9. RECREATIONAL WATERS

THE NEED of communities for more opportunities to enjoy and protect their local rivers, streams, and creeks.

Tennessee's 60,417 miles of rivers, streams, and creeks are the largest and most widely available class of publicly owned recreation resources in the state. The Tennessee Water Quality Control Act defines these waters as "property of the state ... held in public trust for the use of the people of the state." The act also gives the people of Tennessee the right to waters that are clean enough to support uses which include aquatic and fish life and recreation.

Tennesseans apparently care a great deal about these resources. The 2009 TRAB Survey found that protecting water quality is the public's highest conservation priority, with 90% rating it as extremely important.

Flowing water is a uniquely appealing feature of any landscape, one which tends to draw people to it. Yet most of the state's waterways have never been managed or even recognized as public recreation resources *per se,* and for that reason they are significantly underutilized. Developing these publicly owned assets is a highly cost-effective way to provide more diverse recreation opportunities for Tennesseans. Rivers, streams, and creeks can provide the public with widespread, close-to-home opportunities to enjoy interaction with nature and active physical exercise.

Eighteen Tennessee rivers are currently designated and publicly managed as recreational waters, either as National Wild and Scenic Rivers, State Scenic Rivers, or TVA Blueways. These rivers represent only a tiny fraction of the state's recreational waters. This planning process has explored innovative strategies to help Tennessee maximize the value and benefits of being

a state that is laced with waterways. These strategies include:

- Blueways
- Access to Creeks and Streams
- Watershed Management
- Protection of wetlands

Blueways

"There is nothing – absolutely nothing - half so worthwhile as simply messing about in boats." -The Wind in the Willows

As the Greenway concept has become firmly established nationally and communities have realized surprising benefits from it, the next step has been to consider the undeveloped potential of rivers as recreation resources. Since rivers are already publicly owned resources, a Blueway or water trail is a far less expensive and difficult proposition than a Greenway.

The ORRG 2009 report cites Blueways as "a new concept in the arsenal of tools for land and water conservation," pointing out significant benefits to be gained:

"Blueways can help communities realize a range of benefits, from improved water quality and close to home recreation, to waterfront revitalization and tourism promotion. They can reduce costs for storm water management and flood control. And they can connect flyways and migration corridors to benefit wildlife; indeed they can connect rural areas and the towns or urban settings through which the waterways flow. The Blueway approach mirrors what land conservation groups have learned to do effectively: identify and map resources, consult widely across the community, mobilize public support, enlist partners, engage adjacent land owners, blend funding sources and land protection strategies."

Tennessee's landmark State Scenic Rivers program in effect created the nation's first system of Blueways in 1968. TVA has also been a leader in Blueway development, having designated three streams in the state. Chattanooga, recognized as a national model for natural infrastructure development, has a very popular Blueway on the Tennessee River.

As a sign that the Blueway concept has now arrived in Tennessee, the first-ever Southeastern Water Trails Forum was held in 2009 in Chattanooga, sponsored by the Southeast Watershed Forum, the Tennessee Wildlife Resources Agency, the National Park Service and the River Management Society. This event convened organizations working on Blueways or water trails throughout the region.

Tennessee's new Park and Float program, a partnership of TDOT and TWRA, is another example of the Blueways concept beginning to take root. These agencies are identifying key boat launch sites at highway bridges and making improvements to facilitate the use of those sites. Developing new Blueways in Tennessee will require increased river access of this kind.

Blueways represent a way to maximize opportunities for the public to enjoy Tennessee's recreational river corridors, many of which are of outstanding quality. Many streams all across the state that have no designation are already attracting paddlers on a regular basis. It takes a fairly well-informed, confident boater to park a car at a bridge crossing and cast off down a river. A properly developed and managed Blueway serves to inform the public that the river is a safe and appropriate place to float. It appears that public demand for such opportunities is moderately high. The sale of canoes and kayaks remains brisk, and NSRE data indicates that 17.7% of Tennesseans now participate in kayaking, canoeing, rafting, or tubing.

The ORRG report proposes that "the Secretary of the Interior should establish a new nationwide network of Blueways and water trails along rivers and coastal waterways." As that proposal develops at the federal level, with possible federal funding in future years, now is an appropriate time for Tennessee to begin developing its own state network of Blueways, following the successful model of the Tennessee Greenways and Trails Plan. Since Blueways are generally developed and maintained as part of a regional strategy, the most effective way to create such a network might be through this plan's proposed Quality Growth initiative.

Access to Streams and Creeks

Turning over rocks in a creek to find crayfish, salamanders, and other creatures must be one of the best memories of growing up, for those who have had the opportunity. Creeks and small streams seem to hold a special fascination for children, and adults too for that matter. While these humble water bodies may not have received any formal designation as recreation resources, they are clearly regarded as important by many people. The 2009 TRAB Survey found that 47% of adult visi-

tors to State Parks reported that they played in a creek or stream. Asked what was their child's favorite place to play near the home, 50% of parents said a nearby creek or stream.

Given the dendritic drainage pattern of most watershed systems, small streams and creeks tend to greatly outnumber larger tributaries. Thus it is likely that creeks and small streams comprise the bulk of Tennessee's 60,417 miles of streams. It's quite possible that, within a ten-minute walk of nearly every home and school in Tennessee, there is some creek or stream that could be as the first hook for a lifelong involvement with nature and the out-of-doors. Even a seasonal creek that is dry much of the year can retain pools that support interesting aquatic life.

This plan places a priority on close-to-home recreation opportunities, both for promoting better public health and for encouraging interaction with nature. One strategy for implementing that priority would be to incorporate small waterways into the state's portfolio of recreation resources.

Some communities have recognized the value of their stream resources. Numerous lodgings in the Gatlinburg area or Maggie Valley, North Carolina, appear to benefit from highlighting their locations beside a trout stream, which in many cases is little more than a good sized creek. Many of the local greenways constructed in Tennessee in the last few years run parallel to small streams and incorporate them into park-like settings. The City of Chattanooga has raised waterfront development to a high art, making the Tennessee River and its tributary streams the central focus of its Tennessee Aquarium and its overall urban revitalization efforts.

There has also been a tradition of neglect of these resources. In the past, concern about periodic flooding has led to deepening or channelizing streams, without regard for the fact that such alterations can severely impair their quality as natural habitats and resources for recreation. Too many communities have turned their faces toward their streets and highways, appearing to have grown completely unaware of valuable stream resources hidden right in their own backyards. TDEC's new Watershed Management Approach presents an opportunity to change those misperceptions. The first step is simply to focus attention on the existence of stream resources. The planned online Watershed GIS will provide readily accessible information for the first time about Tennessee's rivers and streams, including the state's smallest waterways.

That will be an important first step, but another – providing public access – will also be required if creeks and streams are to function as close-to-home recreational resources. This plan's Quality Growth initiative can help by reinforcing the concept of waterways as part of a community's valuable natural infrastructure, using GreenPrint GIS databases to identify prime recreational waters that would support public recreation, and promoting streamside greenways to provide public access areas.

Tennessee's new Park and Float program represents another promising model for public stream access. Bridges represent intersections of two publicly owned corridors – road right-of-ways and streams. These intersections can provide public access points without acquisition of private property or easements. Modest investments to make them safe can transform such locations into attractive destinations for walkers and bicyclists.

The value of streams and creeks as outdoor classrooms should not be overlooked. This plan's watershed-based **Environmental Education** initiative is designed to maximize the learning environment potential of streams located within walking distance of a school.

Given the neglect that these watercourses have suffered over the years, litter cleanups and habitat restoration programs may be needed to make them appropriate for public recreation use. Local watershed associations and school groups can be a source of volunteers for such efforts.

Watershed Management

In 1996 TDEC began a fundamental transition in the way it managed water quality. Prior to that, the operational units for water quality control purposes were stream segments, following the procedures laid down in the US Clean Water Act. Over time it became recognized that the department needed a more comprehensive perspective, because all stream segments are connected and can have cumulative effects on downstream segments. Since 1996 the focus has shifted toward managing whole watersheds. The department has divided the state's 55 major watersheds into five monitoring groups, and each group undergoes a systematic water quality assessment every five years. Based on these assessments, a Watershed Management Plan is developed to define water quality goals, major concerns, and management strategies for each watershed.

The advantage of this approach is that it considers the cumulative impacts of all forms of pollution on a watershed, including industrial and municipal discharges as well as runoff from farms and developed areas. It also does a better job of coordinating all local, state, and federal agency activities affecting water quality.

What is a Watershed?

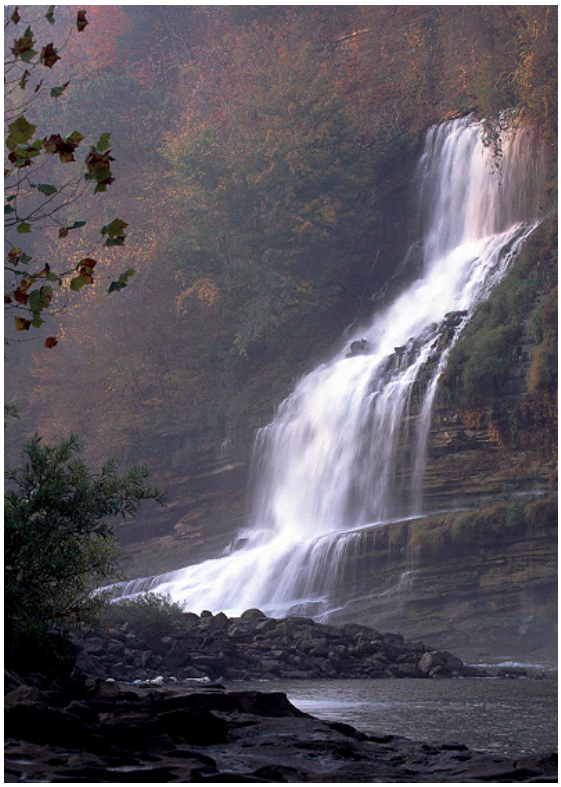
A watershed is the entire land area that drains into a lake, river, or other water body. Watersheds can be small, like the area that drains into a neighborhood creek, or large, like a region that drains into a large river. The Tennessee River watershed extends into North Carolina, Virginia, Georgia, Alabama, Mississippi, and Kentucky. Watersheds are a logical way to think about the connection between activities on the land and the quality of water. How we manage and treat the land has a direct impact on the ability of water to support a number of important public uses like swimming, fishing, aquatic species habitat and drinking water supply.

The Watershed Management Approach also encourages public participation in stewardship of our streams. Everyone contributes some form of pollution every day, in large ways and small, but the overall effects are not readily apparent to a local landowner. The watershed focus helps make the public more aware of how individual actions in one location can affect water quality over a wide area. Watersheds are appropriate as organizational units because they are readily identifiable landscape units with definite boundaries that integrate terrestrial, aquatic, and geologic features. A watershed can also be a source of local pride, but only if we are aware of our local watershed. In 2008 TDEC in partnership with the Tennessee Department of Transportation (TDOT) took an important step toward reinforcing the public's watershed awareness by posting watershed boundary signs along all of the state's interstate highways. In 2009 TDEC will take the next step by distributing educational materials at Interstate rest areas and welcome centers.

TDEC is now laying the groundwork for the next generation of the Watershed Management Approach. This will extend beyond water pollution control to consolidate the efforts of all agencies that regulate any form of pollution under a single framework. While some interagency cooperation of this kind already takes place, this new vision will go far beyond anything in place today. A key element in this new approach will be an online GIS database, organized by watersheds, that will be accessible to all permitting agencies and to the public. For the first time, everyone will be able to see the total effects on a watershed of regulated discharges, non-regulated pollution sources, such as land disturbance and non-point storm runoff, and all other pollution sources. The system will overlay conservation and recreation lands and other thematic data to allow potential adverse impacts to be identified early in the planning process. This online tool will help local officials and the public become more involved in watershed stewardship and protection of recreation and conservation assets.

In 2010 TDEC will convene the first statewide Watershed Conference with representation by all regulatory agencies as well as organizations that are concerned with environmental regulation and conservation in Tennessee. This conference will develop a new vision for what it will mean to make all regulatory decisions at the watershed level, using a coordinated, interagency permitting regime, and will begin to form partnership agreements to implement this vision. An key goal of this conference will be to encourage and support greater participation in watershed stewardship by citizens and local governments.

TDEC's proposed expansion of the Watershed Management Approach has the potential to bridge the gap between the department's two halves, recreation/conservation and environmental regulation, with major benefits for recreation planning in Tennessee. By encouraging greater watershed awareness, it will reinforce the public's awareness and appreciation of rivers, streams, and creeks as valuable recreation resources



ORRG Report: Use of GIS Systems

The Outdoor Recreation Resource Group, in its 2009 Great Outdoors America report, encourages increased use of geographic information systems in recreation and conservation planning:

"Geographic information systems enable planners to assemble and array in layers vast amounts of data that can be analyzed and weighted, overlay these layers with demographic and other thematic information, map existing assets, and identify vulnerable resources, as well as the best places for conservation, recreation, and development.

"In user-friendly format, GIS data can help build public support for conservation strategies and provide public officials and citizens alike transparency in tracking and monitoring conservation investments. Outdoor recreation plans could be viewed, using simplified tools to convey their impacts. Citizens could also monitor the implementation of plans once they are approved.

"Although it is not the only means to overcome fragmentation and improve coordination among many diverse conservation and recreation programs, GIS technology has demonstrated its utility as a tool to pull together the variety of information that can result in better planning. A public-private partnership should advance its application in facilitating strategic investments in outdoor resources and ensuring transparency in how conservation dollars are spent. The effort might usefully start on a pilot basis with certain states."

Tennessee's Watershed Associations

Local watershed associations play a key role at the grassroots level in encouraging greater public awareness of the impacts of land uses on water quality and the environment as a whole. These associations will be active partners in TDEC's evolving Watershed Management Approach. The watershed associations movement is very active in Tennessee, with some 48 associations in 2009.

that need to be protected. The online GIS will give citizens a powerful tool for monitoring the entire range of environmental regulation and recreation planning in their regions, allowing them to participate as active stakeholders early in a planning process rather than merely react after a plan is well underway.

The greater transparency provided by this new regulatory approach meshes with the highest conservation priorities of Tennesseans. The 2009 TRAB Survey found that 89.9% of the state's residents consider protecting water quality in rivers and streams to be extremely important, and 78.7% view protecting fish and wildlife habitat as extremely important. The state's intention to streamline planning and regulation will enable Tennesseans to participate in pursuing these priorities as never before.

Tennessee Environmental Streamlining Agreement

A closely related process that also stresses a unified interagency approach to environmental planning is the Tennessee Environmental Streamlining Agreement (TESA) developed by TDOT. The agency recognized that interagency coordination regarding environmental resource issues takes place in a very complex administrative arena defined by many federal, state and local laws, ordinances and regulations. This can result in overlapping jurisdictions and some duplication of effort, causing increased costs and time delays. The purpose of the TESA is to establish a coordinated planning and project development process for transportation projects in Tennessee in order to ensure significant involvement by all related agencies and Metropolitan Planning Organizations early and throughout the project development process. Through early identification of agency issues, when the greatest flexibility exists to address these concerns, this process is intended to ensure that basic issues concerning project purpose and need, study area, and the definition of the range of alternatives can be resolved quickly. Although the agencies that participate in the process to develop and implement transportation projects operate under different regulations, this process stems from an understanding that they share a common responsibility for service and accountability to the public. The partners in this agreement include:

Federal Highway Administration
Tennessee Department of Transportation
US Army Corps of Engineers
US Fish and Wildlife Service
US Environmental Protection Agency
Tennessee Valley Authority
National Park Service
USDA Forest Service
US Coast Guard
Tennessee Dept. of Environment & Conservation
Tennessee State Historic Preservation Office
Tennessee Wildlife Resources Agency
11 Metropolitan Planning Organizations

Wetlands Protection

Tennessee has largely accomplished the goal established in 1994 to increase the state's wetland base by 70,000 acres. This has been accomplished primarily through the Wetland Acquisition Fund administered by the Tennessee Wildlife Resources Agency. Unfortunately, state budget limitations in recent years have greatly reduced the funds available to this program.

Another contributing factor to the expansion of the state's wetlands has been the continuing development of wetland mitigation banks used to offset unavoidable wetland losses resulting from development projects

requiring state and federal water quality permits. Existing wetland mitigation banks account for restoration of approximately 3,000 wetland acres. These banks have the effect of replacing losses of mostly small, scattered wetlands with larger tracts of restored wetlands that are placed into long-term conservation and typically made available to the public for wetlands-related recreational activities.

Besides the larger wetland mitigation banks, the state wetlands regulatory program continues to work with local governments to identify opportunities to implement required mitigation for both streams and wetlands in areas such as public parks and greenways where that is consistent with the goals of the local programs. One example is a Memorandum of Understanding between TDEC, Williamson County, and the City of Franklin to comprehensively assess mitigation needs and opportunities within a large portion of the Harpeth River Watershed and to cooperate on implementation of stream and wetland restoration. Two projects have been implemented consistent with the MOU resulting in approximately 3,000 feet of restored stream on a former golf course that has been purchased as a public park and Civil War battlefield preservation area. Another example of this more comprehensive and collaborative approach to mitigation is the Tennessee Stream Mitigation Program. That program has restored over 70,000 feet of degraded streams on state or local lands, mostly public parks and Wildlife Management Areas. A specific example is the restoration of almost 8,000 feet of Third Creek along a public greenway trail in Knoxville.

2015 Action Plan

Blueways. In implementing this plan's proposed Quality Growth initiative, TDOT, TDEC, and CRT should include strategies for developing regional Blueways as part of the Quality Growth Toolbox. TDEC should share watershed data with these partners to facilitate this process. The Park and Float program

should continue and expand to meet the need for new boat launch sites.

Stream Access. The Quality Growth Toolbox should encourage communities to provide stream and creek access, both by establishing streamside greenways and by working with TDOT to provide access at bridge crossings. TDEC's local grants priorities should encourage local greenway and other projects which provide more access to recreational waters.

Watersheds. TDEC is encouraged to continue pursuing the vision of an interagency watershed-based regulatory perspective and to make implementation of the proposed online Watersheds GIS database a priority, beginning with a statewide Watershed Conference in 2010.

Wetlands. Regular, predictable funding should be restored for the Tennessee Wildlife Resources Agency's wildlife habitat conservation programs. Since the long-range goal of wetlands conservation has nearly been met, when regular funding is restored, acquisitions should not be restricted to wetlands alone but should be extended to pursue the goals of other important habitat conservation plans, which will continue to include wetlands. Because of recent changes in the rules governing mitigation at both the state and federal level, the state should establish at least one wetland mitigation bank in each of Tennessee's fifty-four watersheds.

2020 Vision

Tennessee's rivers, streams, and creeks will be the centerpiece of a coordinated approach to water quality control, quality growth planning, public stewardship of the environment, and environmental education. These resources will be recognized as significant public recreation assets, with ready access provided along greenways and at road crossings, giving the public widespread, close-to-home opportunities to enjoy them. Tennesseans will be proud of their local watersheds and aware of their personal responsibilities to help protect water quality through their everyday actions.

Coordination Links

State Parks Management. The new online watershed GIS will give State Park managers a much better ability to spot water quality issues outside the boundaries that could affect a park's stream quality, giving them the opportunity to work in partnership with the local government and watershed association to develop measures to mitigate damage before it occurs.

Tennessee Recreation One-Stop. The website will be able to include a "Discover Your Watershed" component based on the watershed GIS. It will help families find safe opportunities for children to enjoy water play; help link the public to non-profit organizations, such as watershed associations, that are active in working to improve water quality; and provide information about Blueways and public access to streams and creeks.

Children in Nature. Greater local access to creeks and streams will give families excellent close-to-home opportunities for children to interact with nature.

Environmental Education. The proposed state environmental curriculum uses local watersheds as a framework for integrating nature into place-based education and local creeks and streams as outdoor classrooms.

Quality Growth. The Quality Growth focus on the impacts of land conversion and development on public recreation resources bears directly on issues of water quality in our rivers, streams, and creeks. TDEC's online watershed GIS can be incorporated into the Quality Growth GreenPrint GIS to give local planners the tools they need to recognize how individual decisions can cumulatively affect regional water quality.