to enhance the quality of life for citizens of Tennessee and to be stewards of our natural environment. The department accomplishes it’s mission by:

- Protecting **and** improving the quality of Tennessee’s air, land and water through a responsible regulatory system;
- Protecting **and** promoting human health and safety;
- Conserving **and** promoting natural, cultural, and historic resources; **and**
- Providing a variety of quality outdoor recreational experiences.

Our mission has served the state and its citizens well across time - particularly since Tennessee has been a growing, prosperous state. As the state’s economy has nearly tripled and our population has increased by one-third in the past 25 years, TDEC has developed environmen-

- Tennessee Oversight Agreement entered between the U.S. Department of Energy and the State of Tennessee to support TDEC’s office in Oak Ridge, and Federal Facilities Agreement signed between the State, DOE and EPA to support cleanup at the Oak Ridge Reservation.

1993

- Mobile Household Hazardous Waste (HHW) collections began and expanded the ability for Tennesseans to properly dispose of HHW items regardless of their location and access to services within the State.

1996

- Bicentennial Capitol Mall State Park opened July 1, 1996.



Above: The world came to Hiwassee-Ocoee Rivers State Park in Polk County for the whitewater sporting events at the 1996 Summer Olympic Games of Atlanta.

Left: Vice-President Al Gore and Gov. Don Sundquist opened Bicentennial Capitol Mall State Park on July 1, 1996 and the park became a catalyst for the rejuvenation of Jefferson Street and Germantown communities.

- Hiwassee-Ocoee Rivers State Park hosted whitewater sports events for the 1996 Olympic Games in Atlanta.

tal solutions for protection of public health and the environment that are effective, practical and constructive. We protect what makes Tennessee unique and strong: abundant water resources, fruitful land, and a rich natural heritage.

The results of our work positively impact the environment and economy. Our two desired outcomes - protecting the environment and promoting prosperity for all are not mutually exclusive. A cleaner, safer environment goes hand in hand with economic growth and increased quality of life for Tennesseans.

Progress in Air Quality

Clean air is vital to our citizens and quality of life. It's also critical in attracting new companies and expanding existing industries. From the early 1990s to today, air quality in Tennessee has improved significantly. We have moved from persistent hazy days due to air emissions from business and industry to a state that meets national air quality standards from Memphis to

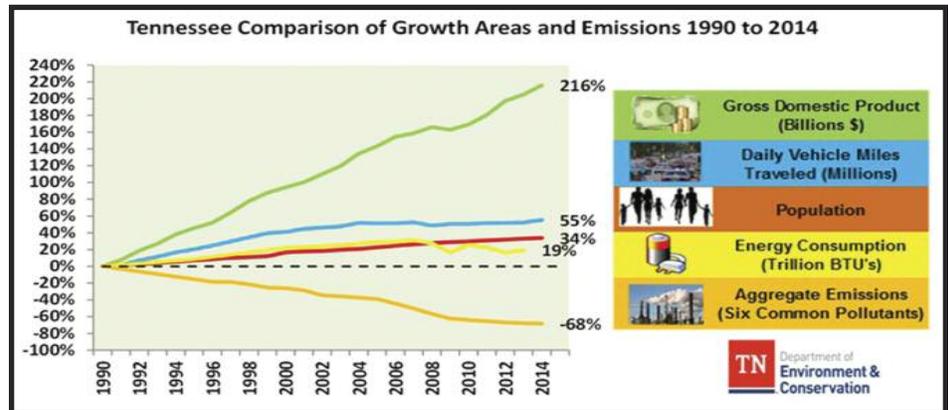
Johnson City. Progress on air quality has been accomplished by through:

- Significant corporate action and investments in pollution controls by business, industry, TVA and others;
- Improved fuel quality and engine efficiency in vehicle fleets; and
- Collective effects of individual actions to create cleaner air sooner.

In 2015, every Tennessean lived in a county where the air we breathe meets all federal ozone and fine particulate matter air quality standards. To provide this level

of public health for each citizen in our state makes me extremely proud. It is a terrific accomplishment for Tennessee and our department.

Tennessee has been a growing, prosperous state since 1991. Economic output has nearly tripled, vehicle miles traveled are up 55%, population has increased by more than a third, energy consumption is up 19%, but six common air pollutants are down nearly 70% in the last 25 years.



25 Major Events and Achievements from 1991 to Today

2000

- Fossil Site discovered at Gray during TOOT Construction Project. The site was determined to have been the location of a sinkhole that once harbored a pond environment over a long period of time. Finds from the site include a saber-toothed cat, short-faced bear, ground sloth, rhinoceros, alligator, camel, elephant, tapirs, red panda and more.



Gov. Don Sundquist, front right, played a critical role in preserving the Gray Fossil site in Washington County when it was discovered by geologists in May 2000 during a TDOT project.

2001

- September 11, 2001. The national and state response to 9/11 produced significant new rules and regulations to strengthen safety and security measures for drinking water systems, wastewater treatment plants, power generating units, nuclear facilities and other critical government installations.

2003

- Fourteen state parks previously closed in 2001 were re-opened.

2005

- Tennessee Heritage Conservation Trust Fund established to permanently conserve and preserve tracts of land to promote tourism and recreation, to protect, conserve and restore the state's natural resources, and to preserve working landscapes.

2006

- Access fees to 22 state parks, established in 2001, were eliminated; entry to all state parks was and remains free.



Gov. Phil Bredesen removes the Access Fee at Cove Lake State Park in Campbell County on July 1, 2006 as TDEC Commissioner Jim Fyke looks on.

Better Protected Land

Protecting our land through responsible management of solid and hazardous wastes, requiring clean-up of the environment when pollution is released and preventing the release of pollution helps make Tennessee a great state to live in and to attract new businesses and residents. Today, we have the capacity to dispose of municipal solid waste in environmentally protective and cost-effective landfills for the next 25 years. Our solid waste program works with cities, counties and industry to improve how we manage solid waste and to increase the amount of solid waste such as metal, paper, plastics, glass and concrete that is reused and recycled. Since 1991, our department has distributed more than \$154 million through 4,600 grants to local governments to help divert nearly 50 million tons of solid waste from landfills. This support has freed up materials for beneficial reuse through recycling and extended the life of landfills across the state.

Most people do not think about

environmental problems when they pull into a convenience store or gas station. Until the early 1990s, regulation of Underground Storage Tanks for fuel did not require that tanks be monitored for leaks. Unfortunately, when a tank leaks it is usually in an area where people live or work. Fuel leaks may contaminate drinking water wells or produce gasoline vapors in nearby buildings or impact local streams. Our Underground Storage Tank Program has been a national model for environmental protection. Their work has cleaned up environmental problems, prevented future leaks by setting standards for tank construction and leak monitoring, and assisted small businesses with the cost of environmental clean-up. In 2015, Tennessee had the fewest number of leaking tank sites since 1989 and had the lowest number of leaking tank sites for any state our size in the nation.

There are places in Tennessee environmentally damaged due to the industrial practices of the past. We have focused on opportunities associated with

old abandoned industrial sites and worked to resolve the environmental pollution at these sites in order to redevelop them for new businesses and local parks. This has brought new industry, such as Volkswagen in Chattanooga, or expanded business, such as Jackson Kayak in Sparta, while also creating high paying jobs for Tennesseans.

Properties with environmental damage, often called brownfields, returned to productive use are one of TDEC's greatest success stories. In the last five years, nearly 260 individual brownfield sites, totaling more than 3,600 acres, were enrolled in our voluntary cleanup program. You can see examples of these reinvigorated properties all across Tennessee – from Johnson City to Knoxville to Jackson. The best example of brownfield development is in downtown Nashville, where you can follow a path from Nissan Stadium to Riverfront Park to Ascend Amphitheater to the Bridgestone Arena to the thriving Gulch area to the new First Tennessee Park where the Nashville Sounds play baseball

2007

- Tennessee State Parks awarded national Gold Medal for Excellence by the American Academy for Park and Recreation Administration.



Gov. Brenden and Commissioner Fyke with the 2007 National Parks and Recreation Association's Gold Medal Award of Excellence as Best State Park System in the Nation.

2008

- On December 22, 2008, a dike failed at the TVA Kingston Fossil Plant in Roane County. More than 5.4 million cubic yards of coal ash spilled from an on-site landfill, covering more than 300 acres of surrounding land and water. While there were no immediate injuries, local citizens and the area's physical and natural environment were all greatly impacted. Cleanup and restoration of the damaged area was declared complete by EPA in June 2015.



2009

- TDEC administered more than \$85 million from the American Recovery and Reinvestment Act (ARRA) for clean water and drinking water projects through the State Revolving Fund and clean-up activities at leaking underground storage tank sites. Programs met the unprecedented scale, complexity and velocity requirements set by ARRA standards.

2010

- Department responded to historic May 2010 flooding in West and Middle Tennessee.



– all part of more than \$3 billion in investment over the last 25 years.

Some locations have been impacted by environmental pollution that they were not safe for any use. TDEC has worked with local governments, the federal government and industries to help restore these resources. Two long-standing coordinated cleanup efforts continue to yield positive results in East Tennessee.

One is the partnership between TDEC, EPA and Glenn Springs Holdings to bring 10,000 acres in Polk County back to life, restoring the natural landscapes and waters of the Copper Basin. The extraordinary clean-up efforts over the past 25 years have erased the lasting effects of 19th century smelting techniques and mineral extraction. This site is one of the few places on the earth where environmental damage could be seen from space. Now the area is being reforested, fish are returning to streams, and local animals are moving back onto the site. This site, once an ecological desert and an

environmental blight, is returning to its natural beauty and becoming a tourist and retiree destination.

Another landscape cleanup underway is on the Oak Ridge Reservation where Tennessee was instrumental in the development of uranium processing during World War II. While our country met its national goal of protecting America and citizens around the globe, uranium processing took a toll on the environment around the city of Oak Ridge. Since 1991, TDEC has worked with the U.S. Department of Energy and EPA to determine the extent of environmental contamination at the DOE – Oak Ridge site and is committed to improving the environmental conditions there. Substantial progress has been made in the cleanup of the ORR over the last 25 years. Mercury levels in East Fork Poplar Creek have been reduced significantly from levels measured in the 1960s and will be further reduced with the completion of a mercury treatment facility at the Y-12 plant in 2020. The last major gaseous diffusion facilities at East Tennessee Technology

Park (formerly K-25) will be demolished by the end of 2016. The Department of Energy is now working with business and industries to use ETTP as a site for new businesses and industry.

Abundant Water Resources

Tennessee is home to 60,000 miles of rivers and streams combined with more than 500,000 acres of lakes that provide habitat for some of the country's most biodiverse freshwater aquatic systems and offer outstanding recreational opportunities for residents and visitors. Memphis not only benefits from being a port on the Mississippi River, but West Tennessee is home to one the best naturally occurring water sources in the nation, the Memphis Sands Aquifer. The quality and quantity of these water resources is a tremendous natural resource advantage.

Over the past quarter century, TDEC has partnered with local citizens,

25 Major Events and Achievements from 1991 to Today

2011

- Volkswagen Group of America opened a new manufacturing plant at Enterprise South in Chattanooga, a major brownfield redevelopment of the former Volunteer Army Ammunition Plant.

TDEC played significant roles in the brownfield redevelopment, business recruitment, site evaluation, wetlands enhancements and operational permitting that facilitated the presence of VW at Enterprise South in Chattanooga.



- Tennessee coneflower (*Echinacea tennesseensis*) was delisted from the Federal Endangered Species Act. The Tennessee coneflower was one of the first species listed on the ESA in 1979 and is only one of five plant species to be delisted. A major reason for its delisting is because colonies from sustainable populations are protected in 10 of Tennessee's state natural areas.

2012

- Campsite reservation system implemented in state parks, and online reservations made available through Itinio. State park campsite activity up 37% since 2012.

2014

- Seven Islands State Birding Park opened in Knox County, and Rocky Fork State Park opened in Unicoi County.



Partners gathered at Cedars of Lebanon State Park in August 2011, to celebrate the removal of the Tennessee Coneflower from the federal endangered species list. (l-r) Tennessee Nature Conservancy CEO Gina Hancock, retired Prof. Elsie Quarterman, TDEC Commissioner Bob Martineau, U.S. Fish and Wildlife Service Jack Arnold and TDEC Deputy Commissioner Brock Hill.

city and county governments, environmental groups, business and industry to protect our water resources. By managing how rivers, streams and ground water are used by protecting stream quality, monitoring public water supplies, limiting the amount of water removed from streams, protecting ground water recharge areas and controlling wastewater discharged into streams, we continue to protect and improve this vital natural resource.

The public health tradition of our agency is never in the background. TDEC and local water system operators take the safety of our state's drinking water very seriously, evidenced by EPA's consistent recognition of the overall outstanding performance of Tennessee's public water systems. Our state is annually recognized as one of the best in the region and nation as more than 99 percent of all public water systems provide drinking water that meets all safe drinking water requirements.

We began managing our springs, creeks and rivers in the early 1990s using a Watershed Management approach. By

looking at all the streams feeding our larger rivers, we are able to determine the natural water quality of a stream and then use that data to determine if there is pollution causing water quality problems. This has identified pollution problems and also led to restoration of Tennessee's rivers and streams. The water quality data collected using our Watershed Management approach has facilitated work with local communities about water supply needs and water supply sources, as well as helped us issue environmental permits that protect water quality across the state.

As communities make needed investments in their water infrastructure, TDEC's approach is to combine statewide resources with locally-based solutions. That's why our State Revolving Fund Loan Program has awarded more than \$276 million in low-interest drinking water loans for communities, utility districts and water authorities to improve their local infrastructure since 1996. Our infrastructure investment extends to critical wastewater assets, too. TDEC has

issued more than \$1.2 billion in low-interest loans for needed capital improvements to wastewater systems. The confluence of all these efforts is paying off. Since 2011, more than 1,600 miles of streams and rivers in Tennessee have been de-posted as result of their improved condition.

Conserving Special Places and Unique Species

Tennessee's diverse topography, special places and green spaces make it an amazing place to live. The variety of Tennessee's geography, from the mountains in East Tennessee to Reelfoot Lake in West Tennessee is on display for the enjoyment and benefit of Tennesseans in our 56 state parks and 86 state natural areas. Since 1991, the department has added four state parks and nearly 100,000 acres to our public lands inventory. These addi-

2015

- Chiefs of the three federally recognized Cherokee tribes met at Red Clay State Historic Park for the first time in more than 175 years.



Park Ranger Jane Switzer, TDEC Deputy Commissioner Brock Hill, Michell Hicks, principal chief of the Eastern Band of Cherokee Indians, and Park Manager Erin Medley during the historic Tri-Council at Red Clay in August 2015.

- Tennessee had the lowest cleanup inventory and fewest number of leaking petroleum underground storage tank (UST) sites since 1989.
- Bald eagles now reported in 40 different Tennessee State Parks – from Meeman-Shelby to Roan Mountain. Twenty-five years ago, bald eagles were only found at Reelfoot Lake.
- Air quality across Tennessee met all federal ozone and fine particulate matter standards.

"TDEC's 25 for 25" list reflects the 25 most important events and achievements over the past 25 years as identified by current and former TDEC employees in an online survey.

"A lot of people think it's an 'either-or' situation. You're either going to protect the environment or you're going to grow jobs and business. In Tennessee, we believe you can do both."

- Tennessee Governor Bill Haslam





TDEC Deputy Commissioner Rick Sinclair, TDEC Commissioner Milton Hamilton and Deputy Governor Justin Wilson hiking along Cumberland Trail State Park in 1999.

tions have protected majestic woodlands, important forests, mountains, streams and wildlife habitat. We have purposely sought to protect unique forms of wildlife and offer opportunities for managed public access. One of the best examples of conservation, recreation and innovation was the work of Deputy Governor and TDEC Commissioner Justin Wilson to establish Tennessee's first linear state park, the Cumberland Trail, in the late 1990s. Today, we continue work to fulfill the vision of this 300-mile trail - now named in Wilson's honor - that extends from the TN-AL-GA border near Chattanooga to the TN-KY-VA border at the Cumberland Gap.

In 2007, the rugged uniqueness of the northern Cumberland Plateau and the opportunity for landscape protection were behind completing the department's

historic 127,000-acre conservation acquisition, sometimes called "Connecting the Cumberlands." TDEC Commissioner Jim Fyke led a public-private partnership that protected 200 square miles of forestland for preservation and public enjoyment in Anderson, Campbell, Morgan and Scott counties.

Conservation triumphs in Tennessee include the return of previously endangered species. In 1983, there was only one nesting bald eagle in Tennessee: at Reelfoot State Park in northwest Tennessee. This year, bald eagles have been seen in at least 40 state parks across Tennessee - from Reelfoot to Roan Mountain. The protection, recovery and eventual federal de-listing of the previously endangered Tennessee Coneflower in 2011 is a success story for the department's Natural Areas division and numerous partners.

Tourist Development Commissioner Susan Whitaker, Gov. Bill Haslam, Heritage Conservation Trust Fund Board Member Pete Claussen, and TDEC Commissioner Bob Martineau announce establishment of Seven Islands State Birding Park in September 2013.



It's All Connected

As we celebrate 25 years of environmental progress and conservation achievements for Tennessee, I can say that TDEC's progress is part of a larger network spanning local, state and federal government, public and private entities, individuals and communities. TDEC is most successful in achieving our goals when we are working with strong partners in solid partnerships.

Current and emerging challenges are more diffuse than one big source of pollution, bigger than one industry, resist just one answer, and cut across traditional boundaries. That's why our department has broadened its capacity over the past five years in crosscutting areas like sustainability, energy efficiency, community outreach, environmental education and resource conservation programs that help citizens make the best environmental choices each day. By reaching out to citizens we help protect and conserve our environment. Small decisions such as recycling aluminum cans, carpooling and using energy efficient light bulbs help protect and preserve our natural resources.

It has been an honor to work alongside the people at TDEC for the past five years and to build on the endeavors of those that came before us. I'm encouraged by our shared successes, but I also look forward to working with more partners - public and private, large and small, urban and rural, citizen and company- as we continue to protect our environment for future generations and make Tennessee an even better place to live, work and play.



(Robert J. Martineau, Jr. was appointed Commissioner of the Tennessee Department of Environment and Conservation by Gov. Bill Haslam in January 2011).

Throughout 2016, TDEC is recognizing our achievements over the past 25 years and honoring those that came before us. Learn more on our TDEC at 25 webpage at tn.gov/environment/section/tdec25