Serving TENNESSEE

A TDEC REPORT

Department of Environment & Conservation

#ServingTN
My Fellow Tennesseans:

Serving Tennessee is at the very core of our mission. We exist for you, and because of you. From offering unique experiences at our nationally-acclaimed state park system, to preserving and protecting Tennessee’s natural resources, all of our efforts are concentrated on enhancing your quality of life. For this reason, we have compiled several stories of how we serve Tennessee.

You will read about McMinnville resident Mike Corley, who paddles his canoe down the Barren Fork River to church every Sunday. His spiritual connection to this waterway in his community is a perfect example of the direct impact water can have on our quality of life. It also helps illustrate why TDEC is working with experts and citizens to address future water availability statewide.

You will read about Stacey Swann of Scott County, who tells us about how in the midst of poverty, she and her four daughters’ vacations to Tennessee State Parks made pleasant memories they now cherish 20 years later. Her story is a testament to the importance of the investments we have made in the long-term future of our parks.

Small-business owner Jimmy Wingfield of East Tennessee will tell you how TDEC helped him transform a former gas station into a tax-generating business through timely and effective customer service. Ricky Brown of Carthage talks about how his wastewater treatment plant has averaged a savings of $401/month thanks to TDEC’s technical assistance. Melodie Daniels talks about how Tennessee State Park rangers’ expertise in interpretive programming has helped further her son’s education.

Stories like these provide concrete examples of the return on investment you receive from our department. After all, our job is to serve you, and I am confident we have accomplished that goal.

Thank you for your continued support of our environment, state parks, and the opportunity we have to serve you each day.

Sincerely,

Dr. Shari Megreblian
Commissioner
Future Water Availability:
We All Have a Stake

It is a typical Sunday morning for Mike Corley. A canoe paddle in one hand and a personal Bible in the other, Corley carefully steps off his dock in rural McMinnville and into his canoe.

For an August day in Tennessee, the weather is rather tepid. The air is thin; the sun hides intermittently behind the clouds – the perfect setup for Corley, who paddles 45 minutes down the Barren Fork River, ties his canoe to a utility pole, then walks 15 minutes uphill to his church in downtown McMinnville.

“It became very apparent after we moved here that the river would provide the perfect avenue to church,” Corley said. “I like to collect my thoughts and sort things out for the week. I also like to take the opportunity to work on my Bible verses. Paddling is conducive to memorization.”

We all require water to live. But water is also an essential ingredient to the Tennessee experience. Corley’s travels down the Barren Fork allow him to connect spiritually, experience nature, and even get in a good exercise.

Water is also critical to the Tennessee experience in more subtle ways. Economic prosperity and quality of life in Tennessee are inextricably linked to the success of its agriculture, manufacturing, tourism and energy sectors – all of which contribute to job growth and rely on water to exist. In essence, water helps Tennessee families put food on the table and roofs over their heads, it can enhance summer camps, and birthday parties.

With Tennessee’s population poised to double in the next 50 years, Tennessee Governor Bill Haslam wanted to ensure the state had a plan for ensuring water would be available for future generations before leaving office after his second term. In early 2018, he appointed a steering committee of leaders from federal, state and local governments, various industries, academia, environmental advocacy groups and public utilities, to develop TN H20: a statewide plan for future water availability.

TDEC Commissioner Dr. Shari Meghreblian, who has roots in family farming and experience in manufacturing, says the diversity of backgrounds involved in the plan development enhance its credibility and viability for the future.

“We have representatives from the Tennessee Farm Bureau to the Tennessee Valley Authority, environmental advocacy groups and everything in between,” Meghreblian said. “We all have a stake in water availability. It’s only fitting for all of us to have a place at the table in addressing its future.”

Tennessee Deputy Governor Jim Henry serves as chairman of the steering committee. Working groups composed of subject matter experts from across the state have been conducting research and gathering information for the plan, which will be delivered to Haslam in October. Henry, Meghreblian and others have been touring the state to talk with and educate stakeholders and citizens about the plan development process and gather input for the plan. Meanwhile, Mike Corley plans to continue his Sunday routine.

“It’s important that we take care of our water. And to be able to take care of anything, you have to spend a little time with it.”

Mike Corley
McMinnville, Tennessee
Investments Help Keep Tennessee State Parks Admission Free

Vacation has not always had a positive connotation for Scott County resident Stacey Swann. Twenty years ago, Swann was a mother of four daughters and struggling to pay the bills. Her family would often be visited by disappointment when seasons of vacation and travel would arrive. She recalls her friends going to the beach and returning with suntans, smiling faces and souvenirs. But Swann could not afford her daughters the same opportunity at the time.

“We lived in an environment of poverty in a rural county,” Swann said. “But I am neither ashamed of that, nor would I change the past.”

But the Swann family vacations would change one day, when she discovered Pickett State Park in nearby Pickett County was free and open to the public.

“Pickett was just far enough from home to feel like we were in another place but much more forgiving on our gas tank,” Swann added. “Some of the best memories we have were loading the van with a picnic lunch, bicycles or kites.”

Tennessee State Parks and the outdoor experiences they provide enhance our quality of life and are critical to the state’s economy, especially in rural areas. According to the Outdoor Industry Association, the outdoor recreation economy in Tennessee generates 188,000 direct jobs, $21.6 billion in consumer spending, $6.5 billion in wages and salaries and $1.4 billion in state and local tax revenue.

To ensure state parks’ continued contributions to the Tennessee economy and maintain its status as one of seven state park systems in the country to have no entry fees, Tennessee Gov. Bill Haslam and members of the Tennessee General Assembly have dedicated more than $175 million toward capital reinvestment in state parks. The investments could not have come at a better time, as many of the projects have needed a major renovation or a complete rebuild for several years.

“Where we have reinvested in our facilities, we have experienced revenue growth,” TDEC Deputy Commissioner Brock Hill said. “Reinvesting in our parks enhances the visitor experience, boosts rural economic growth and demonstrates a commitment to long-term stewardship of taxpayer dollars. It is a win-win-win.”

Upgrades have come in all shapes and sizes. For example, David Crockett State Park received much-needed upgrades to its campground and restaurant. Chickasaw State Park received a new bridge across Lake Placid, a new RV campground and sewer system. Paris Landing State Park and Fall Creek Falls State Park will soon enjoy new inn facilities. Paris Landing also recently opened Marker 66 Marina & Grille – a new waterfront restaurant housed at the park’s marina that will serve guests while the new inn is under construction. In time, the projects will help maintain the economic viability of Tennessee State Parks so families can continue to enjoy the parks without entry fees like Stacey Swann’s family did 20 years ago.

“In those visits to parks, on those days, we didn’t feel like we were struggling for money. We didn’t feel different from the next picnic table of visitors. We were just another family living,” she said. “My children, all now adults recall those adventures. And on those days, you couldn’t have convinced them they had not been on a grand vacation. Indeed, they had.”
Protecting the Environment While Feeding the Hungry

Nearly 50 percent of food that should be consumed in Tennessee ends up in the trash, contributing to overcrowded landfills and even poor air quality. So when Second Harvest Food Bank of Middle Tennessee, an organization whose mission is to solve hunger issues in Tennessee, applied for an organics management grant from TDEC, it was a perfect fit.

“The purpose of the organics management grant is to prevent organics waste, including uneaten food, from entering our landfills,” said Pat Flood, director of TDEC’s Division of Solid Waste Management. “I can’t think of a better way to keep it out of landfills than to make it available for food insecure Tennesseans.”

According to President and CEO of Second Harvest Food Bank of Middle Tennessee Jaynee Day, Second Harvest has a service area of 46 counties. Fourteen of those counties have a poverty rate of 16 percent.

The money will be used for a variety of items needed to distribute food from Second Harvest’s new Benton County distribution center, which will include a warehouse to hold nonperishable food items and a volunteer engagement center.

But grants are just one way TDEC is working to combat food waste.

TDEC began an initiative called, “Get Food Smart TN,” which seeks to recognize and encourage food waste conscious actions among Tennesseans. Kroger and the Country Music Hall of Fame were among the first to be recognized.

“Our food recycling activities are just the right thing to do,” said Country Music Hall of Fame Executive Chef Bobby Hammock. “When you see literally tons of food being thrown into garbage cans, it makes it kind of heartbreaking when you drive around Nashville and see people that are hungry.”

Tennessee State Parks is also getting in on the act. Restaurants now capture food from the buffet to donate to community food pantries, and what cannot be eaten has been composted. In FY 17-18 restaurants donated nearly 7,500 lbs. of food and generated 150,000 lbs. of compost. Successful efforts at Natchez Trace, Henry Horton and Montgomery Bell State Parks prompted the EPA to award them special recognition in their national Food Recovery Challenge.

“At Henry Horton State Park we are minimizing as much waste as possible by composting and donation. Any prepared food that is not consumed is packaged and given to local charities for distribution. All organic material and table scraps are composted. The compost is then utilized in our gardens which provide fresh and healthy produce to the restaurant. These efforts create a “closed loop” environment which is has greatly reduced the amount of waste that we send to the landfill,” says Park Manager Ryan Jenkins.

“We are going to be able to serve more produce and more nutritious foods because of this grant,” said Day. “We are eternally grateful to TDEC and others who made this grant possible so we can serve more people and have less food insecurity in our state.”

Jaynee Day
President and CEO, Second Harvest Food Bank of Middle Tennessee
One Family’s Pursuit to Preserve and Expand the Cumberland Trail

Kemmer family roots run deep in Grassy Cove. The family has been living and farming in Grassy Cove, North America’s largest limestone sinkhole, for centuries. In 2018, the Kemmers sold their property of nearly 1,000 acres to the Tennessee Parks and Greenways Foundation (TennGreen), which in turn gifted the land to the Justin P. Wilson Cumberland Trail State Park. Motivating Tommy Kemmer to sell the land for public preservation were his memories of bringing friends to this special place.

“It’s something you don’t see every day. It is a beautiful place,” Kemmer said. “Everyone I took up there said it was as beautiful as the Smokies. I thought it was worth sharing with other people, to see it like it is now. I’d like for it to stay like it is, so that my children and grandchildren can come back and say this was part of our farm, and anybody’s grandchildren can come and view this like it is today.”

The Kemmers family’s sale of the Grassy Cove Karst Forest will help to preserve the dazzling views of the Cove for hikers as they cross Brady and Bear Den Mountains in Cumberland County. During the Haslam Administration, Tennessee State Parks has added 5,638 acres to Tennessee’s only linear state park and now possesses 92 percent of the land needed to complete the Trail. When completed, it will stretch nearly 330 miles, meandering across eleven counties from Cumberland Gap to the Tennessee River gorge. As of July 2018, nearly 230 miles of trail has been opened to the public.

Blazing the trail for current and future visitors are teams of volunteers from every walk of life, from college students to retirees. The non-profit Cumberland Trail Conference coordinates this large volunteer effort. Coincidentally, another Kemmer family member serves to staff their Crossville office.

Deputy Commissioner for Parks and Conservation Brock Hill also has family ties to the Kemmers that make the Cumberland County sections of the Trail particularly dear to him.

“In 1886 my grandmother Susie Ellen Kemmer was born here in Grassy Cove,” Hill said. “We Hills are just Johnny-come-latelies here in Cumberland County, but the Kemmers have been here a long time. I’ve always enjoyed returning to Grassy Cove to visit with my Kemmer cousins, and it is very special to see the things that we love about this area preserved and protected forever. Standing in Grassy Cove I can experience what my grandmother saw when she was a little girl growing up here. Now it won’t just be me that gets the chance to see through her eyes, but my grandchildren and great grandchildren will also get to come here and see what she saw forever.”

Thanks to Tennessee families like the Kemmers, the dream of the Cumberland Trail is closer to a reality than ever.
TDEC Grant Dollars Serving Tennessee Communities

TDEC is proud to continue to serve its communities through our various programming including, Recreation Education Services, Clean Diesel, Stream Repair, Recycling, Used Oil, Waste Tire, and Clean Tennessee Energy, amounting in $12.4 million worth of grants statewide. Additionally, our State Revolving Fund Loan Program awarded 46 projects amounting in $193.5 million worth of dollars awarded, providing financing for water and waste water projects.

Lake County was presented with a check for $22,339 from the Office of Policy and Sustainable Practices to install a 24.15kW solar array at their EMS Station. The system will offset 60% of the facility’s energy use.

Henry County received a $47,950 recycling equipment grant for collection containers, scales, and a forklift, in addition they received a $20,000 Used Oil grant to provide improved automotive fluid collection.

City of Erin received $65,000 to make improvements at their water treatment facility including an LED lighting retrofit and installing variable frequency drives on pump motors.

Macon County was awarded $64,835 to complete LED lighting retrofits in several county buildings including their EMS building, Criminal Justice Center, County Courthouse, and Fairgrounds building.

FY 2018 Per Capita Grant Dollars

Awarded by County

- $0.00 – $0.50
- $0.51 – $2.10
- $2.11 – $7.24
- $7.25 – $24.00
- $24.01 – $80.00

Lake County
- $0.00 – $0.50
- $0.51 – $2.10
- $2.11 – $7.24
- $7.25 – $24.00
- $24.01 – $80.00

Henry County
- $0.00 – $0.50
- $0.51 – $2.10
- $2.11 – $7.24
- $7.25 – $24.00
- $24.01 – $80.00

City of Erin
- $0.00 – $0.50
- $0.51 – $2.10
- $2.11 – $7.24
- $7.25 – $24.00
- $24.01 – $80.00

Macon County
- $0.00 – $0.50
- $0.51 – $2.10
- $2.11 – $7.24
- $7.25 – $24.00
- $24.01 – $80.00

FY 2018 Annual Report
Record Petroleum Clean Up Rate Helps Spur Economic Growth

The phrase ‘time is money’ is a long-held axiom for business owners. But for Jimmy Wingfield’s small environmental consulting business in East Tennessee, time could make or break an entire deal.

“It helps that TDEC employees are extremely knowledgeable about the rules and provide records quickly,” Wingfield said. “I asked TDEC for information on a former gas station so that my client could make a quick decision. TDEC’s fast and thorough response allowed my clients to move forward with the purchase of the property and get a tax-generating business back at a location.”

The new business Wingfield refers to is a car dealership. It was formerly a gas station with 10 underground storage tanks under the parking lot. The tanks contained petroleum, water and oil, which had to be excavated.

Wingfield, whose business did the excavation, says banks and purchasers often give him a 30-45 day time period to conduct due diligence on a site. If not, he says, the deal could fall through. TDEC works with Wingfield and other environmental consultants to ensure underground tanks are in compliance and petroleum leaks are cleaned up promptly.

In Tennessee, nearly all petroleum releases from underground storage tanks have been cleaned up – the highest success rate of any state in the nation. Many of the sites have been put back into beneficial use thanks to the collaboration between TDEC and small businesses like Wingfield’s.

TDEC also ranks first in the region in petroleum release detection and second in release prevention, according to EPA.

“Remediating petroleum releases is critical for protecting our air, land and water,” said Stan Boyd, director of TDEC’s Division of Underground Storage Tanks. “In the 30-year history of our division, we have not had a higher success rate.”
Interpretive Programming: Tennessee State Parks’ Secret Sauce

Ivan Daniels of Washington County has been coming to Sycamore Shoals State Historic Park since he was five years old. Ivan and his younger brother, Cohen, have taken full advantage of the interpretive programs the park offers - they are Junior Rangers, members of the Washington County Regiment of the North Carolina Militia and the Watauga Valley Fife and Drums Corp.

“Our entire family immediately took to the historical programming at the park;” said Melodie Daniels, mother to Ivan and Cohen. “What started as just a summer activity for the boys has turned into a whole world of education for us all.”

Satisfaction among visitors like the Daniels’ has steadily increased at Tennessee State Parks for several years. Throughout the past fiscal year, nearly 40 million people visited a Tennessee State Park to camp, hike, fish or enjoy an interpretive program. TDEC Deputy Commissioner Brock Hill attributes much of that success to park staff and their ability to translate to the public the authenticity of their respective parks.

“Every park has a story to tell,” Hill said. “Our rangers and managers are uniquely qualified to tell the story of their park, ensure public safety, provide great customer service and guide meaningful outdoor experiences.”

Interpretive programming gives Tennessee State Parks a competitive edge in the outdoor recreation space. A steady stream of roughly one million visitors each year attends one of 20,000+ interpretive programs offered at parks statewide. As of this year, all Tennessee State Park rangers are now certified by The National Association of Interpretation – making Tennessee the only state park system in the nation to have achieved this status for all rangers.

“The Certified Interpretive Guide training our rangers have gone through allows them to hone their communication skills and guide park visitors to a greater understanding of our park resources,” said Jeff Wells, Director of Interpretive Programming and Education for Tennessee State Parks. “Tennessee has a rich and fascinating story and our rangers are now experts in telling it.”

Not all of the 56 Tennessee State Parks have marinas, inns, campgrounds or restaurants, so revenue streams are limited at certain parks even when quality recreational experiences are plentiful. While most programming remains free, every park now offers at least one fee-based program per month - ranging from canoe floats and rock climbing workshops to specialized hikes and birds of prey programs.

“What started as just a summer activity for the boys has turned into a whole world of education for us all.”

Melodie Daniels
Mother to Ivan Daniels (pictured)
Reducing Energy Costs and Nutrient Discharges: Tennessee Wastewater Facilities Benefit from TDEC-led Partnership

In 2011, TDEC partnered with EPA, TVA, the University of Memphis and the University of Tennessee Municipal Technical Advisory Service to create the Tennessee Water and Wastewater Energy Efficiency Partnership. The partnership provides free technical assistance to drinking water and wastewater treatment plants through energy assessments and no-to-low cost recommendations.

In September 2015, the U.S. Department of Energy announced that TDEC would receive an award to work alongside the state of Alabama in furthering energy efficiency at Tennessee's and Alabama's water and wastewater treatment plants. The program expanded the work of the Tennessee Water and Wastewater Energy Efficiency Partnership and advanced the adoption of energy efficiency improvements at wastewater and water treatment plants.

Facilities participating in this TDEC-led partnership have seen significant energy cost savings and improved nutrient reductions. Out of 41 water and wastewater facilities assessed in Tennessee, there has been an average reduction of annual energy costs of 19 percent. There has also been an average reduction in average annual nutrient discharge to effluent of 40 percent as of 2015. Reduction in nutrients can lead to improved water quality.

“We have averaged saving $401/month, on a $4,181 monthly bill,” said Ricky Brown from the Carthage, Tennessee, Wastewater Treatment Plant. “This was accomplished by reducing the amount of time we run our blowers on the final digester. We are in the process of reducing the time even more. We will continue to monitor odor control and permit levels until we achieve the maximum savings we can during operation.”

Ricky Brown, Carthage WWTP

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Ricky Brown, Carthage WWTP
Boom! Tennessee State Parks Campgrounds Experience Rapid Growth

On a typical Saturday in June, the Rock Island State Park campground is buzzing with activity: children on bikes zoom around the RV loop, hot dogs roast over crackling campfires, and belly-laughs float through the air. Taking in the sights, smells, and sounds of summertime family fun are Mr. and Mrs. Tim Price and their 8-year-old grandson Britton. The couple has been coming to Rock Island each summer for more than 30 years. The last two years, they have served as campground hosts.

“We did this mainly for our grandson, to give him outdoorsy experiences,” said Tim Price. “We love our state park. That’s another reason why we did it—to volunteer for the park. We’re real fond of the rangers and the whole staff. We all worked together like one big family over the summers.”

Many Tennessee State Parks with campgrounds partner with volunteers like the Prices who, in exchange for a free parking space for the summer, serve as an extension of the park ranger. Many campground hosts come back year after year to spend the summer season at the park, forming lifelong friendships with returning campers and park staff. Their presence sets the tone of the campground: providing a welcoming presence, helping keep restrooms clean, answering questions from fellow campers, and alerting rangers of any problems.

But in years past, Rock Island campgrounds experienced maintenance issues as its facilities aged and could not keep up with the demands of modern technology, often jeopardizing the overall experience for campers.

“Our campground couldn’t support today’s modern campers,” says Rock Island State Park Manager Damon Graham. “Staff constantly responded to maintenance issues which resulted in unhappy visitors. With the upgrades including Wi-Fi and 50-amp electrical service, we have stepped into the modern age of camping. I’m not sure who appreciates the upgrades more—the guests or our maintenance staff.”

To meet rising camper expectations and occupancy rates, Tennessee State Parks has invested in upgrading its campgrounds across the state: renovating bathrooms, repaving roads, marking and leveling pads, adding 50-amp electrical service and Wi-Fi, and making other small improvements to enhance the camping experience.

These investments are paying off quickly. Since 2013, renovated campgrounds have increased revenues by 94 percent, compared to a 62 percent increase at other campgrounds. On average it will take Tennessee State Parks just six years for renovated campground expenses to be recovered by increases in revenue.
Keeping Pharmaceuticals Out of the Environment with the Dickson Police Department

About three times each month, Lieutenant David Cole with the Dickson Police Department empties out a 30-gallon metal bin. He sorts boxes, bottles and bags of vitamins, pet medications, and diabetes supplies as well as pharmaceutical medications like oxycodone and hydrocodone.

“Thanks to TDEC, we have been able to collect approximately 2,000 pounds of medication through this drop box alone,” said Cole. “It’s been a tremendous asset for the community to have a safe place to dispose of old or unwanted medications.”

Without convenient access to a drug disposal method, medications can often times be flushed down the toilet or thrown in the trash, eventually making their way to a landfill or a waterway and potentially impacting the natural environment and public health.

“The success of this program wouldn’t be possible without federal, state and local partnerships,” said Kathy Glapa with TDEC’s Office of Policy and Sustainable Practices, which manages the program. “Tennessee is one of the only states in the nation to have such a holistic approach to this growing issue of responsible pharmaceutical disposal.”

TDEC’s Unwanted Pharmaceutical Takeback Program was launched as a pilot between TDEC and the Knoxville Police Department in 2011. Since then, TDEC has worked with other government agencies, local law enforcement, pharmacies and campus communities to install 333 permanent collection bins across all of Tennessee’s 95 counties. In 2017, more than 84,000 lbs. of medication were collected statewide through TDEC’s program.

TDEC’s program fits within a broader statewide initiative, Prescription for Success, which targets preventing and treating the prescription drug use epidemic in Tennessee. Spearheaded by the Department of Mental Health and Substance Abuse Services, the initiative has helped steadily increase the amount of medication collected every year — totaling nearly 300,000 lbs. today.

“Thanks to TDEC, we have been able to collect approximately 2,000 pounds of medication through this drop box alone.”

Lieutenant David Cole
Dickson Police Department
Our Mission

The Tennessee Department of Environment and Conservation exists to enhance the quality of life for citizens of Tennessee and to be stewards of our natural environment 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;
- Providing a variety of quality outdoor recreational experiences.